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A MULTI-COMPONENT IMMUNE SYSTEM IN RELIABILITY EXPRESSION

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Abstract

In this paper assuming that the lifetime density and repair rate of a immune system Rayleigh distribution and a constant respectively, several measures of system performance are obtained by identifying the underlying stochastic process describing the behavior of the immune system as an alternating renewal process. The time survival function of the system is obtained when attacks on the immune system occur as poisson arrivals.

Keywords: Rayleigh distribution, Component System, Poisson Arrivals, Reliability, Survival Function

Introduction:

This paper considers a continuous time maintenance model for a multi-component system possessing stochastic and economic dependence. If we assume that the lifetime density and repair time density of the unit are arbitrary, we may at most obtain highly formal expressions for the probability distributions and other quantities of interest. Thus a system composed of random strengths will have its strength as a random variable and the immune system applied on it will also be random. These expressions are rarely suitable for numerical computations.

The system consists of multi-component units, each component fails after receiving a shock which is always fatal. Independent Poisson processes the occurrence of shocks. Events in the process $Z(t;\lambda)$. The failed unit is repaired as soon as the unit fails and is repaired one by one, and after the completion of repair the unit becomes to the warm standby unit when there is operating unit or to the operating unit when there is no operating unit. For example, consider different types of diseases such as cancer, dengue, heart disease, HIV, hepatitis etc.

A REVIEW ON EFFECTIVE MULTI KEY DATA SEARCH OVER CIPHER TEXT IN CLOUD DATA ENVIRONMENT

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ABSTRACT

Cloud computing could be a one sort of computer model for storing and obtaining access to the records and application over the community .Now an afternoon's most of the knowledge proprietors are inspired to add their terribly own file into the cloud servers because of its low value in control and additional convenience. The touchy data and data ought to be encoded before uploading to the cloud for privateness wants that retrieve facts the usage of key-word based totally record retrieval. This work mentioned an effective multi-key data search over cipher text in cloud storage. Here, Vector space Model and TF-IDF Model are used to mixed within the index creation and query generation. A Greedy Depth first Search has in addition been used index shape and it supply an efficient multi-key data search within the cipher text cloud surroundings. A KNN algorithm is employed encrypt the index query vector. Thus calculate the appropriate rating between encoded index and query vector.

Keyword: Vector Space Model, TF-IDF Model, Greedy Depth First Search, KNN Algorithm.

1. INTRODUCTION

Cloud computing has become a reality and organizations are uploading their information to cloud for having completely different services. Once information is outsourced, it should be subjected to thievery or any attack. Therefore the data owners' information's are speculated to write in code data before Outsourcing it. This approach will defend knowledge from attacks. However, the search operations become troublesome because the knowledge is write in code and stored. Therefore it's essential to own mechanism for having multi keyword graded search. The effective information retrieval wants the big quantity of document demand the cloud server to perform result relevance ranking rather than returning dedifferentiated results. such graded search system change information users to seek out the foremost relevant information quickly, instead of burdensomely sorting through each match within the content assortment to protect privacy of data and be in opposition to unwelcome accesses within the cloud and additional than it, vulnerable knowledge, for illustration, e-mails, personal health records, picture albums, documents, and so on, might need to be encrypted by data owners before Outsourcing to the cloud; however, obsoletes the traditional knowledge employment service supported plain text keyword investigate. The irrelevant way out of downloading all the information and decrypting domestically is clearly unreasonable, because of the massive amount of information bandwidth price in cloud scale systems. Moreover, apart from eliminating the native storage management, storing knowledge into the cloud. Hence, explore effective search service over encrypted cloud data is of vast consequence. Graded search also can stylishly get eliminate unneeded network traffic by sending back solely the bulk relevant knowledge. For privacy protection, such ranking operation, however, shouldn't leak any keyword related information. On the opposite hand, to enhance the search result accuracy furthermore on enhance the user searching expertise, it's conjointly necessary for such ranking system to support multiple keywords searches.

2. RELATED WORKS

Ning Cao, Cong Wang, Ming Li, KuiRen, Wenjing Lou [1] The innovation in cloud computing has Encouraged data owners to outsource their data managing system from native sites to profitable public cloud for excessive flexibility and profitable savings. But people like full advantage of cloud computing, if they are ready to report terribly real secrecy and security issues that go along with loading sensitive personal information. permitting an encrypted cloud data search facility is of nice significance. In view of the massive variety of Information users, documents within the cloud, it's necessary for the search facility to agree multi keywords query and organize for result comparison ranking to fulfill the particular want of information recovery search and not frequently distinguish the search results. related mechanisms on searchable encryption on single keyword search or Boolean keyword search, and often sort the search outcomes.

A Scrutiny of Feminine Consciousness in Githa Hariharan's *The Thousand Faces of Night*

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Abstract

This paper is a study of feminist elements in Githa Hariharan's *The Thousand Faces of Night.*

The study of this novel discloses the inner traits of many female characters because women play significant roles in her novels. Feminine consciousness is the soul of her writing and the feminist elements truly represent her progressive ideas in her novel. Since Githa Hariharan is apprehensive of the sensible world of women, she wants to assert that women are not only sweet, tender and submissive but also tolerant, rigid and experts in planning their strategies. She has explored patriarchy, gender bias, and neglect towards women. She has also portrayed their fight for their rights, liberation and identity. Devi, a well-educated, foreign-returned young woman, does not follow the mythical characters in the stories told by her grandmother and the footsteps of women around her who sacrifice their individual interests for the welfare of the family. This study is intended not to deal with the exploitation or suppression of women but to plunge into the fragrant, unique, delicate and sensible world of women.

Keywords: Consciousness, Women Sensibility, Femininity, Strategy.

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Section C: Engineering & Technology
Research Article

A Study on Domination Parameters in Triple Layered Fuzzy Graph

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Abstract: In Triple Layered Fuzzy Graph, It is discussed that, the Domination Parameters such as Domination Chromatic Number, Fuzzy Inverse Domination and Fuzzy Connected Inverse Domination.

Keywords: Domination chromatic Number, Fuzzy Inverse Domination and Fuzzy Connected Inverse Domination.

1. INTRODUCTION

Fuzzy Cycle FC be a simple Fuzzy Graph FG to consistent of m – size and n – order. Fuzzy relation introduced by 1965 L.A.Zadeh [1]. The theoretical concept of cycle and connectedness with interposed the FG. FG colouring using TLFG and The FVC same as Fuzzy Edge Colouring are explained. In this concept, we explained the Triple Layered Dominating Chromatic Number [TLDCN], Triple Layered Inverse Domination and Triple Layered Connected Inverse Domination with some examples are illustrated.

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Section C: Engineering & Technology

Research Article

A Study on Fuzzy Colouring in Triple Layered Fuzzy Graph

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Abstract: In Triple Layered Fuzzy Graph, It is discussed that, the Fuzzy Vertex and Edge Colouring and determine bounds for Fuzzy Chromatic Number and Fuzzy Index Number.

Keywords: Triple Layered Fuzzy Graph, Fuzzy Vertex Coloring, And Fuzzy Edge Coloring.

1. INTRODUCTION

Let we taken a Fuzzy Cycle FC to be a simple Fuzzy Graph FG to completion of n – order and m – size. In 1965, fuzzy relation explained by zadeh [1,2]. The theoretical conceit of cycle and connectedness was insinuated by Rosenfeld [3] and same as interposed the FG. FG coloring was interposed by Mu˜noz et al.[4] The FVC explained by Onagh and Eslahchi[5] focused on FVC in 2006. In this concept we discussed the Triple Layered Fuzzy Vertex Coloring [TLFVC], Triple Layered Fuzzy Edge Coloring [TLFEC].

2. DEFINITION

2.1. Definition: A TLF (G) is a Proper Triple Layered Fuzzy Colouring that each vertex in TLF (G), dominate every vertex of atleast some colour class.

