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APPLICATION OF LAPLACE-MAHGOUB TRANSFORM IN CRYPTOGRAPHY

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ABSTRACT

Cryptography is a study of secret messages in which mathematics plays a vital role to encrypt and decrypt data. This paper aim is to encrypt and decrypt a message by a new mathematical method Laplace-Mahgoub transform.

KEYWORDS: Cryptography, Encryption, Decryption, Laplace transform, Mahgoub transform.

1. INTRODUCTION:

Cryptography is an art of secure transfer of messages in the presence of third party. The name cryptography was arise from the Greek "kryptos" meaning "hidden" and "graphein" meaning "to write". Julius Caesar was the first known use of modern cipher (100BC to 44BC) to communicate with his governors and officers. He created the system in which each character in his message was replaced by a character of three positions ahead in Roman alphabet. Cryptography plays a major role in transfer of sensitive information and has proved success in war and business. In our country, we are facing various types of crimes. So, it is very important to secure

- Internet
- Computer passwords
- Mobile communications
- Transfer of important files
- Security of ATM cards etc.

There are three types of cryptographic technique used in general

- Symmetric-key cryptography
- Asymmetric-key cryptography
- Hash functions

In symmetric key cryptography the sender and the receiver uses the same key.
In asymmetric key cryptography two keys are used public and private key. Public key known to everyone while the private key is kept secret.
No key is used in hash function algorithm. It is used in many operating systems to encrypt passwords.

In this paper, we introduced a new mathematical method of Laplace-Mahgoub transform. Thus for encrypting the message or plaintext we used Laplace-Mahgoub transform and inverse Laplace-Mahgoub transform for decryption.

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Green biogenic synthesis of zinc oxide nanoparticles using *Pseudomonas putida* culture and its *In vitro* antibacterial and anti-biofilm activity

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Highlights

- ZnO nano particle was synthesized using Pseudomonas putida culture.
- Physiochemical and morphological characters of synthesized ZnO Nps were tested using SEM, EDX, XRD and FTIR.
- Results of SEM, TEM and XRD analysis evidenced that the particle were agglomerated spherical particle with 44.5 nm in size.
- The synthesized ZnO Nps showed potent inhibition of tested microbial cultures and biofilm.

Enhancement of Scalable Access Control Mechanism in Grid Computing

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Abstract: Nowadays the impact of Grid services through Grid Systems are a considerable phenomenon due to our online accessing features and capability through feasible providers. Grid systems are a composition of autonomous domains, which are most probably open and dynamic. Grid systems handle large number of users, who are frequently changeable, and different domains have their own policies. The existing identity based models are closed and inflexible. Scalability and the capacity for distributed control have unfortunately not extended well to resource access-control policies and mechanisms.This paper deals with the issues raised by scaling up of measures such as number of users, protocols, applications, network elements in a grid topological constraints, and functionality expectations. The proposed enhancement method is a unification approach with the unique individual implementation towards the fine tuning of scaling improvements. The results and discussions of our proposed method lead to the implementation of enhancement of scalable access control mechanism in grid computing.

Index Terms: **Grid, Scalable, Access Control, Unification, Enhancement**

I.INTRODUCTION

A *service* is an implementation of well defined functions that are able to interact with other functions. The *service oriented architecture* (SOA) is comprised of a set of services that can be realized by technologies such as the web services [4].

A *domain* can be defined as a protected computer environment, consisted of users and resources under an access control policy. The collaboration which can be established among domains leads to the formation of a virtual organization.

A *user* in a Grid environment can be a set of user identifiers or a set of invoked services that can perform on request one or more operations on a set of resources. Furthermore, we identify two types of users. These are the resource requestor and the resource provider [9]. The former type of user acts like a resource access or usage requestor, and the latter type of user acts like a provider of its own sharable resources. All users are restricted by the policies enforced in their participating domains and virtual organization [6].

A *resource* in a Grid environment can be any sharable hardware or software asset in a domain and upon which an operation can be performed [5].

Access control's role is to control and limit the actions or operations in the Grid system that is performed by a user on a set of resources. In brief, it enforces the access control policy of the system, and at the same time it prevents the access policy from subversion. Access control in the literature is also referred to as access authorization or simply authorization [2].

A Grid *access control policy [3]* can be defined as a Grid security requirement that specifies how a user may access a specific resource and when. Such a policy can be enforced in a Grid system through an *access control mechanism.* The latter is responsible for granting or denying a user access upon a resource. Finally, an *access control model* can be defined as an abstract container of a collection of access control mechanism implementations [8], which is capable of preserving support for the reasoning of the system policies through a conceptual framework. The Grid service architecture is represented in Figure 1.1.

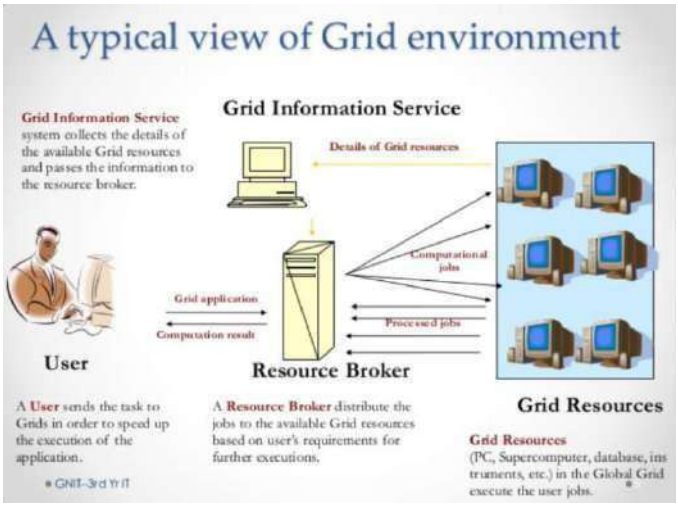

Figure 1.1: Grid Service Architecture [10]

II. METHODOLOGY REQUIREMENT

Scalability Issue:

Scalability does not focus on the size alone but also improving the local autonomy by delegating functionality to end nodes has led to scalable Grid systems. Scalability and service distribution control are not enhanced well in the past for resource access-control policies and mechanisms. Moreover security management is becoming an increasingly challenging problem, due to

Optimization of Dynamic Access Control Mechanism in Grid Computing

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Abstract:

Grid Computing Services are now reliable and plays its vital role in our day today world of collaborative Information Technology .Since the scalability of users and their accessing nature are Enhanced in the electronic communication medium towards the multiplicity mode of interaction, static request and response guaranteed is never an achievement until the dynamic quality of communication must be ensured by both the customers and the service providers. Nowadays the dynamic access control mechanism in Grid defines the Grid Service Provider to survive in this competitive corporate culture which proves it in the recent years with the improved methodologies compared earlier. This paper deals with the optimization of dynamic access control mechanism in Grid computing services environment. The proposed optimization method is an augmented approach with the unique individual implementation towards the fine tuning of Dynamic access control mechanism improvements. The results and discussions of our proposed method lead to the implementation of Scalable Dynamic Access control mechanism for the Grid computing environment services.

Index Terms: *Grid, Dynamic access, Optimization, Access control, and Enhancement*

1. Introduction

The Grid is an emergent technology that can be defined as a system able to share resources and provide problem solving in a coordinated manner within dynamic, multi-institutional virtual organizations[8]. This definition depends mostly on the sharing of resources and the collaboration of individual users or groups within the same or among different virtual organizations, in a service oriented approach[5].

The Grid's unique characteristics, such as its highly distributed nature and the heterogeneity of its resources, require the revision of a number of security concepts Trust, authentication, authorization and access control are some of the security concepts met in Grid systems[9]. Access control is of vital importance in a Grid environment since it is concerned with allowing a user to access a number of Grid resources. This is mainly due to the partially or weak fulfillment of the access control requirements in Grid systems[3].

The process of access control in any computer system guarantees that any access to the resources of the system conforms to its access control policy. The application of the abstract concept of the reference monitor is capable of providing the requirements that are posed from the access control process[1].

The reference monitor operates as an access mediator between the User's access requests and the Grid Service Response objects. The accesses comply with the system's security policy[2]. The reference monitor can be informed for the security policy of the computer system from an access control database. Moreover, all the security relevant transactions are kept into an audit file for security and traceability reasons [6].

The Grid access control architecture and dynamic access control mechanism are represented in Figure 1 and Figure 2 respectively.

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A Novel Approach on Prevention of a Mobile Exploration in Machine Using AI

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ABSTRACT

This paper deals with a low cost solution to problem avoidance for a mobile machine using just a single Artifical Intelligennce. It allows the machine to navigate smoothly in an unknown environment, avoiding collisions, without having to stop in front of problems. The problem avoidance process is made up of three distinct stages - the mapping algorithm, the core problem avoidance algorithm, and the steering algorithm. The mapping algorithm takes the raw Artifical Intelligennce readings and processes them to create higher resolution maps from the wide-angle Artifical Intelligennce. The problem avoidance algorithm is based on the potential field theory which considers the machine to be a test charge that is repelled by all the problems around it, and which moves in the direction of the resultant of the forces acting on it. An algorithm which steers a mobile machine based on the differential drive system is also discussed.

Keywords : Mobile Machine, Problem Avoidance, Autonomous Navigation, Ultrasonic Range Sensor.

I. INTRODUCTION

Problem avoidance is a primary requirement for any autonomous mobile machine. The machine acquires information about its surroundings through sensors mounted on the machine. Various types of sensors can be used for problem avoidance, as detailed below.

A. Types of Sensors:

Bump sensors, which are micro-switches activated when the machine touches an problem. This is a simple, inexpensive method of problem detection, but operates only on contact, which makes it useful only for slow moving machines.

Infrared proximity detectors, which detect the presence of an object in front of the sensor. They consist of a combination of an infrared light emitting device and an infrared light sensor. These sensors are merely proximity detectors, they cannot determine the range of the problem in front. The range of these sensors is also limited to a maximum of 80cm.

Ultrasonic range sensors, which determine the range of the object in front of it. They work by sending a short burst of ultrasonic waves, and measuring the time taken for the echo to be received. They have a wide beam angle, typically 30. These sensors have ranges of up to 6m.

Laser range finders, which work on the same principle as ultrasonic range sensors, except that they use LASER instead of ultrasound. Laser range finders

A Study on Bell Shape Valued Intuitionistic Fuzzy Relation in Decision Making Problem

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Abstract:

In this paper, we are dealing with Bell Shape Intuitionistic Fuzzy Number and finding the Bell shape valued intuitionistic fuzzy relation (BVIFR). The composition of Bell shape valued intuitionistic fuzzy relation and score, accuracy function is proposed to solve medical diagnosis decision making problem. Finally numerical example is given to verify the proposed approach.

Keywords:

Bell shape fuzzy number, bell shape intuitionisitic fuzzy number, score and accuracy function, fuzzy relation, composition of fuzzy relation, medical diagnosis.

Introduction:

In this paper, a system for medical diagnosis based on Bell shape valued intuitionistic Fuzzy Relation is proposed[13]. The Intuitionistic fuzzy numbers were first introduces Atanassov which is the generalization of the concept of fuzzy set Zadeh (1965)[3,4].The basic characteristic of the intuitionistic fuzzy set is that the values of its membership function and non-membership function[8]. Shamon Rt.al was the first to develop an approach using intuitionistic fuzzy set for decision making problem[9,10]. We study the composition of fuzzy relations to solve the medical diagnosis method[2].

Preliminaries:

Fuzzy Number:

A Fuzzy number $\overline{A}$ is a Fuzzy set on the real line R , must satisfy the following conditions

(i) $\mu_{\overline{A}}(x)$ is piecewise continuous

(ii) There exist at least one $x_0 \in R$ with $\mu_{\overline{A}}(x_0) = 1$

(iii) $\overline{A}$ must be normal and convex

Bell Shape Fuzzy Number:

A Bell Shape Fuzzy Number has eight parameters a, b, c, d, e, f, g and h which shows the parameters of fuzzy numbers such that $\mu_{\overline{A}}(a) = \mu_{\overline{A}}(h) = 0$ and $\mu_{\overline{A}}(d) = \mu_{A}(e) = 1$. The membership function is given by

A STUDY ON CONFLICT MANAGEMENT IN VST MOTORS

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ABSTRACT

A conflict arises when individuals have varied interests, opinions and thought process and is just not willing to compromise with each other. It is always wise to adjust to some extent and try to find a solution to the problem rather than cribbing and fighting. Conflicts and disagreements only lead to negativity and things never reach a conclusion. It only adds on to the tensions and make life hell. Every individual should try his level best to avoid conflict at the first place rather than resolving later.

Introduction

Employees bring different ideas, goals, values, beliefs and needs to their teams and these differences are a primary strength of teams. These differences inevitably lead to conflict, even if the level of conflict is low. Since conflict is inevitable, one of the ways in which organization can help employees improve their abilities to function on multidisciplinary teams to work with them to develop their understanding of conflict and their capabilities to manage and resolve conflict.

DEFINITION

"A process that begins when one party perceives that another party has negatively affected, or is about to negatively affects something that the first party cares about"-

K.W.Thomas "The Struggle between incompatible or opposing needs, wishes, ideas, interests, or people. Conflict arises when individuals or groups encounter goals that both parties cannot obtain satisfactorily".

Chung and Meggison.

OBJECTIVES OF THE STUDY

1. To find out kinds of conflict in the company.
2. To find out the reasons for the conflict in the company.
3. To find out the Conflict Resolution strategies followed in VST MOTORS.
4. To find the association between Conflict Resolution strategies and organizational effectiveness.

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A Study on Impact of Macroeconomic Variables on Bombay Stock Exchange (BSE) Sensex

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ABSTRACT

The Economic policies of number of countries have been brought changes in the world wide. The world market has integrated through the concept of globalization and liberalization. Through the financial and economic theory, Volatility becomes the important issue to the consumer for risk averse. The level of participation and investment in the stock market activity has been reduced due to increases of risk but the investors in the stock market always likely to adopt more risk in order to return more profit. The financial sector of every economy has been played by a major role of stock markets. The stabilization of financial sector has been driven by the efficient capital market. According to the available new information the stock prices are adjusted swiftly in the capital market. The purpose of this study is to analyze the consequence of Macroeconomic variables on Bombay Stock Exchange Sensex through the data collected from the period of April 2008 to March 2018. Using SPSS software, the Descriptive statistics and Correlation developed which shows the relationship between share price & various factors affecting the same. The understanding of behavior of Macroeconomic variables which affects the stock market indexes is very helpful for policy makers, Institutional investors, traders and all other stakeholders to take investment decision.

Keywords: Macroeconomic, Inflation, Price, Institutional Investor, Investment Decision, Policy.
JEL classification: B22, E31, G23, G11, P42, F68

Algebraic Operation of Fuzzy Ideals of a Ring

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ABSTRACT

In this paper we introduce a generalization of a fuzzy ideal in rings. We have obtain necessary and sufficient condition for a fuzzy ideal of a ring to be a maximal fuzzy ideal. We have also obtain the condition for a fuzzy set P defined on the ring of integers Z to be fuzzy prime ideal on Z.

Key words: Fuzzy ideals, Algebraic operation, Triangular fuzzy number, Ring.

1. INTRODUCTION

Fuzzy mathematics is one of the subset of mathematics; it has divided into two section namely fuzzy logic and fuzzy set theory. Fuzzy mathematics is faster growth in research and development of real life problems with mathematics. In 1965 L.A. Zadeh introduced fuzzy logic,it is used in many application where ever uncertainty is used then fuzzy can be applied in that area. In 1971 Zadeh used Similarity relations and fuzzy orderings[1], D. S. Malik, J. N. Mordeson deals with Fuzzy maximal, radical, and primary ideals of a ring[2]. A. Rosenfeld used fuzzy numbers in Fuzzy groups [3] and W. J. Liu applied the new idea for Fuzzy invariant subgroups and fuzzy ideals, Fuzzy Sets and Systems [4]. T. Kuraoka, N. Kuroki worked On fuzzy quotient rings induced by fuzzy ideals, Fuzzy Sets and Systems[5], R. Kellil using fuzzy numbers On 2-Absorbing Fuzzy Ideals to prove some property[6], R. Kellil introduced an New approaches on some fuzzy algebraic structures[7].presently J. Jacas, J. Recasens worked on Fuzzy numbers and equality relations [8]. M.Demirci used fuzzy numbers in Fuzzy functions and their fundamental properties[9], D.Boixader, J. Jacas, J. Recasens said about Fuzzy equivalence relations and the uses[10] and J. M. Anthony, H. Sherwood formed a new definition for Fuzzy group redefined[1]. Here we used triangular fuzzy number to used some of uncertain algebraic operation are used in some algebraic properties like sum and product of commutative, associative , etc.

2. PRELIMINARIES

In this preliminaries section some of few important definitions related to this paper and well known properties related with our given topics are used in the following

Definition 2.1 Fuzzy set:

A fuzzy set is considered by a membership function mapped into a domain space (i.e) mapping connecting universe of discourse X to the unit period [0, 1] given by $\tilde{A} = \{x, \mu_{\tilde{A}}(x) / x \in X\}$

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An Uncertain Trust and Prediction Model in Federated Cloud using Machine Learning Approach

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Abstract*: *Federated Cloud Model referred as the interconnection of two or more providers with some guidelines prescribed in Service Level Agreement to address the uncertainty such as SLA Violation for the specific service. Most well-known models use the concept of either probability or fuzzy set theory in managing the Quality of Service (QoS) required by the Cloud user, application and tool. In this paper, Deep Learning is applied to predict the SLA Violation and manage the uncertainty. SLA violation is defined as the failure to meet the requirement prescribed for the user and application. In addition to that, banker's algorithm is modified and used as prediction algorithm to find the possible safe state computation of the tasks and avoid wastage of resources in federated cloud. Random forest data mining technique is applied to rank the trust based provider and top provider may be considered for the service. The simulation results reveal that the proposed model helps to avoid uncertainty to about 78% and recognized that it is one of the most appropriate model needed in federated cloud architecture.

Index Terms*: *About four key words or phrases in alphabetical order, separated by commas.

I. INTRODUCTION

To satisfy the requirement of business needs, Federated Cloud Model is the deployment and management of multiple cloud providers Resource allocation is the most challenging area in federated cloud. The prediction of resource required for upcoming computational tasks are necessary to bring QoS under any constraints. Resources Provision Strategies falls on either Predictive or Relative[1]. Predictive strategy leads to better resource performance and reaction time whereas relative strategy measures the system state. In this paper, Banker's algorithm also known as the detection algorithm is used to predict the resources required for computation and also find the possible order of execution of tasks. This algorithm predicts the safe and non-safe state of computation of tasks which helps to avoid wastage of resources in federated cloud. Service Level Agreement (SLA) is an contract between the user and provider to define the stage of the service and its related cost[2,4,6]. SLA Violation is the failure of providing the agreed service to the cloud user. In this paper, Deep Learning is helps to predict Violations, Reallocate the
resources before the occurrence of Violations. To examine the performance of the providers Service Measurement Index (SMI) attributes are applied[3].
This paper is arranged as follows. Existing work discusses in Section 2 which is related to SLA Violation and Prediction, Section 3 discusses Proposed Model and banker's algorithm, Section 4 illustrates deep learning, Section 5 shows simulation results of the proposed work. Finally, Future work and conclusion discusses in Section 6.

II. EXISTING WORK

A lot research has been conducted to deal with the SLA issues in Federated cloud. The researches in[5] proposed as SLA based trust model and a conceptual SLA framework to evaluate cloud services. Chakraborty and Roy[7] defined an SLA based quantitative trust model to estimate the trustworthiness of a cloud service. The researchers in[8] proposed a quality of service mechanism on cloud computing based on SLA model. In this research, they defined a new language to illustrate QoS oriented SLA associated with cloud services. L.Wu., S.K.Garg and RajkumarBuya[9] joined together proposed a new resource allocation technique for SaaS providers, helps to reduce infrastructure cost and SLA Violations. Y. Xiaoyong and other researchers[10] presented a cloud SLA availability commitment framework together with availability calculation and fine calculation methods. Secure management and trustworthy[11,12,13,14] in the federated cloud is the most challenging problems in the federated clouds. So, cloud user should prefer a big level of trust to a CSP of federated cloud applications. Every time CSP deploys its application and services on federated cloud to establish trustworthiness of their services deployed is very difficult compare to a single cloud. Our earlier research work shows that deep learning be able to help create context aware trust evaluation and aggregation in a coherent, intuitive and strong way[15]. We propose an uncertainty of trust based on Cloud Model and deep learning to evaluate the trustworthy and untrustworthy in a federated cloud more accurately and efficiently in this paper. Deep Learning methods gives high performance and provides accurate results in big data applications.

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Antibacterial Activity of *Streptomyces* Species (T7) Isolated from Kanjamalai Hills of South India

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ABSTRACT

The emergence of drug resistance to antimicrobial agents is the biggest threat to public health. Hence novel antibiotics from soil microorganisms are timely needed for the control of several pathogenic microorganisms. Actino bacteria from soil samples collected from Kanjamalai hills of South India were isolated using starch casein agar medium. Based on the cultural morphology, a total of 12 actinobacterial strains were selected for further investigations. In primary antimicrobial screening by cross streak method, actinobacterial strain T7 showed broad-spectrum antibacterial activity. Bioactive metabolites from actinobacterial strain T7 was produced by adopting submerged fermentation using soy bean meal medium. In secondary antimicrobial screening by agar-well diffusion method, culture filtrate from strain T7 showed promising antibacterial activity. Further crude extract from the culture filtrate was extracted using ethyl acetate and tested for antibacterial activity by agar- well diffusion method, which showed good activity against *Staphylococcus aureus, Escherichia coli, Proteus mirabilis, Pseudomonas aeruginosa, Shigella dysenteriae and Serratia marcescens.* Based on the studied phenotypic characteristics actinobacterial strain T7 was identified as *Streptomyces* species. Findings of the present study concluded that Kanjamalai hills was the potential ecosystem for antagonistic actino bacteria which deserves for bioprospecting. The antagonistic actinobacterium T7 could be source of antimicrobial bioactive substance since it showed antimicrobial activity against all the tested bacterial pathogens.

Keywords: Actinobacteria, Kanjamalai hills, antimicrobial screening, bioactive compound.

INTRODUCTION

Novel broad-spectrum antimicrobial agents are immediately needed to combat frequently emerging multi-drug resistant microorganisms. Even though significant progress is being made in the field of chemical synthesis, nature still remains the richest and the most versatile source for new antibiotics [1]. Screening of microbial products continues to represent an important route to the discovery of novel chemicals for development of new broad-spectrum therapeutic agents [2]. Actinobacteria, isolated from unexplored regions of the world may be the ultimate solution to this problem [3].

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Antimicrobial and Hemolytic Activity of the Fish Collagen Extracted from Freshwater Snakehead Fish *Channa striatus*

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Abstract
Collagen is the most predominant, abundant and major protein of connective tissue present in the animal body. The collagens are widely used in many pharmaceutical industries, food, healthcare, cosmetics and scaffold tissue engineering. In the present study effort has been made to identify the antimicrobial and hemolytic activity of the collagen extracted from the freshwater snakehead fish *Channa stiriatus.* Extracted fish collagen were tested against the four pathogenic bacteria viz., *Escherichia coli*, *Staphylococcus aureus, Bacillus Subtilis* and *Klebsiella Pneumoniae,* four pathogenic fungi namely *Aspergillus flavus, Aspergillus nidulans, Candida albicans,* and *Fusarium moniliforme*. The hemolytic activity was tested on chicken and goat blood erythrocytes. The collagen extracted from freshwater fish shows a strong antibacterial and hemolytic activity.

Keywords
Collagen, snakehead fish, Channa striatus, hemolytic, antibacterial and antifungal.

*****

INTRODUCTION
Collagen is major extracellular protein of matrix plays a major role in maintaining physiological functions with diverse biomedical applications which include tissue engineering, food processing industry, manufacturing of cosmetics, biofilms and mostly in pharmaceutical industries. The bovine spongiform encephalopathy and transmissible spongiform encephalopathy initiate the researchers for the isolation of collagen from the alternative sources rather than from the cattle. One of the alternative sources is the invertebrates of which fishes are used for extracting the collagen. The fish collagens are having low melting temperature, lower gelling, fibrillar and non-fibrillar protein substances [1]. The collagen extracted from the fishes are heat sensitive due to labile cross links and reduced level of hydroxyproline [2]. The inertness structural ability and biocompatibility of collagen possess a promising anticancer activity and ophthalmic drug delivery system [3, 4].

Among the collagen alternatives, fishes are the best source because of its high availability, less risk in disease transmission, religious barrier and rich protein content. Substantial amount of collagen could be obtained from fish which provide an alternative source to bovine collagen in food, cosmetics and pharmaceutical applications.

Automated lion optimization algorithm assisted Denoising approach with multiple lters

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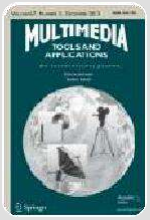

Multimedia Tools and Applications

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J. Jayapal & Ravi Subban

Abstract

The usage of digital images is growing exponentially yet, it suffers from numerous quality degradations. There are so many reasons for image quality degradations such as camera resolution, lighting conditions, environmental conditions and so on. However, the quality of a digital image is mostly affected by ‘noise’, which may occur during image acquisition or transmission. Though there are several denoising approaches in the existing literature, most of the denoising works are meant for treating a single type of noise. This work presents a denoising approach, which considers different noises and are treated with multiple adaptive lters under the assistance of the Lion Optimization Algorithm (LOA). The performance of the proposed denoising approach is tested by varying the noise variance against existing approaches. The proposed approach shows

AVD-Total-Coloring of Some Simple Graphs

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Abstract
Let G= (V,E) be an undirected simple Graph. We consider a proper total coloring distinguishes adjacent vertices, if every two adjacent vertices have different set of colors of the edges incident to the vertex and the color of the vertex. The purpose of this paper is to study the AVD (Adjacent Vertex Distinguishing) total coloring of some simple graphs. Also we determine the AVD-total chromatic number of Barbell graph, Lollipop graph, Windmill graph.

Keywords:
Proper coloring, chromatic number, total coloring, total chromatic number, AVD-total coloring, AVD-total chromatic number, Barbell graph, windmill graph, Lollipop graph.

Introduction
In this paper, we have chosen finite, simple and undirected graphs. Let G=(V(G),E(G) be a graph with the vertex set V(G) and the Edge set E(G) respectively. The elements of V(G) and E(G) are commonly called the graph classification. A coloring of a Graph G is to assign colors (numbers) to the vertices or edges or both. A vertex coloring (edge coloring) is called proper if no two vertices (edges) receive the same color. Many variants of proper colorings are available in the literature such as a-coloring, b-coloring, list coloring, total coloring etc. The present work is focused on total coloring of graphs. A total coloring of G is a function f: $S \rightarrow C$ where $S=V(G) \cup E(G)$ and C is a set of colors to satisfies the given conditions

No Two adjacent vertices receive the same color.
No two adjacent edges receive the same color.
No edges and its end vertices receive the same color.

The total chromatic number $\chi''(G)$ of a graph G is the minimum cardinality k such that G may have a total coloring by k-colors. Behzad [2] and vizing [2] conjectured that for every simple graph G has $\Delta(G)+1 \leq \chi''(G) \leq \Delta(G)+2$, where $\Delta(G)$ is the maximum degree of the graph G. This conjecture is called as the total coloring conjecture(TCC).

Definition 1.1.
Vertex coloring :
Let G be a graph and let V (G) be the set of all vertices of G and let {1,2,3,…..k} denotes the set of all colors which are assigned to each vertex of G. A proper vertex coloring of a graph is a mapping C : $V(G) \rightarrow \{1,2,3,\ldots..k\}$ such that $C(u) \neq C(v)$ for all arbitrary adjacent vertices $u,v \in V(G)$

Definition 1.2.
Chromatic number :
If G has a proper vertex coloring then the chromatic number of G is the minimum number of colors needed to color G. The chromatic number of G is denoted by
$\chi(G)$.

Definition 1.3.
Total coloring :
A total coloring of a graph G is an assignment of colors to both the vertices and edges of G, such that no two adjacent or incident vertices and edges of are assigned the same colors.

Definition 1.4.
Total chromatic number :
The total chromatic number is the minimum number of colors needed to total color G [5] and it is denoted by
$\chi''(G)$.

Definition 1.5.
AVD-total coloring :
G is a simple graph and ϕ is total coloring of G. ϕ is an AVD-total coloring if $\forall$ $u,v \in V(G)$ uv adjacent, we have $C(u) \neq C(v)$. Here C(u) : Set of colors that occur in a vertex u.

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Bounds for Location-2-Domination in Euler totient Cayley graphs and Circulant graphs

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ABSTRACT

In this paper to Study on Location-2-Dominating set, it is defined by A subset $S \subset V \in G$, S satisfies 2-Dominating set also $N(p) \cap S \neq N(q) \cap S$ where $p, q \in V - S$. Location-2-Dominating set is denoted by $R_D^2(G)$, in this paper finding Bounds for location-2-domination in (Z_n, ϕ), $C_n(k, l)$ and $(C_n(k, l))^c$ that is $R_2^D(G = (Z_n, \varphi)) = \delta(G)$ for n is prime, $R_2^D(G = (Z_n, \varphi)) \geq \delta(G)$ for n is even, $R_2^D(G = (Z_n, \varphi)) \leq \delta(G)$ n is odd, $R_2^D(C_n(k,l)) = \frac{n}{2}, n = k + l, 2k, 2l$, $R_2^D(C_n(k,l)) = \frac{n-1}{2}$, otherwise $R_2^D(C_n(k,l))^c = \frac{n-1}{2} \leq |S| \leq \frac{n}{2}$, n is even $R_2^D(C_n(k,l))^c = \frac{n-1}{2}$ for n is odd and $k = l \neq 2$, $k + l = prime$. also find more results using these graphs.

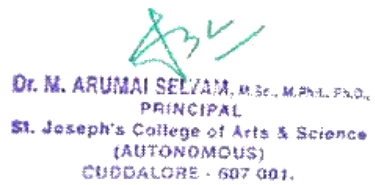
Key Words 2- Domination, Location- Domination, Cayley graph.

INTRODUCTION

The Concept of Cayeley Graph is most of used in routing problem in Parallel computing in parallel computers, more than one processor is inducted and in order to communicate between the processors The concept of domination in Cayley graphs has been studied by various authors and one can refer to [1,2,4]. I.J.Dejter and O.Serra[1] have obtained efficient dominating sets for Cayley graphs constructed on permutation groups. J.Lee[2] has obtained a necessary and sufficient condition for the existence of independent perfect domination sets in Cayley graphs. [7]Let X be a group with e as the identity element of X. A generating set of X is a subset A such that every element of X can be expressed as a product of finitely many elements of A. Assume that e not equal to A. The Cayley graph is defined by G=(V,E), where V(G) = X and E(G) = {(x,xa)/ x in V (G) and a in A} and it is denoted by Cay (X, A). Since A is a generating set of X, Cay(X,A) is a connected regular graph. When X = Z_n, the Cayley graph Cay(X,A) is called circulant graph and denoted by Cir(n,A), where A is a generating set of Z_n. Madhavi[3] has introduced the concept of Euler totient Cayley graphs and studied some of its properties. For any positive integer, $n \geq 1$ the number of positive integers less than n and relatively prime to n is called Euler totient function. Euler totient graph is defined by for each positive integer n and Z_n be additive group of integer modulo n. The Euler totient graph $G(Z_n, \varphi)$ is defined as follows the graph whose vertex set is $\{0,1,2,..., n-1\}$ and edge set is $E = \{(r, t) / r - t \in S\}$ where $S = \{k / 1 \leq k < n, GCD(k, n) = 1\}$

LOCATION -2-DOMINATION

Defination 2.1 [5]
A subset $S \subseteq V$ is Location – 2 -Dominating set of G if S is 2 Dominating set of G and if for any two vertices $u, v \in V - S$ such that $N(u) \cap S \neq N(v) \cap S$ .The minimum cardinality of Location – 2-Dominating set is denoted by $R_2^D(G) = |S|$



Bounds for Location-2-Domination in Split Graphs

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Abstract:

This paper finds bounds for location-2-domination for some split graphs like "path graph, cycle graph, wheel graph and any graph without isolated vertex" as $R_2^D(S(P_n)) = n+1$, $R_2^D(S(C_n)) = n$, $R_2^D[S(K_{1,n})] = 2n$, $n \geq 3$ The Location-2-Dominationof non-regular graph are also found.

Key Words: 2 Domination, Location- Domination, Split Graph.

1. Introduction:

Throughout this Paper let us follow the terminology and notation of Harary [5]. E. J. Cockayne and S. T. Hedetniemi[2] introduce the concept dominating set A subset S of vertices from V is called a dominating set for *G* if every vertex of *G* is either a member of S or adjacent to a member of S. A dominating set of *G* is called a minimum dominating set if *G* has no dominating set of smaller cardinality. The cardinality of minimum dominating set of *G* is called the dominating number for *G* and it is denoted by $\gamma(G)$ [1].

F.Harary and T.W.Haynes [1] introduced the concepts of double domination in graphs. A dominating set S of *G* is called double dominating set if every vertex in V-S is adjacent to at least two vertices in S. Given a dominating set S for graph *G*, for each u in V-S let S(u) denote the set of vertices in S which are adjacent to u. The set S is called locating dominating set, if for any two vertices u and *w* in V-S one has S(u) not equal to S(w) and the minimum cardinality of Location Domination number is denoted by RD(G) [2].

[6]Duplication of a vertex v of graph G produces a new graph G' by adding a vertex v′ with $N(v') = N(v)$ other words a vertex v is said to be duplication of v if all the vertices which are adjacent to v are now adjacent to v' also, If the vertices of graph G are duplicated altogether then the resultant graph is known as splitting graph of G, which is denoted as S(G)

2. Perlimnaries:

Defination2.1[5]: A subset $S \subseteq V$ is Location – 2 -Dominating set of G if S is 2 Dominating set of G and if for any two vertices $u, v \in V - S$ such that $N(u) \cap S \neq N(v) \cap S$ .The minimum cardinality of Location – 2- Dominating set is denoted by $R_2^D(G) = \$ |$

Location-2-Domination for Simple Graphs:

Theorem 2.1.1[4]: In Location-2-Domination For any graph the vertex $\{v\}$ is an pendent vertex then $\{v\} \in R_2^D(G)$ only.

Theorem 2.1.2[3]: Location-2-Domination number of a Path P_n is

$$R_D^2(P_n) = \left\{ \begin{array}{l} \frac{n-1}{2}+1 \ ; n \text{ is odd} \\ \frac{n}{2}+1 \ ; n \text{ is even} \end{array} \right\}$$

Theorem 2.1.3[3]: For any cycle C_n with $n \neq 4$, $R_D^2(G) = \left\{ \begin{array}{l} \frac{n}{2}; n \text{ is even} \\ \frac{n-1}{2}+1; n \text{ is odd.} \end{array} \right\}$

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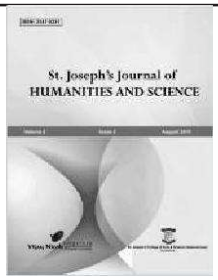

Clinical Study of Extended-Spectrum Beta-Lactamase Producing *E.coli* from Urinary Tract Infections

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S. R. Paranthaman[a]
J. Subasri[b]

ABSTRACT

Urinary tract infections are a major health problem among UTI patient accounting for considerable morbidity and health care costs and the organisms infecting the urinary tract and their antibiotic sensitivity patterns differ from place to place. So this study was designed to determine whether the isolation of various categories like 30 - 40, 41- 50, 51- 60, 60 -72 years age groups. The study conclude the 41-50 and 51-60 age group was highly affected by bacteria to cause urinary tract infection. The present study highlighted the *E. coli* was found to be the commonest cause of urinary tract infection in UTI patient.72% of urinary tract infection caused by *E. coli* in our study. So I conclude that *E. coli* is predominant bacterial pathogen to cause urinary track infection in UTI patient. The present study indicates that the prevalence rates of urinary tract infection are higher in females than males in all age groups. The sensitivity / resistance ratio of bacterial etiologic agents in this study revealed that the most common bacteria of urinary tract infections were sensitive to *Amikacin, Oflaxin and Ciprofloxin*. However these bacteria were resistant to *Ampicillin, Cefazolin, Ceftazidime, Nalidiric acid.* Antibiotic susceptibility patterns of the various drugs test did not show any significance, showing that the treatment of regimen for urinary tract infection is effective.

Keywords: Urinary tract infections, *E. coli*, Antibiotics.

INTRODUCTION

Urine is one of the most common received specimens in routine microbiological laboratories. Uncomplicated urinary track infections (UTIs) that occur most often in young healthy adult women are easy to treat, often to tend to have a more complicated course to patients with diabetic. Beside organs complications as retinopathy, neuropathy etc. patient with diabetes have an increased risk of infection which tends to be more secures.

Urinary track infections (UTIs) ranks second only after respiratory infections in their incidence in the India. Each year, urinary track infections (UTIs) accounts for about 9.6 million doctor visits. The majority of the cases seen in the doctor's office are in women (30:1), (Female : male ratio). 40% of all women have at least one episode of a UTI at some time in their lives.Upto 20 percentage of young women with acute cystitis develop recurrent urinary track infection (UTIs).Male experience a rapid increase in the incidence urinary track infection (UTIs)

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CONSTRUCTION OF NEIGHBOURLY IRREGULAR FUZZY CHEMICAL GRAPHS IN COMBINATIONS AMONG s-BLOCK AND p-BLOCK ELEMENTS AND ITS SIZE

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Abstract

A graph $G = (V,X)$ is said to be neighbourly irregular if no two adjacent vertices of G have the same degree, for a given positive integer n . In this paper, we construct some neighbourly irregular chemical graphs (G_{NIC}) of molecular structures obtained from s -block and p -block elements combinations from inorganic chemistry, considering the atoms as vertices, covalent bonds as edges and valence as degree of vertices. From the above such graphs by assigning suitable membership values to the corresponding edges and vertices, we get the neighbourly irregular fuzzy chemical graphs (G_{NIFC}) . Also, we obtain the size of such neighbourly irregular fuzzy chemical graphs (G_{NIFC}) .

Keywords: Regular Graph, Irregular Graph, Neighbourly Irregular Graph, Neighbourly Irregular Chemical Graph (G_{NIC}) , Neighbourly Irregular Fuzzy Chemical Graph (G_{NIFC}) , Molecular Structure, Atoms, Valency of atoms, Covalent bonds.

1 Introduction

A graph G means a finite undirected, connected graph without loop or multiple edges. Those graphs in which each vertex has the same degree is called regular graph. We know complete graphs are regular graphs. A graph which is not regular is called irregular. Among different kinds of irregularity like highly irregular. We find neighbourly irregular chemical graphs and so neighbourly irregular fuzzy chemical graphs. Motivated by the work of S.Gnanapragasam and myself defined the concept of *NIC* graph and now we define the concept of construction of neighbourly irregular fuzzy chemical graphs.

Here are the conversion of chemical terms into graph theoretical terms.

CHEMICAL TERM	GRAPH THEORETICAL TERM
Atom	Vertex
Molecule	Molecular graph
Covalent bond	Edge

DFT Studies on the Adsorption of CFC over the Copper Embedded Nitrogen Doped Graphene

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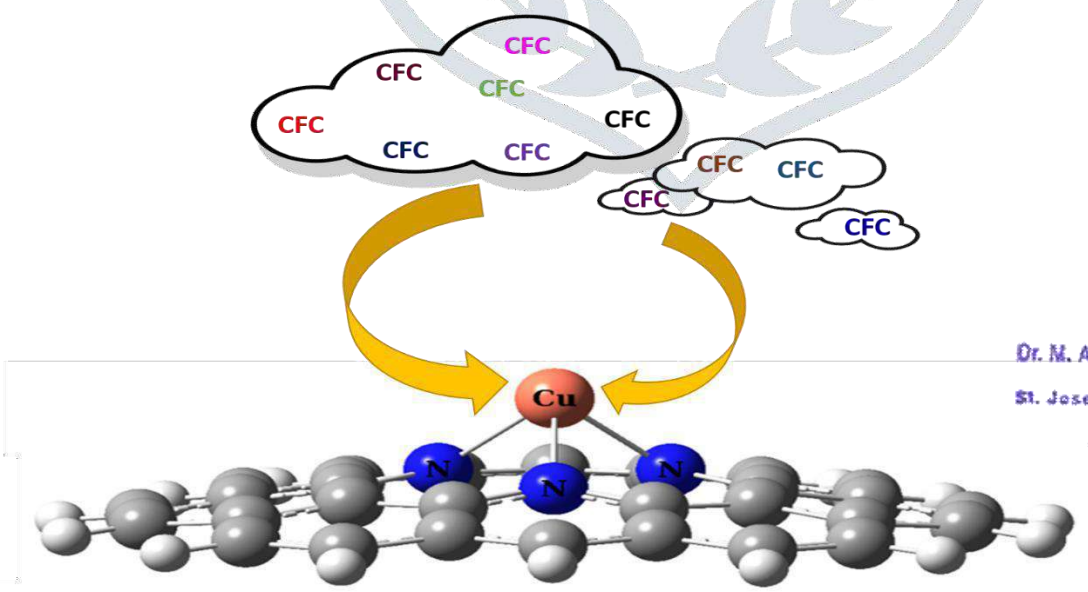
Abstract

We report an investigation of the adsorption of chlorofluorocarbons (CF_2Cl_2, $CHFCl_2$, CH_2FCl, and $CHFCl_2$) over the Cu embedded nitrogen-doped graphene system using density-functional theory (DFT). Our calculations found that embedded copper metal atom interacts weakly with the fluorine atom present in the CFC molecules. The optimal parameters were used to calculate the adsorption energy, LUMO, HOMO and density of states (DOS).

Graphical Abstract

Adsorption of various CFC molecules over the Cu embedded nitrogen-doped graphene analyzed by DFT method.



Keyword: chlorofluorocarbons, adsorption, nitrogen-doped graphene, density functional theory, Copper

Enhancement of Packet Loss for QoS in Wireless Mobile Data Networks

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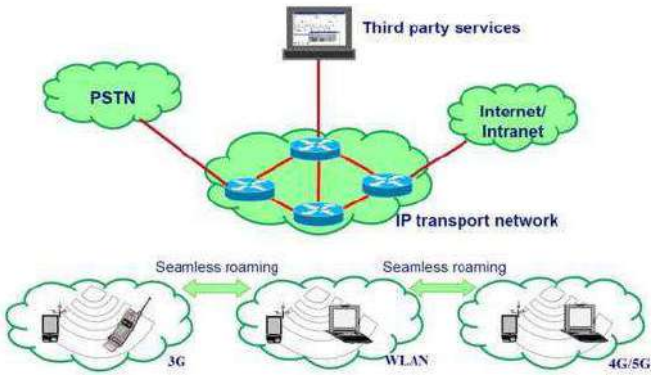
Abstract:

We are living in the world of wireless communication in which the next generation is in the anticipation state of optimized 4G/5G mobile communication strategies. Enrichment in the communication medium towards the multiplicity of equipments is never an achievement until the quality of communication must be ensured by both the customers and the service providers. Nowadays the QoS in the Wireless Mobile Data Network defines the Service Provider to survive in this competitive corporate culture especially in India which proves it in the recent years with the reduced count of service providers compared earlier (10 to 4).This paper deals with the Packet loss of voice and data over a wireless mobile network which is the primal factor in deciding the QoS. The proposed enhancement method is a combinatorial approach with the unique individual implementation towards the fine tuning of Packet loss improvements. The results and discussions of our proposed method lead to the implementation of enhancement in data loss and throughput for the completion of QoS intensification.

Index Terms: Mobile, Wireless networks, Quality of Service, Packet Loss, and Enhancement

1. Introduction

Nowadays the mobile equipment not only handle voice but also with the Data, such that the data comprises the Surfing, Email, Application, Video call, File transfers, AV downloads etc. Maintaining the customer satisfaction by the service provider in this subsequent years are very tedious and serious issues in the near future unless they follows certain nomenclatures in their transmission technologies[8].The challenges associated with providing service guarantees are numerous, but the biggest challenge for traditional networks has been congestion. However, many more challenges exist for wireless and mobile networks above those in traditional networks [10]. For this reason, a completely different set of QoS techniques are required for wireless networks than for wired networks. The Mobile network service architecture and role of QoS are represented in Figure 1.1 and Figure 1.2 respectively.



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EVALUATION OF ANTIBACTERIAL AND ANTIFUNGAL ACTIVITY OF PHOTOACTIVATED COW URINE

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ABSTRACT

Cow urine (*gomutra*) has been elaborately explained in Ayurveda and described in "*Sushruta Samhita*" and "*Ashtanga Sangraha*" as an effective medicinal secretion of animal origin with numerous therapeutic values. The present study was undertaken to explore the antimicrobial potential of photoactivated cow urine against pathogenic microorganisms. The antimicrobial activity of photoactivated cow urine was tested against *Proteus mirabilis*, *Salmonella typhimurium*, *Aeromonas hydrophila*, *Candida albicans*, *Candida tropicalis* and *Candida parapsilosis* by cup-plate agar diffusion method. Photoactivated urine exhibited most significant antibacterial and antifungal activity against tested bacterial and fungal pathogens. The results of the present study conclude that photoactivated cow urine possess good inhibitory activities against tested microbial strains and can be used to control infection caused by these microorganisms.

KEYWORDS: Cow urine, photoactivation, antibacterial activity, antifungal activity.

INTRODUCTION

Development of resistance to antibiotics by microorganisms is an ever increasing global public threat. Antimicrobial resistance also increases the cost of health care with a lengthier stay in hospitals.[1] Therefore, there is a need to develop new infection fighting strategies to control infection caused by microorganisms.[2]

ARCHIVES

Feature Selection based Data Classification Model for Financial Crisis Prediction

S. Anand Christy, Dr.R. Arunkumar and Dr.S. Mohan

Abstract

Financial crisis prediction (FCP) is highly essential for financial firms, which intends to eliminate the future losses. In the last decade, numerous FCP models are developed by utilizing the past financial data of a company. As the financial data is high-dimensional and holds many unnecessary features which can influence the overall classification accuracy. To avoid this problem, feature selection methods are used earlier to the data classification process. This paper develops an FCP model which employs genetic algorithm (GA) for feature selection in prior to classification process. The inclusion of GA-FS method eliminates the irrelevant features and helps to enhance the accuracy of the FCP model. The proposed FCP model is tested on two benchmark dataset namely qualitative bankruptcy dataset in addition to Australian Credit dataset. For comparison purposes, GA, CFS and CSF based feature selection methodologies are used. To test the classifier results, GA-FS method is resemblance with renowned logistic regression (LR) as well as radial basis function (RBF) classifiers. The results reveal that the proposed FCP model shows superior classification performance when comparingby precision, recall and F-score.

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Federated Cloud Selection, Formulation And Computation Using Service Level Agreements And Rank Based Selections On Fuzzy Sets

A. Mary Odilya Teena, M. Aaramuthan

Abstract : Federated cloud is the interconnection of transport on more administration furnishes with the assistance of representatives and agent administrators. Every supplier speaks with specific specialist, data with agents intermittently refresh with the dealer administrator vault. Administration gives are shortlisted by the agent chief client and ideal supplier is chosen. The client undertaking is doled out and the execution is assessed dependent on the administration estimation. List recommended by CCSMI. In this paper, the trust of the suppliers in federated cloud is estimated dependent on the estimation of trust, supplier is appointed for the client undertaking. The prerequisites to help united distributed computing situations are finding, positioning and choosing the suppliers and improves its execution. In this paper, fuzzy irregular hypothesis idea in the supplier and connected to register the most think the suppliers and chose ideal supplier. To lessen the plan multifaceted nature, layer engineering is proposed for federated cloud that comprises of use layer, administration deliberation layer, dealer layer and framework layer. Framework layer depicts the bolstered projects and assets in the suppliers. Representative layer clarify the league between the suppliers. Administration deliberation layer delineation the SLA the executives, adaptation to non-critical failure, chance administration and the idea of positioning the suppliers. Application layer bargains the upheld application in federated cloud. A hazard based access control system is proposed to deal with the entrance to assets by collecting the hazard measurements characterized in hazard arrangements made by the proprietor. Metaphysics is utilized for the proposed access control models to give adaptability and dynamism. Blame tolerant idea is recommended to oversee administration execution and administration infringement. Trust estimation of the suppliers are registered utilizing common propelled calculations, for example, Binary cuckoo hunt and Bee province streamlining, in view of estimation of must, suppliers are shortlisted, positioned and ideal supplier is to be chosen and productivity of the Proposed framework is demonstrated.

Key Terms: Federated Cloud, Trust Formulation and Computation, Service Level Assessment, Quality of Service.

I. INTRODUCTION

Cloud computing faces many challenges. These demanding situations encompass safety, privacy and consider. Among these, constructing agree with among individuals of the cloud might be a primary difficulty that hampers extensive use of cloud services. In general, patron facts square degree keep in the Cloud Service Provider_s (CSP) premises, wherever clients have little or no management over the technique their statistics is treated. Trust is extensively talking cited commonly computing literature; however, in the cloud computing putting it's nonetheless partner in nursing elevating subject matter [1]. This paper investigates however cloud customers necessities have an impact on their believe in a totally provider, and proposes taxonomy for comparing believe [2].

During this work, we will be inclined to suggest a framework and a mechanism that live the standard and range Cloud services. .Such a framework will build a big impact and might produce healthy competition among Cloud suppliers to meet their Service Level Agreement (SLA) and enhance their QoS [3]. The Ranking System computes the relative ranking values of assorted Cloud offerings supported the QoS desires of the customer and alternatives of the Cloud services [4]. Cloud based totally believe management models may be categorized onto four absolutely exceptional classes: i) coverage, ii) pointers, iii) name and iv) prediction based totally. In policy based totally consider control fashions, there is a collection of policies assumes a collection of authorization tiers with minimal trust thresholds. The thresholds might be decided mistreatment,

a) Observance and auditing approach (E.g. Provider stage settlement violations),

b) Entity believability technique (E.g. C program language period, availability) or

c) Comments believability (e.g. Trustiness, understanding) strategies.

Advancement of distributed computing are normally inferred back to sixties of residual century, anyway till the twenty first century, distributed computing is broad respected basic, and a little bit at a time come to be the possibility of the long haul improvement course. Individual distributed computing is AN augmentation of distributed computing inside the non-open area, in light of Internet-driven overseeing of non-open records. In other words, non-open distributed computing sorts out, shops, disseminates and reprocesses a number non-open data through the Internet [5].

The improvement of agree with, its importance and function has been acknowledged, checked out, and stated in numerous courses for the reason that floor-breaki paintings by way of Barber. Trust has been investigated in several contexts, collectively with virtual organizations and international environments normally. Our awareness right

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Fuzzy locally first and second category sets.

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Abstract: In this paper we introduce a new concept of fuzzy set theory that is fuzzy locally first category and fuzzy locally second category, fuzzy locally residual set. Several properties are also discussed with illustrate suitable examples.

Keywords: Fuzzy set, fuzzy locally open set, fuzzy locally closed set, fuzzy locally dense set, fuzzy locally nowhere dense set, fuzzy locally first category, fuzzy locally second category, fuzzy locally residual set.

1. Introduction

In order to deal with uncertainties, the idea of fuzzy sets and fuzzy set operations was introduced by L. A. Zadeh [10]. The notion of fuzzy topological space had been defined by C. L. Chang [3]. The notion of first category was introduced by R. L. Baire in 1899. The fuzzy nowhere dense set, fuzzy first and second category were introduced and studied by the authors in Dr. G. Thangaraj and Dr. G. Balasubramanian [8]. The fuzzy locally dense and fuzzy locally nowhere dense sets were introduced and studied by Dr. S. Anjalmose and A. Saravana [1]. In this paper we introduce a concept of fuzzy locally first category, fuzzy locally second category and fuzzy locally residual set. Several properties are also discussed with suitable examples.

2. Preliminaries

Definition 2.1: [3]

By a fuzzy topological space, a non - empty set X together with a fuzzy topology T (in the sense of Chang) and denote it by (X, T).

Let λ and μ be any two fuzzy sets in (X, T). Then we define $\lambda \vee \mu : X \to [0,1]$ and $\lambda \wedge \mu : X \to [0,1]$ as follows: $(\lambda \vee \mu)(x) = \text{Max}\{\lambda(x), \mu(x)\}$ and $(\lambda \wedge \mu)(x) = \text{Min}\{\lambda(x), \mu(x)\}$. Let (X, T) be any fuzzy topological space and λ be any fuzzy set in (X, T). We define $Cl(\lambda) = \wedge \{\mu / \lambda \leq \mu, 1-\mu \in T\}$ and $\text{int}(\lambda) = \vee\{\mu / \mu \leq \lambda, \mu \in T\}$. For any fuzzy set λ in a fuzzy topological space (X, T).

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Hydnocarpus alpina Wt extract mediated green synthesis of ZnO nanoparticle and screening of its anti-microbial, free radical scavenging, and photocatalytic activity

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ABSTRACT

This paper reports green synthesis of ZnO nanoparticle (ZnO Np) using *Hydnocarpus alpina* aqueous alcoholic extract as capping agent. These green synthesized ZnO Nps were characterized using Fourier transform Infrared (FT-IR), powder X-ray diffraction (PXRD), Field Emission Scanning electron microscopy (FE-SEM), and UV–visible diffuse reflectance spectroscopy (DRS-UV). FE-SEM and PXRD results revealed that these synthesized ZnO NPs had spherical morphology with diameter of 38.84 nm and high phase purity. Gas chromatography–mass spectrophotometric (GC-MS) phytochemical fingerprinting analysis of the plant extract showed the presence of 19 phytoconstituents that might potentially act as stabilizing and capping templates in the formation of nano particles. These synthesized ZnO NPs were tested against various Gram (+) ve and Gram (−) ve microorganism. They were more active against *Proteus vulgaris* and *Salmonella enterica typhimurium* compared to other organisms studied. Furthermore, these ZnO NPs showed potential in scavenging 2,2-Diphenyl-1-picrylhydrazyl (DPPH) free radicals. They also possessed potential photocatalytic activity against methylene blue degradation of about 96% in basic pH. These results suggest that these green synthesized ZnO NPs using HA extract can be used as effective anti-microbial and photo catalysts for controlling pathogenic microbes and degradation of dyes in industrial effluents.

1. Introduction

Natural sources such as animal- and plant-derived medications have long been used to treat various human diseases and disorders in traditional medicine around the world. Of the reliable sources of natural products, plants and their secondary metabolites have long been viewed as one of the most precious sources. The plant kingdom provides a surplus of biologically active secondary metabolites; statistically, only about 10–15% of existing species of higher plants have been investigated for this purpose (Bisht et al., 2006). Among them, only about 6% have been screened for biological activity and medicinal utilization (Alcorn, 1995). In ancient times, people used plants as medicines based on their day-to-day experience and the trial and error method (Fakim, 2006). Approximately 80% of the world's population, particularly people in developing countries, still depend on herbal medicines for healthcare (Alcorn, 1995). Traditional healers of most medicinal systems followed in the world retain information about the medicinal value of plants in secret, and this information was usually only transferred to the next generation in secret. Hence, much information was lost or not retrievable. With the development of the field of ethnobotany, medicinal information on such plants was scientifically evaluated and transferred from traditional healers to the modern medicinal system by ethno-botanists (Alcorn, 1995).

Apart from the ethanobotanical view, plant extracts and their isolated secondary metabolites have recently been applied in various fields of research as an antioxidant, drug carrier, and as a reducer in metal and non-metal nanoparticle synthesis (Sharma et al., 2010; Ingale and Chaudhari, 2013; Sujitha and Kannan, 2013; Momeni et al., 2016).

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INDEPENDENT NEIGHBOURHOOD NUMBER OF A NEIGHBOURLY IRREGULAR CHEMICAL GRAPHS AMONG s-BLOCK AND p-BLOCK ELEMENTS

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Absract

In this paper, we find new family of neighbourly irregular graphs namely, Neighbourly Irregular Independent Chemical graphs. Also we find Independent neighbourhood number of neighbourly irregular chemical graphs. A connected graph G is said to be Neighbourly Irregular Independent Chemical Graph, if no two vertices in neighbourhood set are adjacent. Also we find line graphs of neighbourly irregular chemical graphs. Here molecular structure in area of inorganic chemistry which is derived from the combination of s-block and p-block elements. And also considering the atom as vertices, covalent bond as edges, and valency as degree of vertices.

Keywords:

Regular graph, Irregular graph, Neighbourly irregular graph, Neighbourly irregular chemical graph, Independent neighbourhood number of a neighbourly irregular chemical graph,Line graph.

Introduction

A pair of vertices and edges are considered as a graph which is finite, undirected without loops and multiple edges in a graph theory. Here we considered vertices as atoms and edges as covalent bond in neighbourly irregular chemical graph of a molecular structure. A connected graph G is said to be irregular, in which each atoms has a different valency. Inspired by the work of V.R. Kulli, [1] we define independent neighborhood number of neighbourly irregular chemical graphs, in which no two adjacent atoms of G have the same valency and also discussed about line graph from neighbourly irregular chemical graphs.

Definitions

Regular graph

For any graph G, we define

$$\delta(G) = \min\{\deg v / v \in V(G)\} \quad \text{and}$$
$$\Delta(G) = \max\{\deg v / v \in V(G)\}$$

If for all points of G have the same degree r, then $\delta(G) = \Delta(G) = r$ and this case G is called regular graph of degree r.

Irregular Chromatic number of Line graph of Neighbourly Irregular Chemical Graph among s-block and p-block elements

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Abstract

Let G be a Neighbourly Irregular Chemical Graph(NICG) . We obtain the Line graph L(G) from the graph G for some chemical graph, in which each atoms of L(G) represents an covalent bonds of G. In this paper, finding the Irregular Chromatic Number $\chi_{ir}(G)$ of Line Graph by using different codes and colors. And also, discuss about some examples of Line graph L(G) and Complete bipartite $K_{1,n}$(G) of NIC graph.

Keywords: Irregular colouring, line graph , complete bipartite graph.

1. Introduction

In a graph G = (V,E) considered as a pair of vertices and edges. Here ,we consider the V as atoms and E be an covalent bond in chemical term of molecular structure of the Neighbourly Irregular Chemical Graph (NICG) which is finite, undirected, and without loop and isolated atom[1]. Mary Radcliffe and Ping Zhang [2], introduce the concept of irregular colouring of graphs. In 1932, H.Whitney invented the line graph [3]. In this paper, we define the concept of Irregular Chromatic number of line graph of graph (NICG).

2.Basic Definitons:

Definition 2.1

For the molecular structure of chemical graph corresponding element of the atoms has different valency in its adjacent atoms is said to be a Neighbourly Irregular Chemical Graph (NICG).

IRREGULAR COLOURING OF NEIGHBOURLY IRREGULAR CHEMICAL GRAPHS AMONG s- BLOCK AND p- BLOCK ELEMENTS

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Abstract: In any Neighbourly Irregular Chemical Graphs (NICG), if distinct atoms have distinct color codes and colouring is defined as irregular colouring. In this paper, we establish Irregular Colouring and also discussed about the Chromatic number $\chi(G)$ and Irregular Chromatic number $\chi_{ir}(G)$ of some classes of NIC graphs.

Keywords: NICG, Irregular colouring of NICG, Irregular chromatic number of NICG.

I. INTRODUCTION

An assingnment of k -colours to the vertices of graph G which is undirected and loopless, is said to be colouring, if no two distinct adjacent vertices have the same colour. The Chromatic number $\chi(G)$ is the minimum number of colours used in the graph. Inspired by the work of Mary Radcliffe and Ping Zhang [3], we define a Irregular Colouring $\chi_{ir}(G)$ in a Neighbourly Irregular Chemical Graphs among some classes of s- block and p- block elements and it should satisfy the condition as $\chi(G) \leq \chi_{ir}(G)$

Basic Definitions:
Definition 1.1

A *k-colouring* of a graph G = (V, E) is a function $c:V \to C$ where |c| = k having the property that $c(u) \neq c(v)$ for every pair(u ,v) of adjacent vertices of G, where C is the set of positive integers. The *Chromatic number* $\chi(G)$ of G is the minimum positive integer k for which there is a k- colouring of G .

Definition 1.2

For a positive integer k and a proper colouring $c:V(G) \to \{1,2,....k\}$ of the vertices of a graph G, the *color code* of a vertex v of G is the ordered (k+1) – tuple code $_c(v) = (a_0,a_1,.....a_k)$, where a_0 is the color assigned to v and for $1 \leq i \leq k$, a_i is the number of vertices adjacent to v that are colored i.

Definition 1.3

The colouring c is called *irregular* if distinct vertices have distinct color codes and the *irregular chromatic number* $\chi_{ir}(G)$ of G is the minimum positive integer k for which G has an irregular k- colouring. An irregular k- colouring with $\chi_{ir}(G)$ = k is a *minimum irregular colouring*. Since every irregular colouring of a graph G is a colouring of G, it follows that $\chi(G) \leq \chi_{ir}(G)$

Definition 1.4

A graph is said to be a *Neighbourly Irregular Chemical Graph* (NICG) for the molecular structure of corresponding element of the atoms have distinct color codes and different valency bond in its adjacent atoms.[1]

Location_2_Domination for Product of Graphs

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Applied Mathematics and Scienti c Computing

G. Rajasekar, A. Venkatesan & J. Ravi Sankar

Part of the book series: Trends in Mathematics ((TM))

Abstract

Locating-2-Dominating Set is denoted as $R_2^D(G)$, and in this chapter the Location-2-domination number for direct and Cartesian product of graphs, namely $P_n \square P_m$, $P_n \square S_m$, $P_n \square W_m$, $C_n \square C_m$, $P_n \times P_m$, $P_n \times S_m$, $C_n \times P_m$, $C_n \times C_m$, are being found.

Neutrosophic α-Baire Spaces

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Abstract: In this paper the concepts of neutrosophic α-Baire spaces are introduced and characterizations of neutrosophic α-Baire spaces are studied. Several examples are given to illustrate the concepts introduced in this paper.

Keywords: *Neutrosophic α-open set, Neutrosophic α-nowhere dense set, Neutrosophic α-first category, Neutrosophic α-second category, Neutrosophic α-Baire spaces,*

1. Introduction

The fuzzy set was introduced by L.A. Zadeh [15] in 1965, where each element had a degree of membership. The Intuitionstic fuzzy set (Ifs for short) on a universe X was introduced by K. Atanassov [2, 3,4] in 1983 as a generalization of fuzzy set, where besides the degree of membership and the degree of non- membership of each element. The fuzzy topological space was introduced by C.L.Chang in 1968[6]. The idea of "neutrosophic set" was first given by Smarandache [9,10]. Neutrosophic operations have been investigated by A.A.Salama at el. [1]. A.A.Salama and S.A.Alblowi presented the concept of Neutrosophic Topological Spaces[12].The concept of Neutrosophic α-open sets was given by I. Arokiarani and R. Dhavaseelan [5].The concept of Baire space in fuzzy setting was introduced and studied by G.Thangaraj and S. Anjalmose [14].The idea of neutrosophic Baire spaces are introduced by R. Dhavaseelan, S. Jafari ,R. Narmada Devi, Md. Hanif [8].

2. Preliminaries

Now we introduce some basic notions and results that are used in the sequel.
In this work by a neutrosophic topological space we shall mean a non-empty set X together with a neutrosophic topology T (in the sense of Chang) and denote it by (X, T). The interior, closure and then complement of a neutrosophic set A will be denoted by int(A), cl(A) and 1-A (or $\bar{A}$) respectively.

Definition 1.1. [5] A neutrosophic topology (NT) on a nonempty set X is a family T of neutrosophic sets in X satisfying the following axioms:

(i) $0_N , 1_N \in T$,
(ii) $G_1 \cap G_2 \in T$ for any $G_1, G_2 \in T$.
(iii)$\bigcup G_i$ for arbitrary family $\{G_i | \ i \in \bigwedge \}$.

In this case the ordered pair (X, T) or simply X is called a neutrosophic Topological Space (briefly NTS) and each Neutrosophic set in T is called a neutrosophic open set (briefly NOS). The complement A of a NOS A in X is called a neutrosophic closed set (briefly NCS) in X.

Definition 1.2. [5] Let A be a neutrosophic set in a neutrosophic topological space X. Then

Nint(A) = $\cup \{G \mid G \text{ is neutrosophic open set in } X \text{ and } G \subseteq A\}$ is called the neutrosophic interior of A;

Ncl(A) = $\cap \{G \mid G \text{ is neutrosophic closed set in } X \text{ and } G \supseteq A\}$ is called the neutrosophic closure of A.

Definition 1.3:[5] A neutrosophic set A in a neutrosophic topological space X is said to a Neutrosophic α-Open set(NSOS) if$A \subseteq Nint(Ncl(Nint(A)))$ and Neutrosophic α-Closed set (NSCS) if $Ncl(Nint(Ncl(A))) \subseteq A$

On Super mean Labeling for Splitting graph of path and cycle

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Abstract:

Let G(V,E) be a graph with the vertex set V and the edge set E respectively. By a graph G=(V,E). We mean a finite undirected with neither loops nor multiple edges. The number of vertices of G is called order of G and it is denoted by p. Let G be a (p,q) graph. A super mean graph on G is an injection f: V $\rightarrow$ {1,2,3, p+q} such that, for each edge e=uv in E labeled by $f^*(e)=[\Gamma (f(u)+f(v))|2]$. The set f(v) $\cup$ {f'(e): e $\in$ E}forms {1,2,3,……p+q}. A graph which admits super mean labelling is called super mean graph. The splitting graph S'(G) of a graph G is obtained by adding a new vertex V' corresponding to each vertex V of G such that N(V)=N(V'). We have showed that graphs S'(P_n) and S'(C_n) are super mean. Where P_n is a path on n vertices and C_n is a cycle on n vertices.

Keywords: Super mean labelling, path graph, cycle graph, splitting graph.

Introduction

Throughout this paper, by a graph we mean a finite, undirected, simple graph with neither loops nor multiple edges. Let G(V,E) be a graph with p vertices and q edges. The number of edges of g is called size of G and it is denoted by q. Terms and notations not defined here are used in the sense of Harary [1].

In 2003, Somasundaram and Ponraj [2] have introduced the notation of mean labelings of graphs. Let G be a (p,q) graph. A graph G is called a mean graph if there is an injective function f from the vertices of G to {0,1,2,….q} such that when each edge e=uv is labeled with $f^*(e) = (f(u) + f(v) +1)|2$ if f(u)+f(v) is even and $f^*(e) = (f(u) + f(v) +1)|2$ if f(u)+f(v) is odd, then the resulting edge labels are distinct. Furthermore, the concept of super mean labeling was introduced by Ponraj and Ramya [3]. Let f: V $\rightarrow${1,2,3……p+q} be an injection on G. For each edge e=uv and an integer m≥2.

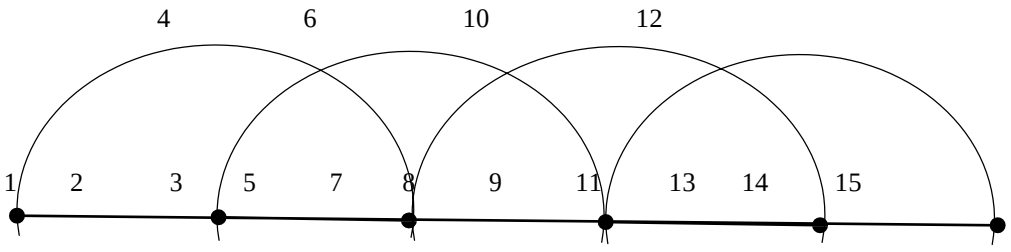
A vertex labelling of G is an assignment f: V(G) $\rightarrow$ {1,2,3 ..... p+q} be an injection for a vertex labeling f, the induced smarandachely edge m – labeling f_s^* for an edge e=uv, an integer m≥2 is defined by

$$f_s^*(e)=\left\lceil \frac{f(u)+f(v)}{m} \right\rceil$$

then f is called a smarandachely super m-mean labelling if f(V(G)) $\cup${$f^*(e)$: e$\in$ E(G)}={1,2,3…….p+q}. Particularly, in this case of m=2, we know that

$$f^*(e) = \begin{cases} \frac{f(u)+f(v)}{2} & \text{if } f(u)+f(v) \text{ is even} \\ \frac{f(u)+f(v)+1}{2} & \text{if } f(u)+f(v) \text{ is odd} \end{cases}$$

such a labelling is usually called super mean labeling. A graph that admits a smarandachely super mean m-labeling is called smarandachely super mean graph if m=2. A super mean labelling of the graph P_2^6 is shown in Figure 1.1



Furthermore, discussions of mean and super mean labelings for some families of graph are provided in [4-10] and Gallian [11]. The Splitting graph S'(G) of G is obtained by adding a new vertex v' corresponding to each vertex v of G such that N(v)=N(v'). For instance, when G=pn, Splitting graph of path S'(p_n) is provided in figure 1. Since the problem on super mean labeling for graph variations are still open, the new our contributions are stated in the following sections.

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Phytochemical Analysis and Antimicrobial Activity of Roots of Withania somnifera (L.) Dunal

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Abstract : *Withania somnifera* (L.) Dunal commonly known as 'Ashwagandha' is a widely used herb in Ayurvedic medicine.In the present study, root extracts of *Withania somnifera* were analysed for phytochemical constituents, and antimicrobial property. Antibacterial activity of root extract was tested by agar-well diffusion method against *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus mirabilis*, *Pseudomonas aeruginosa* and *Salmonella paratyphi* B. The study also investigated the effect of temperature on its antibacterial activity. Qualitative phytochemical analysis revealed the presence of carbohydrates, reducing sugars, alkaloids, phytosterol, fixed oils, proteins, phenolic compounds and flavonoids. All the bacterial strains were found to be sensitive to acetone, ethyl acetate and ethanol extracts. Acetone and ethanol extracts were more effective against *Klebsiella pneumoniae*, whereas ethyl acetate extract was more effective against *Pseudomonas aeruginosa* and *Salmonella paratyphi* B. The effect of temperature on the antimicrobial potential of the root extracts of the plant remained reasonably unaffected. The present screening demonstrated that *Withania somnifera* root extract has potent antibacterial activity and a potential source of new class of antimicrobial compounds that could be useful for infectious disease chemotherapy and control.

Keywords : *Withania somnifera*, Root extract, Antibacterial activity, Thermal stability.

Introduction

The development of multiple drug resistance bacterial pathogens has diverted the attention of researchers to find out new compounds from natural sources with good antimicrobial potential[1]. *Withania somnifera* Dunal (*Solanaceae*), commonly known as Ashwagandha, Indian ginseng or winter cherry is a one of the most valuable medicinal herb in traditional Indian medicine. Ashwagandha is used for treatment of wounds, cough, asthma, diabetes, tumors, hemiplegia, dyspepsia, diarrhoea, rheumatoid arthritis, lumbago, stress, insomnia, sexual debility, menstrual problems, leucoderma, scabies and leucorrhoea[2-4]. The plant is also used as a dietary supplement as it contains a variety of nutrients and phytochemicals. A decoction of Ashwagandha

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Application of Fuzzy Relational Equation by Using Max-Add Composition

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Abstract

In this paper, we discuss about the features and smooth way of active users in some video conferencing services of ''On line teaching and learning process" by using fuzzy Max-Add composition.

1 Introduction

Fuzzy relations are significant concepts in fuzzy theory and have been widely used in many fields such as fuzzy clustering, fuzzy control and uncertainty reasoning. The notion of fuzzy relational equations based upon the max-min composition was first investigated by Sanchez [3]. Fuzzy relational (relation) equations are identities of the form $R \circ S = T$, where R, S and T are fuzzy relations (R is a fuzzy relation between sets X and Y, S is a fuzzy relation between Y and Z and T is a fuzzy relation between X and Z). The maximum-addition composition of fuzzy relations were introduced and studied by Rakesh Kumar Triapathi [2]. In this paper, we discuss about the features and smooth way of active users in some video conferencing services of "On Line teaching and learning process" by using fuzzy Max-Add composition.

2 Preliminaries

Definition 2.1. *[4] Let X and Y be two nonempty sets. A fuzzy relation $\tilde{\Re}$ between X and Y is a fuzzy subset of $X \times Y$ where $\mu_R : X \times Y \to [0,1]$. If $X = Y$, then $\tilde{\Re}$ is called a binary fuzzy relation.*

Quantifying the Level of Awareness on Brand Extension using Index as the Tool

R. Rajkumar, Lj. Chaarlas

Abstract*: Marketing Management, one of the major functions of the business, facilitates the strongest affiliation of business to the customer through the delivery of what the customer likes, wants, demands and cherish. The brand delivers a clear message about its product and the company, confirms the credibility, motivates the consumer, builds up and concretes the loyalty. Brand Extension has been a commonly accepted marketing strategy used to break the entry barriers between product categories through the carryover of a brand's reputation. It is important, hence, to study how strong the brands which have already extended have, in reality, grown by studying the level of awareness among the consumers. Hence, there arises a need to understand the reach of brand extension based on the brand awareness of the market under the title, "Quantifying the Level of Awareness on Brand Extension using Index as the Tool". A renowned/successful brand helps an organization to launch products in new categories more easily. Reduction of the risk perceived by customers, reduction in the promotional expenditure and reduction of the cost of developing a new brand are the benefits of Brand Extension. The reach of Brand Extension has been found to be satisfactory and the level of awareness on Foreign Brands. Brand Extension should be used to improve the CSR capability of the company besides being to enhance the marketing and the profitability of the company.

Key Words: Brand Extension, Brand Awareness, Brand Awareness Index, Foreign Brands, Electronic Brands.

I. INTRODUCTION AND JUSTIFICATION

The human life in this universe has undergone, from the time immemorial, innumerable changes that are immeasurable and unimaginable. Though many factors and forces can be traced to be responsible for these changes, business-the most splendid invention of human race is the only one that could account for the major share and a vital role.

Though Marketing Management is one of the functions of business, it is the only function that carries the business to the customers-the most important among stakeholders of the business.

It is considered to be the heart and soul of the business. It facilitates the strongest affiliation of business to the customer through the delivery of what the customer likes, wants, demands and cherish. Every time the consumer buys, a foundation stone for the existence and growth is laid.

The brand is the window through which the customer looks into the business. The customers evaluate the business mainly through the brands it extends to them. The size and quality of the market and market share are the reflection of the brand image in the minds of the consumers. Their association and interaction with the business depend on the brand image.

The brand delivers a clear message about its product and the company, confirms the credibility, motivates the consumer, builds up and concretes the loyalty. Now a days, many companies have started to add their brands to their balance sheet to improve their perceived value.

Corporates adapt different strategy related to brands such as „brand creation", „brand positioning", „brand equity", „brand image", „brand personality" and „brand extension" to exist, grow and compete in the market place.

Brand Extension has been a commonly accepted marketing strategy used to break the entry barriers between product categories through the carryover of a brand"s reputation.

The market has been witnessing extension of brands by the corporate world to survive and grow by gaining an edge over those of their competitors. The success of extensions of brands depends on the level of awareness of the consumers on them. If the level of awareness of the consumers on the extension is strong and clear the brand survives or else, it disappears from the market and the minds of the consumers like a fad.

It is important, hence, to study how strong the brands which have already extended have, in reality, grown by studying the level of awareness among the consumers.

Hence, there arises a need to understand the reach of brand extension based on the brand awareness of the market under the title, "**QUANTIFYING THE LEVEL OF AWARENESS ON BRAND EXTENSION USING INDEX AS THE TOOL**".

II. OBJECTIVES OF THE STUDY

A study on "Quantifying the Level of Awareness on Brand Extension using Index as the Tool" has been carried out with the following overall and specific objectives.

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Solving Intuitionistic Bell Shape Fuzzy Number using Recurrent Feed Forward Neural Network

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Abstract:

In this paper, we proposed the Intuitionisitic Bell shape fuzzy number and solving Intuitionistic Bell shape fuzzy number using Recurrent feed forward neural network. Example is given to illustrate this proposed algorithm.

Keywords:

Intuitionistic Bell shape fuzzy number, recurrent neural network , feed forward neural network and recurrent feed forward algorithm.

1. Introduction:

In 1965, zadeh introduced the Fuzzy sets to represent and information processing non-statistical certainties. Many operations were carried out using fuzzy numbers.

Fuzzy neural networks are usually based on neural network architecture with fuzzification of inputs, outputs, weights, or rules that are applied using fuzzy system.

Recurrent Neural Network (RNN) were based on David Rumelhart's work in 1986. RNN is a class of artificial neural network where connection between nodes form a directed graph along a temporal sequence.

Artificial neural networks are computational models which work similar to the functioning of a human nervous system. There are several kinds of artificial neural networks. These types of networks are implemented based on the mathematical operations and a set of parameter required to determined the output.

2. Preliminaries:

Fuzzy Set:

Let X be a non-empty set a fuzzy set $\bar{A}$ of X is defined as $\bar{A} = \{< x, \mu_{\bar{A}}(x) >, x \in X\}$ where $\mu_{\bar{A}}(x)$ is called membership function which maps each element of X to a value between 0 and 1.

Fuzzy Number:

A Fuzzy number $\bar{A}$ is a Fuzzy set on the real line R , must satisfy the following conditions

(i) $\mu_{\bar{A}}(x)$ is piecewise continuous

(ii) There exist at least one $x_0 \in R$ with $\mu_{\bar{A}}(x_0) = 1$ $\bar{A}$ must be normal and convex

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Structural, Functional and Optical Characters of TiO_2 Nanocrystallites: Anatase and Rutile Phases

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ABSTRACT

The anatase and rutile phases of titania (TiO_2) nanoparticles were synthesized by Sol–gel technique at room temperature with appropriate reactants. The XRD patterns confirmed the tetragonal crystal structure and the structural properties were determined. The relative functional groups and purity of the prepared products were identified by FTIR spectroscopy. DRS measurements indicated that the blue shift in the absorption band edges with respect to bulk titania. The allowed direct and indirect band gap energies, as well as the optical constants were evaluated.

Keywords: Sol-gel technique; TiO_2 nanoparticles; X-ray diffraction; Functional groups; Optical properties.

INTRODUCTION

Titania (TiO_2) has been widely studied due its interesting properties such as high dielectric constant, humidity and oxygen sensitivities and, photoelectric and catalytic conversion properties [1, 2]. Titania crystallizes in three natural phases: brookite (orthorhombic), anatase (tetragonal) and rutile (tetragonal). The brookite and anatase crystalline phases, which are stable at low temperature, transform into rutile when the sample is annealed at higher temperatures [3]. It has been demonstrated that some properties of TiO_2 are very sensitive to its structure. Since the anatase phase is chemically and optically active, it is suitable for catalysts and supports [4, 5]. On the other hand, the rutile phase has the highest refractive index and ultraviolet absorptivity among the titania phases; thus, it is employed in pigments, paints and ultraviolet absorbents [4]. According to the temperature, the anatase-rutile transformation is

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A Study on Influence of Sensitivity Analysis on Normalization Techniques by Applying Equal and Exchange of Weight Metrics

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Abstract - Sensitivity analysis is used to find the robustness of a normalization technique. It is applied in two ways, one by applying equal weights to all the criteria (MSA_EQ) and other by exchanging of weights (MSA_EX). The result obtained for sensitivity analysis when it is conducted with equal weight is described in this paper. The impact of sensitivity analysis on assigning equal weights to criteria is described with different shaded colours for each of the normalization technique. The change in ranking order of the alternatives before and after of sensitivity analysis is described with shaded colour. In this analysis, linear max min normalization has minimum number of altered ranking order for alternatives. In both of these analysis (assigning equal weight to the criteria and exchanging weight of the criteria), selected six normalization techniques maintains different number of alterations in ranking order of alternatives.

Keywords: Multi criteria decision making, sensitivity analysis, TOPSIS, simplified TOPSIS, sFTOPSIS, MCDM Evaluation Metrics, Normalization Techniques, Evaluation of normalization techniques

I. INTRODUCTION

Sensitivity analysis is a fundamental concept to check the effective implementation of quantitative decision models (Senthil et al., 2014). It examines the effect of the changes of a single parameter on the final rankings of the alternatives (Triantaphyllou et al., 1996), (Masuda &Tatsuya, 1990). To compare the normalization techniques two kinds of sensitivity analysis is applied such as one by applying equal weights to all the criteria ***(M_{SA_EQ})*** and other by exchanging of weights ***(M_{SA_EX})*** (Chakraborty & Yeh, 2007). The sensitivity analysis, RCI and rank reversals are such kinds of parameters which analyses the robustness of the MCDM applications.

II. LITERATURE SURVEY

Normalization is a process of converting incommensurable units into dimensionless units. It is an operation to convert different measurement units into standard form for computation (Aydın, 2014), (Yoon & Hwang, 1995).

The most popular normalization techniques which are applied in MCDM are described as follows.

- **Vector normalization (Peter et al., 2016)**
- **Linear Max normalization (Irfan & Tayfun, 2014)**
- **Linear Max-min normalization (Singh & Lyes, 2011)**
- **Linear sum based normalization (Subrata & Chung, 2009)**
- **Gaussian normalization (Rong & Luo, 2004)**
- **Non-monotonic normalization (Maysam et al., 2012)**

The procedure, best features and limitations of these normalization techniques are described as follows.

Vector Normalization

This normal form divides the performance rating of decision matrix (Aydın, 2014). It converts all attributes into dimensionless measurement unit which simplifies the comparison (Subrata & Chung, 2009). The normalized value r_{ij} is obtained by,

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The Crucial Challenges Faced By the Banking Sector on Adopting Cloud Computing

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ABSTRACT:
In the modern era, cloud computing is being used widely and is very popular in the banking sectors. Cloud computing allows the banks to store the data and also provides better support to the customers and creates an opportunity for the bankers to connect with their users directly. With the help of the internet many services like storing, managing and accessing the information has become more easier to bankers and customers. The main aim of the paper is to have a general analysis on the concept of cloud banking and the major challenges faced by the banking sector on adopting cloud computing. This paper will provide great benefits for researchers, educators, students, etc by providing a clear view and deep understanding on the concept of cloud banking and its common challenges. This article suggests that banks which use cloud computing face challenges like security & privacy issues, regulation & compliance issues, network problems, control issues and vulnerability. So depending on this review, researchers and scholars in this field can have a clear view to set their attitude towards suitable future research studies and methodologies which in turn will contribute to the related accumulated knowledge in the field.
KEY WORDS: cloud computing, security issues, regulation and compliance issues, vulnerability.

I. INTRODUCTION:

Cloud Computing is the process through which the data are stored in an external server. This software allows the banks and financial institutions to secure the data and also to provide better support to the customers. In short, cloud storage is a new technology for storing the data over the internet. Cloud Computing creates an opportunity for bankers to connect with the users directly. This eases the relations with the customers anywhere and anytime. With the help of cloud computing, many services like storing , managing, accessing the information have become easier to bankers and customers.

Cloud computing is an easy technique to deploy and integrate all the services of the bank which decreases the time and effort of the user. The evolution of cloud computing enables the banks to focus more on consumer-centric model and digitalizing the trading and wealth. Eg: Amazon web services, Google virtual cloud, etc.

The role of technology has become more vital to the banking sector in the modern era. In this context, cloud computing is an emerging trend that is becoming very popular in banking sector. This is due to the fact that it provides various benefits to the banks like online storage of data, etc. Although cloud computing is a merit to the banking sector, it suffers from various issues. The factors like security issues, control issues, etc are some of the crucial challenges to the banking sector. This in turn may trigger some other problems to the banks that use cloud computing. So it is essential that these issues need to be checked on before it becomes a major threat to the banking sectors using cloud computing.

II. THE MAJOR CHALLENGES OF CLOUD COMPUTING IN THE BANKING SECTOR:

1) Security:

Every bank needs to keep the data of their consumers and other vital information in a safe and secured manner. This is because, it is always vulnerable to security breach.
E.g.: IBM found that the average data breach cost a company incurs is around $145 to $154 thousand dollars for each compromised account.
This one example is enough to say that despite the fact that the security provided by cloud bankers are tight, there is always a chance for security breach. This is because technological development progresses in geometric progression which paves for new form of security breach.

2) Service Availability:

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The Effect and Volatility of Exchange Rates on BSE Sectoral Indices

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ARTICLE DETAILS

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ABSTRACT

Indian economy has the emerging market which offers immense opportunity to increase the development of the country and the economy reforms. The significant growth and development of the Indian economy are driven by some of the factors such as investment decision, infrastructure facilities and proactive government regimes. Indian Stock market offers a significant contribution to investment destination by the movement of prices and also the volatility of exchange rate of the various countries currency. The rate at which one money is converted into another is an exchange rate. Exchange rate volatility is associated with unexpected movement in the exchange rate. The present study helps to analyze the volatility of Exchange rate on BSE (Bombay Stock Exchange) Sectoral Indices through the data collected from the period of January 2014 to December 2018. Using SPSS Software,Descriptive Statistics, Regression, Correlation, Johnson Cointegration test and GRACH model have helped to ascertain the volatility of Exchange rate that determined the movement of prices in the Bombay Stock Exchange Sectoral Indices which provides the relevant information to the Institutional investors and other investors to take investment decision and also helped to frame policies by the government.

1. Introduction

All economic activities of an economy which take place in foreign currency fall in the external sector such as export, import, foreign investment, external debt, current account, capital account, balance of payments etc. Indian currency, „the rupee" was historically linked with the British Pound Sterling till 1948 which was as far back as 1928. Once the IMF came up, India shifted to the fixed currency system committed to maintain rupee"s external value (i.e., exchange rate) in terms of gold or the US ($ Dollar). In September 1975, India delinked rupee from the British Pound and the RBI started determining rupees exchange rate movements of the basket of world currencies ($,DM, Fr, £, ¥.). This was as an arrangement between the fixed and the floating currency regimes. In 1992-1993 financial years, India moved to the floating currency regime with its own method which is known as the „dual exchange rate". There are two exchange rates for rupee, one is the official rate and the other is market rate. Indian currency has seen frequent exchange rate volatility in recent times which influences the Sectoral Indices of Stock Exchange. There are major two stock exchanges that are trading in the Indian Stock market. They are Bombay Stock Exchange and National Stock Exchange.Bombay Stock Exchange is the oldest exchange in Asia which is now popularly known as the BSE. Indices are the important part of stock market and thereof investments. An index makes it easy for an investor to compare the price trends of the index and the stock. BSE SENSEX and NSE Nifty are the bench stock market index for equity market. The market sector indices summarize the performance of stock grouped by specific market sectors. The major sectoral indices of the Bombay Stock Exchange are S&P BSE TECK, S&P BSE Information Technology, S&P BSE CONSUMER DURABLES, S&P BSE Fast Moving Consumer Goods, S&P BSE POWER, S&P BSE India Infrastructure Index, S&P BSE OIL & GAS, S&P BSE AUTO, S&P BSE PSU, S&P BSE Healthcare, S&P BSE CAPITAL GOODS, S&P BSE BANKEX, S&P BSE METAL, and S&P BSE REALTY. Exchange rate Volatility refers to the tendency of foreign currencies to appreciate or depreciate in value. The volatility is the measurement of the amount that these rates change and the frequency of those changes. Economic fundamentals such as the inflation rates, interest rate and the balance of payments are source of exchange rate. The present study "The Effect and volatility of exchange rate on BSE Sectoral Indices" selected five indices such as BSE AUTO, BSE CG, BSE GREENEX, BSE BANK, BSE SENSEX and BSE OIL GAS to determine price movement of stocks in those selected sectoral indices through of changes in volatility of the Exchange rate.

2. Review of Literature

This work „The Effect and volatility of exchange rate on BSE Sectoral Indices" reveals the movements of exchange rate and fluctuation which affects the various sectoral Indices and its relationship between them with special references to Indian Stock Market.

Smita Mahapatra, Saumitra N. Bhaduri (2018), „Dynamics of the impact of currency fluctuations on stock markets in India: Assessing the pricing of exchange rate risks" The study conducted data collected during the period from 2005 to 2016 by estimating a two factor arbitrage pricing model. It found that stock returns react significantly to foreign exchange rate fluctuations in the post-crisis period. The study explored that last four years of the sample 2012 to 2016, the

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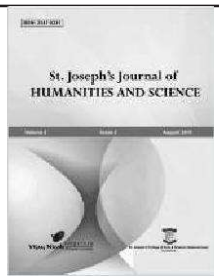

The Performance of *E. Eugeniae* and *E. Fetida*, in Generating Vermicasts Fed with Salvinia in Pre-Pilot-Scale System

T. Ganeshkumar

ABSTRACT

The study on vermicomposting of salvinia at pre–pilot scale using two earthworm species and three different forms of salvinia was reported. In this work, the performance of the reactor operated in lab – scale system in vermicomposting of salvinia is presented. The potential of two epigeic species *(Eudrilus eugeniae,* Kinberg and *Eisenia fetida,* Savigny*)* of earthworms was assessed in terms of efficiency and sustainability. Each species were separately tested. In both reactors earthworms were healthy and produced vermicast. The study also indicates that *E. eugeniae* performed 1.3 times better than *E. fetida*, in terms of vermicast output. Since there was no mortality, the reactors can be operated indefinitely on this feed.

Keywords: Disposal, Extraction, Pollution, vermicomposting.

INTRODUCTION

The study was made to study the performance and sustainability of *E. eugeniae* and *E. fetida* in vermicomposting of salvinia at pre–pilot scale without any addition of animal dung or pre–composting is reported (3). The efficiency of the reactors was assessed in terms of vermicast production, worm growth and fecundity.

MATERIALS AND METHODS

Eudrilus eugeniae and *Eisenia fetida* were used for the study. Rectangular, 51 L Aluminium trays (157×65×5cm) were used as vermireactors. The reactors were lined with HDPE sheet to prevent the corrosion of the material. Double layer of moist jute cloth of 5mm thickness were placed at the bottom of each reactor and the fresh feed 750 g (dry wt.,) was laid over it. In each reactor, 50 healthy, adult animals of chosen species were introduced. These animals were picked from the cultures maintained by the authors with cowdung as the feed. Each culture had more than 1000 animals from which 50 individuals were randomly picked for these experiments, which were operated for a month. The average moisture content of the vermireactors was maintained at 75 ± 1% by monitoring the moisture content of the reactors every week and sprinkling the required quantities of water (1; 3). All

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Unification of Scalable and Dynamic Access Control Mechanism in Grid Computing

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Abstract: The growth of Grid services and service providers directly proportional due to the immense requirement of shared resource accessing feature among the Grid service consumers. Grid systems are a mixture of autonomous domains, which are frequently open and dynamic. Grid systems treats large number of users with its services, who are often changeable, and different domains has their individual policies. The existing identity based models are not scalable, closed, infeasible and inflexible. Scalability and the dynamicity for Grid control services have unluckily not extended well to grid access-control policies and mechanisms. This paper deals with the issues raised by scaling up of measures such as number of users, protocols, applications, network elements in a grid topological constraints, and functionality expectations along with the enhancement in dynamic access control. The proposed enhancement method is a unification approach with the unique individual implementation towards the fine tuning of scaling and dynamic access improvements. The results and discussions of our proposed method lead to the implementation of enhancement of scalable and dynamic access control mechanism in grid computing.