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A STUDY ON INVESTOR'S LEVEL OF MINDFULNESS ABOUT COMMODITY MARKET

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Abstract

The investigation entitled on financial specialist's degree of mindfulness about item showcase. The administration of the Stock Broking Service is in a situation to know whether the speculators know about the ware showcase. To get the recommendation from the financial specialists for the further advancement in giving mindfulness program to the development of the association. The goals is to contemplate level of mindfulness, inclination, segment profile and the factors impacting the interest in commodity. Descriptrive investigate configuration is utilized in this examination. The self administrated survey was utilized to gather information from the respondents. The survey contained factor impacting the financial specialists in ware advertise. Utilizing a comfort examining approach, a sum of 160 clients were met at Stock Broking. Instruments utilized for investigation are rate examination, mean examination what's more, weighted normal for dissecting essential information. The financial specialist level of instruction is among UG and PG. The age classification is between 25-30 and the sexual orientation is male. Larger part of the financial specialists know about the speculation in item advertise. The examination uncovers that singular financial specialists relies for the most part upon yearly salary and needs to procure exceptional yield in the present moment period. The inclination of venture is raw petroleum, silver, copper and gold contrasted with different products. The dominating elements affecting the interest in ware are Online programming, companions and financier.

Keywords: *financial specialists, surveys, Stock Broking Service*

I. INTRODUCTION

Item advertise is a significant constituent of the monetary markets of any nation. It is the market where a wide scope of items, viz., valuable metals, base metals, unrefined petroleum, vitality and delicate wares like palm oil, espresso and so on are exchanged. It is imperative to build up a dynamic, dynamic and fluid ware advertise. This would assist financial specialists with supporting their ware chance, take theoretical situations in wares also, misuse exchange openings in the market. Subordinates as a device for overseeing hazard previously started in the Commodities markets. They were at that point discovered valuable as a supporting device in money

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An Ensemble Feature Selection Model using Fast Convergence Ant Colony Optimization Algorithm

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ABSTRACT

Nowadays, several disciplines have to deal with big datasets that additionally comprise a high number of features. It gained more interest in several application domains like bioinformatics, medicine, marketing, or financial businesses, owing to massive collection of raw data that are stored. Feature selection (FS) is a process of choosing a minimal set of features from the actual set of features for optimal reduction in the feature space based on particular validation parameter. Since the dimensionality of a domain gets increased, the feature count N will also get increased. The process of identifying the optimal feature set is generally difficult and several issues relevant to FS have been shown to be a non-polynomial (NP) hard problem. This paper proposes a hybridization of ant colony optimization (ACO) with genetic algorithm (GA) for FS process. Since the ACO algorithm suffers from the drawback of slower convergence and improves the search space exploration process, GA is incorporated into the ACO algorithm. The application of GA in ACO algorithm for FS helps to fasten the convergence rate as well as improves the exploration capability. To assess the effective performance of the projected model, three different benchmark dataset namely chronic kidney disease (CKD), hepatitis and market dataset are utilized. The experimental results show the superior performance of the proposed model over the compared methods.

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Key words: ACO, Big data, Classification, Feature Selection.

1. INTRODUCTION

At present times, Big data is an important research topic gains significant attention among academicians and research communications. In current digital era, massive quantity of data gets created and being stored at every second from various applications like healthcare, entertainment, telecom, education, and so on. At the same time, it poses several challenges where storing and processing large and varied datasets (known as big data) is not an easier task. So, feature selection (FS) process in Machine Learning (ML) has been treated as a superior technique to select the required features and thereby reduces the learning complexity. This high-dimensional dataset comprises massive feature sets that do not lead to major complexity; however, there is the degradation in the performance of the trained methods. The main objective of FS is to reduce and improve the dataset by choosing the salient features. Usually, FS avoids indefinite features from actual database with no efficient operation. Practical issue deal with FS is because of these existing aspects namely maximum noise, inaccurate data, insignificant and unnecessary features in raw feature set. Hence, FS is declared as an active region of research work that spreads in entire domain along with pattern examination, data mining, image mining ,text classification and so on [1].

Several techniques have been presented for FS categorization namely wrapper, filter, and hybrid methods. Wrapper model consists of predefined learning technique from which the features are chosen for justifying the learning operations of specific training method. In filter technique, statistical determination is required for feature set in order to apply learning approach. Graphical representations indicated the working procedure of wrapper and filter approaches to identify salient features.

Followed by, hybrid model tends to employ strengths of wrapper as well as filter techniques. Here, subsets are produced and searching operation is performed in many ways. Initially, Sequential Forward Search (SFS) have been applied for initiating the searching process using unfilled feature set and include them efficiently. An alternate option is termed as Sequential Backward Search (SBS) which is utilized with the application of complete set as well as elimination of features effectively. Additionally, third model known as bidirectional selection finds helpful in starting at parallel ends, also performs both adding and removing operations of features at same time. A final technique [2] acquired is to begin the search operation with the random selection of subsets with the application of sequential or bidirectional principles. But, an alternate search algorithm is obtained named as complete search, that offers optimal solution for FS job since entire searching is not possible in case of large features. Besides, the sequential strategy is easy and rapid for implementation; however, it is influenced by nesting effect where it could be either added or deleted and vice versa.

AN UNIFIED FRAMEWORK OF GENETIC SOFTWARE AGENT BASED MISSING VALUE REPLACEMENT MODEL

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Abstract

At present days, software agent models gain significant importance which performs the actions independently to meet the design requirements. Data is a significant asset for any data processing techniques particularly for data classification. During data gathering process, it is probable that poor quality of data exists due to the presence of noise, missing values, and so on. When the data quality gets reduced, then the performance of the mining process also gets minimized. This research work presents a new technique for dealing with missing values (MV) in the dataset. Here, genetic algorithm (GA) is employed to produce the optimum collection of MV and gain ratio (GR) is utilized as the fitness function for measuring the results of every solution. The intention is to predict the presence of MV present in the data for attaining effective classification outcome. This method operates well when many MV or incomplete information along with diverse values present in the features with MV. To assess the effective performance of the projected model, three different benchmark dataset namely chronic kidney disease (CKD), hepatitis and market dataset are utilized. The experimental results show the superior performance of the proposed model over the compared methods.

Keywords: Classification, Imputation, Genetic algorithm, Gain ratio, Missing values

1. Introduction

In recent times, big data plays a vital role in storing large size of database form various fields. Specifically, data mining models are applied for processing the massive amount of data [1]. In order to produce efficient and valid results, the quality of gathered information must be optimal [2]. The collected database always comprises of few missing values (MV). Many dataset suffers from incomplete dataset issue which happens at various domains like micro-

Clustering With Classification Based Identification On Diabetics Disease To Avoid Blindness In Early Stage

Dr. S. Muthukumaran, R Rajakumar, K Dinesh

Abstract: The most developing disease both in male and female are diabetes, while an analysis is prepared with World Health Organization (WHO). Several functions following the reason such a lifestyle of a man, the non-appearance of movement, nutrition penchants, heaviness, smoking, elevated cholesterol (Hyperlipidemia, hypertension (Hyperglycemia) and so forth essentially enhance the danger of treating diabetes. This paper presents a cluster-based classification model using Improved K-means clustering with Deep belief Network (DBN) for treating the diabetic disease in the initial stage. Impacts of diabetes are affected by various pieces of the body which incorporates blindness in people. So, our method is used to overcome this and it shows the better accuracy rate when compare to the existing methods. And the database used for this is gathering the images in the UCI machine dataset.

Index Terms: World Health Organization, Diabetics, Hypertension, Blindness, UCI.

1. INTRODUCTION

The WHO reports about the examination of diabetics that 422 million peoples have been affected by diabetics. Reliably, there is a noteworthy augmentation in the number people encountering diabetes in various mending focus. The WHO reports [1] on "Diabetes Care 2018" by American Diabetes Association also, Standards for Medical consideration in Diabetes, an examination for connection differing races furthermore, their compensation. Fig. 1 shows differing people developed somewhere in the range of 28 and 71 years, dimension of expiring due to hypertension. Diabetes mellitus is a chronic disease which is caused when sugar level is increased in human blood. It is reason on account of the unseemly working of the pancreatic beta cells [2]. It influences other parts of body like pancreas glitch, heart attack [3], hypertension, kidney dissatisfactions, deficiency in eye sight [4], glaucoma and so on. Major reason for this issue because of the hectic life style of human like absence of physical exercise, consumption of alcohol, smoking, high blood pressure, which improves diabetes. Data mining [5] is a technique of betrayal by immense proportion of the dataset where the datasets are hugely in volume, monster in the variety, to expel supportive information to settle on business decision or finding the similar guides to settle on a superior decision. It is used for finding novel precedents; discover equivalent associations along with data, co-relations among data.