Index Terms: **Grid, Scalable, Access Control, Unification, Enhancement**

I.INTRODUCTION

A *service* is an implementation of well defined functions that are able to interact with other functions. The *service oriented architecture* (SOA) is comprised of a set of services that can be realized by technologies such as the web services [4].

A *domain* can be defined as a protected computer environment, consisted of users and resources under an access control policy. The collaboration which can be established among domains leads to the formation of a virtual organization.

A *user* in a Grid environment can be a set of user identifiers or a set of invoked services that can perform on request one or more operations on a set of resources. Furthermore, we identify two types of users. These are the resource requestor and the resource provider [9]. The former type of user acts like a resource access or usage requestor, and the latter type of user acts like a provider of its own sharable resources. All users are restricted by the policies enforced in their participating domains and virtual organization [6].

A *resource* in a Grid environment can be any sharable hardware or software asset in a domain and upon which an operation can be performed [5].

Access control's role is to control and limit the actions or operations in the Grid system that is performed by a user on a set of resources. In brief, it enforces the access control policy of the system, and at the same time it prevents the access policy from subversion. Access control in the literature is also referred to as access authorization or simply authorization [2].

A Grid *access control policy [3]* can be defined as a Grid security requirement that specifies how a user may access a specific resource and when. Such a policy can be enforced in a Grid system through an *access control mechanism.* The latter is responsible for granting or denying a user access upon a resource. Finally, an *access control model* can be defined as an abstract container of a collection of access control mechanism implementations [8], which is capable of preserving support for the reasoning of the system policies through a conceptual framework [1]. The Grid service architecture is represented in Figure 1.1.

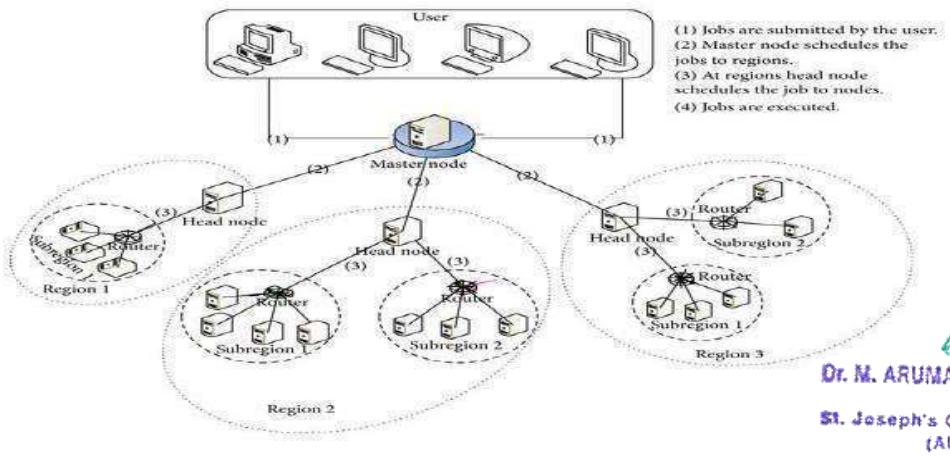

Figure 1.1: Grid Service Architecture [10]

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Mulliken charge assignment and Frontier molecular orbitals interaction investigation on Drug; Bupropion

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Abstract

The Quantum computational calculations were performed on the molecular species Bupropion in order to explore electronic potential arrangement to generate drug potential. The charge domains over molecular sites were monitored and the charge level assignment was evaluated and the inducement of drug potential was evaluated. The HOMO and LUMO interaction profile was displayed to investigate the cascade of degenerate orbitals to amalgamate the chemical potential to prepare the drug activity. The Kubo gap was measured and the related drug potential was estimated.

Key words: Bupropion, molecular sites, drug potential, Kubo gap and chemical potential.

1. Introduction

3-Chloropropiophenone is the major reactant for the preparationof Bupropion, which is a drug used to treat depression. It increases the amount of norephineprine and dopamine in the brain which develops certain neurological changes [1]. Chemicallyit is called as 1-(3-chlorophenyl) propan-1-one. Due to its antibacterial rate of drug potential, it is also used as a pharmaceutical intermediate to manufacture antiviral compound. The antiviral compound is useful for managing HIV infection in human [2-3]. This antiviral compound is an optically active compound. The antiviral activity is inhibited by the presence of other isomeric form of the compound [4]. Thus the pharmacological activity of the antiviral compound is depending upon providing the compound in high UV and optical purity.

Bupropion may also be used to treat attention deficit hyperactivity disorder (ADHD), or to help people quit smoking by decreasing craving and nicotine withdrawal effects. It is used to prevent autumn-winter seasonal depression [5]. The drug usually having biological affinity and it is used with other medications to treat bipolar disorder. Due to its viable Polymorphism, it has vital importance in pharmaceutical industry [6].

2. Computational profile

- Quantum chemical hybrid methods; B3LYP and B3PW91 were carried out using the basis sets 6-31++G(d,p) and 6-311++G(d,p).

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A Basic Investigation Of Smaller Scale Fund Organizations And It's Development In India

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ABSTRACT

Since Indian independence in 1947, successive governments have emphasised the link between improving access to finance and reducing poverty. In the year 1950s the creation of a nationwide network of rural cooperative banks was an attempt to improve financial access for India's poor, 75% of whom are concentrated in rural areas. This was followed by further measures aimed at increasing financial access- the nationalisation of commercial banks in the late 1960s, and an aggressive drive through the 1970s and 1980s to expand rural banking. India is an agro based economy since beginning and major contributor in national income of country and the majority of the sector comes from weaker section or from below poverty. To develop & rapid the growth of economy the government of India took major initiative after the independence & made the significant provision in various five year planning's of country to increase food grain & promote the cultivation operations & for the betterment of deprived section of India such as green revolution plan etc. after the independence but along with the promotion of field operation in rural areas and weaker section, the need of financial assistance & promotion was felt for the radical growth of rural areas, weaker section and boost up the agro economy. The aim of writing this paper is to analysed comparative growth of banking sector in rural area and development of micro finance services in India and to what extant banking & MFS achieved their motive of establishment.

Key words: MDO, SGH, NABARD, RRB'S, Micro Fin, NGOs, SIDBI, MFI, GDP

1. INTRODUCTION

The first microfinance program began in the developing world in the early 1960s' and emerged in the United States in the early 1980s. In India the Microfinance has become an indispensable part of India's economy. The financial needs of India's rural areas reflect the volatile, uncertain, and irregular income streams and expenditure patterns. Critical examinations of their prerequisites show that poor people value financial services and want them to be reliable, convenient and flexible. India boasts a range of institutions providing microfinance which consists of formal financial institutions at one end of the spectrum and private moneylenders at the other. Microfinance services are provided by banks, credit unions, and microfinance organizations, which are also known as micro enterprise development organization (MDO). Microfinance, now clearly a worldwide movement, is embraced by governments, corporations, banks, development agencies, business communities, civil societies, and philanthropists. Although the exact scale of the microfinance industry is imperfect because of incomplete data and self-reporting, several data sources shed some light on the industry. For example, the states of microcredit institutions have reported reaching 92, 270, 289 clients, 66, 614, 871 of whom were among the poorest when they took their first loan. Of these poorest clients, 83.5 percent, or 55, 622, 406 are women." The "poorest" are defined as persons living below their nation's poverty line or living on less than one U.S. dollar per day, estimated at 1.2 billion people. Owing to the increase in the economic development and growing Gross Domestic Product

A BAYESIAN ANALYSIS FOR ORDER DETERMINATION OF AUTOREGRESSIVE MOVING AVERAGE TIME SERIES MODEL.

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Abstract

In Time Series analysis, the order of various Time series models plays an important role in studying model selection criterion. Hannan and Quinn(1979) have been studied the order determination of an autoregressive moving average through classical approach. In this paper, an attempt is made to study the order determination of autoregressive moving average time series model by employing Bayesian methodology.

key words: Autoregressive moving average, Order determination, Bayes theorem, Model selection.

1. Introduction

The most popular approach to identify the orders of ARMA (p,q) models is developed by Box and Jenkins (1970). There are situations where the time series may be represented as a mix of both AR and MA models referred as ARMA (p,q) The Bayesian identification of time series is being developed and the Bayesian literature devoted to the analysis of ARMA models is sparse. Diaz and Farah (1981) developed a direct Bayesian method to identify the autoregressive moving average models.

Bayesian inference holds a distinct advantage over so-called classical statistics in non-standard problems where concepts such as sufficiency or completeness do not apply. That advantage is that the program is unchanged: the prior together with the likelihood produce the posterior. A disadvantage is that conjugate families are not available and so the Bayes Theorem must be used numerically, for which approximation and numerical integration techniques are required.

Autoregressive moving average (ARMA) Time series models are quite nonstandard, even if the usual assumption of normality is retained. The number of parameters, reflected in the order of the model (p,q), is undetermined. Given (p,q), the parameter space must then be constrained for identifiability reasons.

A COMPREHENSIVE STUDY AND ANALYSIS OF E-WASTE MANAGEMENT USING CLUSTER TECHNIQUES

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Abstract: Electronic waste (E-waste) is one of the fastest growing wastes streams in the country. Growth of information and communication technology sector has enhanced the usage of the electronic equipment exponentially. The unconventional disposal of electronic equipment generates toxicity of high levels toxic dust found on computer monitors have certain chemicals which are found to be harmful to the reproductive system and may also is a cause for neurological disorders. E-waste is growing in India at a rate of 10%.

The paper entitled "A Comprehensive Study and Analysis of E-waste Management using Cluster Techniques" is a survey of electronic waste in India. In this paper, four different stages were used. The first stage describes the different sources of the e-waste, the second stage describes the toxic elements in different sources of e-waste, the third stage deals with the health and environmental problems of the toxic element and fourth stage deals with state wise e-waste generation in India. There is a strong need for analyzing the e-waste in different manners. There are various clustering algorithms for analyzing e-waste. This paper deals with three kinds of algorithms – k means clustering, Partition Around Medoids (PAM) clustering and hierarchical clustering. The performance parameters like APN, AND, AD and FOM are used to evaluate the clustering validity. The implementation is done using the R programming language.

Keywords: Recycling, E-waste, Waste management, k-means clustering, (PAM) clustering, hierarchical clustering algorithms.

I INTRODUCTION

Data Mining is the Process of analysing data from a different perspective and summarizing it into useful informationPatterns and Relationships from data sources such as DB, text and the web. Data mining reveals treasured facts hidden in large volumes of records. Variety of tools and algorithms are used for the mining of the data. Data Clustering is a very valuable field of data mining to group similar data into the cluster and dissimilar data into different clusters and it is a form of unsupervised learning in which no class labels are provided. Data mining software is one in every of some of the analytical gear for analysing records. It allows customers to examine facts from many distinct dimensions or angles, categorize it, and summarize the relationships identified.

Electronic gadgets are meant to make our lives happier and simpler, but they contain toxic substances, their disposal and recycling become a health nightmare. It has penetrated every aspect of our lives and most of us do not think about what happens to these gadgets when we discard or upgrade. The use of electronic devices has proliferated in latest a long time and proportionality, the quantity of electronic devices which can be disposed of is developing swiftly all through the world. E-waste is raising trouble given the volumes of e-waste being generated and the content of each toxic and valuable substance in them. This speedy-developing waste movement is accelerating because the global marketplace for personal computer systems (PC) is some distance from saturation and the average existence span of a PC is lowering swiftly.

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A High Performance on Extemporize Yield of Horticulture Crops with Predictions based Water and Soil properties using Multivariate Analytics and Machine Learning Algorithms

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ABSTRACT

Data analytics is widely used in various fields of research for identifying and interpretation of patterns and trends for predictions and estimation of parameters. Here we attempt to present the analytics and findings of agriculture and horticulture crops mainly depending on topsoil and water constraint. The soil and water restriction represent a higher-level study of constituents in them consisting of EC, PH, N, P, K, Zn, Cu, Fe, Mn, B, Ca, Mg, S, etc. The presence of these constituents in a properly balanced proportion in both soil and water are highly influential to the type of crop, its growth, and yield. This paper presents the study of the historical analytical trends in agriculture and horticultural crops depending on the parameters of soil and water alongside geographical variations. Using these analytics, the farmers can benefit from the prediction of the best crop suitable to grow in particular geography with a higher yield of the produce. In the future, the farmers apply the extracts Principal Component Analysis (PCA) in the agriculture for crops to find the best yield. The level of data is analyzed using PCA and Partial Latent Square (PLS) datasets like Horticulture data, Soil properties and Water properties such as Linear Regression, Multi Linear Regression, and Discriminate Analysis. The Partial Least Squares and Least Squares algorithm is used instead of Multivariate Curve Resolution. To create a modular decision in farming by scrutiny of actual time data on crops, soil and water records received from dissimilar crop growing resource would include multi-dimensions the complete comfortable is needed for performing analysis with the use of extrapolative analytics. Multivariate Data Analysis based on the Partial Least Square Programming model that identifies the cropping pattern for getting maximum yield correlated. To compare various techniques, which give the peak accuracy of prediction for the ideal crops and its yield, that is the inspiration of the work.

Keywords: Correlate, Data Analytics, Multivariate, PCA, PSL, Support Vector Machine

1. INTRODUCTION

Cultivation is solitary of the most important research field for the reason that a variety of data is available in this field for researchers. As research, if we make a deep visit to agriculture, we can't predict the origins of agriculture sharply. But we realize that many changes occurred gradually from period to period. We know that after globalization when we utilize the communication system in agriculture there is modular change involved in agriculture that is using an algorithm to make large ideas and huge changes in farming. We concentrate on the exploitation of multivariate for analysis of soil and water parameter. It can be utilized for the prediction of crops and yield in horticulture. The above tool would make a systematic advancement and analytics for Horticulture farming. The Horticulture cultivation depends on soil quality and water proportionality. The Principal Component Analysis (PCA), Partial Latent Square (PLS), Principal Component Regression(PCR), Support Vector Machine(SVM), Support Vector Machine Regression (SVMR) and Support Vector Machine Classification (SVMC) and Moving Block Standard Deviation (MBSD), the above tools are functional in Horticulture products. This research is aimed to access multivariate techniques and to apply them in soil and water parameter analysis for horticultural crops. All the range classification techniques realize high accurateness and high generalization in terms of soil and water parameters prediction capabilities and analysis.

2. RELATED WORK

YUE Zhang set up mapping loads of soil. Assessment of arbitrary wood models with various indicators [1] the dirt is the fundamental idea of evaluating the spatial dispersion of

A MULTIMEDIA BASED ART LEARNING MECHANISM USING CONVOLUTIONAL NEURAL NETWORK

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Abstract

In this paper, we present a convolutional neural network (CNN) tool that offers metacognitive actions to develop art learning for young children or those who are interested in visual arts. The proposed CNN model depends upon the imitation of specific features of a target painting against a default image. The color palette of an identified image of a Fauve painter undergo mapping to the input image based on the Fauve vision of the painter, featured by employing vivid colors. The results undergo filtering process for emulating the fundamental brushstrokes of the painter. The users can visualize and compare the results with the original image in a qualitative way. This process generates the clarity in the user thought through the recognition of variables of other image over his own.

Keywords: Art learning; CNN; image processing; Fauve movement

1. Introduction

Game-based learning is the consequence of theexploitation and estimation of skill in teaching. The integration of these digital devices is ainspired advance in the procedure of learning and teaching, that includes a reproduction of expertobservation. Some researchers analyzes the integration of these apparatuses in teaching science additionally notice the advantages from students [1]. Educational approaches over the globe have anticipated technology as a learning apparatus for conversion; be that as it may, this thought isn't constantly imagined in schools. A background of employingequipment to improved get ready understudies for its present and upcoming digital lives is needed in schools [2]. A child comprises of some good times and, in the meantime enhance the aptitudes and systems expected to build up his art [3]. We center around given a device that adds to the procedure of

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A Novel Approach for Missing Value Replacement in MLP-RMSProp Based Classification Model

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Abstract— Data Preprocessing has become a vital task to be carried out in the Data Mining process. The data becomes the most important resource due to its significance in various domains. However, it is hard to gather every data and saves it in real-time that lead to few missing data. It is not preferable to omit the missing data due to the fact that even a few amount of data acts as a significant part in the outcome. Missing value replacement acts as a main process to handle missing data prior to the prediction of hidden pattern, that exist in the dataset. This paper presents a new, Linear Regression based missing valve replacement in the MLP-RMSprop based classification model to handle missing data. Here, linear regression model is applied to predict the values to replace the missing data, which will help to improve the classification process. Then, multilayer perceptron (MLP) classifier is applied to classify the data which further tuned by the use of root mean square propagation (RMSProp) model. An extensive implementation takes place on three benchmark dataset to showcase the betterment of the presented model. The resultant values from simulation indicated that the projected model offered supreme performance over the other models.

Keywords— Missing value; Classification; RMSProp; Linear Regression

I. INTRODUCTION

Generally, in many types of scientific analysis using data, loss of data is a common problem. The idea of examining the correct model for the presence of missing data is a common issue, and determining the right approach for mitigating this often grows as a most promising issue [1]. Using the growing interest in data dependent tools such as machine learning (ML), quality of data always becomes a main driving unit for final result, i.e., better data quality and outcome. Loss of data from dataset, i.e. missing values in dataset harmfully influences the quality of data and also the resultant knowledge is identified. A main task in data search is to gather the related data. Practically, grouped datasets are not in full-fledged form as well as raddled with missing values. This happens due to different reasons such as physical error during the time of data entry, no values are found, machine errors, inaccurate value, natural problems, etc. The values present in datasets are lost more than one value over definite number of record known as datasets with missing values. These missing values are classified into 3 categories and each one requires various way of handling the issue. They are termed as Missing Completely at Random (MCAR), where the missed value of an attribute is independent of value from attribute of its own, but on some other feature. In Missing Not a Random (MNAR), the attribute lost is based on the corresponding value of the own attribute. For handling missed values, deletion mechanism is utilized whereas definite records consist of variables using missed values which are not assumed for analyzing purposes.

Imputation models are developed for managing the missing values, adaptable value is applied for replacing the concerned missing values [2]. The imputed value may be mode, mean, median, or different predefined value of the parameter consist of missing values, or obtained using few prediction models. Imputation techniques are utilized in handling missing values, could be MAR or MCAR type, and whenever every record or variable in dataset is most important and individual record does not contains missing values over several parameters. In MCAR type, missing values in database could be managed using deletion or preferably list wise deletion. There are no techniques for handling MNAR type of missing values.

There is a need of using some techniques for taking care of the missing values from database; many methods from deletion to imputation are suggested in this study. Additionally, increased number of likelihood methods is used for managing missing values. Deletion could be complete deletion, list-wise deletion, else Complete Case Analysis, where each rows comprises of more than one attribute values

A Study On Distinct Domination Parameters in Complement of Line Graph of a Complete Graph

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Abstract : In this paper, we have obtained the complement of line graph of a complete graph K_n. It is denoted by $\overline{L(K_n)}$. We have established bounds for Domination number $\gamma(\overline{L(K_n)})$, Accurate domination number $\gamma_a(\overline{L(K_n)})$, Inverse domination number $\gamma'(\overline{L(K_n)})$ and also proper colouring is applied to find the chromatic number $\chi(\overline{L(K_n)})$ and dominator chromatic number $\chi_d(\overline{L(K_n)})$ for complement of line graph of a complete graph $\overline{L(K_n)}$. Using these parameters we have studied some of its properties and illustrated with examples.

Keywords: Complete graph, Line graph, Line graph of a complete graph, Complement Graph, Complement of Line Graph of a Complete Graph, Domination number $\gamma(\overline{L(K_n)})$, Accurate domination number $\gamma_a(\overline{L(K_n)})$, Inverse domination number $\gamma'(\overline{L(K_n)})$, Chromatic number $\chi(\overline{L(K_n)})$, Dominator chromatic number $\chi_d(\overline{L(K_n)})$.

1. INTRODUCTION

In this paper, we have taken the graph to be connected, undirected, finite and simple graph. The concept of line graph was invented by H.Whitney in 1932. The complement of a line graph L(G) of a complete graph K_n denoted by $\overline{L(K_n)}$ is a graph with the same vertex set but whose edge set consists of edges not present in $L(K_n)$. The concept of domination in graph was defined by Claude Berge and Ore in 1958. Accurate domination number was introduced by Kulli and Kattimani. The concept of inverse domination was introduced by V. R. Kulli. Dominator colouring was introduced by Ralucca Michelle Gera in 2006. Here we have applied these domination parameters in $\overline{L(K_n)}$ and proved some theorems and discussed some of the results. We begin with some basic definitions and notations.

Definition 1.1:
A graph in which any two distinct vertices are adjacent is called *complete graph* and it's denoted by K_n, where n is the order of the graph.

Definition 1.2:
Line graph L(G) of a graph G is that the vertices of L(G) are the edges of G and two vertices of L(G) are adjacent if the corresponding edges of G are adjacent.

Definition 1.3:
The complement $\overline{G}$ of a graph G is defined to be a graph which has V as its set of points and two points are adjacent in $\overline{G}$ iff they are not adjacent in G.

Definition 1.4:
The complement of a line graph L(G) of a complete graph K_n denoted by ~~$\overline{L(K_n)}$~~ is a graph with the same vertex set but whose edge set consists of edges not present in $L(K_n)$.

A Study On Distinct Domination Parameters On Line Graph of Complete Graph

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Abstract : In this paper, we have obtained the line graph of a complete graph K_n. It is denoted by $L(K_n)$. In this we established bounds for distinct domination parameters such as domination number $\gamma(G)$, Inverse domination number $\gamma'(G)$, 2- domination number $\gamma_2(G)$, Inverse 2- domination number $\gamma_2'(G)$, Location 2- domination number $R_D^2(G)$, Total domination number $\gamma_t(G)$, Accurate domination number $\gamma_a(G)$, Efficient domination number $\gamma_e(G)$. Also studied some of the properties and illustrated with examples.

Keywords: Complete graph, Line graph, Domination number, Total domination number, Accurate domination number, Inverse domination number, 2- domination number, Inverse 2- domination number, Location 2- domination number, Efficient domination number.

1. INTRODUCTION

In this paper, we have taken the graph to be connected, undirected, finite and simple graph (2). The concept of line graph was invented by H.Whitney 1932. Line graph L(G) of a complete graph K_n denoted by $L(K_n)$ is a graph whose vertices of $L(K_n)$ are the edges of K_n and two vertices of $L(K_n)$ are adjacent if the corresponding edges of K_n are adjacent. In 1958, the concept of domination in graph was defined by Claude Berge and Ore. Here, we have applied different domination parameters in $L(K_n)$. We proved some theorems and also discussed results. We begin with some basic definitions and notations.

Definition 1.1: (1)

A graph in which any two distinct vertices are adjacent is called *complete graph* and it's denoted by K_n , where n is the order of the graph.

Definition 1.2: (3)

Line graph L(G) of a graph G is that the vertices of L(G) are the edges of G and two vertices of L(G) are adjacent if the corresponding edges of G are adjacent.

Example:

fig.1

DOMINATION PARAMTERS:

Definition 1.3: (6)

A non- empty subset D of V is called a dominating set of G if every vertex of D is adjacent to each vertex of V-D. The *domination number* $\gamma(G)$ of a graph G is the minimum cardinality of a dominating set of G.

A Study on Distinct Parameters of Dominator Chromatic Number in Line Graph of a Complete Graph

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Abstract:

In this paper, we have established bounds for dominator colouring in line graph of a K_n. The distinct dominator chromatic parameters used here are dominator chromatic number $\chi_d(L((K_n)))$,total dominator chromatic number $\chi_{td}(L((K_n)))$, 2- dominator chromatic number χ_{2d} inverse dominator chromatic number $\chi_d'(L(G))$ and also proper colouring is applied to $(L((K_n)))$, find the chromatic number $\chi(L(K_n))$of $L(K_n)$. Using these parameters we have studied some of its properties and illustrated with examples.

Keywords:

Chromatic number $\chi(L(K_n))$, dominator chromatic number $\chi_d(L(K_n))$, total dominator chromatic number $\chi_{td}(L(K_n))$, 2- dominator chromatic number $\chi_{d,2}(L(K_n))$, inverse dominator chromatic number $\chi_d'(L(K_n))$.

1. Introduction:

In graph theory, colouring and domination are two important areas which have been extensively studied where vast number of practical problems are involved. The dominator colouring possesses the blends of graph coloring as well as domination in graphs. Dominator colouring was introduced by Ralucca Michelle Gera in 2006.(1). In this paper, we determined the distinct parameters of dominator chromatic number for line graph of a complete graph $L(K_n)$. We start with notation and more formal definitions.

Definition 1.1: (4)

An assignment of colours to the vertices of a graph such that no two adjacent vertices get the same colour is called *proper colouring* of a graph. The minimum number of colours needed to colour a graph G is called the *chromatic number* and is denoted by $\chi(G)$.

A BRIEF STUDY ON DOMINATION NUMBER OF A NON-ZERO ZERO DIVISOR GRAPH FORMED FROM THE CARTESIAN PRODUCT OF TWO STAR ZERO DIVISOR GRAPHS

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Abstract:
In this paper, we have established the domination number of cartesian product of two non-zero zero divisor graph.Also we studied the bounds for domination of complement of a zero divisor graph.

Key Words:
Zero divisor graph,Complement of a zero divisor graph,star graph,Cartesian product of zero divisor graphs,Domination number.

1. Introduction:
Let R be a Commutative ring with unit element and let Z(R) be its set of zero divisor.The zero divisor graph of R is denoted by $[\Gamma(Z(R))]$and it is defined as for any two distinct vertices x and y are adjacent iff xy =0 for all x,y in Z(R)\{0}. All the graphs considered here are simple, finite, connected and undirected graph.
The concept of the zero divisor graph was first introduced by I.Beck in 1988 and further developed by D.D.Anderson and M.Naseer.The aim of this paper is to study the domination number of Cartesian product of star zero divisor graph and its complement graph.We have taken a non-zero zero divisor graph which has only composite number but not a prime number.It is

denoted by Z_{2_p}

2. Basic Definitions:

In this section, we discussed some basic definitions ,notations and its meanings

Definition 2.1: [2]

A field is a ***commutative ring*** where every non-zero element 'a' is invertible. That is, if R has a multiplication inverse 'b' such that ab = 1 therefore, by definition any field is a commutative ring.

Definition 2.2: [3]

A ***zero divisor*** of commutative ring R is non-zero element 'r' such that,
rs = 1for some other non-zero element s of the ring. If the ring R is commutative, then rs = 0 $\Leftrightarrow$ sr = 0.

Definition 2.3: [4]

In graph theory, the ***Cartesian product*** $G_1 \times G_2$ of graphs G_1 and G_2 is a graph such that,
- The vertex set of $G_1 \times G_2$ is the Cartesian product $V(G_1) \times V(G_2)$ and
- Any two vertices (u ,u^1) and (v,v^1) are adjacent in $G_1 \times G_2$ if and only if either,
  i. u = v and u^1 is adjacent with v^1 in G_2.
  ii. u^1=v^1 and u adjacent with v in G_1.

A Survey on Image Segmentation and Object Recognition Procedures

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Abstract— Image segmentation is a vital procedure that taken into consideration by several algorithms to notice the object or to morphologically maps the image to found its mass or to map the image Color intensity. Image segmentation will play vital role once it involves establish associate degree object and to match it with the information pictures. Conjointly throughout the rhetorical analysis of pictures image segmentation can facilitate in distinguishing the thing location and its temperature and conjointly the space of it from the present point of reference. throughout pc vision, image segmentation be the strategy of dividing a digital image keen about multiple segments (sets of pixels, conjointly known like super pixels). The purpose of segmentation be toward create less complicated also/otherwise alter the depiction of associate degree image addicted to unbelievable that be additional vital conjointly easier toward value. Image segmentation be usually in use keen about rationalization close to situate objects conjointly margins (shape, curves, etc.) within pictures. Extra accurately image segmentation be the procedure of conveyance a label toward every pixel among associate degree image specified constituents by the similar label distribute definite distinctiveness.

Keywords: Image Segmentation, Object Recognition, Computer Vision

I. INTRODUCTION

In this paper, Image segmentation is mentioned in detail, its procedure and its application furthermore. Image segmentation could be a method to divide a picture into multiple sections to review and analyse a picture. This can be terribly helpful in analysing and finding out the medical image reports to postulate the report in text.

II. PREVIOUS WORK

All basic image segmentation procedures presently being taken into consideration by the students and industry are going to be debated and valuate during this section

A. Edge Based Image Segmentation:

Monteiro [1] planned a completely unique image segmentation process contains of edge and region focused facts with the assistance of spectral procedure and morphological set of rules of watershed. Initially, they ease the noise as of image by bilateral filter as a pre-processing step, additionally, region merging is taken under consideration to implement introductory segmentation, 1 region alikeness is created and so graph primarily based region alliance be executing by Multi-class Normalized Cut technique [2]. R. Patil [3] suggest to facilitate stipulation the numeral huddles be anticipated inside truthful means, K-means image segmentation can provide superior upshots. They recommended associate innovative procedure primarily based on border revealing toward appraise digit of bunch's. Facet congruency be in use hooked in to rationalization toward recognizing the boundaries. Later on these boundaries be in use hooked in to version headed for get bunch's. Brink furthermore Euclidian expanse be in use keen on rationalization inside prepare toward create teams. K-means is in use curious about narrative close to locating the terminal segmentation of reflection. MATLAB be occupied curious about relation toward execute the not obligatory route. Trials be accomplished happening 9 numerous pictures what is more outcomes make sure thus on digit of collects be precise alongside finest. Weihong Cui Yi Zhang [4] no obligatory a fringe primarily based motor vehicle threshold decide manner toward engender multi-level image segmentation. Band weights conjointly NDVI (Normalized distinction Vegetation Index) be in use keen on description close to verify border. Tests be act upon happening multi-scale decree illustrations. Effects embody exposed with the aim of their Edge Based Image Segmentation:

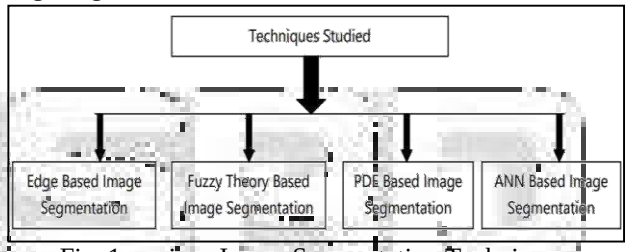

Fig. 1: various Image Segmentation Techniques

Anna Fabijanska [5] initiated an innovative theme utilized variation Filter used for boundary finding within image segmentation procedure. Their techniques originate the border place exploitation difference Filter. Sobel Gradient filter through Kmeans be too in use keen about detail toward extort the boundaries by appraise through the planned method. The results of clean window vary happening decisive ends be besides argued with or not it's produce to facilitate however the 9×9 window be in use fascinated by explanation simply before remove boundaries when that boundary be whole specifically equivalent the shape of object throughout the image. Throughout case of larger information photos, a touch clean window be extended. Outcome exposed with the aim of their planned method higher sobel edge detector. Mohammed J. Islam [6] initiate to pc Vision be a greatest answer in favour of actual instance assessment of case among pharmaceutical manufacturing. Author has created a structure used for aspect scrutiny via edge primarily based image segmentation methods [7]. They in use keen about clarification Sobel Edge Detector [8] into prepare close to notice boundaries by noise-suppression assets. Later than edging finding Otsu thresholding technique is in use addicted to description supposed for localization of background additionally foreground pixels. Trial be performed additionally outcome be appraise through KNNbased segmentation technique structure Visual C++. Outcomes

An Analysis On The Performance Of Dynamic Adaptive Streaming Over Http By Performing Diagnostic Analytics On Video Streaming Features.

A.John Pradeep Ebenezer, Dr. J.Abdul Samath

Abstract:— In this paper a complete analysis on Adaptive bitrate algorithms and its performance is actualized. The core target of adaptive bitrate algorithms is to ensure high quality of experience for the viewers. Normally streaming across networks has to overcome all the network related overheads such as delay, jitter, and bandwidth. Adaptive bitrate algorithm, adapts to the network condition, decides on the bitrate needed to transfer the video segment to the client and also performs efficient management of the cache. Dynamic Adaptive Streaming over HTTP (DASH) is the latest Adaptive bitrate algorithm (ABR) which ensures the viewer the maximum quality of experience. The MPEG-DASH algorithm uses BOLA and DYNAMIC bitrate algorithm. In this paper a complete analysis on the impact of DASH algorithm on video streaming is analyzed. The Speed Video Global Operating Platform (SVGOP) established by Huawei is used to estimate the impact of DASH on video streaming. The research take into account the Mean opinion score, loading of the content, quality of the content, video stalling, initial buffer latency, video initial DL rate and video initial buffer stable rate for analyzing the performance of DASH algorithm. The correlation between these features is analyzed and the future perspective and advancement that can be implemented in adaptive bitrate algorithm is suggested.

Index Terms:— adaptive, bitrate, buffer, dynamic, latency, loading, quality, stalling,

1 INTRODUCTION

[1]According to cisco of all the multimedia components creating network traffic, video traffic will hold a share of 8 percent in the near future. By the year 2022 live internet video will account for 17 percent of internet video traffic. The video on demand will play a major share in the content that is transferred across network and the traffic created by video on demand will almost double. To improve streaming of video, content delivery networks will be on the rise and it will account for 72 percent of internet traffic. As there is an alarming rise in sharing of video across network, the QoE of the user will be the key factor to be studied upon. Devices used to watch online videos worldwide according to statista are computer or laptop, smart tv, smartphones and tablets. These devices will be operating on very high end networking technologies such as Wi-Fi 6, 5G, digitized spaces, SD-WAN. These latest technologies will be ruled by video providers such as Netflix, amazon prime video, hulu, playstation vue, youtube tv, sling tv, crunchy roll and twitch. The primary concern for these providers will be increasing the quality of experience of the users. [2]The behavior of the user viewing the video changes based on the quality of the video delivered. Factors determining the quality of experience are often in conflicts. The quality of the video, bandwidth, bitrate and buffering doesn't go hand in hand. Dynamically adapting the bitrate of the video streaming based on the throughput with less buffering is the only option available for maximizing the quality of experience. There is direct relationship between the churn rate and the quality of experience of the user viewing the streaming video.

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2 REVIEW OF LITERATURE

Almost all video streaming services uses adaptive bitrate techniques to reduce the churn rate. Adaptive video streaming works by adapting the video content with respect to the device and network characteristics. The primary logic behind the adaptive bit rate streaming is, the video is split into segments which corresponds a few seconds of play. Encoding of the segments is done based on different bitrates which will cope with different devices and network connections. The ABR algorithms are throughput based, buffer based and time based (Hybrid). The throughput based algorithm works based on estimating the throughput, smoothing the throughput to reduce estimation errors, quantizing the smoothed throughput with the different video representations and finally scheduling the next segment. [3] PANDA is the throughput based algorithm which is prominently practiced, which probes the throughput and adapts. [4]SQUAD is another throughput algorithm which maximizes the quality of experience based on the number and magnitude of switching between segment quality. [5] A Fair, Efficient, Stable, adaptIVE throughput algorithm called FESTIVE decides on the timing of scheduling the request of the next segment after mapping the bitrate with each chunks. The buffer based adaption algorithm on the context on deciding the bitrate and the segments are scheduled based on the buffer level. [6]BBA is a buffer based algorithm which linearly maps the average segment size with the immediate buffer level talking into considerations the lowest and highest bit rate. [7]BOLA is the buffer based algorithm which implements lyapunov optimization to fix the video bitrate of each segment. This algorithm reduces re-buffering and increase the average quality perceived. Comparing the download time and throughput, the download time is perceived as a higher level parameter. [8]This gives an opening in designing time based adaption algorithm ABMA+. It is an adaption and buffer management algorithm which optimizes the selection of video representation with reference to the predicted probability of video stalling. The downloading time is continuously monitored and the maximum video

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An antipsychotic drug: Spectroscopic identification, structural features, DFT computations and molecular docking studies on 4-(methylamino)-3-nitrobenzoic acid

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ABSTRACT

Spectral features of 4-(methylamino)-3-nitrobenzoic acid (MNA) have been probed by the techniques of Fourier transform infrared, Raman and UVevisible combined with density functional theory calculations at the B3LYP level with 6e311þþG(d,p) basis set. By using potential energy distribution the detailed interpretation of vibrational spectral assignments has been carried out. Geometrical parameters reveal that the bioactive conformer of MNA molecule is in a planar position. The red-shifted NeH stretching wavenumber describes the NeH···O intramolecular hydrogen bonding evidenced by the vibrational analysis. Natural orbital and natural population analysis support this result. The strongest vibrational modes contributing to the bioactivity effect from the simultaneous infrared and Raman activities of the benzene ring C▌C, CeC stretching modes have been identified and analyzed clearly. The influence of electronic effects including back-donation and induction on the CeH stretching vibrations of methyl group causing the decrease of stretching wavenumbers has been extensively investigated. The antipsychotic activity of substituents is available which target amino acids as evidenced from molecular docking study. Frontier molecular orbital, the molecular electrostatic potential analysis was also analyzed.

1. Introduction

Benzoic acid and its derivatives are of great interest because of their biological activities. It commonly occurs in plants and animal tissues along with vitamin B complex and is used in miticides, contrast media in urology, for cholecystographic examination and in the development of several pharmaceuticals [1,2]. Because of its wide application, not only benzoic acids but also its derivatives have been extensively investigated [3e7]. From the spectroscopic point of view, spectra of derivatives of benzoic acid have been studied extensively and in some cases, *ab initio* HF/DFT quantum chemical calculations have been reported [8]. However, to the best of our knowledge, a complete vibrational analysis of 4-(methylamino)-3-nitrobenzoic acid (MNA) has not yet been made. The vibration spectra of 3,4-diaminobenzoic acid, 5-amino 2-nitrobenzoic acid, and 2-amino-4,5-difluorobenzoic acid have been reported by Ramalingam et al. and Sundaraganesan et al. [9e11]. A suitable quantum chemical study is helpful to evaluate compound properties economically and to clarify some experimental phenomena insightfully. The DFT is an exceptional tool to calculate the reasonable vibrational wavenumbers, molecular geometries, frontier molecular orbital, bioactivity properties, etc. B3LYP functional has been previously shown to offer an outstanding compromise between accuracy and computational efficiency of vibrational spectra for large and medium-size molecules [12e15]. The aim of the work is to examine the electronic molecular structure, bioactivity, vibrational study of the MNA

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An Efficient and Robust Multi-Object Recognition and Tracking Algorithm using Mask Region based Convolution Neural Network (R-CNN)

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Abstract*: Presently, Multi-Object tracking (MOT) is mainly applied for predicting the positions of many predefined objects across many successive frames with the provided ground truth position of the target in the first frame. The area of MOT gains more interest in the area of computer vision because of its applicability in various fields. Many works have been presented in recent years that intended to design a MOT algorithm with maximum accuracy and robustness. In this paper, we introduce an efficient as well as robust MOT algorithm using Mask R-CNN. The usage of Mask R-CNN effectively identifies the objects present in the image while concurrently creating a high-quality segmentation mask for every instance. The presented MOT algorithm is validated using three benchmark dataset and the results are extensive simulation. The presented tracking algorithm shows its efficiency to track multiple objects precisely.

Index Terms*: Computer vision, Mask R-CNN, MOT, Recognition.

I. INTRODUCTION

Multi-Object tracking (MOT) offers extensive applications ranges such as behavior and pose analysis, medical image analysis, and video surveillance [1]. MOT provides other difficulties like data association when comparing with the single-object tracking that aims to relate the detections over the frames to safe the identities of the targets. For upgrading the tracking model in the frame by frame, the prior MOT attempts focus over the methods of Expectation-Maximization (EM). Those methods are error prone such as drifts which it is complex to recover. Tracking via detection methods had been projected to avoid these issues. The main focus is to execute the object detectors autonomously over every frame of input batch and then test the association of data to connect the detections into whole tracks. The association of data is designed frequently as Network Flow Programming or Conditional Random Field where every detection indicates to a graph model node. In the detection process, one of the leading tracking difficulties is computational complexity in which the phase of data association needs combinatorial optimization over a large node or detection counts that hides the real-time performance. Before executing data association, numerous methods initially group unambiguous detections in subsequent frame into a cluster to deal with this issue. Those are known as tracklets. It is considered that entire detections in tracklet distribute the similar label which it depends on the similar goal.

In a similar manner like detections, most of the previous MOT methods treat the tracklets [2]. Tracklets are considered as independent in the phase of data association excluding two physical conditions like one target should not claim higher than one tracklet, in particular, instant and every tracklet should get claimed by one target. It excludes the high informative and composite interplays like higher-order motion among the tracklets mainly for non-associable. A new MOT graph is defined where every node in the graph depends on the tracklets pair at this end. The tracklet that occur at a particular instant is known as front tracklet and the another one is known as back tracklet in every node.

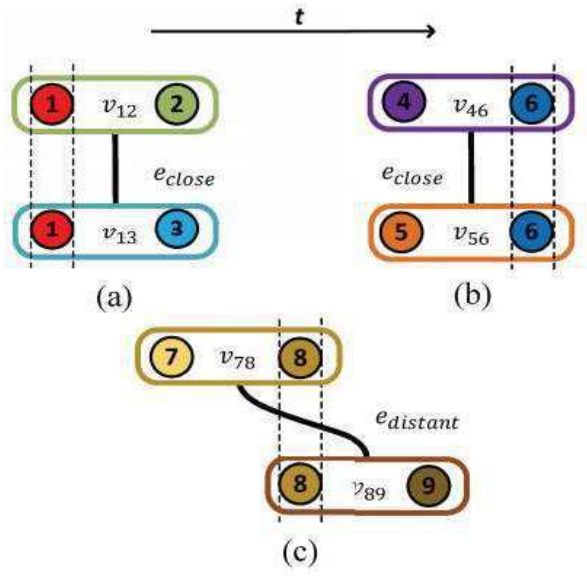

Fig. 1 A sample MOT graph.

Denoting it is chosen as a target trajectory part, every node might allocate to a binary label. With every node by edges, graph nodes might interrelate. Figure 1 demonstrates the three edge kinds; two nodes distribute the similar back tracklets, two nodes that the front tracklet of one is the back tracklet and two nodes that distribute similar front tracklet. The primary two edge types depend on nearby interaction whereas the third type depends on the distant interaction.

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An Efficient Automated Deep Learning Model For Diatom Image Segmentation And Classification

A. Victoria Anand Mary, G. Prabakaran

Abstract*: Recently, diatoms, a type of algae microorganism with numerous species, are relatively helpful for water quality determination, and is treated as an important topic in applied biology nowadays. Simultaneously, deep learning (DL) also becomes an important model applied for various image classification problems. This study introduces a new Inception model for diatom image classification. The presented model involves two main stages namely segmentation and classification. Here, a deep learning based Inception model is employed for classification purposes. To further improve the classifier efficiency, edge detection based segmentation model is also applied where the segmented input is provided as an input to the classifier stage. An experimental validation takes place on diverse set of diatom dataset with various preprocessing models. The results pointed out that the presented DL model shows extraordinary classification performance with a classifier accuracy of 99%.

Keywords: Diatom; Segmentation; Classification; Deep Learning.

I. INTRODUCTION

Diatom is a massive and ecologically significant collection of unicellular or colonial organism (algae). It is generally defined by their highly patterned cell wall comprised of hydrated amorphous silica [1]. The cell wall undergoes partition into two halves where every half of the cell wall holds a valve and many girdle bands. One part is somewhat bigger than the other and partly covers it. Jointly, these parts construct a cylinder by two valves at the end. The cross section of the cylinder, and therefore the sketch out of the valve, vary in shape among species and genera to a certain extent. This is collective with the outline of pores and other markings on the valve, offers the details required to classify images [2]. Fig. 1 illustrates three samples of diatom images. Among the different usage of diatoms like water quality monitoring, paleoecology and forensic, microscopic slides should undergo initial scanning for diatoms: when diatoms exists, it is required to be classified. Many classifications should be carried out by the use of classification key and compares the species by the use of slide, photograph or pictures of diatom in books [3]. It is not an insignificant assignment considering that taxonomist computed that it might be 200,000 distinct diatom species, 50% of it is yet to be discovered, and it is very hard to differentiate many of them based on the morphology. In addition, this is extremely tiresome and recurring job, therefore any point of automated process finds more useful. Keeping this view, a new automated diatom classification model is presented which comprises of two traditional portions of image annotation models namely image processing and image classification. The image processing section transforms an image to a collection of numeral features which undergo direct extraction from the pixels of images. The next section performs labeling and grouping of images for classification process. These labels are arranged in a hierarchical way and an image undergoes labeling with many labels which belongs to many groups. Segmentation is a critical process in the investigation and determination of diatoms and other phytoplankton organism due to the fact that it enables the division of the cells from the environment [4]. Image segmentation is normally resolved by the traditional models like thresholding and edge detection, where few variables are generally needed to be predefined earlier. In addition, it is not an automated way which does not need earlier information of the applied models for tuning the segmentation process. Various segmentation models has been implemented, however, the issue lies in the entirely solved, since image segmentation is an important issue with no better option.

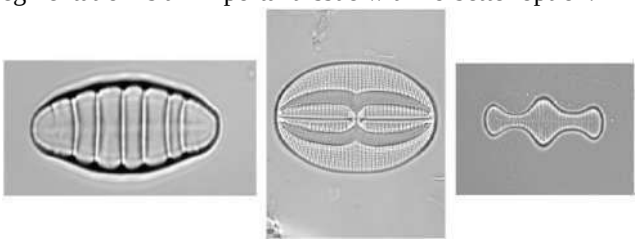

Fig. 1. Sample diatom images

The usage of widely used diatom indices always needs an exact level of classification that includes time and expert training. In addition, the determination of morphological microstructures and frustule discrimination from supplementary parts in the image remains challenging. Few diatoms which have treated the similar species for decades have been split into various species and the introduction of new species is also increasing. The design of automated recognition tools for detection and classification which considers the contour and texture details will be helpful in a broad view of applications for experts as well as non-experts.

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An Optimal Inception Based Segmentation and Classification Model for Diatom Species Images

A. Victoria Anand Mary, G. Prabakaran

Abstract: ***Diatoms act an essential contributor to the fundamental creation in aquatic ecosystem, which is positioned at the foundation of the food chain. Presently, the diatoms appear as a most important topic over the globe in studies interrelated to weather changes, and in the design of functions which enables to model of those variations. In addition, it is an efficient indicator of ecological conditions and is widely employed in water quality assessment. In a similar way, deep learning model is a widely employed technique for classifying images among diverse applications. In this paper, an optimal segmentation and classification model for diatom images particularly species images. Here, edge detection based segmentation model is employed for segmenting the images and then Inception model is utilized for classifying images. A detailed simulation process takes place on the benchmark diatom images. An overall accuracy of 99 is attained by the presented model on the applied set of test images. The outcome is compared to the state of art classification models and the results exhibited the superior performance of the presented model.***

Keywords: Diatom; Segmentation; Classification; Deep Learning.

I. INTRODUCTION

Diatom is a huge and ecologically important group of unicellular or colonial organisms (algae). It is commonly represented by the high pattern cell walls consists of hydrated amorphous silica [1]. The particular species available in water resources has a biological indicator of its feature and whether few kinds of actions are appropriate or not. It is defined in the Directive Framework of Water Policy [1], which aims to preserve, improve and manage the water quality of rivers, seas and lakes in Europe. Several studies indicated that biotic indices are depends upon the diatoms react efficiently to the charisma of components like heavy metals [2], and it is indicated that it is very helpful in assessing quality. Diatoms are, together with invertebrates, commonly available organism used for investigating the water quality in the rivers. Several works supported the efficiency of the biological index depending upon the diatoms for controlling the environmental condition of river water.

Sample images of diatom are illustrated in Fig. 1. From the various uses of diatoms such as observing water quality, paleoecology and forensics, atomic slides can for starting scanning of diatoms. Upon the existence of diatom, it is needed to be categorized. Several categorization works has been done by the usage of classification keys and made a comparison of the species utilizing slides, photographs or still images of diatom in books [3]. It is not an unimportant task allowing for that taxonomist determined that it could be 200,000 dissimilar diatom species, half of it is still to be explored, however, it is difficult to distinguish many of them is depends upon the morphology. Additionally, it is very hard and persistent task, consequently any point of automatic procedure discovers highly helpful. In this way, a novel automatic diatom segmentation and classification approach is introduced consists of two conventional parts of image annotation methods such as image processing as well as classification.

The image processing task converts an image to a set of numeric features that undergoes straightforward extraction of the pixels from images. The subsequent part carries out the process of giving labels and groups of images for classification procedure. These labels are sorted in a hierarchical manner and the image undergoes labeling with numerous labels that belong to diverse groups.

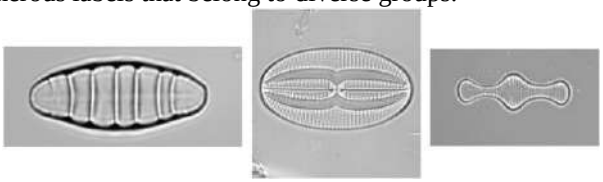

Fig. 1. Sample diatom images

Segmentation is an important procedure while investigating and determining the diatoms and other phytoplankton organisms because of the nature that it allows the partition of cells from the atmosphere [4]. Image segmentation is normally resolved by the traditional models like thresholding and edge detection, where few variables are generally needed to be predefined earlier. Additionally, it is a non-automatic method where no previous data is required to tune the segmentation procedure. Diverse segmentation models have been designed, but, there is still a requirement to design segmentation model particularly for diatom images. The handling of commonly utilized diatom indices generally requires a proper level of classification which comprises adequate time and expert training. Additionally, the calculation of morphological microstructure and frustule discrimination from extra portions in an image is still a challenge. Some diatoms have been considered as identical species in earlier days which has been divided into diverse species and exploring fresh species is also increased daily.

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ANTI-MAGIC LABELINGS FOR UNICYCLIC AND STAR RELATED GRAPHS.

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ABSTRACT:

A Graph with "q" edges is called Anti-magic, if its edges can be labeled with 1,2,. ,q without repetition such that the sum of the labels of the edges incident to each vertex are distinct. In this paper, we discuss about the anti-magic labelings for unicyclic and star related graphs.

KEYWORDS:

Anti-magic Labeling, Unicyclic, Star Graphs.

INTRODUCTION:

A Graph is a collection of nodes and lines that we call vertices and edges respectively. A Graph can be labeled or unlabeled. A Graph Labeling is an assignment of integers to the vertices and edges. Here in this paper we are interested in labeling a special types of graphs. In many labeled graphs, the labels are used for identification only. Labeling can be used not only to identify vertices and edges, but also to signify some additional properties depending on the particular labeling.

It may seem strange to term a graph as having an “Anti-magic” labeling, but the term comes from the connections to magic labelings and magic squares. Magic squares can trace their origin back to ancient china somewhere around the 7^{th} century BC. A magic square is an arrangement of numbers into a square such that the sum of each row, column and diagonal are equal. The term “Anti-magic” then comes from being the opposite of magic or arranging numbers in such a way that no two sums are equal.

In 1990, Hartsfield and Ringel introduced the concept of anti-magic labeling, which is an assignment of distinct values to different objects in a graph in such a way that when taking certain sums of the labels, the sums will all be different. They had already conjectured that every graph except for K_2 has an anti-magic edge labeling. Then Bodendiek and Walther proved that from some natural number “n” any connected graph other than K_2 will have a weak anti-magic edge labeling if you allow the labels to be natural numbers with an upper bound of “n”. A weak anti-magic labeling is similar to an anti-magic labeling except one does not

ANTI-MAGIC LABELINGS FOR WHEEL AND PRISM GRAPHS.

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ABSTRACT:

A Graph with "q" edges is called Anti-magic, if its edges can be labeled with 1,2, ,q without repetition such that the sum of the labels of the edges incident to each vertex are distinct. In this paper, we discuss about the anti-magic labelings for Wheel and Prism graphs.

KEYWORDS:

Anti-magic Labeling, Wheel Graph, Prism Graphs.

INTRODUCTION:

A Graph is a collection of nodes and lines that we call vertices and edges respectively. A Graph can be labeled or unlabeled. A Graph Labeling is an assignment of integers to the vertices and edges. Here in this paper we are interested in labeling a special types of graphs. In many labeled graphs, the labels are used for identification only. Labeling can be used not only to identify vertices and edges, but also to signify some additional properties depending on the particular labeling.

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ANTI-MAGIC LABELINGS FOR ARMED CROWN AND DRAGON GRAPHS.

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ABSTRACT:

A Graph with "q" edges is called Anti-magic, if its edges can be labeled with 1,2, ,q without repetition such that the sum of the labels of the edges incident to each vertex are distinct. In this paper, we discuss about the anti-magic labelings for Dragon and armed crown graphs.

KEYWORDS:

Anti-magic Labeling,Dragon Graph, Armed Crown Graphs.

INTRODUCTION:

A Graph is a collection of nodes and lines that we call vertices and edges respectively. A Graph can be labeled or unlabeled. A Graph Labeling is an assignment of integers to the vertices and edges. Here in this paper we are interested in labeling a special types of graphs. In many labeled graphs, the labels are used for identification only. Labeling can be used not only to identify vertices and edges, but also to signify some additional properties depending on the particular labeling.

It may seem strange to term a graph as having an “Anti-magic” labeling, but the term comes from the connections to magic labelings and magic squares. Magic squares can trace their origin back to ancient china somewhere around the 7^{th} century BC. A magic square is an arrangement of numbers into a square such that the sum of each row, column and diagonal are equal. The term “Anti-magic” then comes from being the opposite of magic or arranging numbers in such a way that no two sums are equal.

In 1990, Hartsfield and Ringel introduced the concept of anti-magic labeling, which is an assignment of distinct values to different objects in a graph in such a way that when taking certain sums of the labels, the sums will all be different. They had already conjectured that every graph except for K_2 has an anti-magic edge labeling. Then Bodendiek and Walther proved that from some natural number “n” any connected graph other than K_2 will have a weak anti-magic edge labeling if you allow the labels to be natural numbers with an upper bound of “n”. A weak anti-magic labeling is similar to an anti-magic labeling except one does not require bound of “n”.

In this paper we discuss about the anti-magic labeling of Armed Crown and Dragon graphs.

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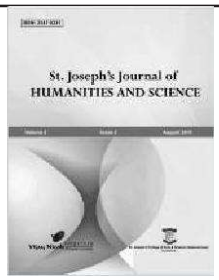

Antimicrobial Effect of *Lactobacillus* spp against Gastro Intestinal Pathogens

D. Sumitha[a*]
D. Aboorva[b]
Joseph C. Daniel[a]

ABSTRACT

Milk is a rich source of protein and fats but it contains numerous number of Lactic acid Bacteria. *Lactobacillus* sp belongs to the major group of Lactic acid bacteria. Predominant gram positive isolates were obtained from the milk samples. The interesting result of the study is the isolation of micro organisms which are able to grow at low pH of 2.5. All the 5 isolates from the milk sample exhibited ɤ hemolysis which proved to be safe for consumption. The isolates were able to ferment glucose and lactose. The results of antimicrobial activity revealed that the selected isolates could inhibit only two test pathogenic bacteria, however at different inhibition levels. The isolates from the milk sample showed the most antimicrobial potency to *Staphylococcus aureus* and *Escherichia coli*. The isolates survived at acidic (pH 2.5) condition. They also exhibited tolerance to bile salt for first 3 hours. The results suggested that microorganisms isolated from milk sample have potential antimicrobial effect against human pathogens.

Keywords: Milk, *Lactobacillus*, probiotics, antimicrobial activity, gut pathogens.

INTRODUCTION

Probiotics are microorganisms that are believed to provide health benefits to the humans, when consumed. They can also be said as ingested microorganisms associated with benefits for humans and animals. They are usually safe, but may cause host- bacteria interaction and unwanted side effects in rare cases. *Lactobacillus* sp. are probiotic strains available in dairy products like Curd and Yogurt and dietary supplements. They are the genus of gram positive, facultative anaerobic or micro aerophilic, rod shaped, non-spore forming bacteria. They are major part of the lactic acid bacteria (LAB) group which converts sugars to lactic acid. In humans, they constitute a significant component of the microbiota at a number of body sites [1]. *Lactobacillus* species found in the Gastro Intestinal (GI) tract have received tremendous attention due to their health promoting properties. They are commonly used as probiotics, which are defined by the FAO/WHO as live microorganisms that when administered in adequate amounts confer health benefits on the food [2].

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ANTIOXIDANT ANTICANCER AND ANTI ARTHRITIC ACTIVITY OF ETHANOLIC EXTRACT OF *SAUROPUS ANDROGYNUS*

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Cuddalore – 1

ABSTRACT

The plant *Sauropus androgynus* belongs to the family Euphorbiaceae is known to exhibit various pharmacological activities like anti-oxidants, anti-arthritic and anti-cancer activity. The preliminary phytochemical screening showed the presence of alkaloid, phenol, saponin, tannin, phytosterol and flavonoids respectively. The antioxidant capacities of the ethanolic extract were studied using DPPH method. The result showed that the plant *S.androgynus* exihibited significant antioxidant properties. *Invitro* anti-arthritic activity of protein denaturation method showed maximum percentage of inhibition at 250µg/ml concentration compared with the standard drug. The ethanolic extracts of *S. androgynus* showed the inhibited the cell proliferation by more than 97% at its maximum concentration, while there was no effect on the growth of normal cells. Such selective effects were found to be time dependent. The present study reveals the presence of active constituents in the leaves. In addition to it, the leaves were exhibited effective antioxidant, anti-arthritic and anti cancer activity against breast cancer cell lines (MCF7). Thus this study of ethanolic extract of *S. androgynus* leaves can be a breakthrough for further studies.

Keywords: MCF7 cancer cell, *Sauropus androgynus*, anti arthritic, antioxidant

1. INTRODUCTION

Plants have significant role in maintaining human health and improves the quality of human life for thousands of years. Various plants have been used in different parts of the world to treat human diseases and infections[1-4]. *S.androgynus* of Euphorbiaceous family is a well known local vegetable which have been found to have antioxidant activity. Edible green leaves of *S. androgynus* is commonly known as 'katoo' in most parts of India, locally it is also known as Multi-vitamin plants and it was common in Asia, Katuk is rarely found in the wild, occurring from India to Malaysia. The plant has small green leaves with yellow flowers that bloom occasionally. *S. androgynus* is an erect shrub that can reach up to 500cm in height. It is flaccid and has cylindrical or angled branches. Its multiple upright stems can

Awareness and Responsiveness of GST for MSME'S

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Abstract- As of late India saw an adjustment in its backhanded duty system. There was quite a bit of turmoil in the nation as individuals didn't have much learning and comprehension for this new framework, for example GOODS AND SERVICE TAX (GST). The Micro Small and Medium Enterprises (MSME) was the most affected fragment as far as the progressions to be done in view of GST. In this paper an endeavour has been made to watch the mindfulness and observations about GST among MSMEs. Additionally how far government is effective to acclimate MSMEs about GST. Particularly we are focussing on MSMEs recognition about the new the assessment framework (e.g. transparency, trouble on MSME's), and its administration. The results demonstrates that at first there was low level mindfulness yet as the time advanced the degree of mindfulness likewise expanded among the MSMEs about GST not all MSMEs saw the GST framework as being sensibly basic or straightforward. Nonetheless, it was seen that a large portion of the MSMEs were trying endeavours to get to know the new duty system since beginning just, for example at the point when GST bill was passed Many MSMEs additionally determined that they depend on accounting programming for keeping an appropriate record of their GST exchanges. Despite the fact that the GST was considered as basic, however there is some consistence cost which gives a weight to MSMEs. This concentrate is subjective nature and it is perception based research.

Keywords- Perception, GST, Awareness, MSMEs IGST, SGST

I. INTRODUCTION

India prior had a double arrangement of tax assessment of merchandise and administration which was very not the same as the current double GST system. In India, the idea of GST was conceived in 2004 by Kelkar Committee. The Kelkar Committee was presented the double GST framework the board of trustees was persuaded that they will have the option to charge practically every one of the products and ventures which will improve income for the government.GST is a noteworthy change in assessment structure in India where there are bunches of issue identified with straightforwardness is significant. In any nation the principle premise of income is the expense and for good monetary improvement, it is fundamental to have good taxation framework.

In 1980, India began its expense framework, since freedom India has confronted numerous issues due to the complexities of aberrant duty framework; GST was an extraordinary move in Indian economy as a portion of the complexities as saw is settled in present GST structure. As GST has supplanted all circuitous charges to come up rearranged remarkable duty. MSME's compensation part of backhanded duties, for example, VAT, Service charge, deals assessment, and extravagance charge.

The Goods and Services Tax (GST) will go about as the truly necessary stimulant for financial development in India by expelling all the roundabout tax assessment. It will likewise dispense with the falling impact of assessments.

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Causal Linkages and Impact of Finance Companies Stock Price on BSE FINANCE and BSE SENSEX

S. Baranidharan, N. Dhivya, A.Alex.

ABSTRACT: ***With the intention of strong growth of existing financial services firms and new entities entries in the market, India has a diversified financial sector undergoing rapid expansion. Finance sector act as a backbone of economy by providing a various financial services such as loan, credit or cash to commercial activities or retail customer. This sector comprises of wide range of industries include banking, insurance, real estate firm, cooperatives, mutual funds, etc. The strength of the financial sector indicates health of the economy in the nation in the contrary weakening economy is typically depends of weak financial sector. Thus the potential growth of the financial sector depends mainly on generating revenue through mortgages and loan that gain value as interest rate drop. The present research aims to determine the variability in the price of stocks in the Bombay stock exchange SENSEX and Bombay stock exchange FINANCE on the selected companies of financial sector such as AB CAPITAL LTD, BAJAJ FINSERV LTD, CAPRI GLOBAL CAPITAL LTD, IIFL FINANCE LTD, JSW HOLDINGS LTD and JM FINANCE LTD by extracting the data from the period of 2nd April 2014 to 30 August 2019. The data has been collected through the website such as www.bseindia.com and analysed by using the statistical tools such as Descriptive statistics, Correlation, Regression and Granger Causal test. The research work resulted that there is fluctuation in the stock price in the BSE SENSEX and BSE FINANCE will reflect in the changes in the stock price of Finance companies such as AB CAPITAL LTD, BAJAJ FINSERV LTD, CAPRI GLOBAL CAPITAL LTD, IIFL FINANCE LTD, JSW HOLDINGS LTD and JM FINANCE LTD. The study also found that there is a variation among the changes in the stock prices of BSE FINANCE and SENSEX on selected companies of Finance sector. The study helps the institutional and individual investor to make investment decision making. It also provide an information and persuade them to invest in both long term and short term investment by reducing the uncertainty. This research act as guide line for policy makers to make policies.***

Keywords: Economic, Investment, Inflation, Price, Institutional Investor, Investment Decision, Policy.
JEL Classifications: A1, D25, P22, E31, G23, G11, F68

I. INTRODUCTION

[1]Indian economy is the most vibrant global economies in the global economies in the world with the tempting force of financial sector such as robust banking and insurance industry. The growth of the Indian status with the improvement in the economic scenario is mainly depends on the various investment in various sectors of the economy. The major contribution is made by the Indian financial sector which predominantly enforces by a banking sector with commercial banks for holding more than 64% of the total assets held by the financial system.

[2]Financial sector act as an assessing tool of Indian economy that consists of various firms, financial and non - financial institutions that provides financial services such as deposits, loans, mortgages, credit and cash to the potential customer. [3]The financial sector generates high revenue by providing mortgages and loans rather than accepting deposits since the rate of interest falls. It indicates that high benefit for financial sector that boost up the economy growth since the doors are open up for capital projects and investments by the economic conditions. The factors that affect the financial sector are rising interest rates on moderate basis, reducing regulation, helping consumer by providing finance etc.

In stock market, financial sector are considered as a very popular investment to own within a portfolio. Stock exchange are act as prominent place for economic reputation where all the securities are traded. The major function of stock exchanges are central place where the business transaction made, conveniences for all business settlement transactions, providing long term funds, facilitation speculation etc. Bombay stock exchange and National stock Exchange are the two types of major and oldest stock exchanges in India. [4]Volatility is the increases or decreases of price of stock to get back the return. The research work "Causal Linkages and Impact of Finance Companies Stock Price on BSE FINANCE and BSE SENSEX" has determined the indices of Bombay stock exchange such as BSE SENSEX and FINANCE to evaluate and predict the risk involved in the volatility of stock prices on the Finance companies. This present work has been scrutinized by collecting the secondary data from the period of 2nd April 2014 to 30 August 2019 by using the software eviews 9. The collected data has been analysed by using the Descriptive statistics, Correlation, Regression and Granger causal test. The research work has extracted the sample size of 6 companies from the Finance industry such as AB CAPITAL LTD, BAJAJ FINSERV LTD, CAPRI GLOBAL CAPITAL LTD, IIFL FINANCE LTD, JSW HOLDINGS LTD and JM FINANCE LTD to examine the movement of changes in the

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[1] https://www.ibef.org/economy/indian-economy-overview
[2] https://www.ibef.org/industry/financial-services-india.aspx
[3]https://www.investopedia.com/terms/f/financial_sector.asp
[4]https://economictimes.indiatimes.com/definition/volatility

DEVELOPMENT OF INDEX FOR MEASURING THE AWARENESS ON BRAND EXTENSION WITH SPECIAL REFERENCE TO SELECT INDIAN BRANDS

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ABSTRACT

Marketing Management, one of the major functions of the business, facilitates the strongest affiliation of business to the customer through the delivery of what the customer likes, wants, demands and cherish. The brand delivers a clear message about its product and the company, confirms the credibility, motivates the consumer, builds up and concretes the loyalty. Brand Extension has been a commonly accepted marketing strategy used to disruption the entry blockades between product categories through the inheritance of a brand's reputation. It is

DOMINATOR CHROMATIC NUMBER OF A BINARY TREE AND ITS RELATED PARAMETERS

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Abstract:

In this paper, we established some parameters such as domination number γ (BT), 2-domination number γ_2 (BT), Chromatic number χ(BT) and dominator chromatic number χ_d (BT) of Rooted binary tree and Perfect binary tree. Also studied about some of its properties and illustrated with examples.

Keywords: *Dominator chromatic number, 2-Domination, Colouring,*

Binary tree, rooted binary tree and Perfect binary tree

1. INTRODUCTION:

In Mathematics, graph theory is the study of binary trees. A tree in this content is made up of vertices, nodes or points which are connected by edges, sizes and lines. This binary tree was introduced by Steven Pivnik on 1993.

In this paper, we studied the concept of the dominator chromatic number, 2-domination number, Chromatic number of the different types of binary trees such as rooted binary tree and perfect binary tree. In these binary trees, we established some parameters they are domination number γ(BT), chromatic number χ(BT) and dominator chromatic number χ_d (BT) . The aim of this paper is to analysis the relationship between perfect binary tree and rooted binary tree in the domination, 2-domination, chromatic number and dominator chromatic number.

2. BASIC DEFINITIONS:

BINARY TREE:

A Binary tree is defined as a tree in which each node has at most two, one, zero children.

Dynamic Changes of economics fundamentals on BSE Oil price by using An ARDL Bound Test Approach

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Abstract: Stock market is accumulating to the liquidity of the financial sector by providing a substitute for risk or alternative through diversifying the risk of investor. When the stock market is internationally compete, only if risk is more diversify and its equip the saving, source of information about the listed companies in the stock market, also further different economic factors are judging the stock market development and trend. If total market capitalization and total value of stock trade are relative to GDP, Stock market indices which association of all the above measures. The paper analyses the impact of the macroeconomic variables namely crude oil import, crude oil export, exchange rate, foreign exchange reserve (FXR), FII, gold and IIP on BSE oil return by using statistical measures like ARDL model approach and VECM. The study has been collected from 1st May 2009 to 31st June 2019. The research work found that there was no short run relationship between BSE Oil and selected macroeconomic variables, all the variables are not significant with BSE Oil at 5% significance level. The study examined that the estimated value of ECT is -0.97337 which enfold that the speed of adjustment to equilibrium after a shock is high. Almost 97% of disequilibrium from the previous year's shock converges back to the long-run relationship in the current year. In long run, there is no serial correlation but stability exists. The study concluded that BSE oil returns determined by the past trend and behavior of the macroeconomic variables.

Keywords: Macroeconomic; Exchange rate; Foreign exchange reserve; Crude oil; Index of industrial production; Auto Regressive Distributed Lag Model

JEL Classification: E2, E6, F4, L16, O24

I. INTRODUCTION

In the modern phenomena, overall economic activities are depend on the role of financial sector, cannot be fail to care, which act as an encouraging and boosting the economic activities in a country. In Indian financial sector has two major sub sectors, one is capital market and money market which include the broad stock market. The ARDL approach has been used widely employed to examine the impact of macroeconomic variables on economic growth but in the capital

Indian stock market is still in the development and growth even additionally to play its due role of influencing the economic activities. The study made by the [1]**Dr.S. Baranidharan, A. Alex & N. Dhivya (2019)** to analyse the Effect and Volatility of Exchange Rates on BSE Sectoral Indices and it was found that distributions were not normal by Jarque Bera test and also examined that there was a long run relationship between Exchange rates and BSE Sectoral indices such as BSE AUTOEX, BSE BANKEX, BSE CG, BSE OIL GAS, BSE GREENEX and BSE SENSEX. BSE oil returns which has contributing the growth and development of real economic and stock market. Macroeconomic variables have interrelationship with BSE oil returns. The objective of the study is seek to examine whether macroeconomic variables such as exchange rate, FII, foreign exchange reserve, gold, crude oil import, crude oil export and IIP are impact on explanatory factors in the stock market returns. The study investigate the long run and short run cointegration relationship and dynamic causal relationship between selected macroeconomic variables and BSE oil returns by employ the resent developed

[1]Dr.S. Baranidharan, A. Alex & N. Dhivya (2019). The Effect and Volatility of Exchange Rates on BSE Sectoral Indices, RESEARCH REVIEW International Journal of Multidisciplinary, Volume-04, Issue-04, April-2019, and Pg: 1173-1180.

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ECONOMIC CONDITION OF TANJORE UNDER THE NAYAKS AS GLEANED FROM THE INSCRIPTIONS OF RAGHUNATHA NAYAKA

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Sculpture of Raghunatha Nayaka

ABSTRACT :

Raghunatha Nayaka was the most illustrious of the Tanjore line of Nayaks, As well as the main prop of their fame and glory. His rule was one of peace as it marked the revival and development of the many sided, Economic as well as Cultural activities for which Tanjore had been famous through the ages.

KEYWORDS : *Raghunatha Nayaka , Tanjore line , Economic.*

INTRODUCTION

Raghunatha Nayaka's appointment as Yuvaraja, even while he was a youth, who has been noticed already, and he was the joint ruler of the kingdom, along with his Father, for a number of years. During that period, he distinguished himself in the Wars of the Emperor. During the Nayak period the economic condition was determined by the nature of agriculture, industrial sector and

Trade means of internal and external. Yet, industry and trade were at their low ebb. The state Nayaks paid priority to the growth and development of agriculture. The traditional system of agriculture existed in this period. The consequent wars, rebellions and famines, which affected the growth of agriculture considerably.

The Nayak age witnessed a new developing trend in the economic activities. Growth of Industries and the attempt for extensive colonization in the European world had its impact in the Tamil land as well. The western trading communities began to land and expand their activities. Yet the traditional economic structure and behavior was undisturbed continued. The Tanjore Nayaks has occupied mostly the river Kaveri region of Tamil land. The eastern plain was infested by moving bands of high way men. It hindered economic activities, trade and commerce. The cultivable products were different in type and nature. 'Kar' and 'pisanam' were the two main cropping seasons. There were summer crops. It belonged to the special season called '*Kodaippu' Kuruvai* was the chief wet crop. *Varagu* and *Thinai* were the chief cereals. Green gram (pachchai payaru) Black gram (ullundhu) and horse gram *(kollu*) were chief among the pulses produced. Hemp and Cotton were some of the commercial crops. Rain was the deciding factor for the success of crops.

The Portuguese and the merchants gained ground in the beginning. But in due course the Dutch and the English gained importance in this region. Paddy, cane sugar, other millets, cotton and silken clothes became chief articles of trade in the international markets. Indigo was also exported to the western world. Gold, quick silver, tin, lead, copper, brass, luxurious articles and foreign drinks were imported. Among the natives, the Chettiar and the Muslims stood in the forefront of overseas commerce. Chinakkon Chetti and Seshadri Chetti earned name and fame in the Western commercial world. They had an association with western merchants and also in the eastern Commerce. The Chettiar had trading colonies in Malacca. The Muslim merchants of east coast had contact with Bengal, Malacca and China for commerce.

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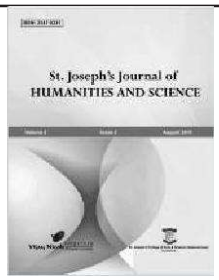

Estrangement and Reunion in Jorge Franco's *Paradise Travel*

W. Angel[a]
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ABSTRACT

Human migration is not a new thing, it is an old concept deep rooted into our gene. Many myths found in all cultures are on the theme of leaving home territory. Migration is the concept and contemporary human condition that on which man is born under. There are two trends in addressing exile by individuals in general, the negative trend and the positive trend. A negative point of view describes the separation from the home space, perceived by the individual as a breaking pain or as a constructive penalty, which is a reward in the negative sense of something bad committed in the past. The positive point of view is an artistic creativity in exile. It is in the broad sense includes those works, which from a thematic and aesthetic point of view are mainly devoted to the native habitat and the norms of its culture. The fictional themes, myths and ideas proposed by writers are consequences of their change from the experiences of the native country. The novel *Paradise Travel* deals with the reunion of, the young couple who are in exile.

Keywords: Migration, Culture, Separation, Reunion, devotion.

Jorge Franco Ramos, born in Medellin in 1962, is a Colombian novelist and short story writer. He is one of the young urban writers in Colombia. He studied literature at the Universidad Javeriana in Bogota and film in London. He received a series of literary prize in Colombia and one in Spain for his writing.

Franco's first novel *Mala Noche* (Bad Night), won the national Cuidad De Pereira competition of 1997. He is best known for his novel of disaffected youth in Medellin, *Rosario Tijeras* (1999), it was made into a film in Colombia under the title Rosario Tijeras in 2005 and the novel won Premio de Novel adsahiellhammett Prize in (2000) in the Spanish city and the translation by Rabassa adds Credit to it. Franco's third novel *Paraiso Travel* (2001), focus on the urban accounts of violence, death and human desperation. The novel was made into a film by Colombian director Simon Brand and was in released in January 2008 with a musical score directed by renowned Colombian singer Fonseca.

Franco's voice is wonderfully preserved in Katherine Silver's accomplished translation named *Paradise Travel*. The novel *Paradise Travel* is a fine

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Extemporize Agriculture Yield with Predictions Based on Water and Soil Properties using Multivariate Analytics and Machine Learning Algorithm

V. Sudha, S. Mohan

Abstract – ***Big data have rapidly developed in agriculture that increase the extensive attention of farmers to get extraordinary ideas for future crop development based on soil and water is an essential key factor of agriculture to predict data. In future farmers apply the extracts PCA (Principal component analysis) in the agriculture for crops to find best yield. The level of data is analyzed using PCA and PLS (Projection to latent structure) datasets like Crop data, Soil properties and Water properties such as Linear Regression, Multi Linear Regression, Discriminate Analysis, Partial Least Square, Least squares algorithm is used instead of Multivariate Curve Resolution. Predictive analytics can be used to make a modular decision in farming by observation of actual time data on crops, soil and water data received from different agriculture sources would contain multi-dimensions, the entire content is needed for performing analysis. Multivariate data Analysis based on Partial Least Square Programming model that identifies the cropping pattern to getting maximum yield correlated. The motive of the work is to compare various techniques which give the maximum accuracy of crop.***

Keywords: PCA; PSL; Support Vector Machine; Multivariate; Correlate; Data Analytics.

I. INTRODUCTION

The prediction about the yield is very important to the farmers to get highest Productivity. The prediction of yield can be extracted from the PCA (Principal Component Analysis) and PLS (Partial Least Squares) through our researchers the sharp observation of data analytics that has to be increased the yield so that we have a complicate problem to the big data for better observation. The major plan of principal component analysis (PCA) is to reduce the originality of a dataset having many variables correlated with each other, either heavily or slightly, from the remaining variation provide in the dataset, up to the maximum extent. Projection to Latent Structures regression observious and result may be useful to first review this information in Elementary concepts. The varieties of samples analyzed in this title are also characterized in common linear sample, Generalized Linear Models, and General systematic Regression. In Cuddalore district agriculture maintains to be the top most group in the economic growth of Crop Paddy, Cumbu, Ragi, Cholam, Redgram, Gingerly, Groundnut, Greengram, Cashew nuts, Sugarcane, Coconut.

II. RELATED WORK

Sirisha Adamala presented and implemented in this study papers with big data applications and water Resources engineering by using machine learning, research [1] the water managers, is showing big promise in many water related application such as planning optimum water systems, detecting ecosystem changes through big remote sensing and geographical information system, forecasting, predicting, detecting natural and man-made calamities, scheduling irrigations, mitigating environmental pollution, analyzing atmosphere alterations of impacts etc.

S. P. P. Kolhe, [2] Information technology is mostly used in modern agricultural irrigation systems to improve the food production. In this paper, we present the material for various purposes about modern irrigation system with the use of information technology in irrigation system at irrigation sector of agriculture, such as weather parameter, water availability, and water requirements of crops to create water supply schedules. Management of water availability in irrigation scheduling, crop management automated irrigation.

S. Kumawat, Sensor Based Automatic Irrigation System and Soil pH Detection using an Image Processing Development of agriculture is necessary [3]. Lack of rain and water scarcity is the major problems that are faced by the farmers. The main objective of this paper is providing an automatic irrigation system, thereby saving the time, money & power of the farmer. The traditional farmland irrigation techniques require manual intervention can be minimized. Nutrient availability and plant growth are affected by the acidity and basicity of the soil, which is determined by soil pH property. Haryana, Evaluation of ground water quality for irrigation [4] the quality of groundwater, water samples was collected from all the villages. Water sample were collected and analyzed for pH, EC, soluble cations (CA, mg, Noah and k) and anions.The values of sodium adsorption ration (SAR) and residual sodium carbonate (RSC). Spatial maps of EC, pH, RSC, SAR, Water quality of groundwater, Following details are used for irrigation.

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Factors of E- Learning among Rural People of Cuddalore Region

L.Vijayakumar

Abstract:The life of learning and human abilities today is shorter than any time in recent memory, mounting the strain to stay fully informed regarding ones instruction and preparing all through a profession. In the time of globalization and innovative insurgency, four-year degrees are only the beginning of a forty-year proceeding with training. Deep rooted learning is rapidly turning into a basic in todays world. E-Learning is insinuated as teaching and learning by using electronic media. The utilization of system innovation to configuration conveys, select, oversee, and expand learning. This approach supports the usage of frameworks organization and exchanges innovation in instructing and learning. E-Learning is for the most part implied for remote learning or separation adapting, yet can likewise be utilized in up close and personal mode. In this paper centered to learn about the familiarity with E-Learning in chosen provincial regions in cuddalore regions. The compelling elements just as limited reasons additionally assessed. This examination is Descriptive nature. Comfort testing techniques utilized and essentially rely upon organized poll to gather the essential information.

keywords: E-Learning, Media, Provincial region.

I. INTRODUCTION

Electronic learning or E-Learning is a general term used to allude to a type of learning in which the mentor and understudy are isolated by space or time where the hole between the two is spanned using on the web innovations. E-Learning applications and procedures incorporate PC based, electronic, innovation based learning and virtual training openings. Content conveyance is with the assistance of Internet, intranet, extranet, sound or video tape, satellite TV, and CD-ROM and it incorporates media as content, picture, activity, gushing video and sound. It enables us to learn at our own specific manner for example time permitting with an adaptable, intuitive and drawing in online experience. In this procedure, instructive exercises can be practiced by utilizing systems administration and interchanges innovation in on the web or disconnected, synchronous just as offbeat, arranged or independent educating and learning. People have started using Internet for getting to information by methods for Internet.

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The corporate zone which was giving partition guidance has similarly happening using web learning as an extra activity in their detachment preparing since E-Learning is a technique for giving indications of progress the transparency of the examination material,
additionally, the cost of getting to information on the web is diminishing by the headway in the field of data and correspondence innovation. Understudies and instructors are progressively utilizing getting to data online to help their learning and educating. Presently days, the pattern is of "mixed realizing", that is learning is a blend of customary learning just as E-Learning.

Following are the highlights recognized of E-Learning:

Learning is revolved around the premiums of the student. Learning is vivid learning by doing and happens not in a school however in a proper situation. In this manner, "mixed learning" gives us a premium and a proper domain to showing learning process. The fundamental characteristic of E-Learning is the flexibility of getting to information and resources. It implies the passageway the use of information and resources whenever, spot or pace as indicated by one‟s comfort. Student isn't bound with the requirements of going to the talks on fixed time or fixed area which might be far away from the habitation. Another trait is access of sight and sound based assets; it implies that diverse kind of media like content, sound, video, liveliness, illustrations, picture is bolstered by the system and correspondence innovation, which makes conceivable the getting to of data by content or pictures as well as backings activities, recordings, introductions, sound and so forth which makes adapting all the more intriguing and profitable. Additionally the data and correspondence innovation gives us a chance to catch, store, and disperse data as content, pictures and representations which incorporates sight and sound based recreations of straightforward and complex procedures which are inexpensively open. Non concurrent Methods Embedded learning: Embedded learning is data that is open on a self improvement premise, day in and day out. It tends to be conveyed to the work environment, or to portable students. Electronic execution emotionally supportive network (EPSS) is a kind of installed learning. The bit of leeway is that installed learning offers students the data they need at whatever point they need it.

Courses:

The unmistakable favorable position of a self-guided course is comfort. Members can get the preparation they need whenever. This can incorporate without a moment to spare preparing where a member gets precisely the preparation the person needs to play out an undertaking.

FUZZY CHROMATIC NUMBER OF FUZZY GRAPH FORMED FROM THE CARTESIAN PRODUCT OF FUZZY PATH AND FUZZY CYCLE

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Abstract: In this paper, we discussed the concept of chromatic number of a fuzzy graph. We established bounds for fuzzy chromatic number of fuzzy graph formed from the cartesian product of fuzzy path and fuzzy cycle.

Keywords: *Fuzzy Path, Fuzzy Cycle, Cartesian product of fuzzy path and fuzzy cycle, colouring, Fuzzy colouring and fuzzy chromatic number.*

Introduction

One of the most important properties of fuzzy graph model is fuzzy graph colouring. The fuzzy colouring of a fuzzy graph was defined by the authors in Eslachi and Onagh[12]. Then pourspasha[9] also introduced different approaches to colour the fuzzy graph.

Fuzzy dominator colouring and fuzzy chromatic number on Cartesian product of simple fuzzy graph was introduced by R.Muthuraj and Sasireka [10]. In this paper ,we deals with finding a fuzzy chromatic number of Cartesian product of fuzzy path and cycle.

Definition 1.1:

- A walk is called a **path** if all its vertices are distinct.
- A $v_0 - v_n$ walk is called closed if $v_0 = v_n$. A closed walk $v_0, v_1, v_2, \ldots, v_n = v_0$ in which $n \geq 3$ and $v_0, v_1, v_2, \ldots, v_{n-1}$ are distinct is called a **cycle** of length *n*. The graph consisting of a cycle of length *n* is denoted by C_n.

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Fuzzy Simply Lindelöf Space and Fuzzy Simply Baire Space

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Abstract: In this paper we discussed about the relations of fuzzy Lindelöf space and fuzzy Baire Space, fuzzy simply α-Lindelöf space and fuzzy α-Baire space, fuzzy simply pre-Lindelöf space and fuzzy pre-Baire space, fuzzy simply semi-Lindelöf space and fuzzy semi-Baire space. Some characterizations of fuzzy simply Lindelöf space and fuzzy Baire spaces are also studied. Several examples are given to illustrate these relations.

Keywords: Fuzzy simply open set, fuzzy dense set, fuzzy nowhere dense set, fuzzy first category, fuzzy second category, fuzzy simply Lindelöf space, fuzzy Baire spaces.

1. INTRODUCTION:

The fuzzy concept has invaded almost all branches of Mathematics ever since the introduction of fuzzy set by L.A.ZADEH. The theory of fuzzy topological spaces was introduced and developed by C.L.CHANG. Since then much attention has been paid to generalize the basic concepts of general topology in fuzzy setting and thus a modern theory of fuzzy topology has been developed. In this paper the relations of fuzzy simply Lindelöf space and fuzzy Baire space, fuzzy simply α-Lindelöf space and fuzzy α-Baire space, fuzzy simply pre-Lindelöf space and fuzzy pre-Baire space, fuzzy simply semi-Lindelöf space and fuzzy semi-Baire space are discussed and some characterizations of fuzzy simply Lindelöf space and fuzzy Baire spaces are studied. Several examples are given to illustrate these relations.

2. PRELIMINARIES:

In this section, we recall the basic definitions.

Fuzzy simply open set:[5]

If λ is a fuzzy open and fuzzy dense set in a fuzzy topological space (X,T), then λ is a fuzzy simply open set in (X,T).

Fuzzy dense set:[5]

A fuzzy set λ in a fuzzy topological space (X,T), is called fuzzy dense if there exist no non-zero fuzzy closed set μ in (X,T) such that $\lambda < \mu < 1$. (i.e) $cl(\lambda) = 1$

Fuzzy nowhere dense set: [5]

A fuzzy set λ in a fuzzy topological space (X,T) is called fuzzy nowhere dense if there exist no non-zero fuzzy open set μ in (X,T) such that $\mu < cl(\lambda)$, i.e. $\text{int}\, cl(\lambda) = 0$ in (X,T).

Fuzzy simply Lindelöf space:[5]

A fuzzy topological space (X,T) is said to be fuzzy simply Lindelöf if each cover of X by fuzzy simply open sets has a countable sub cover. That is , (X,T) is a fuzzy simply Lindelöf space if $\vee_{\alpha\in\Delta}\{\lambda_\alpha\} = 1$.

Fuzzy Baire space:[1]

Let (X,T) be a fuzzy topological space. Then (X,T) is called a fuzzy Baire space if, $\text{int}(\overset{\infty}{\underset{i=1}{\vee}} \lambda_i) = 0$ where λ_i"s are fuzzy nowhere dense sets in (X,T).

Fuzzy α-Baire space:[2]

Let (X,T) be a fuzzy topological space. Then (X,T) is called a fuzzy α- Baire space if,α- $\text{int}(\overset{\infty}{\underset{i=1}{\vee}} \lambda_i) = 0$ where λ_i"s are fuzzy α-nowhere dense sets in (X,T).

Fuzzy pre-Baire space:[3]

Let (X,T) be a fuzzy topological space. Then (X,T) is called a fuzzy pre- Baire space if, $\text{pint}(\overset{\infty}{\underset{i=1}{\vee}} \lambda_i) = 0$ where λ_i"s are fuzzy pre-nowhere dense sets in (X,T).

Fuzzy semi-Baire space:[4]

Let (X,T) be a fuzzy topological space. Then (X,T) is called a fuzzy semi- Baire space if, $\text{sint}(\overset{\infty}{\underset{i=1}{\vee}} \lambda_i) = 0$ where λ_i"s are fuzzy semi-nowhere dense sets in (X,T).

3. FUZZY SIMPLY LINDELÖF SAPCE AND FUZZY BAIRE SPACE:

GENERALIZED HYERS - ULAM STABILITY OF AC FUNCTIONAL EQUATION IN FUZZY NORMED SPACE

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ABSTRACT. In this paper, the author has investigate the generalized Hyers-Ulam stability of additive cubic functional equation of the form

f (2x + x) f (2x x) = 4f (x + x) 4f (x x) 6f (x)

in fuzzy normed spaces using Hyers method.

1. INTRODUCTION AND PRELIMINARIES

The stability problem of functional equations originated from a question of S.M. Ulam [40] concerning the stability of group homomorphisms. D.H. Hyers [15] gave a first affirmative partial answer to the question of Ulam for Banach spaces.

Hyers' theorem was generalized by T. Aoki [2] for additive mappings and by Th.M. Rassias [35] for linear mappings by considering an unbounded Cauchy difference. The paper of Th.M. Rassias [35] has provided a lot of influence in the development of what we call generalized Hyers-Ulam stability of functional equations. A generalization of the Th.M. Rassias theorem was obtained by P. Gavruta [14] by replacing the unbounded Cauchy difference by a general control function in the spirit of Rassias approach. In 1982, J.M. Rassias [32] followed the innovative approach of the Th.M. Rassias theorem [35] in which he replaced the factor $jjxjj^p + jjxjj^p$ by $jjxjj^p jjxjj^q$ for p; q 2 R with p + q = 1:

In 2008, a special case of Gavruta's theorem for the unbounded Cauchy dif-ference was obtained by Ravi etal., [37] by considering the summation of both the sum and the product of two p norms in the sprit of Rassias approach. The stability problems of several functional equations have been extensively investi-gated by a number of authors and there are many interesting results concerning

2010 Mathematics Subject Classification. : 39B52, 39B82, 26E50, 46S50.
Key words and phrases. : Fuzzy normed space, Additive, quadratic, cubic and quartic functional equation, Generalized Hyers-Ulam-Rassias stability.

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Impactof Artificial Intelligence on Patient Experience in Selected Hospitals of Vellore - Shaping the Future of Healthcare

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Introduction

It's remarkable to look back and see just how far our world has come technologically. A large number of us hear the term artificial intelligence (AI), we figure robots performing every one of our responsibilities, translate people outdated. Artificial intelligence Driven PCs are modified to settle on choices with slight human inclusion,some even think if machines will before long settle on the troublesome choices we presently endow to our primary care physicians. More than robotics, AI in health care mostly refers to doctors and hospitals access big number of data which save life. This incorporates the treatment strategies and results, endurance rates, and the improved consideration among a great many patients. The computing force can identify and investigate enormous and little developments from the information and even make predictions through machines. With the expanding number of patientsand ensuing demands for quality and reasonably priced treatment, healthcare organisations are understanding the benefits of the technology adopted. The implementation of AI in healthcare is currently at aprimary stage this is mostly due to partialdigitization of patient records in emergencies. Isn't new, however there have been hasty advances in the field later?This has empowered by the developments in computing influence and massive capacities of digital data that are produced.

Applications of AI in Healthcare

Artificial intelligence can be utilized to investigate and distinguish designs in enormous and complex datasets quicker and more unequivocally than has recently been possible.

1. The availability of data and the best approach to store and process it is an indication of the imaginative phase. The Internet structures, check features and the limit with regards to healthcare professionals to rapidly share information have overhauled the examination of data. "Big Data" in hospitals allows the sector to profit by researchers. These activities can get to more prominent and extra contrasting people than some other time in ongoing memory. They can besides draw from existing assessments for complete meta-examinations. This development grants therapeutic specialists to stay over human services, frameworks and advancements. This could be utilized normally to

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Influence Of Changes Of FDI And FII Flows On Indian Stock Market

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ABSTRACT

The inflow of Foreign Direct Investment and Foreign Institutional Investors has become a strong impression of economic development in both developing and developed countries. The research paper found that values of all variables were higher than 5; it clearly indicates that the variables were non-normal found out by using the Jarque-Bera test. The study exclaimed that there is unidirectional relationship between FDI returns and the nifty returns found out by granger causality test and it explains that FDI helps to predict Nifty returns. Policy makers can make economic enhancing and growth possible based on the research made on economic performance.