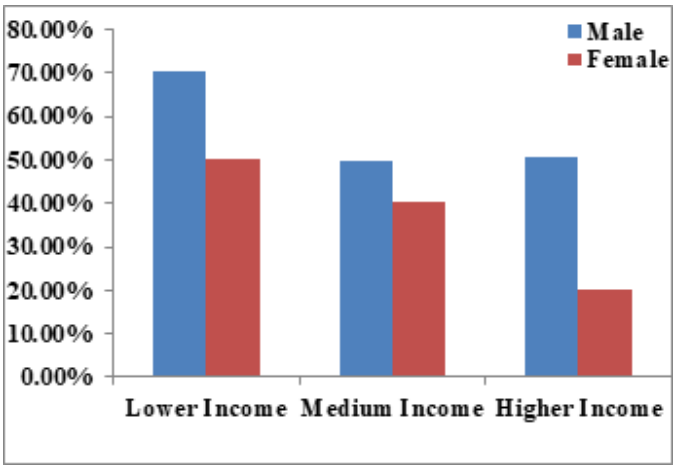

***Fig. 1**. Survey of diabetes death rates among different category of people*

A featured technique which is used to manufacture another model from the information dataset. A course of action framework looking at the educational list and forecasts the classes name or allot the social affair mark [6]. The key objectives of portrayals are for generating the new methods by extraordinary hypothesis foreseeing limit. The new model should be well structure model to decisively describe the dataset on their characteristics to foresee class names. It incorporates 2 phases. Data Training instructive record (stage 1), Test dataset (stage 2)

1) In stage 1, generating instructive record contains data event and identified or existing classes name. Gathering concept separates the data set and names and makes one more concept to provided data set. The arrangement sets are used for gathering the novel collecting method.
2) In stage 2, Test instructive list contains data event without class names. The as of late created show is interfaces with the test educational list to foresee their

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Enhancement in Performance of Financial Crisis Prediction using Hybridization of Machine Learning Classifiers

S. Anand Christy, R.ArunKumar

Abstract*: Financial Crisis has been the stern problem experienced by various organizations or even common people when interested in investing in any Financial institutions like banks, Funds development institutions etc. Hence it is mandatory that a reliable prediction system should be applied in early prediction of Financial Crisis Prediction thereby preventing investment in weak financial institutions that might lead to bankruptcy. The Paper focuses on designing a Hybrid Optimized Algorithm called Hybrid Unified Machine Classifier (HUMC) based on Machine Learning Technique that would be capable of identifying categorized and continuous variables in a financial crisis dataset and determine the confusion matrix that can be instilled in performance analysis tool comprising of analytics and prediction related to Accuracy, F-Score, Sensitivity, Specificity, False Positive Rate (FPR) and False Negative Rate (FNR) respectively. Early testing with the training set of Australian credit dataset were tested with machine learning classifiers like Decision Tree, PART, Naive Bayesian, RBF Network and Multilayer Perceptron algorithms with accuracies 85.50%, 83.62%, 77.24%, 82.75% and 84.93% respectively. The Algorithm HUMC was developed based on combining classification features from decision tree, identifying hidden nodes and model with boosting technique that could enhance the performance levels of the Financial Crisis Prediction. The design of algorithm comprised of best characteristics of both classification and neural networks that are capable to find categorization criteria in the dataset at the first level and also to find the hidden continuous data during the second stage respectively. The design of HUMC was implemented and tested with MATLAB. The Result showed that HUMC algorithm showed greater accuracy (86.25%) in comparison to other classifier models along with other performance measures. Thus, this algorithm enhances the prediction of Financial Crisis predictions with good performance.

***Keywords:** Hybrid Unified Machine Classifier, Machine Learning Algorithms, Financial Crisis Prediction, classification algorithms, performance enhancement.*

I. INTRODUCTION

Financial Crisis Prediction (FCP) is one of the major areas where high level organization to low level investors are keen to understand and predict the results with enhanced accuracy. The impact of investing on the Financial institutions that might prolong for a longer period with high assets and cash flows in differentiation with the organizations that were on the verge of getting bankrupted in course of time. The Financial Crisis prediction is based on the assets and liabilities of the organization that has to be assessed with right threshold values to predict the accuracies. The major objective is to design a Hybrid Optimized Algorithm based on Machine Learning Technique and optimization algorithms that are capable to predict the Financial Crisis of an organization. This method subjects to identify categorized and continuous variables in a financial crisis dataset and determine the confusion matrix. The importance of enhancement in performance was attributed to reliability of the prediction from potential investors as well.

The Problem to be addressed has been the early prediction of Financial crisis of an organization through combination of machine learners, optimization methods and classifier models. Similar Financial Crisis predictions were analyzed by (Hong Hanh Le & Jean-Laurent Viviani, 2018) through comparison of accuracies and performances of statistical techniques and machine learning techniques. A comparison on 3000 banks in US was experimented with Discriminant Analysis and Logistic Regression from statistical methods and ANN, SVM, K-Nearest Neighbor in-terms of machine learning approaches to identify the best features that determine the performance of prediction of financial crisis data. It is identified that ANN and K-nearest neighbor model from machine learning methods were more accurate comparing to other statistical models. Thus, the features of Financial Crisis play a significant role in predicting the future occurrence of crisis at the earlier stage itself.

II. RELATED WORKS

Financial Crisis prediction had been conducted earlier with machine learning classifiers using various hybrid models. Many researches work focus on Financial crisis predictions captivated through machine learning techniques and enhancement is recommended in few cases. (Yu-Pei Huang and Meng-Feng Yen, 2019) conducted a review on all the machine learning techniques that are useful in predicting Financial Crisis of an organization. Among the researched supervised, unsupervised and hybrid models, four models including Support Vector Machines (SVM), Hybrid Associative Memory with Translation,

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Facile and Cost-Effective CTAB Templated Hydrothermal Synthesis and Characterization of $MgCo_2O_4$ Electrode Material for Supercapacitor Application

T. Antony Sandosh[1,2] · A. Simi[2]

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Abstract
$MgCo_2O_4$ is newly become a significant electrode material for high performance supercapacitor application since it possesses a high theoretical capacitance. In this work, the $MgCo_2O_4$ materials have been prepared using cost-effective CTAB assisted hydrothermal synthetic method followed by suitable calcination process. Crystalline behavior, bonding properties and surface morphologies of the prepared materials were characterized by X-ray diffraction analysis, Fourier transform infrared spectroscopic analysis and scanning electron microscopic techniques. During this endeavour, the nanorods structure was obtained with the appropriate concentration of CTAB template. The electrochemical properties of freshly prepared $MgCo_2O_4$ materials have been analyzed using cyclic voltammetry (CV), electrochemical impedance spectroscopy and chronopotentiometry techniques. The cyclic voltammetric measurement was offer the specific capacitance of 784 Fg^{-1} at a scan rate of 5 mVs^{-1} with good rate capability. In addition, chronopotentiometric curves exhibit the specific capacitance of 711 Fg^{-1} at a current density of 1 Ag^{-1}. Furthermore, the cyclic stability analysis displayed attractive stability such as 94% of initial capacitance retained after 2000 consecutive CV cycles at a high scan rate of 100 mVs^{-1}. These findings demonstrate that the convenient utilization of $MgCo_2O_4$ as a supercapacitor electrode application.

Keywords $MgCo_2O_4$ · Hydrothermal · CTAB · Supercapacitors · Energy storage

1 Introduction

In recent years, the electrical energy storage devices based research has experiences new challenge due to development of science and technology. In addition, enormous usage of fossil fuel, environmental pollution and increasing of energy consumption factors are demand smarter energy storage devices with attractive properties like eco-friendly, reusable and high conversion efficiency nature [1–4]. Advance electrical energy storage devices including batteries, fuel cells and supercapacitors have become an attracted research interest in present energy storage technologies field. Among them, supercapacitor is a class of energy storage device, which fill the gap between batteries and conventional capacitor since it exhibit high power density than batteries and high energy density than conventional capacitors. Furthermore, it exhibits high specific capacitance, fast charge/discharge, high power density, superior rate capability, and long cyclic stability which are necessary for recent emerging electrical gadgets such as electrical engines, motor starters, small appliances, electric cars and handheld electronics [5–9].

Supercapacitors are categorized into two types according to their charge storage mechanism: (i) Pseudocapacitors and (ii) Electric double layer capacitors. Pseudocapacitors can store charges through reversible faradaic redox reaction at the electrode/electrolyte interface which offered by two different electrode materials such as metal oxides and conducting polymers. On the other hand, electric double layer capacitors can store charges via accumulation of charges at electrode/electrolyte interface, which exhibited by different types of carbonaceous materials such as carbon aerogels, activated carbon, carbon nanotubes and graphene oxide. Pseudocapacitors provide higher specific capacitance when

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characterized by X-ray diffraction analysis, Fourier transform infrared spectroscopic analysis and scanning electron microscopic techniques. During this endeavour, the nanorods structure was obtained with the appropriate concentration of CTAB template. The electrochemical properties of freshly prepared $MgCo_2O_4$ materials have been analyzed using cyclic voltammetry (CV), electrochemical impedance spectroscopy and chronopotentiometry techniques. The cyclic voltammetric measurement was offer the speci c capacitance of 784 Fg^{-1} at a scan rate of 5 mVs^{-1} with good rate capability. In addition, chronopotentiometric curves exhibit the speci c capacitance of 711 F at a current density of 1 Ag^{-1} Furthermore, the cyclic stability analysis displayed attractive stability such as 94% of initial capacitance retained after 2000 consecutive CV cycles at a high scan rate of 100 mVs^{-1} These ndings demonstrate that the convenient utilization of $MgCo_2O_4$ as a supercapacitor electrode application.

Facile Cetyl Trimethyl Ammonium Bromide-assisted Hydrothermal Synthesis of Spinel $NiCo_2O_4$ Nanoplates as an Electrode Material for Supercapacitor Application

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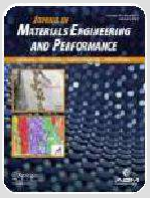

Thiruthuvadevaraj Antony Sandosh ✉, Albert Simi, Francisxavier Paul Arokia Doss, Chinnappan Adaikalaraj & Savariappan Albert Nikson

Abstract

Ternary $NiCo_2O_4$ has paying more attention as a class of potential electrochemical energy storage materials. In the present endeavor, we report spinel $NiCo_2O_4$ nanoplates, which were prepared by cetyl trimethyl ammonium bromide (CTAB)-assisted hydrothermal technique followed by proper calcination process. The structural and morphological features were characterized by x-ray diffraction, Fourier transform infrared spectra, scanning electron microscope and high-resolution transmission electron microscopic analyses. The supercapacitive properties of the materials were evaluated using cyclic

voltammetric, electrochemical impedance spectroscopy and galvanostatic charge/discharge analysis in 1 M NaOH electrolyte. The freshly prepared $NiCo_2O_4$ materials offer the speci c capacitance of 329 mA h at a current density of 1 A and it provides superior long-term cyclic stability, which retained 97% of initial capacitance after 2000 continuous CV cycles at a high scan rate of 100 mV These outcomes demonstrate thus prepared spinel $NiCo_2O_4$ as a signi cant electrode material for supercapacitor application.

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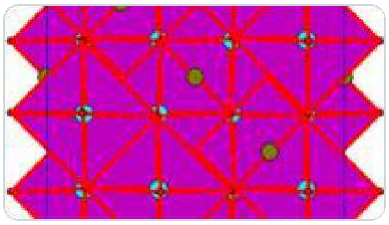

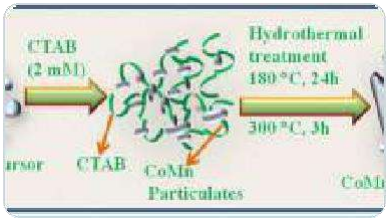

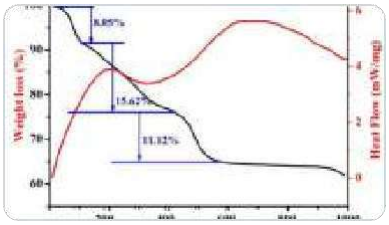

Morphology controlled synthesis of one-dimensional $CoMn_2O_4$ nanorods for high-performance supercapacitor electrode application

Original Paper Published: 05 January 2021

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T. Antony Sandosh & A. Simi

Abstract

Facile preparation of one-dimensional spinel material is highly attractive for their widespread usage in energy storage devices. Herein, we report uniform one-dimensional $CoMn_2O_4$ nanorods were prepared by cetyl trimethyl ammonium bromide (CTAB) assisted hydrothermal technique followed by subsequent calcination process. The prepared materials were characterized to different types of physicochemical features to analyze the appropriateness of the material for the supercapacitor electrode application. The crystalline nature and bonding properties were examined by X-ray diffraction analysis and Fourier-transform infrared spectroscopic analysis. The structural and morphological features of prepared materials were analyzed using eld emission

scanning electron microcopy which reveals the edge curved one-dimensional nanorod structure. Furthermore, cyclic voltammetric, chronopotentiometric and electrochemical impedance spectroscopic analyses were employed to evaluate the electrochemical properties of the freshly prepared $CoMn_2O_4$ materials. The cyclicvoltammetric studies provide the speci c capacitance of 895 at a scan rate of 5 mV whereas chronopotentiometric curves provide the highest speci c capacitance of 802 at current density of 1 The cyclic stability analysis shows the excellent cyclic stability which retains 87% of initial capacitance after the continuous 5000 CV cycles at a scan rate of 100 The outstanding electrochemical features unquestionably make $CoMn_2O_4$ as a good candidate for supercapacitor devices.

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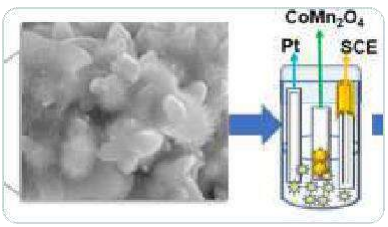

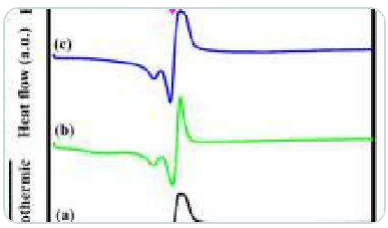

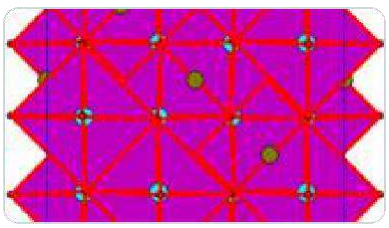

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Research Article

NEUROPROTECTIVE EFFECT OF HESPERIDIN ON 6-OHDA INDUCED PARKINSONISM IN SHSY5Y CELLS

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ABSTRACT

Parkinson's disease (PD) occurs due to oxidative stress and it is the second most common neurodegenerative disorder after Alzheimer's disease. 6-OHDA (6-hydroxydopamine) is a widely used neurotoxin for investigating the pathology of PD both *in vitro* and *in vivo* conditions. Studies have shown that the neurotoxicity of 6-OHDA may be related to its ability to generate reactive oxygen species (ROS) leading to neuronal damage. The current study was carried out to investigate the neuroprotective effects of hesperidin, a citrus fruit flavanol, against 6-OHDA induced neurotoxin in human neuroblastoma SHSY5Y cells. We assessed cell viability by MTT assay, ROS production by DCFH-DA and Nuclear change by DAPI. Cell death was determined in normal, 6-OHDA and hesperidin treated cells. The cell death in 6-OHDA induced SHSY5Y cells was accompanied by the loss of neurons, increased ROS generation, the depletion of GSH, enhanced activities of enzymatic antioxidants which were attenuated in the presence of hesperidin. Our data suggests that hesperidin exerts its neuroprotective effect against 6-OHDA due to its antioxidant properties in a neuroblastoma SHSY5Y cell lines.

Keywords: Parkinson's disease, SHSY5Y cell line, ROS production, Oxidative stress

1. INTRODUCTION

Parkinson's disease (PD) is a common neurodegenerative disease, characterized by a selective loss of dopaminergic neurons in the substantia nigra. Many factors are speculated to operate in the mechanism of cell death of nigrostriatal dopaminergic neurons in PD, including oxidative stress and cytotoxicity of reactive oxygen species (ROS), disturbances of intracellular calcium homeostasis, exogenous and endogenous toxins and mitochondrial dysfunction. An endogenous neurotransmitter dopamine (DA) is thought to be a major source of oxidative stress to these neural cells [1-2]. DA contains unstable catechol moiety, and it can oxidize spontaneously to form ROS, free radicals, and quinones [3-5]. In the human substantia nigra, the DA oxidation products may further polymerize to form another neurotoxin, neuromelanin [6]. These oxidation products can damage cellular components such as lipids, proteins and DNA [7]. One of the plausible ways to prevent the cell death induced by oxidative stress is dietary or pharmacological intake of antioxidants. One family of naturally occurring compounds possessing free radical scavenging properties is the flavonoids and it is found in citrus fruits. Hesperidin is reported to exert a wide range of pharmacological effects such as antioxidant, anti-inflammatory, antihypercholesterolemic and anticarcinogenic properties [8]. It has also been demonstrated that hesperidin can protect neurons against various types of insults associated with many neurodegenerative disease [9].