Keywords: Foreign Direct Investment, Economic policy, Foreign, Cointegration and Causality

JEL Classification: O24, E6, E22, F21, R53

1. Introduction

In the emerging economy, "Globalization is the most frequently used word, which means different things to different people" (McKibbin, W. J. 2000). "Globalization is an outstanding feature for financial services industry which increases non-local investors in several major stock markets in the world. In the context of true economy, globalization refers to the increased openness of an economy to the international trade, capital flow (both portfolio and foreign direct investment FDI), transfer of technology and free movement of labour" (Bende-Nabende, A. 2017). Since 1991, Indian economy is incorporated with the global economy and initiated wholly structural reforms in India. Indian economy has been free to foreign investments especially import of technology from developed and developing countries.

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Influence of Concentration and Annealing on the Properties of Chemical Bath Deposited Zns Thin Films

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Abstract : The Nanosized ZnS thin films were prepared by chemical bath deposition technique. Zinc Sulfide (ZnS) was an important semiconductor material with large band gap (Approx. 3.5eV), high refractive index (2.35 at 632nm), high effective dielectric constant (9 at 1MHz) and wide wavelength pass band (0.4-13 Micrometer). The XRD pattern was showed that the deposited ZnS thin films in cubic structure. The SEM micrographs reveals that substrates were well covered and with appreciable grain size. Comparing both high and low concentration thin film, the band gap decreases and the absorption increases for high concentration also the annealing temperature. While increasing the annealing temperature the optical property of transmission was increased due to the growth of the ZnS particles. The concentration of 0.3M transmission is 73% in the visible region which are suitable for thermal imaging systems.
Key words : Zinc sulfide (ZnS), CBD, Concentration, Heat-treatment.

1. Introduction

Chemical bath deposition is a well-known deposition technique. They are mainly used for some Chalcogenides such as Zn, Co, Cd, Hg, Pb, Sulphides and selenides[1]. The thin films have mechanical, electrical, magnetic and optical properties which may differ from those of the bulk material and are used commonly in the form of a deposit on a suitable substrate for integrated circuits, resistors, capacitors, transistors and superconductors to name some [2].

The optical properties of these compounds made them useful as a filter, reflector and planar wave guide[3]. It has a vast potential for various application usage in optoelectronics and electroluminescent devices[4], antireflection coating for the solar cell[5,6], Blue light emitting laser diodes[7]. It can be used as α - particle detector[8].

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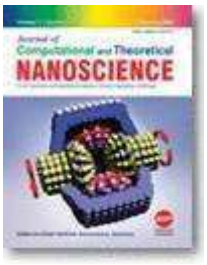

Inspection of Different Segmentation Techniques on FLAIR, T1, T2-Weighted MR Brain Images

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Abstract | References | Citations | Supplementary Data | Suggestions

Imaging the human parts to study the medical aliments is a challenging task ever carried out in the world today. There are various segmentation techniques for processing the medical images. This paper is dedicated to study the MRI brain images of various axial images such as T1 weighted, T2 weighted and Flair axial images with all possible segmentation algorithms to find the performance of algorithms. The segmentation may be based on similarities: Region based, edge based, feature based clustering, model based methods, local entropy based segmentation and threshold. The performance of all algorithms along with its pros and cons are discussed in detail here. Segmentation is very useful for image analysis and finding the region of interest. The lesions in the brain image are identified for detection of the disease using these segmentation techniques.

Keywords: Edge Based; Feature Based Clustering; Model Based; Region Based; T2 Weighted and T2 FLAIR Axial Image; TI Weighted; Threshold

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Job Of Smaller Scale Fund In Women's Empowerment

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ABSTRACT

Microfinance is a kind of banking administration that is given to jobless or low-pay people or gatherings who might somehow or another have no different methods for increasing money related administrations. Small scale account through Self-improvement Gathering (SHG) has been perceived universally as the cutting edge apparatus to battle neediness and for rustic advancement. Miniaturized scale account and SHGs are powerful in diminishing neediness, enabling ladies and making mindfulness which at long last outcomes in maintainable advancement of the country. The primary point of microfinance is to engage ladies. In this paper the pretended by Microfinance in ladies' strengthening are considered into three measurements in particular mental, social and prudent. The goals of the examination is I) to comprehend the exhibition of SHG's in Pondicherry locale, ii) to break down the opportunity ladies individuals get in SHG's, iii) to contemplate the issues ladies individuals face in SHG's, iv) to dissect the strengthening of the ladies mentally, monetarily and socially and v) to offer proposals for the improvement of ladies' strengthening in SHG's. The examination is embraced in country regions of Pondicherry district. Both essential and auxiliary information's are utilized. Essential information is counted from a field overview in the examination area. Optional information is gathered from NGOs' reports and different records. The specialist has utilized rate technique, straightforward relationship coefficient, matched t test and cross classification for examination reason.

KEY NOTES: Microfinance, Microcredit, Women's Empowerment.

1. INTRODUCTION

Catchphrases: Microfinance, ladies' strengthening, Non Legislative Association, Self-improvement gatherings.

1. PRESENTATION

Microfinance is the arrangement of monetary administrations to low-pay customers, including buyers and the independently employed, who customarily need access to banking and related administrations. Microcredit, or microfinance, is banking the unbankables, bringing credit, investment funds and other basic money related administrations inside the range of a large number of individuals who are too poor to even think about being served by standard banks, much of the time since they can't offer adequate guarantee. All in all, banks are for individuals with cash, not for individuals without." (Gert van Maanen, Microcredit: Sound Business or Improvement Instrument, Oikocredit, 2004) depends on the reason that the poor have abilities which remain unutilized or underutilized. Microcredit fits best to those with innovative capacity and probability.

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Machine Learning Based Classification Models for Financial Crisis Prediction

S. Anand Christy, R.Arunkumar

Abstract: ***Financial Crisis Prediction (FCP) being the most complicated and expected problem to be solved from the context of corporate organization, small scale to large scale industries, investors, bank organizations and government agencies, it is important to design a framework to determine a methodology that will reveal a solution for early prediction of the Financial Crisis Prediction (FCP). Earlier methods are reviewed through the various works in statistical techniques applied to solve the problem. However, it is not sufficient to predict the results with much more intelligence and automated manner. The major objective of this paper is to enhance the early prediction of Financial Crisis in any organization based on machine learning models like Multilayer Perceptron, Radial basis Function (RBF) Network, Logistic regression and Deep Learning methods and conduct a comparative analysis of them to determine the best methods for Financial Crisis Prediction (FDP). The testing is conducted with globalized benchmark datasets namely German dataset, Weislaw dataset and Polish Dataset. The testing is performed in both WEKA and Rapid Miner Framework design and obtained with accuracies and other performance measures like False Positive Rate (FPR), False Negative Rate (FNR), Precision, Recall, F-score and Kappa that would determine the best result from specific algorithm that will intelligently identify the financial crisis before it actually occurs in an organization. The results achieved the algorithms DL, MLP, LR and RBF Network with accuracies 96%, 72.10%, 75.20% and 74% on German Dataset, 91.25%, 85.83%, 83.75% and 73.75% on Weislaw dataset, 99.70%, 96.30%, 96.21% and 96.14 on Polish dataset respectively. It is evident from all the predictive results and the analytics in Rapid Miner that Deep Learning (DL) is the best classifier and performer among other machine learners and classifiers. This method will enhance the future predictions and would provide efficient solutions for financial crisis predictions.***

Keywords: Financial Crisis Prediction; Machine learning; Artificial intelligence; Deep learning

I. INTRODUCTION

Financial companies, corporate, borrowing firms as well as government agencies urge to design models to effectively investigate the possibility of counterparty default. Though default actions act in a stochastic manner, financial data can be employed to design financial crisis prediction (FCP) models.

For instance, [1], applied the multivariate statistic methodologies basically, discriminant analysis for classifying solvent and insolvent companies by exploiting financial data. The financial crisis happens not only because of bankruptcy and also due to the degrading of debt ratings of credit-related properties. Though default approaches have been used for the past years, the 2007/2008 financial crisis lead to the effective FCP models with utmost priority. But, [2] suggested that no standard theories or models exists for corporate FCP. The absence of theoretical model to investigate financial crisis for exploratory actions for the identification of discriminant features and prediction models using trial and error [3][4].

The academicians and professionals wanted to enhance the performance of FCP models by the use of diverse quantitative models. For example, [5] developed the earliest logistic regression (LR) approach for default computation.

Contrastingly, [1] provides a score to classify the observations as either good or bad customers; Ohlson's model computes the standard possibility of the significant. Assuming the relative ease of performing discriminant analysis and logistic regression, different works has been done to carry out identical tests. However, [6] disagreed that the famous Altman (1968) and Ohlson (1980) models are not precise and recommended the requirement of improvements in the modeling of default risks. Researchers discovered the artificial intelligence and ML approaches to measure credit risk using the recent technologies. As the investigation of financial crisis is identical to the pattern-recognition problems, methodologies can be employed for the classification of the creditworthiness, hence enhancing the conventional methods using earlier multivariate statistical methodologies like discriminant analysis and LR. Artificial neural networks (ANN) are also employed in various forms and the integration of ML algorithms in FCP is found to be interesting. Though numerous works has been investigated FCP by the use of recent techniques, [2] found that the results has not identifies the novel approach.

More number of FCP models are developed using the conventional statistical models and early artificial intelligence models. The key facts of this investigation are to examine the generous change in forecast exactness utilizing ML strategies compared to statistical models. This paper performs a comparative analysis of deep learning (DL), multilayer Perceptron (MLP), radial basis function (RBF) network and logistic regression (LR). For evaluation, three benchmark dataset namely German dataset, Weislaw dataset and Polish dataset. From experimentation, it is reported that the DL based classifier outperforms the other algorithms in terms of various performance measures.

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Mask Region Based Convolution Neural Network (R-CNN) based Smart System for Anomaly Detection in Pedestrian Walkways

A. Nirmala, S. Arivalagan, P. Sudhakar

Abstract*: Recently, anomaly detection becomes a fascinating research application which usually raises an alarm in scenarios where the event varies from the actual event. Anomaly detection can be treated as a coarse-level video understanding problem that determines the existence of anomalies from habitual events. This paper introduces a new anomaly detection model by the use of Mask region based convolution neural network (R-CNN). The application of mask in the detection process helps to precisely identify the presence of anomalies in the scene. The effectiveness of the Mask R-CNN based anomaly detection model is validated against UCSD anomaly detection dataset. An extensive quantitative and experimental outcome evidently shows the superior nature of the presented model over the compared methods in a significant manner.

***Keywords*: Anomaly detection; Deep learning; RCNN; Object identification.**

I. INTRODUCTION

In public places such as traffic signals, shopping malls, roads, banks, etc, surveillance cameras are installed presently to improve public security level. It is a complicated procedure to observe video consequently at a faster rate. For monitoring, it tends to inadequate surveillance cameras utilization and needs to presence of human. In video surveillance, the major complexity lies in the process of anomaly detection such as thefts, any illegal actions, accidents, or crime. While comparing to common events, anomaly actions will not happen often. For anomaly detection, time and human resources are reduced by the use of smart computer vision techniques [1]. Raising an alarm at such circumstances is the major purpose of 'anomaly detection technique' wherever the typically action deviate from the original action. Therefore, detection of anomaly might be seen as problem of video understanding at coarse-level that recognizes the anomalies occurrence out of the actual action. By employing classification techniques, it might be categorized into any certain event while the anomalies are detected successfully. To recognize the certain anomalies, the model of anomaly detection, for example, traffic accident and violence detector has been introduced. To recognize the anomalies, it is noted that the solutions might not be in discriminate and they are restricted to limited usage [2]. Few real time anomalies are distinct and composite, when it is necessary to denote each anomaly. It is desirable to build the method of anomaly detection which is not based on any data over anomalies. Without more supervision, anomaly detection might be performed at the same time. The techniques of Sparse coding-based are assumed as representative methods that succeeds the traditional techniques of anomaly detection. Only a primary or short video portion held the actual activities in order to the methods where those parts might be used to build the actual event dictionary. For anomaly detection, the main idea is the anomaly should be reconstructed accurately out of the actual action dictionaries. The surveillance cameras captured videos comprise changing actions rapidly. For various actual actions, the traditional techniques created huge false detection.

For pedestrian detection, different techniques might be built that adopts bounding boxes for every pedestrian exist within the image [3, 4]. Over the computer vision group, it derives higher interest as an important component for different applications that are human-oriented such as automatic traffic signalling, driverless cars, person identification, etc., These techniques fails to solve a main complexity of scaling that stay unresolved in addition it might impact mainly the technique of pedestrian detection results in common scenes. Previous work done before gives to scaling issue resolving depending on two dimensions. To improve the capability of scale-invariance capability primarily and the data of brute-force was augmented. Subsequently, in each sample with various sizes, single model with multi-scale filters were employed. However, it is a complex procedure because of the small and large-sized intra-class variance samples majorly-various feature responses with distinct model. To make use of the varying case features with various scales, divide-and-conquer ideology is employed by the author to resolve the crucial scale variance problem [5, 6].Few deep learning [7] based techniques of anomaly detection were built recently. Convolution Neural Network (CNN) was employed primarily that categorizes the object present in an area as normal or anomaly.

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Mind Boggling Business Visionaries With Reference To Transgenders of Cuddalore District

L.vijayakumar

Abstract: ***"Transgender" is a word that is gotten from the Latin word "Transgenre", which is a general term applied to an assortment of people, practices and gatherings including propensities to differ from socially traditional sex jobs. Transgender is the condition of one's personality which doesn't coordinate one's "doled out sex". Sex alludes to the stage of attributes, viewpoint and jobs ordinarily connected with natural sex – regularly set on a range among manly and female. However, a blend of these two sexual orientations in an individual will completely separate from a typical man. They are called Transgenders. They are the littlest gathering having the biggest hazard. The level of hazard begins from the very premise of life. To be very completely clear, when each person after a point of time searches for the future vocation and prospects of life, it is as of now that these individuals are in genuine pursuit of their own sexual orientation personality to comprehend what their identity is. Enterprising soul is portrayed by advancement and hazard taking. The present examination is led with the mean to engage the lives of Transgender people group. This article looks at on the variables that drove the transgender to be a business visionary.***

I. INTRODUCTION

So as to accomplish the target it is important to comprehend the mental issues and difficulties they face just as inspect the predominant frames of mind in the general public. Occupation as a reasonable sex specialist is a brand joined to transgender. Business can offer degrees of satisfaction what's more, accomplishment that are hard coordinated with business. All the more as of late, the term business has been stretched out to social business, political enterprise, or information business. Business alludes to independently employed, entrepreneurs who have a place with racial or ethnic minority gatherings. Pioneering adventures offer an inventive item, procedure or administration. These exercises vary generously contingent upon the sort of association included. The Hijras have evacuated themselves in receiving different advertising methodologies and are similarly ready to withstand the ferocious rivalry. These guarantee in their perfect increment in social status and are normally independently employed. This truly test transgender to evade hostile to social and unlawful components to which they are land stamped and now they have communicated to be novel.

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One significant achievement variables of transgender business visionaries is the capacity to think of an idea, to imagine and execute it viably. They are currently developing business people of the country and demonstrate their value in being refreshed in innovation, make a feeling of advancement and can confront both physical and mental hardships and track a record in the history of transgender enterprising improvement.

II. REVIEW OF LITERATURE

This part incorporates the investigations and perspectives by various specialists, journalists, TGs and different associations who have managed or managing the subject trans-genderism in various nations.

Guevara, L.A in the report ―The Hidden Epidemic: Transgender Women in the Latin America and Asia attempts to draw our consideration towards the powerlessness of transsexual ladies to HIV. As per UNAIDS, AIDS Epidemic update, 2007 the predominance rate HIV for transsexual ladies in India is 43%. The multicentre study from same year in Argentina puts the transgender commonness pace of HIV at 37%. The report further includes the factual report with respect to HIV and AIDS pervasiveness in transsexual ladies and puts different suggestions for reinforcing associations of transsexuals to unveil their issues.

Dr. Venkatrama Raju & D.Beena K. S. (2015) in their article sees that in a spearheading exertion to take care of the issues looked by transgender individuals, the administration of Tamil Nadu set up a transgender welfare board in April 2008. Social welfare clergyman will fill in as the leader of the board. This exertion is touted to be the first in quite a while and even on the planet. The legislature has likewise begun giving separate proportion cards for transgender individuals. In extra exertion to improve the training of transgender individuals, the Tamil Nadu government additionally gave a request on May 2008 to make a third sex for admissions to government universities. The issues looked by transgender are separation, absence of instructive offices, joblessness, absence of safe house, absence of medicinal offices like HIV care and cleanliness, melancholy, hormone pill misuse, tobacco and liquor misuse, issues identifying with marriage, property, appointive rights and selection.

III. AIM OF THE STUDY

1. To comprehend the idea of transgender in the investigation territory.
2. To investigate the pioneering challenges of transgender entrepreneurs in the examination territory.

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Multi-Modal Region Based Convolution Neural Network (MM-RCNN) for Ethnicity Identification and Classification

C. Christy, S. Arivalagan, P. Sudhakar,

Abstract*: Human facial images help to acquire the demographic information of the person like ethnicity and gender. At the same time, the ethnicity and gender acts as a significant part in the face-related applications. In this study, image-based ethnicity identification problem is considered as a classification problem and is solved by deep learning techniques. In this paper, a new multi-modal region based convolutional neural network (MM-RCNN) is proposed for the detection and classification of Ethnicity to determine the age, gender, emotion, ethnicity and so on. The presented model involves two stages namely feature extraction and classification. In the first stage, an efficient feature extraction model called ImageAnnot is developed for extracting the useful features from an image. In the second stage, MM-RCNN is employed to identify and then classify ethnicity. To validate the effective performance of the applied MM-RCNN model, various evaluation parameters has been presented and the simulation outcome verified the superior nature of the presented model compared to existing models.

***Index Terms*: Classification, Deep learning, Ethnicity, Faster R-CNN, Feature extraction**

I. INTRODUCTION

An essential portion of identification of human is ethnicity data and it is a helpful identifier for different application that varies between targeted advertisement and video surveillance. In recognition of biometric, ethnicity acts as an essential part. Classifying the people in order to the nationality, race and ethnicity comprise huge implicational effect over advertisement, social media profiling and surveillance. Redefining of the group identification of nation, race and regions are modifying constantly [1]. In social science, the procedure of categorization is a major subject. In educational, socioeconomic and health care studies, it is proven to be highly helpful. In market study, it comprises commercial rates mainly in multi-ethnic nation. In numerous circumstances, classification of gender acts as a significant role. Information of gender depends on few biometrics as similar to one among the parameters of demographic classification that offers ancillary data of a distinct identity data. And also, it enhances the face recognition performance. In numerous applications, it is employed extensively to offer smart services like smart interface, smart advertising and visual surveillance.

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In gender classification, different modalities are employed that involves iris [3], human face, [2] and hand shape. Most of the traditional works over classification of gender employed the human face modality. Over various datasets, to carry out ethnicity classification, various researchers attempt to employ traditional recognition techniques [4-11] in the past years. Many techniques depend on face images that offers quick and highly direct manner to examine the demographic data or person's ethnicity. A whole review is done by Siyao Fu et al. [4] over little standard advancement in applications and algorithms, feature representation models and face-race perception. Through employing linear discriminant analysis (LDA), classification among non-Asian and Asian is researched by Xiaoguang Lu et al. [5] over a 2,630 face images containing database out of 263 domains. Multi-regularized learning (MRL) is the novel method employed [6] that is extracted from multi-task features learning (MTFL) and multi-stage learning (MSL) to use the problem of race recognition. For the Support Vector Machine (SVM) classifier training, retina sampling and Gabor wavelets transformation are used [7] to build a machine interfaces that are human-friendly in nature for classification of ethnicity. The operator local binary pattern (LBP) is used by Zhiguang Yang et al. [8] in order to categorize the gender, ethnicity and age. But, low-level feature representation is employed by these traditional methods to attain effective performance. In some years, drastic success and development have been seen in computer vision domain by deep learning. In numerous tasks that are vision-related involving classification of images [10], semantic segmentation or object detection, CNNs had been proven to attain better performance depending on deep framework. Autonomous image representation is offered by the learned features of the deep networks and are demonstrated that it attains superior performance where the human being might feel it as complex. For ethnicity classification, few recent studies make use of the frameworks and methods of deep learning. Recognition of ethnicity through Artificial Intelligence (AI) functions is a highly creative technique. The model merges the techniques of deep learning with AI that enables the model to gather the data constantly and to enhance its service depending on that. Each novel data piece aids the model to evolve and create it to bring about highly accurate outcomes while it falls on the diversity recognition techniques. Many kinds of advantages are provided by the deep learning towards the AI technique.

Multivariate Analytics On User Personality Features To Enhance The Qoe In Video Streaming.

A.John Pradeep Ebenezer, Dr. J. Abdul Samath

Abstract: Video Streaming is a technology which allows the user to view a video online without being downloaded on a host machine. Many researches have been currently done to increase the quality of experience of the user. Dynamic Adaptive Bitrate streaming is the recent technology in video streaming which increases the quality of experience of the user by dynamically adjusting the video content based on the network condition. This adjustment in the content of the video viewed is not done based on the user perception and preferences. This paper presents a novel idea in improving the quality of experience of the user viewing the streaming videos by studying the preferences to different multimedia parameters color, contrast, brightness, saturation, sharpen, gamma, motion blur, Gaussian filter, frame resizing and audio equalizer. In this work user preferences to various multimedia parameters based on their personality types were examined and it reveals that there exist a correlation between user personalities and color, hue, contrast, saturation, motion blur and color threshold filter parameters. The findings suggest that user quality of experience can be enhanced by streaming the video based on their personalities with appropriate color, saturation, hue, color threshold, contrast settings in the video that is streamed.

Index Terms: color, contrast, hue, personality, saturation, streaming, video

1. INTRODUCTION

The Digital era is an amalgamation of video, audio, animation and video games. [1]The most widely and influential service in the internet is video. [2]According to cisco, of all the multimedia components creating network traffic, video traffic will hold a share of 82 percent in the near future. By the year 2022 live internet video will account for 17 percent of internet video traffic. The requirements for video streaming services is heterogeneous because it involves various content, sources, interest, devices and network limitations. [3]Normally Video streaming is built around manage and unmanaged networks. The QoS of video Streaming services is built around a dedicated network architecture provided by the managed networks. The quality of streamed video is of high because it has a backing of optimal network architecture. The Over the Top video services are provided by unmanaged networks. Currently Live Streaming and Video on Demand is prominently provided by video streaming services. [4]Recently Adaptive bitrate streaming techniques are used for live and on demand video streaming which involves more number of users at a particular time. [5]Client viewing using adaptive bitrate technique will involve in a process through which the selection of profile and schedule of the next chunk to download. As Adaptive bit streaming is used by many different video streaming services, more research on efficient content delivery to the user has been done. The quality of experience of the user while viewing a video through adaptive bitrate streaming has been a major concern.

This paper makes a multivariate analytics on different multimedia parameters which are a principle component of a video. This paper tries to figure out relationship between personalities of a user and the different multimedia components. The idea behind this analytics is, if video content is delivered based on user personality the quality of experience of the user will have an excellent feedback. Since Multimedia is a multi-tactile subject there is a need to understand the existence of a relationship between the personality of the user and different parameters involved in the video. To the best of our knowledge research on studying the relationship between personality and multimedia parameters are very scarce.

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2 REVIEW OF LITERATURE

This investigation mainly focuses on video content and user personality, many literatures in this perspective has been reviewed. [6]Cognitive style and personality, its impact on multimedia perception has been studied. [7], [8] Personality and its alliance with the performance of the students as well as contemplation on association between video lecture and student's perspective has been reported. A single video on a particular title is created based on developer's perception, and does not take into account the look and feel of the user. [9]When user experience multimedia almost all senses get involved to sound, video, text and images. [10]When video content is transferred across network, it adapts itself based on the available bandwidth. [11]Streaming of video is based on HTTP (Hyper Text Transfer Protocol) adaptive streaming technologies. [12],[13]Assessing the transferred video content based on Quality of Experience (QoE) is more vital than assessing it with Quality of Service (QoS). [14]Personalized Systems based on emotions and personality will aid researchers and practitioners develop and evaluate user-centric personalization systems which incorporate the factors that have a tremendous impact on learning curve, decision-making, emotions and personality. [15] Carl G. Jung after an extensive research on mental system and psychology concluded that each person has their own psychological type. The Jung theory was adapted by Myer and Briggs and they formulated MBTI (Myers Briggs Type Indicator). [16], [17] According to MBTI, personality of each person will be in any one of the sixteen types. These sixteen types can be narrowed down to four main categories each consisting of two

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Neutrosophic Semi-Baire Spaces

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Abstract: In this paper, we introduce the concept of Neutrosophic Semi Baire spaces in Neutrosophic Topological Spaces. Also we define Neutrosophic Semi-nowhere dense, Neutrosophic Semi-first category and Neutrosophic Semi-second category sets. Some of its characterizations of Neutrosophic Semi-Baire spaces are also studied. Several examples are given to illustrate the concepts

Keywords: Neutrosophic semi-open set, Neutrosophic semi-nowhere dense set, Neutrosophic semi-first category, Neutrosophic semi-second category and Neutrosophic semi-Baire spaces

1. Introduction and Preliminaries

The fuzzy idea has invaded all branches of science as far back as the presentation of fuzzy sets by L. A. Zadeh [29]. The important concept of fuzzy topological space was offered by C. L. Chang [9] and from that point forward different ideas in topology have been reached out to fuzzy topological space. The concept of "intuitionistic fuzzy set" was first presented by Atanassov [5]. He and his associates studied this useful concept [6 - 8]. Afterward, this idea was generalized to "intuitionistic L – fuzzy sets" by Atanassov and Stoeva [6]. The idea of somewhat fuzzy continuous functions and somewhat fuzzy open hereditarily irresolvable were introduced and investigated by by G. Thangaraj and G. Balasubramanian in [25]. The idea of intuitionistic fuzzy nowhere dense set in intuitionistic fuzzy topological space presented and studied by Dhavaseelan and et al. in [16]. The concepts of neutrosophy and Neutrosophic set were introduced by F. Smarandache [[22], [23]]. Afterwards, the works of Smarandache inspired A. A. Salama and S. A. Alblowi[21] to introduce and study the concepts of Neutrosophic crisp set and Neutrosophic crisp topological spaces. The Basic definitions and Proposition related to Neutrosophic topological spaces was introduced and discussed by Dhavaseelan et al. [17]. The concepts of Neutrosophic Baire spaces are introduced by R. Dhavaseelan, S. Jafari ,R. Narmada Devi, Md. Hanif Page [16]

Definition 1.1. [22, 23] Let T,I,F be real standard or non standard subsets of $]0^-, 1^+[$, with

$sup_T = t_{sup}\ T$; $inf_T = t_{inf}$

$Sup_I = i_{sup}$; $inf_I = i_{inf}$

$Sup_F = f_{sup}$; $inf_F = f_{inf}$

$n\text{-}sup = t_{sup} + i_{sup} + f_{sup}$

$n\text{-}inf = t_{inf}+i_{inf}+f_{inf}$. T, I, F are Neutrosophic components.

Neutrosophic Semiα -Baire Spaces

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Abstract

In this paper, we introduced the concept of Neutrosophic Semi α-Baire space and some of its characterizations of Neutrosophic Semi α-Baire spaces are also studied. Here we have included several examples to illustrate the concepts.

Keywords: *Neutrosophic semi α-open set, Neutrosophic semi α-nowhere dense set, Neutrosophic semi α-first category, Neutrosophic semi α-second category and Neutrosophic semi α-Baire spaces*

1. Introduction and Preliminaries

The fuzzy set was introduced by L.A. Zadeh [15] in 1965, where each element had a degree of membership. The intuitionstic fuzzy set (Ifs for short) on a universe X was introduced by K. Atanassov [2, 3,4] in 1983 as a generalization of fuzzy set, where besides the degree of membership and the degree of non-membership of each element. The idea of "neutrosophic set" was first given by Smarandache [8,10]. Neutrosophic operations have been investigated by A.A.Salama at el. [1]. A.A.Salama and S.A.Alblowi presented the concept of Neutrosophic Topological Spaces[12].In 2000 G.B. Navalagi presented the idea of semi α-open sets in topological spaces[9].The concept of Neutrosophic semi α-open sets was given by Qays Haten Imran and Smarandache in 2017[11].The concept of Baire space in fuzzy setting was introduced and studied by G.Thangaraj and S. Anjalmose [14].The idea of neutrosophic Baire spaces are introduced by R. Dhavaseelan, S. Jafari ,R. Narmada Devi, Md. Hanif [7].

Definition 1.1. [7] A neutrosophic topology (NT) on a nonempty set X is a family T of neutrosophic sets in X satisfying the following axioms:

(i) $0_N, 1_N \in T$,

(ii) $G_1 \cap G_2 \in T$ for any $G_1, G_2 \in T$.

(iii) $\bigcup G_i$ for arbitrary family $\{G_i | i \in \bigwedge\}$.

In this case the ordered pair (X, T) or simply X is called a neutrosophic Topological Space (briefly NTS) and each Neutrosophic set in T is called a neutrosophic open set (briefly NOS). The complement A of a NOS A in X is called a neutrosophic closed set (briefly NCS) in X.

Definition 1.2. [7] Let A be a neutrosophic set in a neutrosophic topological space X. Then

Nint(A) = $\cup \{G \mid G \text{ is neutrosophic open set in } X \text{ and } G \subseteq A\}$ is called the neutrosophic interior of A;

Ncl(A) = $\cap \{G \mid G \text{ is neutrosophic closed set in } X \text{ and } G \supseteq A\}$ is called the neutrosophic closure of A.

Definition 1.3:[11] A neutrosophic set A in a neutrosophic topological space X is said to a neutrosophic Semi Open set (NSOS) if $A \subseteq Ncl(N\,\text{int}(A))$ and neutrosophic Semi Closed set (NSCS) if $N\,\text{int}(Ncl(A)) \subseteq A$.

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New insights of structural, thermal, dielectric and nonlinear optical properties of L-asparaginium orthophosphite crystal: A spectroscopic view

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ABSTRACT

The single crystals of L-asparaginium orthophosphite (LAOP) were grown by slow evaporation technique at room temperature. The grown crystals were subjected to powder XRD, FTeIR, UVevis, SEM, TG/DTA, dielectric, Vicker's microhardness and SHG studies. The crystal structure of the grown crystal was characterized by powder X-ray diffraction technique. The various functional groups were affirmed by the Fourier transform infrared spectroscopic studies. The grown crystal has been good transparency in the visible region, which is an essential requirement for a nonlinear optical crystal. Dielectric constant and dielectric loss were measured for as grown crystal for different frequencies and temperatures. The surface morphology SEM analysis was accomplished for the grown LAOP crystal. The mechanical properties of the crystal were examined by Vicker's microhardness study. The nonlinear optical efficiency of the grown crystal was estimated by Kurtz-Perry powder method. The HOMO, LUMO energy of the molecule has been estimated using density functional theories method.

1. Introduction

Nonlinear optical (NLO) materials have been used in information processing, optical switching, frequency conversion and telecommunications, with the advancing development of optoelectronics. These require materials exhibiting second order NLO effects and hence there is a great need for device quality single crystals. The inorganic materials were the first to be exploited for applications. Further investigations on organic NLO materials have subsequently produced very good materials with highly desirable characteristics. In spite of the fact, that there are many well known materials, hitherto explored, no one seems to be all-encompassing, thus leading to new researches for newer and more promising materials [1,2]. Amino acids are interesting materials for NLO applications. Complexes of amino acids with inorganic acids and salts are promising materials for optical second harmonic generation (SHG), as they tend to combine the advantages of the organic amino acid with the inorganic material [3]. The importance of amino acids in NLO applications is due to the fact that all the amino acids have chiral symmetry and crystallize in non-centrosymmetric space groups [4]. In view of this, a series of novel semi-organic crystals have been investigated, especially the analogs of L-histidine, L-arginine and L-alanine [5e11]. The research on the synthesis of organic and inorganic complexes increased enormously in last few years. Specifically, amino acids and strong inorganic acids are good raw materials to produce semi-organic crystals because; amino acid crystals are having good optical properties. Their benefits are the combination of desirable properties of inorganic materials, such as, a wide range of electronic characteristics, mechanical hardness and thermal stability and on the other hand, structural variety, large polarizability, and easy processing of the organic molecules. Semi-organic crystals like L-asparagine monohydrate, L-Asparagine cadmium chloride monohydrate, L-

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ON T- CONORM OF INTERVAL-VALUED INTUITIONISTIC FUZZY WEIGHTED AGGREGATION AND ITS APPLICATION OF MCDM IN AGRICULTURE

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Abstract:

Multi- Criteria Decision Making (MCDM) which that addresses the problem of making a suitable choice from a set of alternatives which are characterized in their attributes is a normal human activity. For this, used the Mathematical tool called Fuzzy Soft Matrix. In this paper, to find the suitable agricultural place which gives more benefit to the farmer with the help of T- Conorm of Interval- valued Intutionistic Fuzzy Weighted Aggregation (IVIFWA) in Multi Criteria Decision Making .

Keywords:

Fuzzy, Fuzzy Soft Matrix, Intuitionistic Fuzzy soft Matrix, Interval- Valued Intuitionistic Fuzzy Weighted Aggregation, T-Conorm, T- Conorm of Interval- Valued Intuitionistic Fuzzy Weighted Aggregation.

1. Introduction:

Multi- Criteria Decision Making is sub- discipline of Operations Research that explicitly evaluates multiple conflicting criteria in decision making. In our daily lives, we usually weight multiple criteria implicitly and we may be comfortable with the consequences of such decisions that are made based on only intuition. On the other hand, stakes are high, it is important to properly structure the problem and explicitly evaluate multiple criteria structuring complex problems well and considering multiple criteria explicitly leads to more informed and better decisions. There have been important advances in this field since the start of the modern multiple criteria decision making in the early 1960's.

MCDM is concerned with structuring and solving decision and planning problems involving multiple criteria. The purpose is to support decision makers facing such problems. "Solving" can be interpreted in different ways. It could correspond to choosing the best altenative from a set of available alternatives (where "best" can be interpreted as "the most preferred alternative" of a decision maker). MCDM has been active area of research since the 1970's. Muti- Criteria Decision Analysis is valuable tool that we can apply to many complex decisions. It is most applicable to solving problems that are characterized as a choice among alternatives. In psychology, Decision Making is regarded as the cognitive process resulting in the selection of a

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Phytochemical Screening Antioxidant and Anti-diabetic Activity of *Dalbergia Latifolia* Leaves

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ABSTRACT

The plant *D.latifolia* belongs to the family of Fabaceae is known to exhibit various pharmacological activities like anti-bacterial, anti-inflammatory and anti-arthritic activity. In this paper, the phytochemicals, antioxidant and anti-diabetic activity of *D.latifolia* leaves were studied. The phytochemical screening of ethanolic and aqueous extract of leaves showed the presence of alkaloids, flavonoids, phenol, Saponins, terpenoids and tannin respectively. The antioxidant activity of the leaves extract were studied using 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay, 2,2'-azino-bis (3-ethylbenzothiazoline-6-sulphonic acid) ABTS, Nitric oxide (NO) and Superoxide (SO) Scavenging assays. The results showed that the ethanolic plant extract exhibited significant antioxidant properties compared to standard Ascorbic acid. The extract also showed inhibitory activity of α-glucosidase enzyme which is responsible for possessing anti-diabetic effect. Thus this study antioxidant,anti-diabetic effect of *D.latifolia* leaves can be a breakthrough for further studies.

Keywords: *Dalbergia latifolia*, phytochemicals, Antioxidant, Anti-diabetic activity.

INTRODUCTION

Traditional medicine still plays a vital role in the developing countries. Medicinal plants are an important source of producing valuable bioactive secondary metabolites which are of great importance for the health of individuals and societies. The medicinal values of the plants are due to the chemical substances that produce physiological actions on humans [1-3]. Some of the curative potentials of biological active substances exist in the plants such as alkaloids, tannin, flavonoid and phenolic compounds offering an untold diversity of chemical structures. The WHO estimated that approximately 80% of the traditional medicine for their primary health care needs and most of this therapy involves the use of their active component of plant extract.

D.latifolia is known as *Amerimnon latifolium*, Black Rosewood and an Indian Rosewood. Its tamil name is Etti. The plant is predominantly a single stemmed deciduous tree with a dome shaped crown of lush green foliage. The tree can become 20 - 40m tall, with a trunk

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Research Article

Proximate composition, phytochemicals, minerals and antioxidant activities of *Vigna mungo L.* seed coat

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Abstract:
Vigna mungo L. seed coat is an agro by-product, available in substantial quantity, with no clear evidence to prove its economic importance. In the present study, the phytochemicals, proximate content, minerals and *in vitro* antioxidant activities of aqueous (AE), ethanol (EE) and 80% ethanolic extract (80% EE) of *Vigna mungo L.* seed coat were determined. The total carbohydrate, total protein, crude fibre, ash and moisture content of the seed coat were found to be 27.52±2.71%, 10.07±0.92%, 48.67±1.96%, 4.87±0.29% and 11.03±0.49% respectively. The content of total phenolics and flavonoids were significantly higher in 80% EE than other extracts. The mineral composition showed that seed coat was rich in calcium, sodium, potassium, magnesium, iron, copper, zinc and manganese. The higher antioxidant potential was shown by 80% EE in DPPH and SOD assay whereas AE shows more scavenging activity in H_2O_2 assay. So it can be used as neutraceuticals in food supplements.

Keywords: *Vigna mungo L.*; antioxidant; proximate analysis; phytochemical analysis; seed coat.

Background:
Legumes are widely grown throughout the world and its dietary importance is appreciated globally. Legumes serve as supplementary proteins for a large human population and also add variety of nutrients to the diet. They are valuable sources of complex carbohydrates, proteins and dietary fibre which contribute significant amounts of vitamins, minerals and have high energy value **[1].** *Vigna mungo L.* is also known as mash bean which belongs to the family Leguminosae. India is the major producer and consumer of black gram with the production of 1.82 million tons annually. This can be grown under low moisture and fertility conditions. Black gram (*Vigna mungo L.)* is a major important pulse cultivated not only in India, but also in other Asian countries and some parts of Africa. The name 'Black gram' was given to it due to the colour of its seed coat.The chicken seekh kababs from meat of spent hens can be successfully extended with black bean **[2].**

Lipid content in black gram was shown to reduce cholesterol in both humans and experimental animals **[3].** The seed coat of cereals and legumes have large quantities of endogenous antioxidants such as phenolic compounds **[4,5].** However the use of flours as ingredients in food processing is dependent on its functional properties. The functional properties directly or indirectly affect the processing applications and food quality. It is also reported that legumes have certain phytochemicals like polyphenols, flavonoids, phytosterols that provide various health benefits **[6, 7, 8].** Large quantities of pulse husks are available as by-product and are available to the extent of 3 million tonnes in India per annum **[9].** The principle objective of supplementation is to increase the supply of nutrients, mainly energy and protein, which enhance the basal roughage in rumen **[10].**

Vigna mungo seed coat protects the seed not only from mechanical stress but also from pathogens invasion and also from temperature,

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Some Stochastic Models in Bivariate Measurements

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ABSTRACT

Model is a device such that it is a look alike original phenomena with which one could understand the Nature of the problem without experience it. There is no meaning in having the knowledge of the population by means of experience. Most of the real life and practice oriented problems are handled by proper understanding of the population in which modeling acts as an Anatomy of the phenomenon. An empirical data is always trying to spell out the information within it. Proper formulation of the data from the general environment to Statistical environment is an essential phase of the research.

Keywords: Stochastic models, statistical measurements.

The activity of drug design and development is a combination of a many and multi faceted activities like Understanding the problem, transform in to technical means, converting to the domain problem to modeling, formulation of the problem in to technical languages, verification of the drug effectiveness through generic tests, validation of the performance, etc., and many more of the similar. While administering a drug, the status of a patient has to be evaluated and a through analysis on health conditions is very essential. A suitable formulation of the bio-systems into mathematical formulation and transforming classic mathematical environment into statistical/empirical situations is required.

Most of the treatments in the Indian context deal with the short term health problems like seasonal fevers, epidemics, influenza, etc. This sort of practice not only harmful to the patient at individual level but also a significant threat to the community health in general. Hence there is a need of focus the attention of researchers on evaluation of Negative impacts of this practice. In this model, it is assumed that, the drug administration is purely on choice of the patient not on the competent medical practioners. The users of the drug are not fully aware on the protocols of drug dosage level, drug administration period, etc. Drugs are consumed erratically and stoppage of drug administration is also abrupt and the other assumptions under the similar conditions.

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Structural, optical, mechanical and dielectric property studies of adduct single crystal 2,4,6-trinitrobenzene-1,3-diol-2-methylimidazole: A spectroscopic and theoretical approach

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SHG

ABSTRACT

A novel single crystals of 2,4,6-trinitrobenzene-1,3-diol-2-methylimidazole were synthesized by slow solvent evaporation method. Single crystal X–ray diffraction technique has been utilized to elucidate the crystal structure of the grown crystal. The vibrational modes of various functional groups were identified by the FT-IR spectral analysis. UV–Visible study was performed to analyze the optical transparency by identifying the cut–off wavelength and it is found to be 210 nm of the crystal. Second harmonic generation efficiency of the crystal was evaluated by using Kurtz–Perry powder technique. Thermal behavior of the crystal has been studied using TG/DTA analysis. Vicker's microhardness test was carried out to examine the mechanical strength of the crystal. The value of work hardening coefficient is 1.17 asserting that the grown crystal belongs to soft material category. Optimized structural geometry, vibrational wavenumbers, frontier molecular orbitals energy, chemical reactivity indices and density of states were also computed using DFT method. The Fukui function was also carried out to investigate the reactive nature of the TNDMI molecule. Nonlinear optical property of the molecule was explored by the first–order hyperpolarizability calculation. These experimental and theoretical studies reveal that the molecule can be suitable to use in optoelectronic devices.

1. Introduction

The delocalized electronic structure of π-conjugated system having much potential, exclusively for their adoption in high nonlinearities, optical storage mechanism, optical communication, optical signal processing, frequency amplification and electro optic modulation [1–8]. The magnitude of the optical property in crystal depends on strength of the donor–π–acceptor system. 2,4,6-trinitrobenzene-1,3-diol is an analog of the picric acid and it is also known as styphnic acid or trinitroresorcinol. Styphnic acid consists of three nitro (electron-withdrawing) and two hydroxyl (electron-donating) groups is an exceptional option to act as a Lewis acid. It has been reported that the intramolecular hydrogen bonding interactions are absent in most of the picrate salts [9] and picric acid derivatives are interesting candidates, due to their existence of phenolic –OH and nitro groups enhances the formation of salts with various organic compounds such as *N*,*N*-dimethylanilinium picrate [10], 3-methyl anilinium picrate [11], 2-chloroanilinium picrate [12], anilinium picrate [13], *p*-toluidinium picrate [14] and 8-hydroxyquinolinium picrate [15]. In the synthesis process of some organic compounds and their utilization in the fields such as agrochemicals, pharmaceuticals, dyes, photographic emulsions, adhesives *etc*., the imidazole and its derivatives are extensively used as intermediates [16,17]. The imidazole moiety (electron–donor) favors the formation of charge transfer complexes among themselves due to its durable interaction with diverse of electron–acceptors group. The inter- and intra-molecular interactions lead to the inflation of the molecular dipole and dielectric anisotropy [18]. Recently, Ahmed F. Al-Hossainy and co-workers have studied the optical, semiconducting and

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Structural, spectroscopic, Hirshfeld surface and charge distribution analysis of 3-(1*H*-imidazole-1-yl)-1-phenylpropan-1-ol complemented by molecular docking predictions: An integrated experimental and computational approach

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ABSTRACT

The optimized structure of title compound 3-(1*H*-imidazole-1-yl)-1-phenylpropan-1-ol (3HIP) was predicted according to the density functional theory (DFT) using the B3LYP method with 6-311G (d,p) basis set. Computed structural parameters of 3HIP were compared with X-ray diffraction data. Recorded and computed wavenumbers were assigned according to the total energy distribution (TED) using VEDA software. The natural bond orbital (NBO) analysis was used to characterize intramolecular rehybridization and delocalization of the electron density within the title molecule. Predictions of the NMR (^{1}H and ^{13}C) chemical shift assignments obtained by applying the gauge including atomic orbital (GIAO) approach were consistent with the corresponding experimental values. Ultraviolet-visible spectra of the title compound were simulated and validated experimentally. A molecular electrostatic potential (MEP) diagram visualized the electrophilic and nucleophilic sites of the 3HIP molecule. Hirshfeld surface analysis assessed the potential interactions of each atom inside the 3HIP molecule. Moreover, molecular docking analysis simulated the potential binding site pose of 3HIP within the active site of its target protein. The resulting 3HIPetarget protein model can provide guidance for the development of new potent antifungal treatments.

1. Introduction

A significant increase in the use of antifungal agents in recent years led to the emergence of resistance to the currently available antifungal drugs [1], which necessitates the search for new antifungal agents that act on novel targets and have a broad spectrum, high potency, and few side effects. Computational chemistry has become a source for critical tools that are used not only in organic chemistry but also in other areas of chemical research, as well as in biology or material science. It improves our understanding of the molecular structure of bioactive organic compounds and provides predictions for their potential reaction mechanisms, as well as their geometrical and electronic properties. Moreover, combining computational and experimental chemistry has already solved an array of organic problems. In addition, the development of the density functional theory (DFT) has contributed significantly to the advances in organic synthesis and has been extensively utilized for computing the geometrical and electronic properties of bioactive organic compounds [2e4].