Current pharmacological therapies for PD are inadequate, and alternative strategies such as stem cell therapy, neurotransplantation and deep brain stimulation are still in infant stage. There has been considerable interest in the development of neuroprotective drugs from natural origins as a therapeutic strategy for PD [10]. Citrus fruits and their products are important sources of health-promoting constituents and are widely consumed around the world [11].

In this study, we investigated the protective effect of hesperidin on 6-hydroxydopamine induced cellular model for PD by analysing its effect on hesperidin-mediated oxidative stress generation in human neuroblastoma SHSY5Y cells.

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Synthesis, Antimicrobial Evaluation and Molecular Docking Studies of Tetrazole Containing Hybrid Levo oxacin Derivatives

T. Elavarasan, D. Bhakiaraj, +3 authors M. Gopalakrishnan • Published in Chemical Science and... 24 March 2020 • Chemistry

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Brain Tumor And Intracranial Haemorrhage Feature Extraction And Classification Using Conventional And Deep Learning Methods

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Abstract: ***Presently, brain tumor (BT) and Intracranial hemorrhage (ICH) detection and classification processes become essential to save human lives. Automated diagnosis model using deep learning (DL) models finds useful to attain improved diagnostic outcome. This paper presents an ensemble of handcrafted and deep features for BT and ICH diagnosis. The proposed model comprises of three important processes, such as preprocessing, feature extraction and classification. The preprocessing of the input image takes place in three ways namely skull stripping, bilateral filtering (BF) and contrast limited adaptive histogram equalization (CLAHE) based contrast enhancement. In addition, scale invariant feature transform (SIFT) and AlexNet models are used for feature extraction process. In order to classify the existence of BT and ICH, two classification models is carried out such as gaussian naïve bayes (GNB) and random forest (RF).For validating the effective diagnostic performance of the proposed model, a set of simulations were carried out to determine the different class labels. The simulation outcome indicated the effective performance with the maximum sensitivity of 92.41%, specificity of 100%, and accuracy of 94.26%.***

Keywords: AlexNet, Brain tumor, Classification models, Feature extraction, Intracranial haemorrhage.

1. INTRODUCTION

In general, Brain Tumour (BT) is defined as a group of biological cells developed within the brain tissues. The anomalous cell development is increased gradually inside the skull which covers the brain. As a result, severe consequences are experienced by the patient where the mass growth inside the skull promotes to cultivate more abnormal tissues. BT is classified into 2 types namely, Benign/non-cancerous tumor and malignant/cancerous named as malignant neoplasm. These BTs are highly dangerous for the patient which tends to cause severe problems that reduce the lifetime of a human being. Human brain is an important internal organ which is embedded with massive number of cells. The unwanted cell development is evolved from the unrestrained cell segmentation, called as a tumor. Then, BT is one of the dreadful diseases that come under the class of cancer disease. In order to limit

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Wound Healing Efficacy of Chicken Feet Gelatin and alginate Composite Films Blends with Black Turmeric (*Curcuma Caesia* Roxb.,) Extract

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Abstract: **The present study of this work is to prepare a novel wound dressing composites are enriched with medicinal values which prevents the microbial contaminations and cell damage to the wounded surface. So that the films consist of antioxidant and antimicrobial properties are an appreciable one for the composite film. In this studies, gelatin is a proteinous substance isolated from the chicken feet along with sodium alginate, the composite films are prepared and these films are enriched with ethanolic extract of black turmeric (*Curcuma Caesia* Roxb). The composite films are prepared and characterised for FTIR, SEM, mechanical strength, water absorption studies and also evaluate the *invitro* studies such as antioxidant and antimicrobial activities. As the result, shows that the G-ALG-CC increased water absorption capacity and better mechanical properties of film in contrast to G- ALG. The SEM and FTIR results exhibit the natural features of the composite film. The G-ALG-CC composite film possess significantly increased levels of antioxidant and antimicrobial activity. The Scanning Electron Microscope images of G-ALG-CC reveals the smooth surface of the film which is necessary requirement of the biomaterial.**

Keywords: **Gelatin, alginate, black turmeric, curcuma caseia, composite film.**

1. INTRODUCTION

Many kinds of biomaterials are used to treat various diseases especially wound healing. Several components are exist as naturally in the skin and also actively participated in the wound healing process. Due to their natural biological features of biodegradability and biocompatibility of these components are favourably approached for various therapeutic purposes [1]. There is very much need to develop a novel biodegradable material, which is widely used in the field of skin tissue engineering and wound healing material due to the their high demand for skin repair and skin replacement therapies. An ideal film should exhibit certain behaviour such as diminished storage requirement, increased shelf life, biodegradability and biocompatibility [2].

Gelatin is an excellent biopolymer which is obtained from the poultry byproducts such as bone, feet, cartilage and skin [3]. It is an edible proteinous product derived from the denatured collagen [4]. The native conformation of the collagen is deformed due to heating and then regaining their normal state while cooling process. The amino acid composition of gelatin is more or less similar to collagen with some modification occurs due to their extraction process [5]. It is rich in proline, hydroxyproline, alanine and glycine, but varying in distinct ratios and combinations [6]. The promising physical features of Gelatins are translucent, colorless, tasteless, odorless, high mechanical strength, low melting point, elasticity, and increased shelf- life [7]. The peculiar features of gelatin have an ability to form thermoreversible gels and highly water soluble that meets the body temperature [8]. The nature of the gelatin are biodegradable, biocompatible and non- toxic which is suitable for the physiological conditions [9]. Gelatins are categorized into two types based on their

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Data Article

Synthesis, spectral characterization (FT-IR, FT-Raman and NMR) and Quantum computational analysis of (*E*)-1-(4-Bromophenyl)-3-(5-bromothiophen-2-yl)prop–2-en-1-one

Joazaizulfazli Jamalis[a], S. Sebastian[b], S. Sangeetha Margreat[b,c], K. Subashini[d], S. Ramalingam[e], Helmi Mohammed Al-Maqtari[f], S. Periandy[g], S. Xavier[b,*]

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abstract

The newly synthesized (*E*)-1-(4-Bromophenyl)-3-(5-bromothiophen-2-yl)prop–2-en-1-one (BTBP) was analyzed by FT-IR (4000–400 cm^{-1}) and FT-Raman (4000–100 cm^{-1}) spectra in solid phase and ^{1}H and ^{13}C NMR in DMSO solution. The optimized geometry of the compound was computed by B3LYP gradient computation employed with high level B3LYP/6–311G(d,p) basis sets. The recorded vibrational wavenumber were compared with theoretical wavenumbers by the same level of theory. The fundamental modes have been assigned by computing Total Energy Distribution (TED). Mulliken charges and natural charges are also predicted. The reactive centers are found from the molecular electrostatic potential and the atomic charges. The computed HOMO-LUMO mappings reveal the different charge transfer possibilities within the molecule. Natural bond orbital analysis was computed and possible transition were correlated with electronic transitions. Molecular docking suggest that the title compound might exhibit inhibitory activity against Hepatitis C virus (PDB ID: 2HD0).

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ORIGINAL PAPER

Structural and Magnetic Characterization of Rare Earth Element Cerium-Doped Nickel Ferrite Nanoparticles ($NiCe_xFe_{2-x}O_4$) by Sol-Gel Method with Antibacterial Activity

K. Elayakumar[1] • V. Sathana[1] • R. Thilak Kumar[2]

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Abstract

The paper explains the different concentrations of rare earth element (REE) cerium-doped nickel ferrite nanoparticles prepared by the sol-gel method. The structural, morphological, and magnetic properties are characterized by XRD, SEM/TEM, and VSM techniques respectively. The XRD pattern shows the single phase with the spinel nature. The calculated particle size is confirmed with SEM/TEM analysis. The VSM technique is carried out to study the magnetic character- ization of the prepared sample. Also, the decrease in the saturation magnetization and coercivity of the ferrite samples when varying the concentration of cerium ions is found. The antibacterial activity of nickel ferrite nanoparticles is also analyzed on gram-positive and gram-negative bacteria.