The azole moiety (imidazole or triazole) is the pharmacophore fragment in azole-containing antifungal lead compounds that inhibit cytochrome P450-dependent 14a-lanosterol demethylase, which subsequently suppresses sterol synthesis in fungi [5]. A

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Studies on Lipolytic Bacteria in Intestinal Tract of Marine Fishes

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ABSTRACT

The aim of my present study was Isolation and Identification of lipase producing bacteria species from various fish samples from different fish market in cuddalore, pazhaiyar. From 9 fish samples 35 isolates were observed and identified. Lipase producing Bacteria isolated by using Tributyrin Agar medium. The isolated colonies were streaked on the solidified Agar medium and incubate the plates at 37°C for 48 hours. The selection of working strain was made on the basis of their lipase activity determined by the zone formation around the culture. The isolated colonies were studied for Hicrome Bacillus Agar and different *Bacillus* Sp were identified. *Pseudomonas* sp were identified by cetrimide agar and *S. aureus* by Mannitol salt agar. Microbial lipases are high in demand due to their specificity of reaction, stereo specificity and less energy consumption than conventional method (Saxena *et.al.,* 1999). These microorganisms have been found in diverse habitat and especially oil processing industries. These enzymes are widely used in numerous biotechnological process such as cosmetic, food, leather, detergent and pharmaceutical industries (Sztajer *et.al.,* 1998). Microbial lipases production has increased for the past one decade, because of its potential application in industries.

Keywords: lipase, Hicrome Bacillus agar, *Bacillus* sps.

INTRODUCTION

The bacterial flora of the gastrointestinal tract in general represents a very important and diversified enzymatic potential, and its seems logical to think that the enzymatic mass lodged in the digestive tract might interfere in a considerable way with a major part of the metabolism of the host animal (Bairagi *et al.,* 2002). Some fish species acquire many of their intestinal enzymes from the Microflora in habiting their guts (Hamid *et al*., 1979; Cahli, 1990; Amit Kumar Sinha *et al* ., 2007; Ringo *et al.*, (2010). The bacterial species isolated from gut for the qualitative detection of different enzymatic activities. Bairagi *et al.,* (2002)

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Studies on Screening and Characterization of Chitinolytic Bacteria from Shrimp Farming Ponds

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Abstract

Shrimp are swimming, decapods crustaceans classified in the order Cardiea, found widely around the world in both fresh and salt water. Asia has always led world production of cultivated shrimp with a market value of billions of US dollars per year. Shrimp aquaculture is one of the fastest growing agricultural industries, with more than 10% average growth in last decade. The extensive farming of shrimp in ponds has widely increases the chitinolytic microorganisms due to the abundance nature of chitinous wastes. *Bacillus* species are well known for their extracellular chitinase enzyme production and industries majorly uses *Bacillus subtilis* for the production of various enzymes. *Bacillus* is rod shaped bacterium with protective endospore that can withstand extreme conditions. They are obligate aerobes or facultative anaerobes in which few are pathogenic and others are free living. The present study reports The Screening and characterization of chitinolytic bacteria from various shrimp ponds. From 11 different samples 40 bacterial species were isolated and screened. Two bacterial species KK2 and VMP were selected for the optimization of chitinase enzyme using various parameters such as carbon, nitrogen and pH. In order to identify the bacteria species using molecular methods two isolates KK2 and VMP were selected for genome sequencing.

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Keywords

Chitinase, Hicrome Bacillus agar, *Bacillus* sps, colloidal chitin

Introduction

Chitosan is an amino polysaccharide composed mainly of 2-amino-2-deoxy-Dglucose units also known as glucosamine (GLcN) linearly linked by beta-1,4glycosidic linkages with varying degrees of acetylation. Generally, more than 80% of glucosamine units are deacetylated. The hydrolysis of this molecule promotes breakage of the polysaccharide chain with consequent release of oligosaccharide and monosaccharide. The production of oligosaccharide from chitosan has been the focus of several studies in the pharmaceutical, chemical, food and medical areas, due to their functional properties. Inspite of their abundance in nature. The commercial utilization of chitin and chitosan has remained undeveloped for a long time. The insolubility of chitin in common solvent limits the utilization of chitin as a natural resource. Chitinase are ubiquitous in nature, being found in eukaryotes, prokaryotes, archaea and viruses (Suzanne *et al.*, 2001). Chitosan is one of the most abundant biomasses on earth chito-oligosaacharides from chitosan polymer have become a remarkable resource for the development of functional foods, artificial skin, medicine and other

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SURVEY ON SECURITY THREATS FOR VARIOUS MOBILE OPERATING SYSTEMS

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ABSTRACT

The main objective of the paper is to propose security policies and mechanisms for mobile phones that fulfil the user expectations ensure the data privacy for mobile users. The main reason of mobile phone growing ratio will be increased in recent years due to improved memory, processor and optimize the size of mobile devices. Nowadays smart phone usage will be increased because of the reason is optimized size, functionality enhancement, capable of host many useful and attractive applications. However, this vast amount of mobile platform usage makes these smart devices a soft target for security attacks and privacy breach. This paper examines the various types of mobile operating systems and its security threats. In this paper comparison of Smartphones like Android, Blackberry, Apple iOS, Symbian, Window Mobile, BADA, PALM OS (Garnet OS), Open WebOs, Maemo and Meego based on the specific evaluation criterions used for assessing the security level.

Keywords Smartphone, Security, Malware, Attack, Operating System

I.INTRODUCTION

A working framework will be introduced for each PC. Customary working frameworks are WindowsOS, macOS, UNIX, and Linux. These customary working frameworks will be kept running on PC. That PC might be PC or versatile.In any case, this refinement is getting to be obscured as the capacities of tablets start to look like those of PCs. Versatile working frameworks are those that are planned particularly to control mobile phones, tablets, and wearables, the mobile phones we take with us wherever we go. The best prominent portable working frameworks are Android and iOS, yet others incorporate BlackBerry OS, webOS, and watchOS.

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The Causal effect and Volatility of BSE SENSEX and sectoral indices with special references to Indian Stock Market

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Abstract

Through an attractive investment destination driven by economic reforms and as large consumption base, India has emerged as one of the fastest growing economic reforms in the world. This flourishing of the Indian economy has been enabled by the host of factors such as highly developed financial system which leads to effective investment decision, infrastructure facilities and proactive government regimes. The major growth and development of the Indian economy is Indian Stock market and the major contribution of the economic reforms has driven by the movement of prices among various securities and its fluctuations. The present study helps to analyze the causal effect and Volatility of BSE Sensex and sectoral Indices with special references to Indian Stock Market through the data collected from the period of 2014 to 2018. Using SPSS Software, the Descriptive Statistics and Granger Causality Tests helps to ascertain the causal relationship between the share price and the various factors that affect the volatility i.e. pricing of the security and fluctuations that may happen in the short span of time in BSE Sensex and the other indices with special references to Indian Stock Market which helps all the relevant information for institutional investors and other investors to take decision and also government to make all the policies regarding investments.

Key Words: Economic, Investment, Price, Institutional Investor, Investment Decision, Policy.

JEL Classifications: A1, D25, E31, G23, G11, F68

1. Introduction

The globalization of the investment business has become a recurring theme in recent years. The investment environment includes the kinds of marketable securities that exist where and how they are bought and sold. The investment process is concerned with how an investor should make decision about what marketable securities to invest in how extensive the investment should be and when the investment should be made. There are two major investments which Real and Financial

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The Effect of Granger Causal and Volatility of BSE Sensex and Sectoral Indices with reference to Indian Stock Market

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ABSTRACT

Based on the robustness of securities market, the growth, strength and development of the market economies and the maturity of the Indian economy are decided. In this Stock markets plays a substantial role in the promotion of an economy. It expedites the mobilization of funds from various investors such as individual investors or small or large scale business or company or firm etc. and navigate these resources into various development needs of various sectors of the Indian economy. As an organised security market, stock exchange provides marketability and volatility of price continuity of shares and fluctuation among them in various sectoral indices and it helps in a fair evaluation of securities in terms of their intrinsic worth. This paper "The Effect of Granger Causal and Volatility of BSE Sensex and Sectoral Indices with reference to Indian Stock Market" is to analyse the data collected from the period of 2010 - 2019. Using SPSS software such as Descriptive Statistics and Granger Causality tests helps to ascertain the causal relationship between the BSE SENSEX and other sectoral Indices such as BSE AUTO, BSE BANK, BSE CG and BSE FMCG and also explore the effect of volatility of shares and its price movements between BSE SENSEX and other indices with special reference to Indian Stock market which helps to orderly flow and distribution of savings and different types of investment by the various investors and also provide information to promote the interest of investor to increase their investment decision without any hesitation.

1. Introduction

With the indispensable role financial sector, the overall development of a country's economy has determined. The dynamic impact on economic performance of the country through the financial sector mobilizes the savings and channelize these across sectors and it will boost the economy into the well-known global platform. The major important constituent of financial sector is financial institution which conduct all the transaction such as investment, loans and deposits. A sound financial system with adequate availability of finance and a strong system of associated financial and investment institution determine the rapid economy development. Such financial market are classified on the basis of long and short term transactions are 2 types. They are Money market which deals with short term securities and loans, gold and foreign exchange whereas capital market deals with long term loanable funds. Index of stock exchange is taken as a barometer of the economy of the country. Obviously, In developing countries like India, Stock exchange plays a significant role in expanding the level of capital formation through effective mobilisation of savings and also cardinal role in the development of the country general and institutional growth of the companies in private sector whereas public sector, it helps the government to raise internal resources for implementation of various development programs. The major two stock exchange in India are BSE (Bombay Stock Exchange) and NSE (National Stock Exchange). BSE is a Asia first stock exchange established in 1875 and one of the leading exchange group that facilitate the growth of Indian Corporate sector by

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Research Article

The molecular and biochemical insight view of grape seed proanthocyanidins in ameliorating cadmium-induced testes-toxicity in rat model: implication of PI3K/Akt/Nrf-2 signaling

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The present study aims to evaluate the protective effect of grape seed proanthocyanidins (GSP) on cadmium (Cd)-induced testicular apoptosis, inflammation, and oxidative stress in rats. A total of 24 male Wistar rats were divided into four groups, namely control, GSP (100 mg/kg BW), Cd (5 mg/kg BW), and Cd+GSP. Cd-treated rat testes exhibited a significant increment in oxidative stress mediated inflammation and apoptosis. Pre-administration of GSP exhibit significant protection against the apoptotic and inflammatory damages elicited by Cd and uphold the intercellular antioxidant status in testes. Histological changes were studied and the immunohistochemical staining for caspase 3, HSP70, and eNOS protein expressions were also analyzed to justify the protective action of GSP. Furthermore, GSP prevented DNA damage, and enhanced the expression of antioxidant responsive elements Nrf2/HO-1 by PI3K/Akt-dependent pathway. Therefore, our results suggest that GSP acts as a multipotent antioxidant entity against Cd-induced oxidative testicular toxicity in rats.

Introduction

Cadmium (Cd) is considered as a potent reproductive toxicant, and has severe toxic effects in testis of rats and humans associated with the male infertility and deprived semen quality [1]. Cd brings testicular changes at various stages of growth and maturity which comprised severe edema, hemorrhage, necrosis and atrophy, as well as reduction in counts and motility of sperm and decreased concentrations of testosterone in plasma and testes [2]. Cd has been found to induce the non-reversible tissue necrosis at relatively low concentrations [3] and alters gene expression in testis even at non-toxic doses of Cd. Cd has potent estrogen and androgen like activities *in vivo* and *in vitro*, by directly binding to estrogen and androgen receptors [4].

The pathogenesis of testicular damage following Cd exposure are generally attributed to oxidative damage which cause damage to cells, stimulates free radical production, resulting in oxidative deterioration of lipids, proteins, and DNA. Cd exposure is one of the main causes of human prostate and testicular cancers due to the elevated levels of Cd in prostatic tissues and Leydig cell adenomas in the testis and epithelial cell adenomas in the ventral prostate of rats [5]. High levels of Cd in the modulation of male reproductive system are in seminal fluid which is associated with asthenozoospermia in infertile males. Based on variability of testicular damage, several mechanisms of Cd-induced testicular toxicity have been proposed. The physical and chemical properties of the Cd^{+2} ions, specifically its similarities to calcium and zinc put forth the oxidative stress of Cd. Cd substitutes the calcium or zinc in crucial physiological processes that

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WEATHER PREDICTION USING K- MEANS CLUSTERING AND NAIVE BAYES ALGORITHMS

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ABSTRACT:

Weather Prediction is for the most part worried about the forecast of climate condition in the given future time. Weather prediction give basic data about future climate. Predicting the weather is fundamental to help planning generally advantageous and the most exceedingly terrible atmosphere. We should be on caution to the unfriendly climate conditions by adjusting a few safeguards and utilizing expectation instruments for early cautioning of dangerous weather wonders. Many weather predictions like rainfall prediction, thunderstorm prediction, predicting cloud conditions are major challenges for atmospheric research. In Here K-Means Clustering and Naive Bayes Algorithms is used to identify the variation in the weather condition in terms of Temperature, Humidity, Wind Speed, Pressure and Weather.

Keywords: Data Mining, Weather Prediction, K-Means Clustering and Hierarchical Clustering

I. INTRODUCTION:

Data mining is the way toward dealing with extensive informational collections to distinguish designs and build up connections to take care of issues through information examination. Data mining tools enable ventures to foresee future patterns. The foundation of Indian economy is Agriculture. Now a day's weather or precipitation is the invigorating issues far and wide. Rainfall prediction is nothing but weather forecasting [7]. Prediction of weather condition is essential for various applications like Agricultural, Industry, Air Traffic, Marine, Forestry, Army and Navy etc.

Weather predictions are significant for arranging our everyday exercises. Farmers need data to enable them to anticipate the planting and gathering of their yields. weather forecasting encourages us to settle on increasingly educated every day choices, and may even help keep us out of danger.

There are several reasons why weather forecasts are important. The following is a list of various reasons why weather forecasts are important:

- Enables organizations and individuals to get ready for power generation and how much capacity to utilize.
- Enables individuals to plan in the event that they have to take additional rigging to get ready for the climate.
- Enables organizations to get ready for transportation risks that can result from the climate.

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The Discovery of the New Negro

J. P. Ida Joicey*

ABSTRACT

Colonization, Racial Discrimination and Exploitation- these are the terms associated with the dark history of the Negroes, i.e., African Americans. The century- long struggle came to an end at the dawn of the 20th century, initiated by a movement, namely, the Harlem Renaissance. The movement was more popularly known as the 'New Negro Renaissance', a term coined by Alain Locke in his famous essay. This paper explores the origin and roots of the African Americans, the social injustice and racial discrimination done unto the Blacks, the concentration of the Blacks in Harlem in New York, the causes for the renaissance and the emergence of the New Negro.

Keywords: Racism, Colonization, Exploitation, Suppression, Alienation, Assimilation.

The Age of Discovery in the 15th and 16thCentury led to a New Era of colonization and cultural exchange with Christopher Columbus discovering America as the 'New World' in 1492. The Europeans, namely, the Portuguese, the Spanish and the English were greedy to amass the enormous wealth by establishing their colonies in America. Thus, Europe reaped enormous profit by exploiting the land and wealth of the American colonies. Despite exploitation of land and wealth, the native population of America was exploited for labour. This resulted in the ruin of American empire, their cultures and the native population who were subjected to back breaking labour and European diseases like Small Pox. The alternative source of labour was imported from Africa in 1770 This was the beginning of slave trade or Trans Atlantic trade which continued for 300 years until the 20th Century. Thus, the African Negroes, namely, the Blacks, were enslaved by the American Colonists for a period of nearly three centuries. Since then the Blacks were subjected to 'Racial discrimination' and 'subjugation' by the white masters of America.

"Love is our most unifying and empowering common spiritual denominator. The more we ignore its potential to bring greater balance and deeper meaning to human existence, the more likely we are to continue to define history as one long inglorious record of man's inhumanity to man." (Aberjhani 182)

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Jane Austen as a Classical Writer

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Abstract

Jane Austen is an important classical writer who created innumerous of works related to the theme of family and the social surroundings. Her writings mostly reflect the level of female in her middle classes society. She stands unique in the history of English novel. Most of her characters seem to be simple and moderate. Jane Austen spoke about the class of different people in and around the village. As a polished writer she speaks only about morality, where her wit is rightly pointed.

Keyword: classical, themes, family, social, middle class, society, prospection, simple, moderate, class, morality

Introduction

Jane Austen is a prominent writer of eighteen and nineteenth century framed classical works that reflects the social level of middle class family in a gentry's society. Through her novel she sets herself as a prefect artist in the creation of English novels. Jane Austen was born on sixteenth December 1775 as a sixth one of Austen's family. Family plays a major role in the life of Jane. Her love towards her family is affected in every piece of her work. Mostly Jane Austen's works are grounded with the role of women and women centric. The reason for this women oriented works is because of her connection with her two sisters.

Jane's love towards her family influenced and affected her works which made her to create unlimited family based works. Some of the famous works of Jane Austen's are Mansfield Park, Pride and Prejudice, Emma etc. Each of her works was build up with the themes of emotions of love which comes along with struggle and hard times. In the work of Jane Austen the protagonist role are mostly played by women where one can see Jane's personal refection in her women characters. The works of Jane Austen deals with the theme of marriage, love, family, dominance and jealous etc. In regard with the women of Jane Austen are stronger in emotion, always ahead in leading their family, more sacrificial but sometimes pride enough and stubborn.

Jane Austen's life is divided into three periods. Her life differs in each and every phrases of her life. One thing stays common in all her periods is writing. Jane had a serious passion towards writing from 1775 to 1800 Austen spend her days in Steventon Parsonage, later her next eight years in Bath and Southampton from 1801 to 1808. Jane Austen's last eight years in Village of Chawton from 1810 to 1817. Austen's first phrase where she spent in Steventon Parsonage, her first influence towards writing started at the first phrase of Austen's life. During the times Jane experienced the difference in the gentry of people in and around the village. She met many characters in that village. Her first hand experience in writing started at the age of early sixteen.

Jane Austen's first work is *Pride and Prejudice* which is titled as First Impression later changed as Pride and Prejudice. In this work a reader can experience love, hatred, sacrifice and so on. Female character are mostly suppressed in eighteenth and nineteen centuries but in Austen's work female characters are superior and seem to have pride enough to win over with their will power. Along with love and other sentiments Jane also spoke about the social hierarchy prevailed in the society, it also brings the clash between high class and middle class ego. Sense and sensibility another work of Jane which is written in letter format.

Jane Austen writer nothing when she lived in Bath and Southampton which is considered as her second phrase. Later at her third phrase in Chawton, Jane begins her writing again on that time some of her works where revised and published within 1811 to 1816. They are Mansfield Park (1812), Emma (1814), and Persuasion

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Sahgal's Radical Views of the Modern Women in *Rich Like Us*

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ABSTRACT

Sahgal's radical views of the modern women in In Rich Like Us tries to bring the views and opinions of Sahgal in a connected whole in order to facilitate a comprehensive view of the subject. Most of feminism views were the causes for the problem faced by the women are dealt with details. But this paper exhibits that Sahgal approaches the problem of women with responsibility, maturity and understanding. Even now the old goblins of oppression, sex discrimination, and exploitation of woman are not completely wiped off.

Keywords: Sahgals radical, modern women, Feminism.

The present study aims at undertaking a critical study of the novels of Nayantara Sahgh towards arrive at some valid conclusions about her attitude towards women's problems and how she envisages the emergence of Modern Women in India. The present study deals with Sahgal's novel and published in reputed magazines all over the world.

What the writer feels is that the political themes have been interwoven as just a backdrop for her more serious subject, that is, the liberation of women from serfdom and suffocating 'tradition'. She has taken up a rapid survey of the novels touching upon purple patches, which have a bearing upon women's issues.

Sahgal's main concern in her novels is perfection, which she says, is possible only through freedom of expression. Her concern as a woman is to fight for freedom against meaningless traditional practices and against chauvinistic oppressions addressed by centuries of unreasonable thinking. Sahgal was married to a wealthy businessman Gautam Sahgal with whom she found, that she could not find self-expression. Marriage had been an indissoluble bond for her parents. Perhaps, in future, the question of divorce would be flexible.

Sahgal says about sonali mother: "She worked tirelessly. There was never a moment when I saw her doing nothing. And each of her acts was as essential household act that meant food, clothing, succour for us all, family, servants and animals" (RLU 143). She describes the inhuman acts of kindness, which had taken place in her own family. Her grandmother suffered such brutal atrocities at the hands of her own relatives.

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Feminism in *The Tigress* by Prathiba Nandakumar

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ABSTRACT

The concept of feminism differs from country to country, from religion to religion, and from caste to caste. Anyhow, Feminism plays a vital role in the thoughts of poets, writers and thinkers of the present world. The status of women in a society reveals its civilization. In a cultural society women enjoy almost equal rights with men. Equality prevails between the genders. This article studies feministic views expressed in the poem *The Tigress*, has written by Prathiba Nandakumar..

Keywords: Feminism, Rights, Duties, Affection, Domestication, Wild animals.

Justice is the main objectives of any community and constitution of any country. There are three basic justices essential for well culture society. They are social justice, Economical justice, and Political justice. Only the cultured society is able to provide free peaceful and secured life. Among these "social justice denotes the equal treatment of all citizens without any social distinction based on caste, color, race, religion sex and so on" (1).

In this article, the poem The Tigress written by Prathiba Nandakumar is analyzed to understand the importance of feminism in India. The Feminism taught in Indian society is a peculiar in characters.

Our Indian society consists of many organized religion and unorganized Hindu religion. Organised religion provide equal treatment rights to their women on the basis of the words of their holy books like holy bible, holy Kuran etc. The unorganized Hindu religion is followed by number of caste. Kulums. The Hindu society is naturally divided into four divisions of castes or Varna. 'The caste system also known as Varna system is a hierarchical social structure prevalent in the Hindu nations of India and Nepal'(2).

They are Bramins, Sathriyas, Visiyas, Suthras. Besides these four divisions of caste Hindus, another one, Avarna system exists in Hindu society. This Avarna system is also known as untouchable caste

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A MULTIMEDIA BASED ART LEARNING MECHANISM USING CONVOLUTIONAL NEURAL NETWORK

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Abstract

In this paper, we present a convolutional neural network (CNN) tool that offers metacognitive actions to develop art learning for young children or those who are interested in visual arts. The proposed CNN model depends upon the imitation of specific features of a target painting against a default image. The color palette of an identified image of a Fauve painter undergo mapping to the input image based on the Fauve vision of the painter, featured by employing vivid colors. The results undergo filtering process for emulating the fundamental brushstrokes of the painter. The users can visualize and compare the results with the original image in a qualitative way. This process generates the clarity in the user thought through the recognition of variables of other image over his own.

Keywords: Art learning; CNN; image processing; Fauve movement

1. Introduction

Game-based learning is the consequence of theexploitation and estimation of skill in teaching. The integration of these digital devices is ainspired advance in the procedure of learning and teaching, that includes a reproduction of expertobservation. Some researchers analyzes the integration of these apparatuses in teaching science additionally notice the advantages from students [1]. Educational approaches over the globe have anticipated technology as a learning apparatus for conversion; be that as it may, this thought isn't constantly imagined in schools. A background of employingequipment to improved get ready understudies for its present and upcoming digital lives is needed in schools [2]. A child comprises of some good times and, in the meantime enhance the aptitudes and systems expected to build up his art [3]. We center around given a device that adds to the procedure of

FROM SELF INTEREST TO NET WORKING:REIMAGINING THE MANAGEMENTOF THE FUTURE

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Abstract

The management evolution is married to socio-economic- technological changes. man used water power especially in the textile industry. Then steam energy led to the mechanization of equipment and revolutionized a variety of industries, especially textile and transportation. The machines and energy multiplied his power manifold. Scale and scope of manufacturing increased. This enabled mass production and increasing affordability of everything. Limited liability corporations were the greatest innovation in management. Through machine to machine communication, problems can be diagnosed and autonomous decision may be made without human intervention.This initiated globalization and global forums. Digital revolution becomes more sophisticated and integrated, transformed societies and global economy. These are the changes brought about by the hard work, collaboration, networking and intelligence of our generation. We have done some bad things, but we have also helped the world to change for the better.

Keywords: Digital Technology, Artificial Intelligence, Nano Technology, Human Genome Mapping, Quantum computing, Biotechnology, etc.,

INTRODUCTION

The management evolution is married to socio-economic- technological changes. The first Economic Revolution was **Agrarian Revolution**, humans fought with nature to eke out their simple living. Simple tools enhanced his power to tame nature.

AVDTC of splitting graph formed from the cartesian product of cycle and path graphs

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Abstract

In this article, we determined the AVD chromatic number of the splitting graph which is formed from the cartesian product of path and cycle graphs. Also, the relationship between the chromatic number and AVD- chromatic number are investigate and illustrated with some examples.

Keywords: Path graph, cycle graph, cartesian product of simple graph, splitting graph, proper colouring, chromatic number, AVD-total colouring, AVD-total chromatic number.

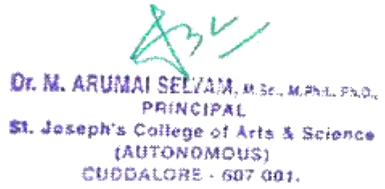
1. Introduction

In this paper, we have taken the graph to be undirected, finite and simple graph. A colouring of vertices of G is a mapping f : V(G)$\rightarrow$ {1,2,3…..k} for every vertex v, the integer $f(v)$ is called the colour of v. If no two adjacent vertices have the same colours then f is called proper colouring. A proper total colouring of a graph G is a mapping f from V(G) UE(G) to {1,2,3...,k} such that,

a) For all u,v$\in$V(G) if uv$\in$E(G) then f(u)$\neq$f(v)
b) For all $e_1,e_2\in$E(G), $e_1\neq e_2$ if e_1,e_2 have a common end vertex then $f(e_1)\neq f(e_2)$
c) For all u$\in$V(G), e$\in$E(G) if u is the end vertex, then f(u)$\neq$f(e)
d) It is called a avd total colouring if $\phi[u]=\phi[v]$ where $\phi[u]=\{f(e)\,|\,e$ is incident to v$\}\cup\{$f(v)$\}$.

The avd total chromatic number of G denoted by $\chi_{at}(G)$, is the minimum number of colours needed is an avd total colouring of G. Therefore, $\chi_{at}(G)=\{k\,|\,G$ is avd total k-colourable$\}$. A cut vertex is a vertex the removal of which disconnect the remaining graph. M. pilsniak and M. Wozniak first introduced that a proper total colouring of ϕ is a proper total colourings distinguishing adjacent vertices by sums if for a vertex $v\in V(\phi)$, the total sum of colours of the edges incident to v and the colour of v, denoted by f(v), are distinct for adjacent vertices. Here we constructed the splitting graph $S'(G)$ formed from the cartesian product of cycle and path graphs and we obtained the bounds for $S'(G)$ using AVD-total colouring for various non-negative values of m and n. We begin with some basic definitions and notations.

Definition 1.1. The cartesian product of simple graphs G and H is denoted by G × H whose vertex set is V(G)×V(H) and v=(v_1,v_2) and u=(u_1,u_2) are adjacent if $v_1=u_1$ and v_2 is adjacent to u_2 in H or v_1 is adjacent to u_1 in G and $v_2=u_2$ in H.



AVD-Total-Coloring of Some Simple Graphs

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Abstract
Let G= (V,E) be an undirected simple Graph. We consider a proper total coloring distinguishes adjacent vertices, if every two adjacent vertices have different set of colors of the edges incident to the vertex and the color of the vertex. The purpose of this paper is to study the AVD (Adjacent Vertex Distinguishing) total coloring of some simple graphs. Also we determine the AVD-total chromatic number of Barbell graph, Lollipop graph, Windmill graph.

Keywords:
Proper coloring, chromatic number, total coloring, total chromatic number, AVD-total coloring, AVD-total chromatic number, Barbell graph, windmill graph, Lollipop graph.

Introduction
In this paper, we have chosen finite, simple and undirected graphs. Let G=(V(G),E(G) be a graph with the vertex set V(G) and the Edge set E(G) respectively. The elements of V(G) and E(G) are commonly called the graph classification. A coloring of a Graph G is to assign colors (numbers) to the vertices or edges or both. A vertex coloring (edge coloring) is called proper if no two vertices (edges) receive the same color. Many variants of proper colorings are available in the literature such as a-coloring, b-coloring, list coloring, total coloring etc. The present work is focused on total coloring of graphs. A total coloring of G is a function f: $S \rightarrow C$ where $S=V(G) \cup E(G)$ and C is a set of colors to satisfies the given conditions

No Two adjacent vertices receive the same color.
No two adjacent edges receive the same color.
No edges and its end vertices receive the same color.

The total chromatic number $\chi''(G)$ of a graph G is the minimum cardinality k such that G may have a total coloring by k-colors. Behzad [2] and vizing [2] conjectured that for every simple graph G has $\Delta(G)+1 \leq \chi''(G) \leq \Delta(G)+2$, where $\Delta(G)$ is the maximum degree of the graph G. This conjecture is called as the total coloring conjecture(TCC).

Definition 1.1.
Vertex coloring :
Let G be a graph and let V (G) be the set of all vertices of G and let {1,2,3,…..k} denotes the set of all colors which are assigned to each vertex of G. A proper vertex coloring of a graph is a mapping C : $V(G) \rightarrow \{1,2,3,\ldots..k\}$ such that $C(u) \neq C(v)$ for all arbitrary adjacent vertices $u,v \in V(G)$

Definition 1.2.
Chromatic number :
If G has a proper vertex coloring then the chromatic number of G is the minimum number of colors needed to color G. The chromatic number of G is denoted by
$\chi(G)$.

Definition 1.3.
Total coloring :
A total coloring of a graph G is an assignment of colors to both the vertices and edges of G, such that no two adjacent or incident vertices and edges of are assigned the same colors.

Definition 1.4.
Total chromatic number :
The total chromatic number is the minimum number of colors needed to total color G [5] and it is denoted by
$\chi''(G)$.

Definition 1.5.
AVD-total coloring :
G is a simple graph and ϕ is total coloring of G. ϕ is an AVD-total coloring if $\forall$ $u,v \in V(G)$ uv adjacent, we have $C(u) \neq C(v)$. Here C(u) : Set of colors that occur in a vertex u.

A Study on Influence of Rank Reversal on Weight Methodsin GFTOPSIS by applyingAdding an Alternative and Removing an Alternative Metric

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Abstract

Rank Reversal is one of the important properties of Multi Criteria Decision Making (MCDM) and it should be minimal.In a MCDM method, when an alternative is added or removed then ranking order (user preference) is changed. This characteristic is called as rank reversal. One of the popular MCDM methods is Generalized Fuzzy Technique for Order Preference by Similarity to an Ideal Solution (GFTOPSIS). It applies different process to identify a better alternative. It's one of the process is assigning weight to criteria by using weight methods. The weights are either positive or negative and it is determined on subjective and objective ways.In order to better understand the influence of weight methods in GFTOPSIS, rank reversal is conducted. It has two properties such as adding an alternative and removing an alternative. To both of these properties metric have been designed and named as adding an alternative (M_{RL_AD}) and removing an alternative (M_{RL_RM}). These metrics are applied on weight methods and impact of rank reversal is measured. Most widely applied weight methods are considered for experimentation. The experimentation results indicate that compared to different weight methods, entropy weight method has minimum value for both of the rank reversal metrics such as M_{RL_AD} and M_{RL_RM}.

I. INTRODUCTION

In GFTOPSIS, weight methods are considered as a critical process which determines the weight of the criteria. Preference (weight) of the criteria is deferrers from one person to another person and the weight method plays a significant role in determining the preference (weight) of the criteria [1]. The weight method transforms the expert judgment about criteria importance into relative weight. The final ranking order of the alternatives changes when there is a change involved in weight of the attribute determined by weight methods [2]. The weights are determined by two kinds of weight methods such as subjective and objective weight methods. The subjective weight method finds preference based on decision makers preference and objective weight method determines weight based on mathematical model without the consideration of user preference [3]. The popular weight methods which are considered in this research are entropy method [3], direct weight method [4], rank sum method [4], rank reciprocal method [4], rank exponent method [5], pairwise comparison method [6], [7] and so on.

In most of the GFTOPSIS applications, weight methods are applied without stating the reason and also very limited contribution has been found to determine the importance of the weight methods [8]. Moreover weight methods are compared based on the application specific parameters, RCC and criteria. The weight

Human Face Recognition and Identifying Ethnicity Using Machine Learning

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***Abstract*—Data Mining and Knowledge Discovery are used to extract meaningful pieces of information from the source data. Data Mining and Image Analysis area are taking the significant feature by extract Knowledge from an Image. Human face recognition is interesting and challenging problem. It is an important domain such as human-computer interaction and data-driven animation. It is useful for identifying social ethnicity in a large heterogeneous group of people gathering in a common place. A huge set of training sets for personal identification attains good accuracy with the face recognition system. Feature extraction providing good result for one image per person with small training sets. In this Research, three very popular data mining techniques for classification such as Naive Bayes, Decision trees and Random Forest algorithm applied on various images, freely available on the Internet for analysis. The normal image has experimented with the above three algorithms followed by a Gaussian noise. A Kuwahara filtering process is done at the second check. From this, it is to be observed that the particular human face belongs to which origin ethnicity social group. The Ethnicity classification task is done by Linear Discriminant Analysis (LDA) based scheme. The two-class (Asian vs. non-Asian) is check by LDA. The input facial images scaled by Multiscale and ensemble integrated LDA analysis. So the classification performance is improved.**

Keywords— Image, Data Mining, Gaussian noise, Kuwahara Filter, LDA Ensemble.

I. INTRODUCTION

Data Mining and Knowledge Discovery attracting many researchers to extract meaningful pieces of information from the dataset. In the field of research, data mining and extracting knowledge is very popular. In both Data Mining and Image Analysis area, Image Analysis and Knowledge Discovery from an Image is obtaining significant role. The various classes of their visual characteristics classify by the image classification. Problem is to classify the human face to find which origin that facial image belongs. Face images and personal identification is done by separation of ethnicity. Face images are one of the representations of the ethnic classification. The demographic information provides ethnicity and gender using human face images. In face related applications ethnicity and gender also play important. Ethnicity identification problem is based on image using of machine learning framework. The face images identified by using classifier algorithms. Identification of images affected by Noise, shadow, and light. So, the Anthropology identification is done by using the facial organs such as eyes, nose, forehead, and mouth. Features extraction is based on the corner points. Noise is reduced by using filters. In many social applications, demographic statistics analyzed by using ethnicity and gender. The ethnicity classification into a two-category classification problem is discussed by this paper.

II. RELATED WORK

Recognizing faces of their own ethnicity/race by humans [1, 2]. More activity in brain regions linked to face recognition discussed by Golby et al. [3]. The same-race for face identification involves Form Face Area (FFA) is examined by Functional magnetic resonance imaging (FMRI)[4]. Investigate the differences in the way people perceive own- versus other-race faces shown by O'Toole et al. [5]. People categorize faces of their

HUMAN FACE RECOGNITION USING PCA AND LDA

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Abstract: Face recognition with uneven illumination effect is one of the main difficult tasks in the pattern identification techniques. Computerized systems can recognize the human face but whenever there are unstable lighting conditions in the face images. It will degrade the accuracy of the system. Human face images are captured under the uncontrolled environment due to that illumination is also varying in the face images. Face recognition is the popular investigation areas in biometrics. In every pattern recognition system, it required to extract features from the input and perform the classification. Researchers have used different methods for extracting features and classification. There are many challenges to the human face recognition system. This thesis focuses on the illumination change problem in human face recognition. In this research, both the principal component analysis (PCA) and Linear discriminated analysis (LDA) is introduced by human face recognition. Improve dimensionality reduce technique use dimensionally reduce are exhibit a maximum standard derivation based on the human face.

Index Terms **- PCA, LDA, Feature Extraction, Classification.**

I. INTRODUCTION

Face recognition is one of the energetic research areas. It has been considered by scientists from diverse areas of technology and science. Scientists primarily concern through the person observation fraction of the matter, while engineers focus on device identification of person faces concern by the calculation based approach of face recognition (1). It has become an energetic investigation area which crosscuts a number of disciplines. For lots of applications, the accuracy of face recognition method in restricted environments has gained an acceptable stage. Though, under uncontrolled environments there are still few demanding problems need to be focused. The lighting condition change in image is the main problem for machine recognition method. Many methods have been projected researchers to resolve the illumination dilemma in the face image. The face-recognition methods can be classified as pre-processing, feature extraction, and classification (1). Face recognition is the process to identify a similar image from the given database of the face images or we can say it is the example of the pattern recognition technique. Below Fig. 1.1 shows a diagram of pattern recognition architecture

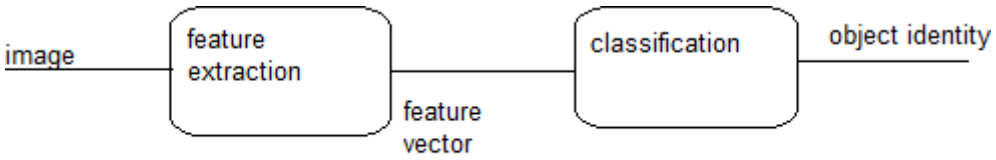

figure 1.1 diagram of pattern recognition architecture

Face recognition is one the pattern recognition technique. The input of the pattern recognition is an image, in next step, it will extract the features of the input image, it gives features vector as output it will feed as input to the classification technique, it will find the matched image from the dataset and displayed as a recognized image. The recognition accuracy depends on the Selection of the feature extraction techniques and classification techniques.

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A Study On The Impact Of Recession In Real Estate Industry On Investment Decisions Of Retail Investors With Special Reference To Chennai City

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ABSTRACT

This research is attempted to find the impact of recession in real estate industry on the investment decisions. It also aims to find out the class of real estate which has seen a reduction in investment, factors influencing the decisions, alternative investment avenues chosen and provide suggestions to the investors and the investing companies. Thus to read the investors behaviour, convenience sampling method was used and primary data was collected from 75 investors limited to the city of Chennai, by issuing questionnaire. Various tools like percentage analysis, weighted average, correlation and regression were used to analyze the data.

Keywords: *Investment, Real Estate, Return, Rescission*

INTRODUCTION

Investment is the commitment of money or capital to purchase financial instruments or other assets in order to gain profitable returns in form of interest, income, or appreciation of the value of the instrument. In other words, investment is a sacrifice of certain product value for the uncertain future event. It is the process of diverting money in securities. It refers to the exchange of money into some tangible assets or wealth. DONALD E FISHER and DONALD J JORDON

எட்டுத்தொகை நூல்களில் விளையாட்டு

அ.கிரேஸி ஜெனோவா
துணைப் பேராசிரியர், தமிழ்த்துறை
தூய வளனார் கலை மற்றும் அறிவியல் கல்லூரி (தன்னாட்சி)
மஞ்சக்குப்பம், கடலூர்

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முன்னுரை

மனித வாழ்வில் விளையாட்டு என்பது முக்கிய உயிர்நாடியாக திகழ்கிறது. அவை உடலுக்கு மட்டுமல்லாமல் மனதிற்கும் இன்பம் அளிக்கிறது. ஓரறிவு முதல் ஆறறிவு வரை அனைத்து உயிரினங்களுக்கும் இப்பண்பு காணப்பட்டாலும் மனிதனுக்கு மட்டும் முக்கியமாக கருதப்படுகிறது. ஆயக்கலைகளில் விளையாட்டுக்கு என சிறப்பிடமும் உண்டு. காதல், வீரம், புகழ், கல்வி, பண்பாடு என அனைத்தையும் அறிந்து கொள்ள சான்றாக இருப்பது நம் சங்க இலக்கியங்களே. நல்ல உடல் நலம் தானாக கிடைக்கக் கூடிய ஒன்று அல்ல, அதை நாம் தான் தேர்ந்தெடுக்க வேண்டும் என்கிறார் மேல்நாட்டு அறிஞர் ராபர்ட் ஸ்கல்லர்."உடம்பை வளர்த்தேன், உயிர் வளர்த்தேனே" என்கிறார் திருமூலர். மேலும்,

"உடம்பினை முன்னும் இருக்கென்று இருந்தேன்
உடம்பினுக்குள்ளே உருபொருள் கண்டேன்,
உடம்பிலே உத்தமன் கோயில் கொண்டானென்று
உடம்பினை யான் இருந்து ஓம்புகின்றேனே"

என்ற திருமூலரின் பாடலிற்கேற்ப உடலை ஆரோக்கியமாக வைத்துக் கொள்வதற்கு விளையாட்டும் ஒரு சிறந்த வழி என்பதை ஆய்ந்து,அவ்வகையில் சங்க இலக்கியமான எட்டுத்தொகை நூல்களில் மகளிரின் விளையாட்டை ஆராய்வதே இக்கட்டுரையின் நோக்கம்.

விளையாட்டு

'செல்வம் புலனே புணர்வு விளையாட்டுடன்
அல்லல் நீத்த உவகை நான்கே'

என விளையாட்டின் முக்கியத்துவத்தை தொல்காப்பியம் எடுத்துரைக்கின்றது. சங்க இலக்கியத்தில் மொத்தம் 37 விளையாட்டுகள் உண்டு. விளையாட்டுகளை ஆண், பெண் இருபாலர்கள் என்று மூன்றாகப் பகுத்துள்ளார்கள். இவற்றை அகவிளையாட்டு, புறவிளையாட்டு என இருவகையாக பிரிக்கலாம். குழந்தைகள், நரை கூடிக்கிழப் பருவம் எய்திய பெரியவர்கள் மட்டுமன்றி கடவுள், தேவர்கள், பாவை மகளிர் போன்றோரும் விளையாடியதாக இலக்கியம் அழகாக வெளிப்படுத்தியுள்ளது. விளையாட்டு என்பது 'வாழ்கைக்கு பயிற்சியளிக்கும் களம் என்று கூறுவர்'டாக்டர்.இரா. பாலசுப்ரமணியம். மேலும், விளையாட்டுகளின் அடிப்படையில் விளையாட்டுகளை நான்கு வகைகளாகப் பிரிக்கலாம். அவை உடல்திறன், அறிவுத்திறன், வாயப்புத்திறன், மனமகிழ்ச்சி நிலைகள் என்று பகுக்கலாம்.

நாட்டுப்புறக் கலைகளுள் தெருக்கூத்து

அ.மதலேன்
உதவிப் பேராசிரியர், தமிழ்த்துறை
தூய வளனார் கலை மற்றும் அறிவியல் கல்லூரி (தன்னாட்சி), கடலூர்

முன்னுரை

நாட்டுப்புறவியலின் ஒரு கூறு நாட்டுப்புறக் கலைகளாகும். வழிபாட்டுச் சடங்குகளின் ஒரு பகுதியாகவோ அழகுணர்ச்சியின் வெளிப்பாடாகவோ பொழுது போக்குக்காகவோ மக்கள் குழுக்களால் உருவாக்கப்படும் அல்லது நிகழ்த்தப்படும் செவ்வியல் கலைகள் தவிர்த்த ஏனைய மரபுவழிக் கலைகளை நாட்டுப்புறக்கலைகள் என்பர். நாட்டுப்புறக் கலைகளுள் தெருக்கூத்தைப்பற்றி மட்டும் இக்கட்டுரை ஆராய்கிறது.

நாட்டுப்புறக் கலைகள்

நாட்டுப்புறக் கலைகள் இரண்டு பெரும் பிரிவுகளுள் வகைபடுத்துகின்றனர். அவை நிகழ்த்து கலைகள் நிகழ்த்தாக் கலைகள் எனலாம். மக்கள் முன் நிகழ்த்தப்படுபவை நிகழ்த்து கலைகள். நாட்டுப்புற நிகழ்த்து கலைகள் பெரும்பாலும் வட்டாரத்தன்மை கொண்டவை. கரகாட்டம், காவடியாட்டம், தேவராட்டம், மயிலாட்டம், ஒயிலாட்டம், பொய்க்கால் குதிரையாட்டம் முதலானவை நிகழ்த்து கலைகள். பச்சைமண் சுடுமண் மாவு காகிதக்கூழ் உலோகம் முதலியவற்றால் செய்யப்படும் சிலைகள், பொம்மைகள், மரசிற்பங்கள், தென்னோலைத் தோரணங்கள் மற்றும் உருவங்கள், பனையோலைக் கலைப்பொருட்கள், மணைவறை, கோயில் தேர், பல்லாக்கு, பாடைகளில் செய்யப்படும் ஒப்பனைகளும், சுவர்களிலோ தரையிலோ வரையப்படும் ஓவியம், உடலில் வரையப்படும் ஓவியம், கோலம், மணமகள் ஒப்பனை, தெய்வங்களுக்கான ஒப்பனை முதலானவைகள் நிகழ்த்தாக் கலைகளே. இதன் அடிப்படையில் நிகழ்த்தாக் கலைகளை பொருட்கலைகள், அழகுக்கலைகள், ஒப்பனை கலைகள் என்றும் குறிப்பிடுவர்

தொன்மையான கலை

தெருக்கூத்து தமிழர்களின் தொன்மையான கலை. சங்ககாலத்தில் உருவான இக்கலையானது அரசர்களை மகிழ்விக்கவும், விழாக்காலங்களில் மக்களின் பொழுதுபோக்கோடு இறை பக்தியை அதிகரிக்கவும், பக்தி புராணங்களை அறியவும் தெருவில் நடத்தப்பட்ட இந்தக்கலை தெருக்கூத்து எனப்பட்டது.