Keywords Nickel ferrite · Spinel structures · VSM · Antibacterial activity

1 Introduction

Nowadays, nanoferrite particles show remarkable applications in the fields of engineering, biomedicine [1–3], MRI, photocatalysts, etc. [4]. In general, ferrites are classified into three types: spinel, garnet, and hexaferrite [5]. In the present work, we have focused on spinel ferrite with the formula XFe_2O_4, where X indicates divalent metal ions (x = Co, Cu, Ni, Mn, etc.) [6]. Among these spinel ferrites, nickel ferrite nanoparticles lead a specified ferrite, since it has a wide range of applications such as high-density magnetic storage media, color imaging, ferro fluids, high-frequency devices, catalysts, and microwave devices [7]. $NiFe_2O_4$ is a soft ferrite which comes under the inverse spinel structure. In the inverse spinel structure, all the X^{2+} ions occupy the B site; half of the Fe^{3+} ions also occupy the same site while half of the Fe^{3+} stay in the A site [8–11]. The cation distribution and valence state of A and B cations are necessary influence on the physico-chemical properties of spinel metal oxides [3]. The octahedral site (B) contains all the (Ni^{2+}) ions and the Fe ions (Fe^{3+}) occupy both the A and B sites. The size and shape of the final products depend on the mode of preparation like amount of precursors, stirring temperature, pH value, doping concentration, and calcination temperature of the process [12–16].

There are several methods for the preparation of ferrite nanoparticles like the sol-gel method [17], co-precipitation method [18], autocombustion method [19], hydrothermal method [20], ball milling method [21], inverse microemulsion method [22], solid-state reaction method [23], and double-sintering method [24], etc. Among these methods, a simple and cost effective sol-gel method is preferred for the fabrication of ferrite nanoparticles [25]. In the sol-gel technique, there is no need to go for higher temperatures for calcinations to get a pure spinel ferrite nanoparticle [8, 9].

Various techniques are followed for the synthesis of spinel ferrite nanoparticles. Among these chemical synthesis techniques, the sol-gel method is the most commonly used technique to get pure rare earth element (REE)-doped nanoparticles. And also impurity-free and well-resolved intense peaks can be observed in the sol-gel method. The ionic radii of Ce^{3+} (1.03 Å) ions are larger than the Fe^{3+} (0.64 Å) ions [26], which tends to weaken the interaction of sublattice and decrease the magnetic moments of materials [27], which in turn causes a reduction in saturation magnetization. So, there is reduction in the structured parameters like crystallite size and lattice

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DFT, spectroscopic, DSC/TGA, electronic, biological and molecular docking investigation of 2,5-thiophenedicarboxylic acid: A promising anticancer agent

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ABSTRACT

The molecular structural and various spectroscopic parameters (FT-IR, FT-Raman and UVeVisible) were determined by using quantum mechanical computation for 2,5-thiophenedicarboxylic acid (2,5-TDCA) molecule: a potential anticancer agent. The optimized geometrical parameters (monomer, dimer and trimer) were computed by B3LYP/6-311 + G(d,p) method and compared with related XRD data. The spectral studies of 2,5-TDCA molecule were adopted by recording FT-IR (4000-400 cm^{-1}) and FT-Raman (3500-50 cm^{-1}) spectroscopic techniques. The fundamental vibrational modes were computed for monomer and dimer, the vibrational assignments were done by finding Total Energy Distribution (TED) for each normal modes of vibrations by VEDA software. Mulliken charage analysis for monomer, dimer and trimer were analyzed by the same method. The UVeVis absorption spectrum was recorded and correlated with electronic properties by TD-DFT method in gas and acetone phase by B3LYP/6-311 + G(d,p) method. The charge transfers happen within 2,5-TDCA molecule as well as in dimer form were investigated by using Natural Bond Orbital (NBO) approach. The MEP analysis was utilized for predicting the electrophilic and nucleophilic site in the 2,5-TDCA molecule. Total Density of State (TDOS) and Partial Density of State (PDOS) were also computed by Gauss Sum software. The non-covalent interaction of 2,5-TDCA was studied by adopting Reduced Density Gradient (RDG) and color filled electron density diagram. Thermodynamic properties have been performed by computing various thermodynamical parameters. The Electron density, Laplacian of electron density, Lagrangian Kinetic Energy, Hamiltonian Kinetic Energy and H-Bond energy at the bond critical point using Atoms in Molecule (AIM) theory reveal that there is a possibility of strong intermolecular hydrogen bonds. The DSC/TGA analysis was carried out to find the decomposition of molecule with respect to temperature. The biological activity of the 2,5-TDCA molecule were studied by using molecular docking analysis to identify hydrogen bond length and binding energies with different cancer protein. The 2,5-TDCA compound has been screened and found to exhibit anti-bacterial activity.

1. Introduction

Thiophene is the simplest aromatic compound having five membered heterocyclic sulfur containing ring system. The thiophene is considered to be electron rich heterocyclic ring and it is capable of higher resonance stabilization energy compared to other five member heterocycles [1]. Thiophene and its derivatives [2] play significant role in chemical industries as intermediate to many products such as pharmaceutical, agrochemical, etc,. Thiophene and its derivatives have the properties such as nemoticidal, insecticidal, antibacterial, antifungal and antioxidant activities [3e5]. The presence of carboxylic acid in the thiophene ring has the ability to behave as hydrogen bond donor/acceptor in many

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Particle Swarm Optimization With Kernel Support Vector Machine For Churn Prediction In Telecommunication Industry

Isabella Amali , Dr. R. Arunkumar

Abstract: At present times, because of the challenges posed from global competitors, customer churn prediction (CCP) provides a major concern for organizations in different churns. To provide better customer retention, various CCP models have been presented. This paper presents a new CCP using hybridization of particle swarm optimization with kernel support vector machine (PSO-KSVM) in telecommunication industry. Here, PSO algorithm is used to optimize the variables of SVM namely C and σ. The validation of PSO-KSVM takes place using a benchmark dataset. The results ensured the effective outcome of the presented model over the compared methods.

Keywords: Churn prediction, Customer retention, Telecommunication, Optimization algorithm.

1. INTRODUCTION

Customer retention is assumed to be a main interest of various firms in the application of telecommunications. Along with the improved competition as well as production diversity on market, several telecommunications firms apply the use of data mining (DM) models which is helpful in predicting churn user [1]. In case of mobile telecommunications domain, the term churn is named as customer attrition or subscriber churning. In simple words it can be defined as the "customer loss" [2]. This customer loss can be estimated by measuring the values of churn which is more essential indicator to all companies. The task of migrating from one supplier to alternate one is a general habitat that is because of the good service or better advantages provided by the opposite firms while purchasing any product [3]. Most of the saturated markets and firms apply a preventive marketing principle to maintain their own customer relationship. To retain the user in a satisfied manner, every company acquires a model which is capable of finding a client with churn idea or suggestion. By identifying the customer churn, marketers can apply the proactive retention techniques [4]. In order to enhance the efficiency and to minimize the greater expense present in such type's retention campaigns, churn forecasting must be more précised, to guarantee that incentives could be provided only when the users modify to the better service and to earn more profit. The customer retention process becomes easier by constructing a churn prediction method, and also the mobile telecommunications firms would be succeeded with static profit in a competitive market [5].

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This development in churn prediction is very robust as it is based on the DM process as well as other methods as it has enhanced performance produced by ML techniques when related to statistical methods for non-parametric information [6]. Here [7], DM is the process of cleaning data which tends to identify the tendency as well as patterns that offers the suspicious questions which the customer requested. DM models are based on the junction of artificial intelligence (AI), ML, statistics, as well as DBMS [8]. Additionally, DM models are applicable in developing detection techniques to find upcoming movements and default nature by enabling the firms to create an intelligent decision according to the knowledge derived from dataset. The framework applied here is termed as modeling. Modeling is defined as the task of designing mining technique, an execution of particular ML approaches. Such kinds of models are arithmetic expression which helps to process unique level of corresponding dataset. According to the business issue which requires a service, DM models are widely divided into various classes [9]. A class that has a customer attention is named as classification analysis. Also, classification is a task developed by a method to create pre-classified training examples as a single category. Therefore [10], this classification technique is applied for classifying upcoming inputs respectively.