"தமிழகத்தில் கழைக்கூத்து, கணியான் கூத்து, பாவைக்கூத்து என்று பலவகைக் கூத்துகள் நிகழ்த்தப்படுகின்றன. இவை அனைத்தும் தெருக்களில் நிகழ்த்தப்படுபவைதான். ஆனாலும் கோயிற் சடங்கின் ஒரு பகுதியாகவோ இறப்புச் சடங்கின் ஒரு பகுதியாகவோ கோயில் விழாக்களில் பொழுது போக்குவதை நோக்கமாகக் கொண்டோ வேடம் புனைந்துக் கொண்ட பயிற்சி பெற்ற ஆண் கலைஞர்களால் தெருச்சந்திகள் அல்லது வயல்வெளிகளில், இரவு தொடங்கி விடியும்வரை இசைக்கலைஞர்களின் உதவியுடன் கதைதழுவி ஆடிப்பாடிப் பேசி நடிக்கும் நிகழ்த்துதலே தெருக்கூத்து என்று

லர்: 3
றப்பிதழ்: 3
ாதம்: மே
ருடம்: 2019
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திருக்குறள் காட்டும் வாழ்வியல் நெறிமுறைகள்

முனைவர் பி. கிறிஸ்டி பெலினா
உதவிப் பேராசிரியர், தமிழ்த்துறை, புனித வளனார் கலை மற்றும் அறிவியல் கல்லூரி, கடலூர்–1, தமிழ்நாடு, இந்தியா.

முன்னுரை :

மனிதன் கேட்க கடவுள் அருளியது பகவத்கீதை. கடவுள் கேட்க மனிதன் சொன்னது திருவாசகம். மனிதன் கேட்க மனிதன் சொன்னது "திருக்குறள்". அதுவும் வாழ்ந்து காட்டிய ஒரு பெருமகனாரால் வாழ வழிவகுத்துக் காட்டிய ஒரு வழிகாட்டி, அதனால் திருக்குறளை ஒரு வாழ்வுநூல் எனலாம். அப்படிப்பட்ட அந்த வாழ்வுநூல் கூறும் வாழ்வியல் நெறிமுறைகளைக் காண்போம். அர்த்தங்களை மாற்றிவைத்து வார்த்தையை வாழ்க்கையை அழுக்காக்கி விடுகிறான் மனிதன். திசைமாற்றி வைப்பானோ மனிதன் என்று தினம் தினம் விடியல்கூடத் தடுமாறி விடுகிறது.

அவ்வாறு இருக்கும் மனிதனையும், "அதிகாலை எழு, ஆகாயம் தொழு, இருதயம் துடிக்கவிடு, ஈறழுந்தப் பல்தேய், உடல்வேர்வை கழி, ஊளைச்சதை ஒழி, எருதுபோல் உழை, ஏழைப்போல் உண், ஐம்புலன் புதுக்க, ஒழித்துவிடு புகைமதுவை, ஓட்டம்போல் நட, ஔடதம் பசி, அ:.தாற்றின், எ:.காவாய்" என்று மனிதனுக்கு சில வழிமுறைகளை நம் சான்றோர் கூறியுள்ளனர். உலக வாழ்க்கையில் மானிடராலும் மற்ற உயிர்களாலும் விரும்பப்படும் மிகச்சிறந்த பயன் யாது என்றால் எப்போதும் மாறாத எப்போதும் குறையாத இன்பமெய்தி வாழ்தல். இவ்வகையான இன்பத்தை எய்தும் பொருட்டாகவே மானிடர் கல்வி கற்பதும், பொருள் சேர்ப்பதும், தவங்கள் செய்வதும், அரசாள்வதும், களவு செய்தலும், கொலை செய்வதும், பேசுதலும், சிரித்தலும், ஆடுதலும், பாடுதலும், அழுதலும், உழுதலும் - எனப் பல தொழில்களும் செய்கிறார்கள். இந்நிலையில் எப்படியும் வாழலாம் என்ற சமூகத்திற்கு இப்படித்தான் வாழவேண்டும் என்று திருவள்ளுவர் வாழ்வின் வழிமுறைகளைக் காட்டியுள்ளார்.

ஒழுக்கம் காக்க :

"நீர்இன்று அமையாது உலகெனின் யார்யார்க்கும்
வான்இன்று அமையாது ஒழுக்கு" (குறள்-20)

ஒருவனுக்கு நல்வாழ்க்கை அமைவது அவன் உள்ள சூழ்நிலையையும், அவனது ஒழுக்கத்தையும் பொறுத்தது. உடலைப் பேணவும், வழிபாடு செய்யவும் தண்ணீர் வேண்டும். வேளாண்மை, ஆடுமாடு வளர்ப்பு, மற்ற தொழில் அத்தனைக்கும் தண்ணீர் வேண்டும். அதுபோல ஒழுக்கம் இருந்தால் தான் மனிதன் வாழ்வில் சிறப்பு பெற முடியும் என திருக்குறள் கூறுகிறது.

உதவிக் கரம் நீட்டுக :

"நல்லாறு எனினும் கொளல்தீது மேலுலகம்
இலெனினும் ஈதலே நன்று" (குறள் - 222)

பிறருக்குக் கொடுப்பது நல்லது. சிறப்புத் தருவது. பிறரிடம் ஒன்றைக் கொள்வது இழிவு. கொடுப்பதனால் மனம் மகிழும். பயன் கருதாமல் தருவதே நல்லது. எனவே அனைவருக்கும் கொடுத்து உதவ வேண்டும் என்று திருக்குறள் வலியுறுத்துகின்றது.

முயற்சி செய்க :

"தெய்வத்தான் ஆகாது எனினும் முயற்சிதன்
மெய்வருத்தக் கூலி தரும்" (குறள் - 619)

விதியை எண்ணி மனம் நொந்து மனித குலம் தளர்ந்துவிடக் கூடாது. விடா முயற்சி வேண்டும். இது மனவலிமை இழந்து கிடக்கும் மனிதருக்குத் தெம்பூட்டும் மாமருந்து. சோம்பிக் கிடந்து

இலக்கியங்களில் கல்வி

அ. கிரேஸி ஜெனோவா
தமிழ்த் துறை, தூய வளனார் கலை மற்றும் அறிவியல் கல்லூரி (தன்னாட்சி)
மஞ்சக்குப்பம், கடலூர், தமிழ்நாடு, இந்தியா.

முன்னுரை

கல்வி என்னும் புதையலைத் தோண்டி எடுக்கும்போது கிடைக்கும் மகிழ்ச்சியானது எல்லையற்றது. கல்வி என்பது கல் என்னும் பகுதியால் பிறந்த தொழிற்பெயர். கல் என்பதற்கு குவிந்து இறுகியுள்ள மண் போன்றதொரு பொருளை ஷமலருமாறு தளரச் செய்' என்று பொருளாகும். அறியாமல் குவிந்து இறுகியுள்ள உள்ளத்தை மலரச் செய்து அறிவை வளர்த்தலே கல்வி என்பதாகும். இக்கல்வியினை பெறும் கருவிகளுள் முக்கியமானதாகத் திகழ்வது நூல்களே. இக்கல்வி உறுதிப்பொருள்கள் நான்கினையும் தரும் என்பதை 'அறம் பொருள் இன்பமும் வீடும் பயக்கும்' என்று குமரகுருபர சுவாமிகளும், அழியாத சிறந்த செல்வம் கல்வி என்பதை,

'கேடில் விழுச்செல்வம் கல்வி ஒருவற்கு
மாடல்ல மற்றை யவை'

என்று வள்ளுவரும் எடுத்துக் கூறுகிறார். புறநானூற்றுப் புலவரும்,

'ஒளியோர் பிறந்த இம்மலர்தலை உலகத்து'
(புறம்-53)

என்று கூறுகின்றார். ஒருவன் ஒரு பிறவியில் கற்கும் கல்வியானது ஏழு பிறவியிலும் அவனோடு கூடவே வரக்கூடியச் செல்வமாக விளங்குகிறது. அத்தகைய கல்வியின் சிறப்பை விளக்குவதே இந்த ஆய்வின் நோக்கம்.

சங்க இலக்கியங்களில் கல்வி

எல்லாச் செல்வங்களிலும் தலையாயச் செல்வமாக கல்விச் செல்வம் விளங்குகிறது. இத்தகைய உயர்வானச் செல்வம் கல்வியறிவு பெற்றவனிடத்தில் தான் தோன்றுகிறது. ஒருவன் எல்லாச் செல்வங்களைப் பெற்றிருந்தாலும் கல்வியே முதன்மையானதாக கருதப்படும் என்பதை,

கல்வி தறுகண் புகழ்மை கொடையெனச்
சொல்பட்ட பெருமிதம் நான்கே
(தொல்: மெய்பாட்டியல்:259)

இளம்பூரணம் உரையில் ஒருவன் ஏனையச் செல்வங்களைக் காட்டிலும் கல்வி செல்வத்தையே முதன்மையாக பெறவேண்டும் என்பதை உணர்த்துகிறது. செல்வத்தகுதி இக்காலத்தில் சாதிகளை மறைத்தல் போல, அக்காலத்தில் கல்வித்தகுதி வருணங்களை மறைத்திருக்கிறது. கற்பிக்கும் ஆசிரியருக்கு உற்றுழி உதவியும் உறுபொருள் கொடுக்கவும், வழிபடவும் வேண்டுமென்பதை,

கற்பித்தான் நெஞ்சமுங்கப் பகர்ந்துண்ணான்
விச்சைக்கண்
தப்பித்தான் பொருளே போல் தமியவே
தேயுமால்□ - (கலித்தொகை-149)

என்ற வரிகளில் அக்காலத்தில் ஆசிரியர் நன்கு மதிக்கப்பட்டமையினை எடுத்துரைக்கிறது. அரசர்கள் கூட எத்தகைய வேறுபாடும் கருதாமல் கற்றவர்களைத் தமக்கு ஆசிரியர்களாகக் கருதினர். 'பிறப்பு ஓர் அன்ன உடன் வயிற்றுள்ளும்.....' (புறம்-183:3) நன்கு கல்வி அறிவு பெற்ற சான்றோர்கள் நல்ல சான்றோர்கள், நல்ல செயல்களை மனதால் உணர்ந்து கடமையாற்றும் திறன் கொண்டவர்கள். தங்கள் முன்னோர் சென்ற நெறிப்படி கொள்கைப் பிடிப்புடன் நல்வழியைப் பின்பற்றி வாழ்பவர்கள். இதனை,

செம்மொழித் தமிழ் (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்) நவம்பர், 2019 - சிறப்பிதழ் (ISSN 2321-0737)
Journal of Classical Thamizh (Quarterly International Multilateral Thamizh Journal) November, 2019 - Special Issue (ISSN 2321-0737)
திருச்சி, ஜமால் முகமது கல்லூரி, முதுகலைத் தமிழாய்வுத்துறை & தஞ்சாவூர், தமிழ்ப் பல்கலைக்கழகம், அயல்நாட்டுத் தமிழ்க் கல்வித்துறையுடன் இணைந்து நடத்தும் UGC - தன்னாட்சி நிதியுதவிப் பன்னாட்டுக் கருத்தரங்கம் "பன்முகத் தளத்தில் தமிழியல்"

இலக்கியங்களில் கொல்லாமையும் புலால் மறுப்பும்

முனைவர் பி. கிறிஸ்டி பெனினா
உதவிப் பேராசிரியர், தமிழ்த்துறை
புனித வளனார் கலை மற்றும் அறிவியல் கல்லூரி, கடலூர்

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முன்னுரை

"இலக்கியம் காலம் காட்டும் கண்ணாடி.? என்று சான்றோர் கூறியுள்ளனர். கூடிவாழும் மனிதர்களிடையே கருத்து வேறுபாடுகள் தோன்றுவது இயல்பு. இந்நிலையில் மனித சமூகத்தில் பிளவுகள் ஏற்பட்டுவிடாதவாறு முன்னோர் பல கொள்கைகளை ஏற்படுத்தினர். கொள்கைகள், கோட்பாடுகள், சட்டதிட்டங்கள் யாவுமே மனித குலத்தின் நன்மைக்காகவே ஏற்படுத்தப்பட்டன. அன்பு, நீதி, சமத்துவம், சகோதரத்துவம், ஒற்றுமை நிலவினால் மட்டுமே மனித சமூகத்தில் அமைதியான நிலை உருவாகும். இந்த மதிப்பீடு கள் கதைகள் மூலமும் அறிவுரைகள் மூலமும் மனிதருக்கு உணர்த்தப் பட்டன. இலக்கியங்கள் யாவும் இதனடிப்படையிலேயேதோன்றின எந்தவொரு இலக்கியமும் அதனதன் காலத்தில் வாழ்ந்த மக்களின் வாழ்வுமுறையைப் பின்புலமாகக்கொண்டே அமைந்தன எனலாம். இலக்கியங்கள் வாழ்வின் ஒழுக்க நெறிகள் பலவற்றை எடுத்துக் கூறுகின்றன. அவற்றுள் கொல்லாமை, புலால் மறுத்தல் குறித்து இக்கட்டுரை ஆய்கிறது.

சிலப்பதிகாரம் சுட்டும் கொல்லாமை

கவுந்தியடிகள், கோவலன் கண்ணகி இவர்களை வழிநடத்திச் செல்லும்போது உயிர்க்கொலை தீது என்பதனை விளக்கியதாக இளங்கோவடிகள் குறிப்பிடுகிறார்.

"குறுநர் இட்ட குவளை அம் போதொடு போறிவரி வண்டினம்
பொருந்திய கிடக்கை நெறிசெல் வருத்தத்து நீர் அஞர் எய்தி
அறியாது அடி ஆங்கு இடுதலும் கூடும்
எறிநீர் அடைகரை இயக்கம் தன்னில்
பொறி மாண் அலவனும் நந்தும் போற்றாது ஊழ் அடி ஒதுக்கத்து உறு
நோய் காணின்
தாழ்தரு துன்பம் தாங்கவும் ஒண்ணா?

-சிலம்பு, நாடுகாண் காதை 86-93

ISSN: 2320-3412(P), 2...
இணையத்தில் பதிவிறக்கம் செய்ய www...
தமிழாய்வுச் சங்கமம் - பன்னாட்டு ...
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பகுதி VI, பதிப்பு 18 - ...
Formally UGC Approved Journal (64089), ...

இலக்கியங்களின் பார்வையில் அறிவியல்

அ.கிரேஸி ஜெனோவா
துணைப்பேராசிரியர், தமிழ்த்துறை
தூய வளனார் கலை மற்றும் அறிவியல் கல்லூரி(தன்னாட்சி)
மஞ்சக்குப்பம், கடலூர்-1

முன்னுரை

பண்டைய தமிழ் இலக்கியங்களில் பல அறிவியல் தொழில் ...
செய்திகள் பொதிந்து காணப்படுகின்றன. இலக்கியம் ஒரு நாட்டின் குறிக்...
மாந்தர்களைப் பற்றி பேசுகிற அதே நேரத்தில் அறிவியலைப் பற்...
பேசியிருக்கிறது. நம் முன்னோர்களின் அறிவியல் திறத்தை மெய்ப்பிக்க உ...
அவர்களின் நுண்ணறிவு அனுபவங்களே. அதுவே நாகரிக வளர்ச்சிக்கு வித்திட்...
இன்றைய அறிவியலில் உலகம் போற்றும் விந்தையாளர் போன்று செ...
நூற்றாண்டிலேயே தொல்காப்பியர் அறிவியல் முன்னோடியாகத் திகழ்ந்திருக்கி...
என்றே கூறலாம். தொல்காப்பியர் ஆறறிவு உயிர்களின் பரிணாம வளர்ச்சி...
நுண்ணறிவுத் திறனை வெளிப்படுத்தும் வகையில் நிலம், பொழுது, காலம் போ...
அனைத்து நிகழ்வுகளின் உண்மைத் தோற்றத்தை கண்டறிந்துள்ளா...
பல்லாயிரக்கணக்கான ஆண்டுகளுக்கு முன்பே அறிவியல் பற்றிய ஆழமா...
சிந்தனைக்கு சொந்தக்காரர்களாக தமிழர் இருந்துள்ளனர் என்ற பெருமிதத்துட...
ஆய்வதே இக்கட்டுரையின் நோக்கம்.

உயிரியல் அறிவு

பழந்தமிழர்கள் உயிரியல் சார்ந்த அறிவியல் அறிவைப்
பெற்றிருந்தனர்.உயிரினப் பாகுபாட்டை உலகில் முதன் முதலில் தொல்காப்பியர்
2500 ஆண்டுகளுக்கு முன்பாகவே தாவரத்தின் உயிர், உணர்வு, அறிவு பற்றியும்,
மற்றைய உயிரினங்களின் அறிவு, உணர்வு, உயிர் பற்றியும் விரிவாக எடுத்துக் கூறி
சூத்திரங்கள் அமைத்துள்ளார். அதில் பின்வருமாறு விளக்குகிறார்.

"ஒன்றறி வதுவே உற்றறி வதுவே
இரண்டறிவதுவே அதனொடு நாவே
மூன்றறிவதுவே அவற்றொடு மூக்கே
நான்கறிவதுவே அவற்றொடு கண்ணே
ஐந்தறிவதுவே அவற்றொடு செவியே
ஆறறி வதுவே அவற்றொடு மனனே" **(தொல்..பொருள்..மரபு-நூ:26-27)**

என்ற நூற்பாவில் உயிர்களின் பரிணாம வளர்ச்சியை உயிர்களின் உடம்பினோடும்
அதனோடு இணைந்த மெய், வாய், மூக்கு, கண், செவி என்னும் ஐம்பொறிகளும்,
மனமும் ஆகிய ஆறுவகை வாயில்களையும் பெற்று, இவ்வண்ணம் உயிர்கள்
ஆறுவகை ஆயின என்ற அறிவினால் சிறந்து விளங்கும் இயல்பு அறிவியல்

புறநானூற்றில் சங்ககால மக்களின் வாழ்வியலில் பண்பாட்டு பதிவுகள்

முனைவர் இ. ஆக்னஸ் மேரி
உதவிப் பேராசிரியர், புனித வளனார் கலை மற்றும் அறிவியல் கல்லூரி,
கடலூர், தமிழ்நாடு, இந்தியா.

முன்னுரை

எட்டுத்தொகை நூல்களில் ஒன்றாக திகழ்வது புறநானூறாகும். இந்நூல் பழந் தமிழர்களின் வாழ்க்கையை எடுத்துக் காட்டும் காலக் கண்ணாடியாகவும் அமைகின்றது. அறம், கொடை, விருந்தோம்பல், அரசியல், கல்வி, ஒற்றுமை போன்ற பண்பு நலன்களில் அக்காலத் தமிழர் சிறந்து விளங்கியதைப் புறநானூறு மூலம் அறிய இயலும்.

இவ்விலக்கியமானது பழந்தமிழரின் பண்பாடும் பழக்க வழக்கங்களும் இன்றைய காலங்களில் வாழுகின்ற மக்களை நெறிபடுத்துகின்ற வகையில் அமைகின்றன. சமுதாயத்தில் நிகழும் அக, புற வளர்ச்சியைக் குறித்துக் கூறுவது பண்பாடு என்று குறிப்பர். "பண்பெனப்படுவது பாடறிந்து ஒழுகல்" என்ற கலித்தொகை கூற்று இங்குக் குறிப்பிடத்தக்கது. இவ்வகையில் பழந்தமிழர்களின் பண்பாட்டையும், பழக்க வழக்கங்களையும் புறநானூற்றுப் பாடல்கள் வழி ஆராயும் விதமாக இக்கட்டுரை அமைகின்றது. பண்பாடு என்னும் சொல் மனிதனோடு மட்டுமே தொடர்புடையது. இதுவே பிற உயிரினங்களிடமிருந்து மனிதனைப் பிரித்துக் காட்டுகிறது. மனிதன் மட்டுமே பண்பாட்டைக் கொண்டு விளங்குபவன்.

பண்பாடு

பண்பாடு என்னும் சொல்லினை ஆங்கிலத்தில் 'Culture' என்று கூறுவர். இச்சொல்லை இப்பொருளில் முதன்முதலில் ஆண்ட பெருமை அறிஞர் டி.கே. சிதம்பரநாத முதலியாருக்கே உரியது என்பர். 'ஒருவன் தன் குணநலன்களை நிரப்புவதிலும், தன்னைச் சூழ்ந்த சமுதாயத்தின் நலன்களைப் பேணுவதிலும் பேரவாக் கொண்டிருக்கும் நிலை பண்பாடாகும்' என்பார் மாத்யூ ஆர்னால்டு. வள்ளுவர், அன்பு நான் ஒப்புறவு கண்ணோட்டம் வாய்மையோடு ஐந்து சால்பு ஊன்றிய தூண்" என்ற குறட்பாவில் அன்பு, நான், ஒப்புரவு, கண்ணோட்டம் வாய்மை ஆகிய ஐந்து பண்புகளின், கூட்டையே பண்புடைமை என்று குறிப்பிட்டுள்ளது ஒப்புநோக்கத்தக்க ஒன்றாகும். பண்பாடு பற்றி வள்ளுவர் மேலும் கூறுகையில் பண்புடையவர்கள் வாழ்வதால்தான் மக்கள் வாழ்க்கை எப்போதும் நிலைத்து இருக்கிறது. அவர்கள் மட்டும் வாழாது போவார் என்றால் மனித வாழ்க்கை மண்ணுக்குள் புகுந்து மடிந்து போகும் என்று

பண்புடையார்ப் பட்டுண்டு உலகம்
அதுஇன்றேல்
மண்புக்கு மாய்வது மண். (996)

என்பதன் மூலம் மக்கள் பண்போடு இருத்தலை பற்றி குறிப்பிடுகிறது.

பண்பாடு என்பது ஒரு குழுவின் வரலாறு, பண்புகள், வாழ்வியல் வழிமுறைகள், புரிந்துணர்வுகள் என்பனவற்றைச் சுட்டி நின்கின்றது. இனி புறநானூற்றில் பழந்தமிழர்களின் பண்பாட்டு பதிவுகள் பற்றி காண்போம்.

புறநானூற்றில் பண்பாடு பதிவுகள் ஏராளமாக பதிவு செய்யப்பட்டுள்ளன. அவற்றுள் அறநெறி தவறாமை, ஒற்றுமை, வாய்மையின் வெளிப்பாடு, பொது நலத்தை விரும்பியவர்கள், கொடை தன்மை, தன்மான உணர்வுடையவர்கள், விருந்தோம்பல் போன்றவற்றை இக்கட்டுரை ஆய்வு செய்வதாய் அமையப் பெறுகின்றது.

அறநெறி தவறாமை

பாண்டியன் பல்யாகசாலை முதுகுடுமிப் பெருவழுதி என்னும் மன்னன் அறம் வழுவாதவன்

சிலப்பதிகாரத்தில் கதை மாந்தர்கள்

அ. கிரேஸி ஜெனோவா
துணைப் பேராசிரியர், தமிழ்த்துறை
தூய வளனார் கலை மற்றும் அறிவியல்,
கல்லூரி(தன்னாட்சி) மஞ்சக்குப்பம்

மலர்: 4

சிறப்பிதழ்: I

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முன்னுரை

தமிழக மண்ணில் பிறந்து வளர்ந்த குடிமக்களைக்கொண்டு காப்பியம் படைத்தார் இளங்கோவடிகள். அவற்றை விளக்கங்களோடு சிலம்பின் கதைப்பாத்திரங்களைக்கொண்டு அணுகி ஆராய்கின்றபோது, இவர்கள் இறையியல்புத் தன்மை மிக்க வரலாற்று மாந்தர்களாகவே அமைகின்றனர். சிலப்பதிகாரம் தனி மனித வாழ்க்கையை மையமாக வைத்தே இயற்றப்பட்ட காப்பியம். இக்காப்பியக் கதையை சிறப்பாகக்கொண்டு செல்வதற்குப் பல்வேறு கதை மாந்தர்கள் அவசியம். அம்மாந்தர்கள் இடம் பெறும் நிகழ்வுகளை வைத்துத் தலைமாந்தர், துணைமாந்தர் என இருவகையாகப் பிரிப்பர். படைப்பாளியின் குறிக்கோளுக்கேற்ப படைப்பைக் கொண்டு செல்ல இம்மாந்தர்களே காரணமாகின்றனர். இவர்கள் காப்பியத்திலே சிறந்த பங்கு வகுத்தும் நிகழ்ச்சி களுக்கும் திருப்பங்கட்கும் காரணமாகவும் கதையோட்டத்திற்கும் துணையாகின்றனர். இக்கதை மாந்தர்களைக்கொண்டு ஆய்வதே இக்கட்டுரையின் நோக்கம்.

கண்ணகி

கண்ணகி சிலம்பின் கதைத் தலைவி. உயர்குடியில் மாநாய்கன் மகளாகப் பிறந்து தனது பன்னிரண்டு வயதில் கோவலனை மணந்தாள்.

"தீதிலா வடமீனின் திறமிவள் திறமென்றும்
மாதரர் தொழுதேத்த வயங்கிய பெருங்குணத்துக்
காதலாள்! பெயர்மன்னுங் கண்ணகி என்பாள் மன்னோ"

(மங்கலவாழ்த்து பா.27-29)

குற்றமற்ற கற்பினள் என்ற சிறப்பினைப் பெற்றவள். மதுரை செல்லும் வழியில் கழிவிரக்கமாக தனது தவறுகளைக் கூறி வருத்தமுற்ற கோவலனிடம், கண்ணகி தன்னை விட்டுப் பிரிந்த துயரை எடுத்துக் கூறவில்லை. மாறாக,

சீறூர் மன்னர்களின் வாழ்வியல் கூறுகள்

முனைவர் இ. ஆக்னஸ் மேரி
உதவிப் பேராசிரியை, தூய வளனார் கலை மற்றும் அறிவியல் கல்லூரி (தன்னாட்சி), கடலூர் - 1, தமிழ்நாடு, இந்தியா.

முன்னுரை

சங்க காலம் என்பது குறிப்பிட்ட ஒரு சமூக அமைப்பை மட்டுமே உடையது என்று கூறமுடியாது. இக்காலக்கட்டத்தில் பழைய சமூகச் சூழல்கள் மாற்றமடைந்து புதுவகையான சமூகச் சூழல்கள் உருவாயின. இந்நிலையில் பழைய சமூக அமைப்பின் எச்சங்களும், புதுவகைச் சமூக அமைப்பின் கூறுகளும் வெளிப்பட்டு நிற்கும் ஒரு காலக்கட்டமாகச் சங்க காலம் அமைந்தது எனலாம்.

சங்ககாலம் ஒரு மாறுதல் நிலையைக் குறிப்பதாகும் அது இனக்குழு வாழ்க்கை அழிந்து நிலவுடைமையாக மலரும் காலகட்டத்தைக் குறிக்கின்றது. சங்ககாலம் வரையறைக்குட்பட்ட நிலப்பகுதிகளையும் குடியேற்றங்களையும் அதற்குறிய சொத்துரிமை அவற்றைப் பாதுகாக்கும் வகைகளோடு உருவாயின எனக் கா.சிவத்தம்பியின் கருத்தை பெ.மாதையன் (பெ.மாதையன் 2004-38) எடுத்துக் காட்டுகிறார்.

சங்கப்பாடல்களான புறநானூற்றுப் பாடல்கள் கால்நடைப் பொருளாதாரத்தை அடிப்படையாகக் கொண்ட இனக்குழுச் சமுதாய எச்சங்களைத் தாங்கிய சமுதாயத்தையும், வேளாண்மையையும் அடிப்படையாகக் கொண்ட மருதநிலச் சமுதாயத்தையும் எடுத்துக்காட்டுகின்றது. இச்சமுதாயத்தில் இனக்குழு வாழ்வுமுறை அழிந்து நிலவுடைமையாக மாறுகின்ற சூழலில் பழைய சமுதாயத்தின் எச்சங்களும் நிலவுவது இயல்பே. இனக்குழு மக்களின் சிந்தனைகள், நம்பிக்கைகள், பண்பாட்டு எச்சங்கள் அதற்கடுத்து உருவாகும் சமுதாயத்தில் எஞ்சி நிற்கும் நிலையைச் சங்கப் பாடல்களும் காட்டுகின்றன. இந்த வகையில் இனக்குழுச் சமுதாயத்தின் எச்சங்களைத் தாங்கிய சங்கச் சமுதாயமாகச் சீறூர் மன்னர்களின் சமுதாயங்கள் இருந்துள்ளன.

உணவு சேகரித்தலும் வேட்டையாடுதலும் முதலில் உலகெங்கும் நிலவிற்று ஆனால் அதைத் தொடர்ந்த மாறுதல்கள் அந்தந்தச் சூழ்நிலையைப் பொறுத்ததாயிற்று. சில இடங்களில் கால்நடைப் பொருளாதாரத்திற்கும், விவசாயப் பொருளாதாரத்திற்கும் மாறினர். இவற்றின் முன்னேற்றம் இனக்குழு முறை அழிய வழி செய்துள்ளன என்பதனை அறியமுடியும்.

பின், இனக்குழுச் சமுதாய எச்சங்களைத் தாங்கியவர்களாக சீறூர் மன்னர்கள் இருந்துள்ளனர். சீறூர் மன்னர்கள் என்பவர்கள் இனக்குழு சமூகத்தின் தலைவர்களாவர். இம்மன்னர்களின் ஆட்சிமுறையில் பண்டமாற்றுமுறையே நிகழ்ந்து வந்துள்ளது. இவர்கள் வறுமையில் வாடியுள்ளனர் என்பதனை சங்க இலக்கியப் பாடல்கள் பல இடங்களில் பதிவு செய்துள்ளனர். இவர்கள் பொதுவுடைமைச் சமூகத்தினராய் இருந்த காரணத்தினால் உழைப்பின் வாயிலாகப் பெறப்படும் அனைத்து உடைமைகளையும் பொதுவில் வைத்து அனைவரும் பங்கிட்டுப் பயன்படுத்தியுள்ளனர். அனைவரின் கூட்டு உழைப்பால் மட்டுமே பொருளீட்டுதல் நடைபெற்றுள்ளது. புறநானூற்றில் 285 ஆம் பாடல் முதல் 335 ஆம் பாடல் வரை சீறூர் மன்னர் பற்றிக் குறிப்பிடப்படுகின்றது.

இலக்கியத்தில் சீறூர் மன்னர்கள் இயற்பெயரால் எங்கும் குறிப்பிடப் பெறவில்லை. வீரம் சார்ந்த பெயர்களிலும் மன்னர் என்னும் பெயராலும் மட்டுமே குறிப்பிடப் பெற்றுள்ளனர்.

"புன்காழ் நெல்லி வன்புலச் சீறூர்க்
குடியும் மன்னும் தானே கொடி எடுத்து
நிறையழிந்து எழுதரு தானைக்குச்
சிறையும் தானே, தன் இறைவிழும் உறினே"
(புறம் 314: 4-7)

Themes of Alienation and Survival in Margaret Laurence's *The Fire-Dwellers*

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Abstract

This paper centres on protagonist of Margaret Laurence's *The Fire-Dwellers* who survive their various personal dilemmas by employing certain survival strategies. By implication and extension, there are striking parallels between their survival strategies visa-vis Canada as a colonial country, in that they both engage from a marginalized position with a dominant culture. In many cases, the identity of an individual and that of his/her nation are inextricably entwined, and therefore, the individual quest becomes a microcosm of the quest for national identity. Margaret Laurence's *The Fire-Dwellers* reflects mainly three kinds of alienation - cultural, social, and self-alienation. In her novel, the characters owe their growth and development as also their rise and fall to an established social order, which they want to rebel against. The individuals grow through their encounters with society and their development is shaped and determined by

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Postcolonial Reading of Daniel Defoe's *Robinson Crusoe*

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Abstract

The study focuses on postcolonial ideas in Daniel Defoe's *Robinson Crusoe*. It aims to reveal the problematic side of postcolonial identity, including colonialist ideology in the work. This study applies postcolonial criticism that applies descriptive qualitative method. It aims at carrying out a post-colonial study of *Robinson Crusoe*, with the focus of two key elements in post-colonial theories self and other. This thesis explores two issues how Crusoe constructs the Self and how Friday becomes a silent through Crusoe's transformation. Crusoe constructs the Self through two ways in the process of colonization. The first way for him is to construct the Self through himself by recording daily experiences to bring European advanced culture into the island and resorting to God and sanctifying his endeavors towards the natives. This makes him believe that he is singled by God so that he can carry out any activity in God's name. The other way for Crusoe is to construct the Self at the cost of the native others. However, he has no resisting consciousness thus becoming a forever silent Other. By examining Robinson Crusoe as far as Self and Other, this proposal arrives at the resolution that Crusoe's development of Oneself depends on Eurocentrism while Friday's loss of his social character is because of Crusoe's merciless change. It gives perusers another exploration viewpoint of great abstract works.

Keywords: postcolonial identity, qualitative, transformation, sanctifying, consciousness, eurocentrism, perusers

Introduction

Postcolonial identities are not static, they are continuously developing and culturally crossing nations .Tyson asserts that they urge ex-colonials to grasp the different and frequently clashing parts of mixed culture that is theirs and that is an ineradicable certainty of history. Regardless of numerous faultfinders draw precedents from the artistic works of African Americans just as from writing of other previous populace, the inclination of postcolonial analysis to concentrate on worldwide issues, on examinations and differentiations among different people groups, implies that it is up to the individual individuals from explicit populaces to build up their very own assortment of analysis on the history, customs, and translations of their own writing. From this time forward, Nordlund's states that the third world postcolonial authors organize social and social selfhood issues. Robinson Crusoe was distributed under the impressively longer unique title The Life and Odd Astounding Undertakings of Robinson Crusoe, Of York, Sailor: Who lived Eight and Twenty Years, in solitude in an un-occupied Island on the Shoreline of America, close to the Mouth of the Incomparable Stream of Oroonoque: Having been thrown on Shore by Wreck, wherein every one of the Men died yet himself. With A Record how he was finally as oddly conveyed by Pyrates is an anecdotal personal history of the title character a castaway who invests a long time on a remote tropical island close Trinidad, experiencing barbarians, prisoners, and double-crossers before being saved. To get savagery and creature butcher in Robinson Crusoe, Mackintosh underscores on the political practices and on the distinction among sovereign and disciplinary power.

He clarifies that for political specialist the novel uncovers that viable administration of people requires a blend of sovereign and disciplinary power. The two sorts of intensity are appeared to work unpredictably on the bodies and psyches of people and creatures.

To upgrade Nordlund states that Defoe's enraptured treatment of childishness and unselfishness in Robinson Crusoe is an anecdotal reaction to two interconnected issues with individual independence: the extraneous issue is reliant on other individuals and the inherent danger of connections between the common world, the sacrosanct and oneself. God identifies with Crusoe as Crusoe identifies with his own spoke to self, and this self, thusly,

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ஆசாரக்கோவை உணர்த்தும் வாழ்க்கை ஒழுக்க நெறிகள்

ச.லிமா
தமிழ்த்துறை, உதவிப்பேராசிரியை
தூய வளனார் கலை மற்றும் அறிவியல் கல்லூரி (தன்னாட்சி), கடலூர்

ஆய்வு சுருக்கம்

கி.பி. 5 ஆம் நூற்றாண்டில் தோன்றிய பெருவாயில் முள்ளியார் அவர்களால் மனிதன் வாழ்க்கையில் கடைப்பிடிக்க வேண்டிய ஆசாரங்களைக் கோவைப்படுத்தி 100 பாடல்களில் கூறியுள்ளார். இன்று நம்பில் பலருக்கு பல சந்தேகங்கள் எந்த திசையில் படுக்க வேண்டும், எந்த திசையில் அமர்ந்து சாப்பிட வேண்டும், உண்ணும் போது செய்ய வேண்டிய ஒழுக்க நெறிகள், எந்த எந்த நேரத்தில், எந்த எந்த இடத்தில் எதைச் செய்ய வேண்டும் என்று பல சந்தேகங்கள் இவற்றையெல்லாம் நிவர்த்திச் செய்வதற்காக எழுந்த நூல் தான் ஆசாரக்கோவை. அவற்றில் இக்கட்டுரையில் நீராடும் முறை, உண்ணல் முறை, உடுத்தல் முறை, உறங்கல் முறை இவற்றில் செய்யக் கூடியவை, செய்யக் கூடாதவைப் பற்றி கூறப்பட்டுள்ளது.

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முன்னுரை

நாம் நம் அன்றாட வாழ்க்கையில் முன்னேறுவதற்குப் பிறரிடமிருந்து கற்றுக் கொள்ள வேண்டிய நெறிகள் பல உள்ளன. நம்மைச் சுற்றி வாழும் உயிரினங்களின் பழக்க வழக்கங்களிலிருந்து சிலவற்றறைக் கற்று கொள்கிறோம். மேலும் நம்மையும் நம் உடலையும், நம்மை சார்ந்தவர்களையும் பாதுகாக்க ஆசாரக்கோவை உணர்த்தும் நெறிகளை கடைப்பிடிக்க வேண்டும். கொள்ளத்தக்க ஆசாரம் என்றும் தள்ளத் தக்க ஆசாரம் என்றும் இரு நோக்கில் முள்ளியார் கருத்துக்களைக் கூறியுள்ளார். நீராடல், ஆடை அணிதல், உணவுகொள் முறைமை முதலான கொள்ளத் தக்க ஆசாரங்களையும், எச்சிலுடன் செய்யத் தகாதவை, அந்திப் பொழுது செய்வன தவிர்பன என்று தள்ளத் தக்க ஆசாரங்கள் ஆகியவற்றைக் காண்போம்.

நீராடலின் சிறப்பு

ஒவ்வொரு மனிதனும் தினமும் நீராடி தூய்மையுடன் இருப்பது அவனுக்கும் அவனைச் சுற்றி இருப்பவர்களுக்கும் அது பாதுகாப்பாக இருக்கும். ஒரு முறைப்பட்டார் நீராடும் பொழுதில் ஒருநாளும் நீந்தமாட்டார். எச்சிலை உமிழமாட்டார், அமுங்கி இருக்கமாட்டார், விளையாடுவதும் செய்யமாட்டார். ஆராய்ந்த அறிவுடையார் எண்ணெய் தேய்த்துக்கொள்ளாமல் தலை காய்ந்திருந்தாலும் தலையுடன் சேர்த்து தான் நீராடுவர் என்பதை,

"நீராடும்போழ்தீ னெறிப்படா ரெஞ்ஞான்று
நீந்தா ருமியார் திளையார் விளையாடார்
காயந்த தெனினுந் தலையொழிந் தாடாரே
ஆய்ந்த அறிவி னவர்"[1]

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புறநானூற்றின் அறிவியல் சிந்தனைகள்

ச.லீமா

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தூய வளனார் கலை மற்றும் அறிவியல்
கல்லூரி (தன்னாட்சி) மஞ்சகுப்பம், கடலூர் - 1

முன்னுரை

சங்க இலக்கியங்களில் அறிவியல் சார்ந்த பதிவுகள் செறிந்துள்ள அவற்றை பலரும் அறிவியல் கண்ணோட்டத்தோடு காணாமல் இலக்கிய பார்வையோடு மட்டும் காண்கின்றனர். சங்க இலக்கியங்களில் உள்ள அறிவியல் தான் விஞ்ஞானிகளின் ஆய்வுக்கு உறுதுணையாக இருந்துள்ளன. அறிவியல் என்பதற்கு விஞ்ஞானம், நுணங்கியல், இயல்நூல், ஆய்வுத்துறை, அறிவு பொருளாய்வுத்துறை, பருப் பொருள்களை ஆயும் நூல் தொகுதி ஆகிய கருத்துக்கள் தான் அறிவியல் என்பதற்கு உள்ள பொருள்கள் ஆகும். இவ்வறிவியலே உயிரியல், நீரியல், புவியியல், வானவியல், மருத்துவவியல், அரசியல் என பரிணமித்துள்ளன. இவை அனைத்து துறைகளிலும் தமிழர்கள் சிறந்துள்ளனர் என்பதை சங்க இலக்கியங்கள் எடுத்துக்காட்டுகின்றன. அவற்றில் சங்க இலக்கியங்களில் ஒன்றான புறநானூற்றில் கூறப்படும் அறிவியல் கருத்துகளை இக்கட்டுரையில் காணலாம்.

பஞ்சபூதங்களின் சிறப்பு

பஞ்சபூதங்களால் தான் இவ்வுலகமே இயங்குகின்றது, அவை இல்லையேல் இவ்வுலமும் மக்களும் கிடையாது. இயற்கை ஐந்து கூறுகளால் அமைந்தது என்பதை "நிலம், தீ, நீர், வளி, விசும்போடு ஐந்தும் கலந்த மயக்கம் உலகம் ஆதலின்"(தொல்.பொருள். மரபியல் 89)என்னும் தொல்காப்பிய நூற்பாவாலும் அறியலாம். மேலும் அணுக்களால் செறிந்த நிலம், நிலத்தின் கண் ஒங்கியிருக்கும் வானம், வானளவு பொருந்தித் தடவி நிற்கும் காற்று, காற்றினால் பெருகும் தீ, தீயுடன் மாறுபட்ட நீர் என்று ஐந்து வகையான பெரிய ஆற்றல்களை உடையது இயற்கை என்பதை,

மண் திணிந்த நிலனும்,
ஐம்பெரும் பூதத்து இயற்கை போல (புறம்:2,1-5) என்ற பாடல் வரிகள் மூலம் அறியலாம். 'விசும்பு தைவரு வளி" என்றதால், காற்று வான் பொருந்துமன்றி வானை ஊடுருவிச் செல்லாது என்றுணர்த்தினார்; 'வளியிடை வழங்கா வானம்'(புறம்:35) எனப் பின்னரும் வருதல் அறியலாம். 'காற்றோடு தீ நிகழ்ந்தன்' (புறம்:41) தீ காற்றால் செயல் மிகுவது எனவே வளித்தலைஇய தீயும் என்றார். இதன் மூலம் பஞ்சபூதங்களின் தன்மையை அறியலாம்.

வானியற் சிந்தனை

பண்டைத் தமிழரின் வானியல் புலமையை உணர்த்தும் வகையில் புறநானூற்றில் பல இடங்களில் வானியற் கருத்துக்கள் கூறப்பட்டுள்ளன. ஆகாயத்து

சிலப்பதிகாரத்தில் ஐந்திணை அமைப்பு முறை

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மஞ்சகுப்பம்

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முன்னுரை

சிலப்பதிகாரம் சிலம்பு - அதிகாரம் என்ற இரு சொற்களால் ஆனது. சிலம்பு காரணமாக விளைந்த கதை ஆனதால் சிலப்பதிகாரம் ஆயிற்று. இந்நூல் தமிழில் எழுதப்பட்ட ஐம்பெருங்காப்பியங்களில் ஒன்று. சேரன் இளவல் இளங்கோவடிகளால் கி.பி 2 ஆம் நூற்றாண்டு இறுதியில் எழுதப்பட்டது. அரசியல் பிழைத்தோர்க்கு அறம் கூற்றாகும், உரைசால் பத்தினியை உயர்ந்தோர் ஏத்துவர், ஊழ்வினை உறுத்து வந்து ஊட்டும் எனும் முப்பெரும் உண்மைகளை உலகுக்கு உணர்த்த எழுந்த நூல். தமிழ்த் தேசிய உணர்வைக் கட்டி எழுப்பிய முதல் தமிழ் காப்பியம். காப்பியங்களுக்கான இலக்கண அமைப்பு அனைத்தும் பொருந்திவரும்படி இயற்றப்பட்ட காப்பியமாகும். மூவேந்தர்களின் நாட்டையும், ஆட்சியையும், அதன் உயர்வையும் -தாழ்வையும் ஒப்பக்கருதி தம் புலமை அறிவால் எழுதப்பட்ட நூல். பண்டைத் தமிழின் சிறப்புகளைத் தமிழரின் உயர்வை நன்கு அறிவதற்குத் தலைவாயிலாய் அமைந்த நூல் ஆகும். இக்கட்டுரையில் அன்பின் ஐந்திணை அமைப்புமுறை எவ்வாறு வருணிக்கப் பட்டுள்ளது என்று காண்போம்.

முப்பொருள்கள்

தொல்காப்பியர் அகத்திணையியலைக் கூறும்போது அவற்றிற்குரிய முதற்பொருள், கருப்பொருள், உரிப்பொருள் ஆகியவற்றை விளக்கியுரைக்கின்றார். முதற்பொருள் என்பது உலகம் தோன்றிய காலம் முதல் இருக்கும் நிலமும் பொழுதும் ஆகும்.

முதல் எனப்படுவது நிலம் பொழுது இரண்டின்
இயல்பென மொழிப இயல்புணர்ந் தோரே (4)

என்று தொல்காப்பிய நூற்பா கூறுகின்றது. நிலத்தைப் பற்றிக் கூறும்போது நிலத்தோடு தொடர்புடைய தெய்வங்களையும் இணைத்துக் கூறுகின்றார்.

புதுச்சேரி வரலாற்றில் பாகூர்

முனைவர் ஆ. சுசித்ரா
உதவிப்பேராசிரியர், தூயவளனார் கலை மற்றும் அறிவியல் கல்லூரி,
மஞ்சக்குப்பம், கடலூர், தமிழ்நாடு, இந்தியா.

வடவேங்கடம் தென்குமரி ஆயிடைத்
தமிழ்க்கூறு நல்லுலகம்
(தொல்காப்பியம்- பாயிரம்)

தமிழகம் வடக்கே இமயமலை முதல் தெற்கே குமரிமுனை வரை பரவி விரிந்திருந்ததைத் தமிழரின் இலக்கண நூலான, தொல்காப்பியம் சுட்டுகிறது. பல்வேறு வரலாற்று உண்மைகளையும் உலக நாகரீகங்களையும் தன்னுள் அடக்கி இன்றுவரை தனிப்பெருமையுடன் விளங்குகின்றது தமிழகம். இத்தமிழகத்தில் கடலில் மூழ்கியிருந்ததாகப் புதுச்சேரிப் பகுதியை ஆய்வாளர்கள் குறித்துச் செல்கின்றனர். 2004-ஆம் ஆண்டு புதுச்சேரிக்கு அருகில் உள்ள பொம்மையார் பாளையத்தில் கிடைத்தத் தொல் மனித எலும்பு கூட்டை அறிவியல் முறைப்படி ஆய்வு செய்த போது, அதன் காலம் ஒன்றரை இலட்சம் ஆண்டுகள் பழமை எனக் கண்டறியப்பட்டுள்ளது. எனவே 1,50,000 ஆண்டுகட்கு முன்பே புதுச்சேரி பகுதியில் மனிதன் வாழ்ந்திருக்கிறான் என்பது தெரியவருகிறது (விடுதலைப் பொன்விழா மலர்-பக்கம் 10, 2004 புதுச்சேரி அரசு வெளியீடு) புதுச்சேரியில் கத்துக்கேணி என்ற இடத்தில் கிடைத்த 'புதைக்குழிகள்' பெருங்கற்காலத்தைச் சேர்ந்தவை எனக் கண்டறியப்பட்டுள்ளது. இவ்வாறு புதுச்சேரியில் கிடைத்துள்ள வரலாற்று ஆதாரங்களைப் பட்டியலிட்டுக் கொண்டே போகலாம்.

பாகூர்

புதுச்சேரி தன்னுள் 179 சிற்றூர்களைக் கொண்டுள்ளது. இச்சிற்றூர்களில் ஒன்றுதான் பாகூர். புதுச்சேரிக்குத் தெற்கே கமார் 12.5 கி.மீ. தொலைவில் இவ்வூர் அமைந்துள்ளது. 'சோழநாடு சோறுடைத்து' என்ற பழமொழிக் கேற்ப தமிழ்நாட்டின் நெற்களஞ்சியமாக, தொ
தஞ்சாவூர் விளங்குவதுபோல் புதுச்சே
நெற்களஞ்சியமாக அன்றைய சோழனின் ப
இன்றும் விளங்குகின்றது.

புதுச்சேரி கி.பி.18ம் நூற்றாண்டில் 'நிஜா
நிஜாமின்' ஆளுகைக்குக் கீழ் இரு
புதுச்சேரியில் பிரஞ்சுயர் ஆட்சி கா
காரணமாக விளங்கிய பிரான்கவாமார்த்
பிஜப்பூர் சுல்தானிடமிருந்து வாணிகம் செய்ய
கோட்டைகள் கட்டிக் கொள்ளவும் 55 ஹெக்
நிலப் பரப்பைப் பெற்றபோது பாகூர் பிரெஞ்
வசமானது. மீண்டும் கர்நாடகப்போரில் பா
ஐதராபாத்நிஜாம் நாசிர்ஜங் வசம் சென்
அவர் கொலை செய்யப்பட்டதால் அப்போது
புதுவை கவர்னர் துய்ப்ளேக்ஸின் உதவியா
முசாபர்ஜங் நிஜாமானார். இதற்கு நன்றியா
முசாபர்ஜங் தன் ஆளுகைக்கு உட்பட்டிரு
பாகூர் உள்ளிட்ட பகுதிகள் சிலவற்
துய்ப்ளெக்ஸிற்குக் கொடுத்தார் கி.பி. 1752 ஜூவ
24ஆம் நாள் பாகூரை மையமாகக் கொண்
பிரெஞ்சுப் படையும் ஆங்கிலப் படையும்
நேருக்கு நேர் மோதிக்கொண்டன. இப்போர்
'பாகூர்ப்போர்' என்று வரலாற்று ஆசிரியர்கள்
குறிப்பிடுகின்றனர். இந்தியாவுடன் பிரெஞ்சு
பகுதி இணையும் வரை பாகூர் பிரஞ்சுயர் வசமே
இருந்துள்ளது என்பதை வரலாறு சுட்டுகின்றது.

இவ்வாறு பிரஞ்சுயர் வசம் பாகூர்
இருந்தபோது பலவேறு அகழ்வாய்வுகள்
மேற்கொள்ளப்பட்டு வந்துள்ளன. அப்போது
கிடைத்தக் கல்வெட்டுகள், பட்டையங்களை
ஆய்வு செய்து மு.வோ.துய்ப்ராய் எழுதியதுதான்
'தெ பல்லவாஸ்' என்ற பிரஞ்சு நூல். இது
பல்லவர்கள் பற்றிய ஆராய்ச்சிக்குப் பெரிதும்

செம்மொழித் தமிழ் பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ், நவம்பர், 2019 - சிறப்பிதழ் (ISSN 2321-0737)
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திருச்சி, இயல் முகமது கல்லூரி, முதுகலைத் தமிழாய்வுத்துறை & தஞ்சாவூர், தமிழ்ப் பல்கலைக்கழகம், அயல்நாட்டுத் தமிழ்க்
கல்வித்துறையுடன் இணைந்து நடத்தும் UGC தன்னாட்சி நிதியுதவிப் பன்னாட்டுக் கருத்தரங்கம் "பன்முகத்

புறநானூற்றில் கூறலாகும் சிறப்புச் செய்திகள்

ச. லீமா

உதவிப் பேராசிரியை, தமிழ்த்துறை, தூய வளனார் கலை மற்றும் அறிவியல் கல்லூரி (தன்னாட்சி), கடலூர்-1, தமிழ்நாடு, இந்தியா.

முன்னுரை

சங்ககால அக இலக்கியங்களில் குறுந்தொகையும் புற இலக்கியங்களில் புறநானூறும் பலரால் எடுத்தாளப் பெற்ற சிறப்புடையது. சங்க இலக்கியங்களில் மிகுதியான போர்ச் செயல்களைக் கூறும் நூல் இதுவே. எனினும் போரின்றி உலகோர் அனைவரும் ஒன்றுபட்டு வாழ வேண்டிய தேவையினையும் இந்நூல் வற்புறுத்துகின்றது. பண்டைத் தமிழரின் பண்பாட்டையும், சிறப்பையும் நன்கு புலப்படுத்துகின்றது. இக்கட்டுரையில் பாரதப் போர் பற்றிய நிகழ்வு, தமிழ்நாட்டின் எல்லை, விண்மீன், நிலவு பற்றி நிகழ்வு, வான இயல், பிரியாணி, தெய்வங்கள், யவனர், கடையெழு வள்ளல்கள், இராமாயாணம் பற்றிய குறிப்புகள் இடம் பெற்றுள்ளன.

பாரதப்போர் பற்றிய நிகழ்வு

பெருஞ்சோற்றுதியஞ் சேரலாதன் சேரமன்னருள் ஒருவன் இவனை உதியனென்றும், உதியஞ்சேரலென்றும் மாமூலனாரும் கோட்டம்பலத்துத் துஞ்சி சேரமானும் பாடுவர். பாண்டவரும், துரியோதன் முதலான கௌரவர்களும் போரிட்டபோது இரு படைகளுக்கும் பெருஞ்சோறிட்டு இச்சேரமான் நடுநிலை புரிந்ததால் பெருஞ்சோற்றுதியஞ் சேரலாதன் எனப்படுகின்றான். இதனை,

> **"அலங்கு உளைப் புரவி ஐவரொடு சினைஇ,**
>
> ....
>
> **பெருஞ் சோற்று மிகு பதம் வரையாது கொடுத்தோய்"** (புறம்: 2:13-16)

என்ற பாடலடியில் அசையும் தலையாட்டத்தினையுடைய குதிரைகளுடைய பாண்டவர் ஐவர் அவருடன் பகைத்து நாடு கையப்படுத்தியவரும், பொன்னாலாகிய தும்பைப் பூக்கள் அணிந்தவருமான நூற்றுவராகிய துரியோதனன் முதலான கௌரவர், போரில் ஈடுபட்டுக் களத்தில் அழிந்தனர். நடுநிலையோடு போர் முடியும் வரை இருபெரும் படைகட்கும் பெருஞ்சோறாகிய உணவை அளித்தான் பெருஞ்சோற்றுதியஞ் சேரலாதன்.

தமிழ்நாட்டின் எல்லை பற்றிய குறிப்பு

பாண்டியன் பல்யாகசாலை முதுகுடுமிப் பெருவழுதியைக் காரிக்கிழார் நாட்டெல்லையை விடப் புகழ் பரந்து விளங்கட்டும் என்று வாழ்த்துகிறார். அவற்றில் தமிழ்நாட்டின் எல்லையை வடதிசையில் பனிபடரும் நெடிய மலையாகிய இமயத்திற்கு வடக்கிலும், தென் திசையில் அச்சம் தரும் கன்னியாற்றிற்குத் தெற்கிலும், கிழக்குத் திசையில் சகரரால் தோண்டப் பெற்றுக் கரையை மோதும் கடலுக்குக் கிழக்கிலும், மேற்குத் திசையில் தொன்மையாய் முதிர்ச்சியுற்ற கடற்பரப்பின் மேற்கிலும் உன் புகழ் பரவட்டும் என்று கூறுகிறார் இதனை,

> **"வடாஅது பனி படு நெடு வரை வடக்கும்,**
>
> ....
>
> **குடாஅது தொன்று முதிர் பௌவத்தின் குடக்கும்"** (புறம்: 6:1-4)

மேலும் பாண்டியன் தலையாலங்கானத்துச் செருவென்ற நெடுஞ்செழியனும் யானைக்கட்சேய் மாந்தஞ்சேரல் இரும்பொறையும் போரிட்டனர். போரின் முடிவில் இரும்பொறையை செழியன் சிறையில் அடைத்து விடுகின்றார். அப்போது அவனது நாட்டின் எல்லையை கணக்கிட்டு கூறுகிறார். இவ்வாறு, தென்திசையில் கன்னியையும் வடதிசையில் இமயத்தையும் கிழக்கு மற்றும் மேற்குத் திசைகளில் கடற் பரப்பையும் எல்லைகளாகக் கொண்டு இவ்விடைப்பட்ட நில

GREEN ACCOUNTING REPORT AMONG INDIAN CORPORATES

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Abstract- Duty towards condition has turned out to be one of the most urgent territories of social obligation. Recent years bypassed have seen rising worry for ecological degradation, occurring primarily due to contamination through different sources, viz. air, water, sound, soil disintegration, deforestation, and so forth. Despite of the fact that Indian corporate are supposed to drive their business aligned with the principles and guidelines with respect to ecological assurance, till date no obvious strategies are confined nor detailed at the National, State or even at the organization level, as part of guaranteeing the degree of Compliance to natural standards. Proposed examination is proposed to discover the major ecological parameters announced by Indian Corporate as a feature of their Environmental detailing practice. The investigation additionally centres about the degree to which Indian Corporate practice succeeds in contributing a wilful ecological detailing with respect to the ecological parameters recognized. Furthermore the examination builds up a model which indicates six angles to be shrouded in natural bookkeeping so as to measure a definitive ecological execution of the association. The main point emphasized by this model is to introduce a novel perspective on the various exercises to be embraced by associations to encourage natural bookkeeping and detailing.

Keywords: Social obligation, ecological execution, natural bookkeeping, natural Reporting.

I. INTRODUCTION

Developing nations like India are confronting the twin issue of ensuring the earth and advancing monetary improvement. A trade-off between ecological insurance and improvement is required. A cautious evaluation of the advantages and expenses of ecological harms is important to discover the protected furthest reaches of natural debasement and the required degree of advancement. Obligation towards condition has turned out to be one of the most vital regions of social duty. Recent years bypassed have seen rising worry for ecological degradation, occurring primarily due to contamination through different sources, viz. air, water, sound, soil disintegration, deforestation, and so forth. It is an overall marvel. It ruins human wellbeing, diminishes monetary profitability what's more, prompts loss of luxuries which the corporate ventures are liable to confront eventually thereby paving

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IDENTIFYING OPPORTUNITIES TO REDUCE ORGANIZATIONAL ROLE STRESS AND SOURCES OF STRESS

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Dr. P. VAITINADANE @ ANBOUNADANE , Dr. ANNAMALAI SOLAYAPPAN , Dr. S. SANKAR , Identifying Opportunities To Reduce Organizational Role Stress And Sources Of Stress , Palarch's Journal Of Archaeology Of Egypt/Egyptology 16(3). ISSN 1567-214x.

Keywords: Organizational role stress,Source of stress.

ABSTRACT - The aim of this study is to understand and measure the organizational Role Stress (ORS) among the employees of school teachers.The objective is to find out the organizational role stress of school teachers. The study was conducted by taking 200 teachers who are belonging to the Chennai. The random sampling method was used in this study and also the surveying method used to collect the data. The identifying opportunities to reduce organizational role stress evolved and analyzed. The study has implemented for more Organizational role stress on source of stress (SOS)amongschool teachers.

I. INTRODUCTION:

Now days, stress is one of the most important problems among teachers. Stress has been connected to higher costs, absenteeism, and poor performance, increases disability. Stress is the main hindrance of commitment and satisfaction, which leads to negative activity in organization which ultimately leads to lower performance. If we want any intuitions to stand

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REVIEW ARTICLE

Recent Status and Advancements in the Development of Antifungal Agents: Highlights on Plant and Marine Based Antifungals

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Abstract: The developing resistance in fungi has become a key challenge, which is being faced nowadays with the available antifungal agents in the market. Further search for novel compounds from different sources has been explored to meet this problem. The current review describes and highlights recent advancement in the antifungal drug aspects from plant and marine based sources. The current available antifungal agents act on specific targets on the fungal cell wall, like ergosterol synthesis, chitin biosynthesis, sphingolipid synthesis, glucan synthesis *etc*. We discuss some of the important anti-fungal agents like azole, polyene and allylamine classes that inhibit the ergosterol biosynthesis. Echinocandins inhibit β-1, 3 glucan synthesis in the fungal cell wall. The antifungals poloxins and nikkomycins inhibit fungal cell wall component chitin. Apart from these classes of drugs, several combinatorial therapies have been carried out to treat diseases due to fungal resistance. Recently, many antifungal agents derived from plant and marine sources showed potent activity. The renewed interest in plant and marine derived compounds for the fungal diseases created a new way to treat these resistant strains which are evident from the numerous literature publications in the recent years. Moreover, the compounds derived from both plant and marine sources showed promising results against fungal diseases. Altogether, this review article discusses the current antifungal agents and highlights the plant and marine based compounds as a potential promising antifungal agents.

Keywords: Plant based antifungal agents, Marine based antifungal agents, Fungal resistance, Natural drugs, Azole, Polymers.

1. INTRODUCTION

Fungi are omnipresent and can survive in all environmental conditions [1]. They cause severe disease in humans especially when their immune status becomes weakened or disturbed, through inhalation of their spores. Out of 70000 fungal species formally reported, only 300 may infect humans [2]. It is estimated that each year nearly 1.5 million deaths occur due to fungal infections [3, 4]. The majority of death due to fungal infections is by invasive *candidiasis i.e.* 30-40%. The mortality rate due to each *Cryptococcosis* and *Aspergillosis* is 20-30% [5, 6]. Nearly, 90% of mortality caused by Fungi is from the genus *Candida*, *Cryptococcus*, *Aspergillus*, *Mucor and Rhizopus* [7]. The newer fungal species in the genus *Fusarium*, *Zygomycetes* emerges as a prominent causative agent for invasive fungal infections [8]. The patients in ICU, with critical illness, underwent transplantation procedures and with immunosuppressive drugs treatment has shown a drastic rise in the incidence of fungal infections. To manage optimally the fungal infections, specific antifungal drugs are need to be used. So, new classes of drugs to cure these lethal fungal infections are required. A multi method approach is needed to treat these fungal infections effectively *i.e.* early diagnosis, radiology and surgical procedures.

At present, many antifungal agents are in use and generally classified into four classes: azoles, echinocandins, polyenes and pyrimidine analogues [8, 9]. Another class of antifungal agents (fifth class), *i.e.* allylamines is used only for treating superficial infections. These classes of antifungal compounds mainly inhibit the components of fungal cell wall *i.e.* synthesis of ergosterol, chitin, glucan, sphinolipid *etc*. The azole class of drugs has evolved from imidazole type to second generation triazoles due to their toxicity, side effects and drug-drug interactions. Like azole compounds, polyene (eg. AmphotericinB) and allyamine compounds (*e.g.* Naftifine) also inhibit ergosterol biosynthesis. Unlike other classes, the Echinocandins class of compounds (*e.g.* Caspofungin, micafungin and anidulafungin) inhibit fungal growth by arresting the membrane component β-1, 3-glucan. Recently, several antifungal agents isolated from various sources exhibited antifungal properties by blocking key fun-

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Order determination of moving average time series model Bayesian approach

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Abstract

In Time series analysis, the order of various Time series models plays an important role in studying model selection criterion. Hannan and Quinn(1979) have been studied the order determination of an auto regression through classical approach. In this paper, an attempt is made to study the order determination of moving average time series model by employing Bayesian methodology.

key words: Moving average, Order determination, Bayes theorem, Model Selection.

1. Introduction

Statistical analysis of moving average (MA) models is an important nonstandard problem. No classical approach is widely accepted. Bayesian approach are designing a structure through which prior information can be incorporated and designing a practical computational method. In addition to the standard results, the Bayesian approach gives a different method of determining the order of the MA model, that is (q).

Bayesian inference holds a distinct advantage over so-called classical statistics in non-standard problems where concepts such as sufficiency or completeness do not apply. That advantage is that the program is unchanged: the prior together with the likelihood produce the posterior. A disadvantage is that conjugate families are not available and so the Bayes Theorem must be used numerically, for which approximation and numerical integration techniques are required.

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AN EFFICIENT FRAMEWORK FOR IMBALANCED DATA CLASSIFICATION USING OPTIMAL DEEP LEARNING WITH MULTILAYER PERCEPTRON

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Abstract: Deep learning (DL) is a sub-field of machine learning that make use of artificial neural networks (ANN) stimulated from the arrangement and operation of the human brain. In spite of being a recent method, it became familiar in the present days and gained more attention in several application areas. Particularly, it is recommended to classify massive amount of data due to the nature of rapid and effective performance. In this view, this paper presents a multilayer perceptron (MLP) based data classification model which undergo tuning process by the use of Root Mean Square Propagation (RMS Prop). The learning rate of RMSProp will be modified in an automatic way and it selects various learning rate for every variable. A detailed simulation experiments were carried out to highlight the superior characteristics of the presented model. The obtained outcome pointed out that the presented MLP-R model shows extraordinary classification over the compared methods.

IndexTerms - RMSProp; Classification; Machine learning; Deep learning

I. INTRODUCTION

Classification is employed to predict the class labels of the provided input data. The classes can be referred as labels or categories. Classification predictive modelling is the process lies in the approximation of a mapping function (f) from input variables (X) to discrete output variables (y) [1]. A classification model will make use of few training data to interpret how provided input variables related to the class. The classification process comes under the kind of supervised learning in which the target offered with the input data. Several applications of classifier models take place namely credit approval, healthcare, target marketing, and so on [2]. Numerous classifier models are present in the literature; however, it is hard to make a conclusion that which method is superior to one another. It is based on the applicability and characteristic of the present data. For instance, when the classes are linearly separable, the linear classification models are available. In linear regression [3], the statistical process is employed where the prediction of the dependent variable takes place using independent variables. A connection is established by mapping the dependent as well as independent variables on a line and which is referred as regression line and is represented as $Y = a * X + b$, where X and Y indicates the independent and dependent variables, a and b indicates the slope and intercept.

Under logistic regression (LR) [4], massive data exist where the classification takes place through the construction of an equation. It finds helpful to determine the discrete dependent variables from the collection of independent variables. The intention of LR is to determine the optimal best-fit set of variables. Here, every attribution under multiplication through a weight and each one is accumulated. Next, the outcome is given to the sigmoid function that generates the binary outcome. It will produce the coefficients for predicting a logit transformation of the probability. Then, Decision Tree (DT) [5] is also a supervised learning technique employed for classification and regression. Under DT, data is partitioned based on the attributes present in the dataset. The procedure will be iterated till the entire data undergo classification and leaf node is found at every branch. Information gain is determined for finding which feature offered maximum information gain. DT is constructed to build a training model employed for prediction purposes. Support vector machine (SVM) [6] is mainly applied for binary classification. Here, actual data is taken out from the n- dimensional plane. Here, a separating hyperplane is applied for differentiating the dataset. A line is drawn from middle point of the line separating the two nearest data-points of dissimilar categories is considered as an optimum hyper plane. Naive-Bayes (NB) model [7] is applied to construct a classifier utilizing Bayes theorem. It will learn the possibility of the objects with particular features comes under a specific group. Here, the occurrences of every feature are not dependent on the occurrences of other features. It requires minimum quantity of training data and it is simple and fast.

K-nearest neighbor (KNN) [8] is utilized for both classification and regression. It is an easier model which saves the instances and for fresh instance, it will check the significance of k neighbours to determine the similarity. Then, K-means Clustering is an unsupervised learning model applied to resolve the drawbacks of clustering. For grouping the dataset to clusters, the initial partitioning of the dataset takes place by the use of Euclidean distance.

Random Forest (RF) [9] is also a supervised classifier mode where many DTs are considered altogether and generates a RF. It is applied for classification and regression. Every DT comprises few rule-based models. On the provided training dataset with targets and features, the DT model holds a collection of rules. It utilizes the rules of every arbitrarily generated DT for predicting the results and saves it. In addition, it determines the vote of every predicted target. Therefore, high voted prediction is treated as the final

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Screening and Characterization of Proteolytic Bacteria and Its Application in Antibiofilm Activity

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Abstract

Proteases are the important compounds of all life on earth including fungi, plants, animals and prokaryotes. About 60% of the total enzyme market has been grabbed by protease. Protease may also be called as proteinase, peptidases or proteolytic enzyme that hydrolysis (Addition of water across the peptide bonds) the peptide bond in between the amino acids. Depending on their acid base behavior they are divided into 3 groups acid protease produced by mostly fungi, Neutral protease produced by plants sources and finally Alkaline protease. *Bacillus* species are well known for their extracellular protease enzyme production and industries majorly uses *Bacillus subtilis* for the production of various enzymes. *Bacillus* is rod shaped bacterium with protective endospore that can withstand extreme conditions. They are obligate aerobes or facultative anaerobes in which few are pathogenic and others are free living. The present study reports The Screening and characterization of proteolytic bacteria from various samples and its application in antibiofilm activity. 34 bacterial species were isolated and screened. Two bacterial species (*LSSP03* and *SCPW01)* were selected for the optimization of protease enzyme using various parameters such as carbon, nitrogen and pH. In order to identify the bacteria species using molecular methods two isolates (FS 1 & SP1) were selected for genome sequencing. The protease produced from the bacteria was checked for its antibacterial activity using well diffusion method and the antibiofilm activity was checked against the biofilm produced by *Pseudomonas aeruginosa* by Tube and Microtitre plate method.

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Keywords

Protease, Hicrome Bacillus agar, *Bacillus* sps, Antibiofilm

Introduction

Micro-organisms has an incredible characteristics of producing a wide variety of extracellular and intracellular enzymes. These enzymes have many applications on in the industrial scale. The maximum yield can be achieved by selecting the appropriate micro-organism strain and culturing them at optimum conditions. By this way, Products such as beer, wine, cheese, bread can be made. These bacterial enzymes are used instead of chemicals and other constituents because the microbial enzymes are eco-friendly and harmless. The modern biotechnological industry plays a vital role in the production of enzymes like protease etc. This production may involve various disciplines such as microbiology, genetics, engineering, biochemistry (Gaurav Pant *et al.*,).

இடமுலைத் திருகி எரித்த கொங்கச்செல்வி

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எட்டுத்தொகை, பத்துப்பாட்டு, திருக்குறள் என்னும் வரிசையில் சிலப்பதிகாரமும் ஒன்று என்கிறார் மா.இராசமாணிக்கனார் (தமிழக வரலாறு ப.69) கற்புடைய பெண்கள் குறைந்து போனதால் இக்காப்பியம் தமிழ்க்கூறும் நல்லுலகிற்குத் தேவைப் பட்டதா? அல்லது நம்பி வந்த பெண்ணுக்கு துரோகம் இழைத்த, காமக் களியாட்டங்களில் நாட்டம் செலுத்தி, பரத்தமை வாழ்க்கைக்குத் தான்டுகோளாக வாழ்ந்து, பரத்தையரும் கணிகையரும் பலிப்ப பெருகக் காரணமாக இருந்த ஆடவர் எண்ணிக்கை அதிகமாகியதா? என்பதை ஆராய்ந்து நோக்கினால் ஆடவர்கள் எண்ணிக்கை அதிகமாகியதுதான் என்ற உண்மையைச் சிலப்பு வெளிப்படுத்துகின்றது. கண்ணகியில் வாழ்வு பெண்களை, சிலப்பதிகாரம் தன் காப்பியத்தில் ஆங்காங்கே காட்டிச் செல்கின்றார். அப்பாத்திரங்களுள் கண்ணகியின் நிலை காப்பியத் தொடக்கம் முதல் இறுதி வரை பொதும் அவல நிலையாகவே காட்டப்படுகின்றது. கண்ணகியின் கண்ணீர் வாழ்க்கையின் இறுதியில் தனது இடமுலையை வலக்கரத்தினால் திருகி எரிந்து மதுரையை எரியூட்டுதற்கான காரணத்தை ஆராய்வதே இக்கட்டுரையின் நோக்கமாகும் இருக்கிறது.

கண்ணகி-மாதவி-கோவலன்

கோவலன் தன் மனைவியான கண்ணகியைப் பலவாறு கொஞ்சி மனையறம் படுத்த காதைவரை மகிழ்ந்திருந்தான் என்று கூறுகின்றார் இளங்கோவடிகள். கண்ணகியையும் கோவலனையும், கோவலனின் பெற்றோர் தனிக்குடித்தனம் வைத்தபோது, பாம்புகள் ஒன்றோடொன்று தழுவியதுபோல, இருவரும் தழுவி இன்புற்றனர். காமனும் இரதியும் போல் வந்து இன்புற்றனர் என்று கோவலன் கண்ணகியின் இன்ப வாழ்வைக் காட்டிச் செல்லும் இளங்கோவடிகள், மாதவியும் கோவலனும் வாழ்ந்த இன்ப வாழ்வைக் காட்டவில்லை.

A STUDY ON EMPLOYEES JOB SATISFACTION IN SOLARA PHARMACEUTICALS PRIVATE LIMITED, CUDDALORE.

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Abstract: Job Satisfaction, in straightforward words is the degree of substance with the activity a worker is in. Since numerous years innumerous examinations have been led on the degree of occupation fulfillment of representatives in the association. It is the disposition one has towards his or her activity. Expressed another way, it is one's compelling reaction to the activity. Employment fulfillment in a tight sense implies frames of mind identified with the activity. Occupation fulfillment has likewise been connected with different factors like Personal detail, General working conditions, Pay and promotion potential, Work relationships, Management cooperation and Use of skills and abilities. The present paper will feature various elements influencing job satisfaction in Solara Pharmaceutical Private Limited, Cuddalore.

INTRODUCTION

Job satisfaction is a general mentality which is the aftereffect of numerous particular frame of mind in three regions, specifically (I) explicit occupation factors; (ii) singular attributes; and (iii) bunch relationship outside the activity. These elements can never be disengaged from one another for examination. The methodology which since to be picked is that activity fulfillment is the favourableness or unfavourableness with which representatives see their works. It results when occupation necessities suit to the needs and desire for the representatives.

In any case, an increasingly complete methodology necessitates that numerous extra factors be incorporated before a complete comprehension of occupation fulfillment can be gotten. Such factors, for example:- the employee's age, wellbeing, demeanor, wants and level of desire ought to be considered. Further, his family connections, social status, recreational outlets, movement in hierarchical work political or absolutely social, contribute at last to the job satisfaction.

JOB SATISFACTION AND BEHAVIOUR

Is there any connection between how effectively a representative performs and how much he is happy with the different parts of his activity? The response to that question isn't yet plainly settled. **Vroom (1964)** has worked admirably of looking at the connection between employment fulfillment and different parts of work conduct. Vroom catagorised thinks about as far as which occupation practices are connected with employment fulfillment. He bunches them into investigations of turnover, non-appearance, mishap, and employment execution. In summerising the research identified with occupation fulfillment to work conduct factors, Vroom makes various determination. For example:

i. There is a steady negative connection between occupation fulfillment and the likelihood of abdication.
ii. There is less consistant negative connection between employment fulfillment and abseentism.
iii. There is some sign of a negative connection between employment fulfillment and mishaps.
iv. There is no single connection between employment fulfillment and occupation execution. Connection between's these factors fluctuate inside an amazingly huge range.

FACTORS INFLUENCING JOB SATISFACTION

Job satisfaction is gotten from many interrelated variables. Each factor has its claim significance and which cannot be ignored. Every one of these variables are liable to change now and again and accordingly investigation of these elements is significant. These elements are:

1. SUPERVISION: To a worker, Supervision is equally a strong contributor to the job satisfaction as well as to the job dissatisfaction. The feelings of workers towards his supervisors are usually similar to his feeling towards the company. The role of supervisor is a focal point for attitude formation. Bad supervision results in absenteeism and labor turnover. Good Supervision results in higher production and good industrial relations.

TREND AND PROGRESS OF TOURISM IN INDIA: AN EMPIRICAL ANALYSIS

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Abstract

The importance of tourism in India can by no means be underestimated. It helps the tourists to get use to with the culture, customs and conventions, language and mode of living of the people at destination. The most important benefits of tourism include job creation, foreign currency earnings, infrastructure development, poverty eradication, inequality reduction and balanced regional development. In addition, tourism is critical for increasing world peace. Thus, we have studied the trend and progress of tourism in India over the period spanning from 1995 to 2015. All tourism indicators except total contribution of travel and tourism to employment have been showing an increasing trend in India over the sample period. All these have been possible due to the constructive efforts made by the Centre and State governments over years. The government of India understands the importance of tourism in building a vibrant sustainable economy in the long-run. Thus, from time to time increasing importance has been attached to this service sector. Several plans, policies, projects, and schemes have been launched for the development of tourism sector activities in India. India is therefore, hopeful to accrue the benefits of multiplier effects of tourism in coming days.

Key Words: *Tourism, India, Trend Analysis, Role of Government*

JEL Classification: L83, Z32, Z39

1. INTRODUCTION

In India tourism has become the most vibrant service sector activity and a multi-billion industry over years (Patel, 2012). Tourism has been recognized as the as an engine of economic growth and development. Its role and importance in generating employment opportunities and Contributing to national income has well been agreed worldwide (Vethirajan and Nagavalli, 2014). Besides tourism is the significant contributor to the foreign exchange reserves of a country (Fayissa *et* al. 2007; Mishra *et al*. 2011; Mishra and Rout, 2012-13; Munshi and Mishra, 2016; Rout *et al*. 2016; Iqbal and Sami, 2016). India has identified tourism significant for employment generation, poverty alleviation, inequality reduction and sustainable human development (Mishra and Rout, 2012-13; Iqbal and Sami, 2016). Tourism has been credited for improving social cohesion and bringing global peace (Richardson, 2010; Gill & Singh, 2011; Gill & Singh, 2013; Mishra *et al*. 2016). Tourism can give impetus to the development other sectors such as agriculture, manufacturing, transport and communication, accommodation and hospitality and others (Mishra *et al*. 2011). It has the potential to positively influence the quality of life and the pace of growth of a country. It is with this backdrop, this paper is an attempt to make an analysis of the trend and progress of tourism sector in India. The natural surroundings, the architectural masterpieces, the music, dance, paintings, customs and languages are all made India the tourist paradise (Bhatia, 2013). India has been succeeded in attracting growing number of foreign tourists from all corners of the globe. Indian tourism has got the potential to strengthen the socio-economic-cultural and political fundamentals of the country (Tripathi & Siddiqui, 2010). The growth of tourism industry in a country can change economic conditions (Nag, 2013). Thus, prudent policies and projects are warranted for furthering the sector. So a study of this kind keeps much relevance in the present day globalized scenario. The rest of the paper is organized as follows: Section 2 highlights the progress of tourism in India; Section 3 makes the statistical analysis of the trend patterns that the indicators of tourism have been exhibiting over years; Section 4 focuses on the role of the government in contributing to the growth of tourism sector in India; and Section 5 concludes.

Gender oppression and Sexual Exploitation in Mahasweta Devi's “Giribala”, “Dhowli” and “Douloti the Bountiful”

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Abstract

This article throws limelight on Mahasweta Devi’s short narratives of women being ill-treated on basis of Caste , gender and status in “Giribala” and “Dhowli,” in *Women outcastes, Peasants and Rebels* and “Dhowli the Bountiful” in *Imaginary Maps* to. Mahasweta Devi’s specialisation lied in the studies related with women who belonged to minorities such as Adivasi, Dalits etc. Devi exposes how men exploited female reproductive spaces and she also shows how females are considered as a sex commodity. I state that Devi’s cultural reports provides an ethnographic venue for examining how power relations shape reproduction and their decisions and how women struggle everyday to reproduce their livelihood under the levels of political duress.

Keywords: Exploitation, disposability of minority women, gender oppression, post colonialism.

1. Introduction

Literature reflects the truth about of life. It is a mirror that reflects historical, social, economic, political and cultural events that takes place around us. Fascinatingly, in such narratives, creative writing in addition reflects the imbalances/complexity that exists in individual as well as social relationships. In this role, literature becomes an observation on inequalities in the social order. These societal inequalities create inconsistency in many ways, affecting the lives of individuals.

Mahasweta Devi is a tireless activist who fought for several reasons close to her heart and fought for many marginalised groups. She was an inexhaustible writer whose well liked works include *Hajar Chaurashir Ma, Aranyer Adhikar* and *Rudali*. Mahasweta Devi’s works tinted and expressed the concerns for people who are

Comparing and Evaluating Machine Learning Algorithms for Predicting Customer Churn In Telecommunication Industry

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Abstract--- To sustain in current in telecommunication business, it is important to find churn in customer. Customer churn prediction (CCP) is a serious issue and needs worthy predictor. Finding an effective predictor to use in large and inappropriate data of telecom industry is tedious work. In this paper, a try to compare and evaluate performance of various data mining techniques such as decision tree (DT), logistic regression (LR) support vector machine (SVM), linear classifier (LC) and Naïve Bayes (NB) on the customer churn prediction is done. An applied algorithm is evaluated for performance using few datasets. Naïve Bayes (NB) is found to be effective than other classifiers.

Keywords--- Churn, Telecom, Data Mining Techniques.

I. Introduction

Due to the rise in the count of telecommunication providers tends to heavy competition and therefore user churn. Over increasing churn, companies start aiming over users separately. Churn can be described [1] as the tendency of a user to stop transaction over business with a company. The present need is to recognize the users who have maximum probabilities to move out. The capability of the company is to mediate at the correct period can efficiently decrease churn.

The dissatisfaction of the customer is the main cause of churn. Various parameters are needed to recognize the user dissatisfaction. Generally, a user will not churn for a single factor of dissatisfaction [2]. Commonly, prior to cease the transaction completely, there exist various factors of dissatisfaction with the company. Various operations mode with the company and property that is linked with the user are recorded through the company. This demonstrates the user behavior data. A clear perception is attained by analyzing this information and the current status of the customer may be known [3]. Therefore, for predicting churn, this can be employed as the base information.

The information in discussion may be massive; hence, this is main challenge in this operation mode. The massiveness might be according to the behavioral nature of the information, showing the entire product lines concerned with the company. Moreover, owing to the need of data in structural representation, every instance is constrained to comprise the entire property with respect to common user in the company [4,5]. According to the data sparseness, as the users will be linked with some properties and not with the entire properties concerning to the company.

In the process of predicting the churn, the sparsity and hugeness of information is a main challenge. To give away a different category of services, huge organizations communicate with their users [6]. The main difference in organizations is the service to the users. The capability to forecast if a user will cease so as to mediate at a correct time can be needed one for avoiding issues and giving customer service at high level. The issue tends to be a tedious one if the user behavioral information is very diverse and sequential. In any industry, an unavoidable process is churn. But, by employing different methods, it is probable to recognize the reason for churn.

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A Comprehensive Survey on Evolutionary Algorithm based Object Tracking Techniques

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***Abstract*— Presently, visual tracking become more popular in the area of computer vision. For effective object tracking, the tracking method should have the capability to separate the target object from background accurately. While designing the model of visual tracking, several issues need to be considered. Some of the issues are occlusion, scale variation, rotation, motion blur, deformation and background clutter. In order to achieve effective visual tracking, numerous visual tracking methods are developed. After bio-inspired algorithms come into the lime light for solving combinatorial optimization problems, visual tracking grasps a number of researchers for solving it. This part of interest leads the researchers to produce many algorithms for visual tracking along with hybrid models for efficient tracking process. This paper reviews the existing evolutionary algorithms (EAs) based visual tracking methods for proper object tracking. The existing methods are reviewed based on their aim, underlying methodology, performance measure, advantages and its limitations.**

***Keywords*—** Visual tracking, Evolutionary algorithms, swarm intelligence, particle swarm optimization

I. INTRODUCTION

Recently, the concept of visual tracking plays a significant part in computer vision [1]. Many researchers are carried out in visual tracking because of several practical applications. It is widely used from military applications to civilian applications like border surveillance, object tracking, behavior analysis, Human Computer Interaction (HCI), etc. [2]. The difficulty of the tracking system based on various factors like information known earlier about the target object and number of parameters monitored (location, scale). Existing tracking methods works well and produce effective results only in simpler situations, i.e. slow motion, less occlusion, etc [3]. Tracking generic objects is still a difficult due to the presence of blur, rotation, fast motion, occlusion, scale variation, pose change and background noise. These challenges are illustrated in Fig. 1. So, a new effective tracking model is needed to solve these issues. A traditional tracking model comprises of three units: appearance, motion and search strategy models [4]. The appearance type calculates the probability of the object of interest at some specific location. The second model interconnects the location of the object with respect to time. The third model finds the more appropriate location of the object in the current frame. An appearance modeling is used to develop a mathematical model for the identification of objects, especially in visual tracking [5]. Generally, there are two types of trackers which include generative tracker and discriminative trackers. The former trackers find the target which looks same as target object. This method uses templates, subspace or inference methods. Discriminative tracking method uses binary classification problem to differentiate the target from the background.

The tracking methods can also be classified into two methods with respect to representation mode. The two methods are holistic method and parts-based method. The holistic method captures larger objects by mapping the appearance of the target with global cues [6-8]. For local visual cues, holistic method fails to produce better results. On the other side, parts -based method mapped the target appearance with local patches, which encodes the spatial information. These patches are not connected tightly to some extent of spatial deformation. This method can be used for short term tracking and produces better results than holistic method. This method works well in presence of partial occlusion. Due to non-consideration of the entire information of the object, it fails to track objects in the existence of background clutter and motion blur. It is clear that both holistic and parts based method considers only a part of visual cues, either global or local cues. These methods use the information within the object and ignoring the textual cues. The existing tracking methods fail to produce effective results in complicated situations.

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RAL-PLFEC: RAPTORQ Based Application Layer and Physical Layer Forward Error Correction for Cloud Environment

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Abstract: Data sharing in the cloud computing system permits multiple users to spontaneously share their data, which improves the efficiency of work in co-operative environments. Though, how to ensure the integrity of data sharing within a group and how to effectively share the outsourced data without packet loss are terrible challenges. So, it is important to handle the packet loss detection efficiently and logically when accessing the cloud computing environment. Forward error correction (FEC) is a technique of attaining packet loss control, in which redundancy data is added to the packets to detect and correct the bit errors. This paper suggests a RAL-PLFEC method which is based on application layer and physical layer FEC to allow protection against the data corruption and data loss in the cloud environment. RaptorQ is a FEC technology executed with Low-Density Parity-Check (LDPC) that offers application-layer and physical layer defense against the packet loss in the cloud. This proposed method facilitates to reconstruct the data completely, lost in during transmission by allowing packet flow and delivery services. The proposed method achieved a significant reduction on the transmission overhead and packet loss rate when compared with the traditional FEC scheme.

Keywords: Application Layer FEC, Forward Error Correction, Physical Layer FEC, RaptorQ

I. INTRODUCTION

Cloud computing and cloud storage management have become hot topics in recent decades. Both are changing the lifestyle and greatly improving production efficiency in some areas. At present, due to limited storage resources and the requirement for convenient access, one may prefer to store all types of data in cloud servers, which is also a good option for companies and organizations to avoid the overhead of deploying and maintaining equipment when data are stored locally. The cloud server provides an open and convenient storage platform for individuals and organizations, but it also introduces security problems [1].

Cloud computing trusts on the computing and storage infrastructure provided by the cloud data centers and are becoming a highly accepted computing paradigm [2]. It extends a range of applications offered to mobile users beyond the conventional office applications by supporting applications requiring graphical hardware, such as 3D virtual environments, or large storage capacity to store the 3D medical images [3-5].

As multiple users are sharing the cloud infrastructure, this technology provides these resources in a cost-effective manner.

Because of the rapid growth in the applications that are accepted on the movable wireless devices, it becomes essential to protect data distributed through these devices from vulnerabilities. According to A.D Wyner [6], the presence of error detection codes, error correction codes and information security systems are still observed as two dissimilar procedures in modern communication systems. Error correction is carried out at the physical layer through this the security is achieved at the upper layers. Nowadays, a security procedure is planned and applied with the expectations of how to deliver error-free data. Due to the development of resource restricted wireless devices and ad hoc networks, encryption at higher level had become problematic to implement. Consequently, the existing methods are focusing broadly how to employ the process of encryption at the physical layer.

Forward Error Correction (FEC) is a scheme of finding packet error in data transmission in which the cloud user (Client) sends redundant packet data and the cloud storage (Cloud service provider) identifies only the few packets of the data that comprises no obvious errors. Since FEC does not need handshaking between the user and the cloud, it shall be used for distribution of packet to many cloud location concurrently from a single user. The FEC schemes are classified into two categories; one for protecting data from data corruption and other for protecting against the data loss. In FEC scheme, the protection against the data corruption is carried out at the physical layer (PHY-FEC), whereas the detection of data loss is done at the application layer (AL-FEC). A hybridized Interleaved Automatic Repeat Request (IARQ) and Enhanced Adaptive Sub-Packet Forward Error Correction mechanism (EASP-FEC) (IARQ -EASP-FEC) is applied to improve the video quality for effective video streaming in the cloud

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ORDER DETERMINATION OF AUTO REGRESSIVE TIME SERIES MODEL BAYESIAN APPROACH

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ABSTRACT
In Time Series analysis, the order of various Time series models plays an important role in studying model selection criterion. Hannan and Quinn(1979) have been studied the order determination of an auto regression through classical approach. In this paper, an attempt is made to study the order determination of autoregressive time series model by employing Bayesian methodology.

Keywords: Autoregressive, Order determination, Bayes theorem, Model selection

1. INTRODUCTION
Statistical analysis of autoregressive (AR) models is an important nonstandard problem. No classical approach is widely accepted. Bayesian approach are designing a structure through which prior information can be incorporated and designing a practical computational method. In addition to the standard results, the Bayesian approach gives a different method of determining the order of the AR model, that is *p.*

Bayesian inference holds a distinct advantage over so-called classical statistics in non-standard problems where concepts such as sufficiency or completeness do not apply. That advantage is that the program is unchanged: the prior together with the likelihood produce the posterior. A disadvantage is that conjugate families are not available and so the Bayes Theorem must be used numerically, for which approximation and numerical integration techniques are required.

Autoregressive (AR) time series models are quite nonstandard, even if the usual assumption of normality is retained. The number of parameters, reflected in the order of the model (p) is undetermined. Given *(p),* the parameter space must then be constrained for identifiability reasons. Classical analysis of AR models must rely on asymptotic behavior: consistency, asymptotic normality, and efficiency.

Bayesian statistics are little affected by sample size. Moreover, the asymptotic in a Bayesian analysis are substantially the same as the classical. But in small sample problems, the choices of prior distribution and loss function do influence the consequential decision. In cases such as these, the effort in expressing these two are well rewarded.

Bayesian analysis of time series is not new in itself. As another nonstandard statistical problem, Zellner (1971) devotes a chapter to it and , Box and Jenkins (1976) devote a section, employing probabilistic assumptions, such as starting values ($X_{0,} X_{-1,}$ .....), and relying on Jeffreys non-informative and improper priors. However, Zellner and Geisel (1970)' employ informative priors and investigate the use of Bayes factors for comparing models.

Bayesian analyses of non-standard problems are commonly believed to suffer from the profound defect of computational intractability. This paper finds that belief directly, proving that a Bayesian analysis of AR models can be done. The proof is a computational method that has been successfully implemented and that can be extended in its sophistication. Thus most of the effort lies in solving the challenging computational problems that arise.

In section 4, the parameter structure is laid out and the form of the prior distribution is designed. Secondly, the dual tasks of computing and expressing numerically the posterior distribution are discussed in section 5. The inference novel to this Bayesian analysis is a method of selecting the order of the model *(p).* This methodology is demonstrated using as examples two well known series in section 6. Classical methods of estimation and model selection are discussed in section 3. Explanation of the probability structure of the AR model follows in section 2.

2. AUTOREGRESSIVE MODEL
The autoregressive process of order p, AR(p) , is defined by

$$X_t = \mu + \alpha_1 X_{t-1} + \alpha_2 X_{t-2} + \cdots \alpha_p X_{t-p} + e_t$$

where α_1 , α_2 ... α_p are autoregressive parameters and e_t's are white noise process.

The autoregressive (AR) process $\{x_t\}$ of order *(p)* is defined by the stochastic difference equation