2. PROPOSED WORK

A. *SVM Classification*

The establishment of SVM is a benchmark in the application of ML technique. Some of the merits associated with SVMs are maximum precision, simple arithmetic tractability as well as direct geometric perception. In recent times, various enhanced SVMs are developed in a rapid manner, where the core SVM is a significant as well as effective. The kernel SVMs are composed with multiple benefits, as given in the following:

- Performs quite-well in practice and very efficient in different applications like natural language segmentation, bioinformatics, computer vision and so on.

CONTROL OVER STRESS IN THE WORKPLACE WITH SPECIAL REFERENCE TO EMPLOYEES OF PRINT MEDIA

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Abstract

This paper examines the control over stress in the workplace among the employees in the field of Print Media. Further, the study examines the frequency of workplace stress concerning employees of print media, Tamil Nadu, India. An organisation is duty-bound to take care of the welfare of its employees, giving no room to stress. It should also have the ways and means to control stress. When respondents feel weighed down in their workplace, their reliance on their self will be withdrawn. They may react indifferently without concentrating on the outcome of the concern. If strain goes beyond the control of the individual, it not only affects one's personal life but also the growth of the organisation. The research plan is expressive. The researchers adopted a stratified random sampling method for the selection of the respondents of the study. It was hypothesized that no significant relationship between control over stress and personal variables of the employees in the workplace. The data was collected from 300 employees in print media by using structured and pre-tested questionnaire. Chi-Square, One-way ANOVA and t-Test analysis were used in this study. Major results show that there is a meaningful relationship between personal variables of the employees and their experiencing control over stress in the workplace.

Keywords: Workplace Stress, Print Media Employees, Organisational Behaviour and Control over Stress.

I. Introduction

Stress is a significant common issue and challenging the people's lifestyles in the day to day changing environment. It is a response adapted by the individual when there is a change in the entire organizational system. It affects the physical, psychological and behavioural pattern of the individuals. Finally, it affects the entire thinking faculty, and it creates a considerable damage to the immune system. This stress causes to study various factors which control the work pressure such as the perception of work, workplace relationship, emotional intelligence, understanding about the pressure at work and

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Neutrosophic semi Volterra spaces

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Abstract

In this paper, we introduced the concepts of Neutrosophic Semi Volterra spaces and some relations of the Neutrosophic Baire spaces and Neutrosophic Volterra spaces are also studied.

Keywords

Neutrosophic SG_δ- set, Neutrosophic SF_σ- set, Neutrosophic Volterra spaces, Neutrosophic Semi Volterra spaces

AMS Subject Classification

03C55.

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Contents

1. Introduction and Preliminaries

The concept of fuzzy sets and fuzzy set operations were first introduced by L.A. Zadeh in his classical paper [15] in the year 1965. Thereafter the paper of C.L. Chang [1] in 1968 paved the way for the subsequent tremendous growth of the numerous fuzzy topological concepts. The concepts of Volterra spaces have been studied extensively in classical topology in [4–7] and [8]. The concept of Volterra spaces in fuzzy setting was introduced and studied by the authors in [13]. The concept of Intuitionstic fuzzy Volterra spaces was introduced and studied by Soundararajan, Rizwan and Syed Tahir Hussainy [12]. The concepts of Neutrosophy and Neutrosophic set were introduced by F. Smarandache [10, 11]. Afterwords, the works of Smarandache inspired A. A. Salama and S. A. Alblowi [9] 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. [2]. The concepts of Neutrosophic Baire spaces are introduced by R. Dhavaseelan, S. Jafari, R. Narmada Devi, Md. Hanif Page [3].

Definition 1.1 ([15]). *A neutrosophic topology (NT) on a nonempty set N^X is a family N^T of neutrosophic sets in N^X satisfying the following axioms:*

1. $0_N, 1_N \in N^T$,
2. $G_1 \cap G_2 \in N^T$ *for any* $G_1, G_2 \in N^T$.
3. $\cup G_i$ *for arbitrary family* $\{G_i | i \in \Lambda\}$.

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

Definition 1.2 ([15]). *Let $M_{P_1^*}$ be a neutrosophic set in a neutrosophic topological space N^X. Then*

$$Nint(M_{P_1^*}) = \cup\{G | G vis\ Neutrosophic\ open\ set\ in\ N^X \text{ and } G \subseteq M_{P_1^*}\}$$

is called the Neutrosophic interior of $M_{P_1^*}$.

$$Ncl(M_{P_1^*}) = \cap\{G | G\ is\ Neutrosophic\ closed\ set\ in\ N^X \text{ and } G \supseteq M_{P_1^*}\}$$

is called the Neutrosophic closure of $M_{P_1^*}$. For any Neutrosophic set $M_{P_1^*}$ in a Neutrosophic topological space (N^X, N^T), it is easy to see that

$$1 - Ncl(M_{P*}) = Nint(1 - M_{P*}) \text{ and } 1 - Nint(M_{P*}) = Ncl(1 - M_{P_1^*}).$$

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Modern learning of materials science and fundamental physics through the implementation of new communication skill-based (CSB) teaching and learning process during Covid-19 lockdown - A booster of research-based teaching and learning education

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Abstract
Worldwide importances have been given in education for slow learners since the adoption of innovative teaching methods introduced in the Indian education system. The majority of innovative teaching and learning method has introduced based on these criteria. During COVID-19 lockdown, the teacher's world has struggled to guide their students under all were pushed to home quarantined by the government. The education department also insists to guide the students through various portals. Based on the present situation, this education research focused on slow learners from higher secondary and postgraduate students and proposed a new innovative teaching and learning method. The resultant reflection of the implementation of new communication skill-based education through Google classroom, Zoom Platform, has evaluated under the understanding level of students from the subject of materials science and fundamentals of physics. The impacts of implemented new education methods also were evaluated from responses of Google form.

Keywords: innovative teaching method, communication skill- based education, research- based teaching

1. Introduction
Based on the educational uplift and development for slow learners the modern learning of Materials Science and fundamental Physics through the implementation of new Communication Skill-Based (CSB) teaching and learning process hereby declare those two kinds of communication skill-based learning method, such as functional communication method and the other one would be a play way communication method in chart. 1. Here author proposed a Communication skill based (CSB) method called functional skill-based learning method. This method has been used to stimulate the basic idea to put a platform and a road for the preparation of the lesson plan to the teaching faculties and the basic understanding of the subjects and its classification. Each staircase dealing that, how to receive the effectiveness and the depth in the subject, and how it makes an impact on our higher education system. Especially in physics teaching and learning has been a difficult process. Hence for the acquisition of physics language, particularly in materials science, a main branch of physics. It could deal with the character of the materials nature and habitat. One could advise following the CBS system to balance the improper management between subjects to subject.

1.1 The functional skill-based learning method
Teaching and Learning in the subject of materials science is a hectic task for teachers and learners. Learning a detailed knowledge in this same area is also a big headache and trouble for the Learners [1]. Therefore, the author suggested the following five Teaching methods in functional skill-based teaching and learning methods from the proposed CBS system. Such as represents in chart 2. One could follow five steps in this teaching and learning method are, Sound communication, Light communication, Non-Living things to Non-living things Communication, living things to non-living things communication and Living things to living things communication

Before starting with these five specialized areas, the author would like to separate the materials by two types Such as living materials and nonliving materials. Generally, the physics approaches the materials by many kinds, majorly, conducing materials, nonconducting materials, semiconducting materials, superconducting materials, dielectric materials, magnetic materials [5]. One could understand why it might have the name, is it because of the property of the material? If yes, then it might be based on the natural behavior of the materials and therefore it could hold the name consistently in their lifetime.

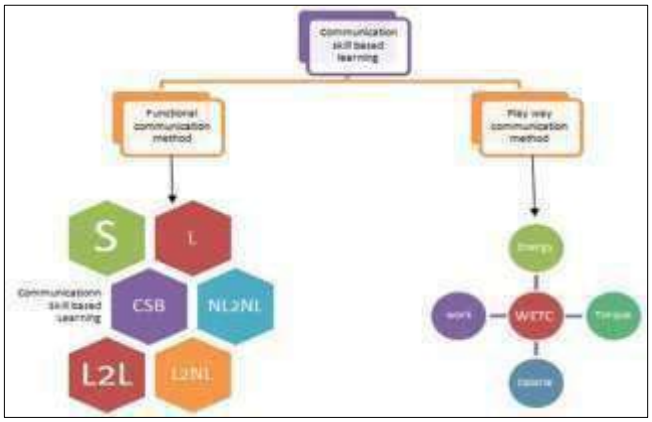

Chart 1: Communication Skill-based teaching and Learning

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PHYTOCHEMICAL ANALYSIS, ANTIBACTERIAL ACTIVITY AND ANTIOXIDANT ACTIVITY OF LEAF EXTRACTS OF *MERREMIA EMARGINATA* (BURM. F.)

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Keywords:

Merremia emarginata, Phytochemical analyses, Antibacterial activity and Antioxidant activity

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ABSTRACT: *Merremia emarginata* is a creeping herb, rooting at nodes, and commonly used in folk medicine. The current study was undertaken with the aim of preliminary phytochemical analyses, evaluation of antimicrobial activity, and antioxidant activity by methanol and aqueous extracts of leaves of *Merremia emarginata*. The extracts were subjected to preliminary phytochemical analyses; Antibacterial activities against nine bacterial strains were done by using agar – well diffusion method and free radical DPPH antioxidant activity. Preliminary phytochemical analyses were done by using standard phytochemical methods that showed the presence of Carbohydrates, reducing sugars, phytosterols, fixed oils, saponins, phenolic compounds and flavonoids. Based on the results of phytochemical analyses, methanol and aqueous extracts of the plant were chosen for antibacterial studies. Methanolic extract of leaves showed the highest antibacterial activity followed by the aqueous extract. The present study indicates that the leaves of *Merremia emarginata* possess antibacterial activity and found effective against eight bacterial cultures. Antioxidant activity of the DPPH assay showed that extracts exhibit the scavenging effect of various concentrations.

INTRODUCTION: Infectious diseases are a major cause of morbidity and mortality particularly in developing countries. Since the discovery of antibiotics and their uses as chemotherapeutic agents, there was confidence in the medical community that this would lead to the eradication of diseases. However, diseases and causative agents that were once thought to have been controlled by antibiotics are returning in new forms of resistance to antibiotic therapies [1].

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Occurrences of epidemics due to such drug- resistant microorganisms are now a common world-wide problem-posing public health concerns [2]. The worldwide emergence of multi-drug resistant microbial strains is increasingly limiting the efficacy of existing medicines and significantly causing treatment failure of infections [3].

Merremia emarginata (Burm.f.) Hallier f. also called Ipomoea reniformis is a procumbent herb belonging to the family Convolvulaceae. The plant is widely distributed in India, Sri Lanka, Malaysia, Philippines, and Tropical Africa. In India, it is commonly found in Tamil Nadu, Kerala, Karnataka, Bihar, Maharashtra, Rajasthan and Gujarat [4]. It is known by various names in different regions, *viz.*, Kidney leaf morning glory in English, Elikkadhu-keerai in Tamil, and Mooshikaree in

Length biased OM distribution with properties and Applications to Survival Times

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Abstract

In this paper, a new version of OM distribution namely length biased OM distribution is proposed and studied. The density function and its behavior, moments, survival functions and hazard rate, reverse hazard rate, order statistics, entropies and likelihood ratio test have been discussed and studied. The parameters of this distribution are estimated by the method of moments and the maximum likelihood estimation method. Finally, an application of the model to a real life data set is presented and compared with other distributions.

Keywords: *length biased distribution, OM distribution, Entropies, Order statistics, Maximum likelihood estimation*

1. INTRODUCTION

The weighted distributions are used as a tool in selection of appropriate models for observed data, especially when samples are drawn without a proper frame. Weighted distributions have been employed in wide variety applications in reliability and survival analysis, meta-analysis, analysis of family data, ecology and forestry. The concept of weighted distributions was first emerged by Fisher (1934) is a traceable work in respect of his studies on how methods of ascertainment can affect the form of distribution of recorded observations. Later it was introduced and formulated in a more general way by Rao (1965) with respect to modelling statistical data where the routine practice of using standard distributions for the purpose was dismissed as inappropriate. The concept of length biased sampling was first introduced by Cox (1969) and Zelen (1974). The weighted distribution reduces to length biased distribution when the weight function considers only the length of the units. This concept is found in various applications in biomedical area such as survival analysis, family history and disease, intermediate events and latency period of AIDS due to blood transmission. There are various good sources which provide the detailed description of length biased distributions. Many newly introduced distributions along with their length biased versions exist in literature whose statistical behaviour is extensively studied during decades. Reyad et al. (2013) discussed on the length-biased weighted Frechet distribution with Properties and estimation. Seenoi et al. (2014) discussed on the length-biased exponentiated inverted Weibull distribution with various properties and applications. Modi and Gill (2015), obtained the length biased version of weighted Maxwell distribution with various statistical properties. Reyad et al. (2017), obtained the length biased weighted Frechet distribution with properties and estimation. Karimi and Nasiri (2018) discussed the length biased weighted Lomax distribution in the presence of outliers. Rather and Subramanian (2018), discussed on length biased Sushila distribution with properties and applications. Recently, Subramanian and Rather (2020) studied a new extension of Shanker distribution with real life data.

Length Biased Quasi Aradhana Distribution and its Applications to Survival Data

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Abstract- **In this paper, we have introduced a new generalization of quasi Aradhana distribution using Length biased technique known as Length-biased quasi Aradhana distribution. Length biased distribution is a special case of weighted distribution. The different mathematical and Statistical properties of the newly proposed distribution are derived and discussed. The parameters of the proposed distribution are obtained by applying the maximum likelihood estimation method and also Fisher's Information matrix has been discussed. Finally, the newly proposed distribution demonstrated with real life data set for establishing the usefulness of newly introduced model.**

Keywords- **Weighted distribution, Quasi Aradhana distribution, Maximum Likelihood estimation, Order statistics, Reliability measures.**

I. INTRODUCTION

The concept of weighted probability models introduced by Fisher (1934) provides a new ways for transforming the existing standard distribution into new one by applying the weighted model in modelling lifetime data. Later Rao (1965) formulate it in a general way in relation with statistical modelling of data when the practice of using standard distribution was found to be inappropriate. The weighted distribution reduces to length biased distribution when the weight function considers only the length of units. The length biased sampling concept was first introduced by Cox (1969) and Zelen (1974). Different authors have studied and reviewed the various weighted probability models and give their different opinions regarding concept. Reyad et al. (2017) have obtained the length biased weighted frechet distribution with properties and estimation. Mudasir and Ahmad (2018), discussed the characterization and estimation of length biased Nakagami distribution. Rather and Subramanian (2018), obtained length biased sushila distribution with properties and its applications which shows more flexibility than classical distributions. Rather and Subramanian (2019) also discusses on Length biased erlang truncated exponential distribution. Rajagopalan, Ganaie and Rather (2019), discussed the length biased Aradhana distribution with properties and Applications. Rather and Ozel (2020) introduced the weighted power Lindley distribution with application of life time data. Recently, Rajagopalan and Ganaie (2020) discussed the length biased version of Shukla distribution with properties and application of real life data.

The two parameter quasi Aradhana distribution introduced by Shanker, Shukla and Shanker (2018) is a newly proposed lifetime model and the proposed distribution is a particular case of one parameter Aradhana distribution. its different statistical properties which include Bonferroni and Lorenz curves, stochastic ordering, order statistics, moments, stress strength reliability and other properties have been discussed.

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New Generalization of Quasi Aradhana Distribution and its Applications to Survival Times Data

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***Abstract*:-In this paper, we have introduced a weighted model of the quasi Aradhana distribution and the weight function considered here is $w(x) = x^c$ where the weight parameter is *c*. We have investigated its different characteristics as well as the structural properties of the weighted quasi Aradhana distribution. We have also derived its moment generating function, characteristic function, Reliability function and hazard rate function of the introduced model. we have also obtained its maximum likelihood estimator and also discuss its Fisher's Information matrix. Finally the application of the new distribution has also been demonstrated with real life data set for examining its supremacy.**

***Keywords*: Weighted distribution, Quasi Aradhana distribution, Reliability analysis, Order statistics, Maximum likelihood estimation.**

I. INTRODUCTION

Weighted distributions provide an approach to deal with model specification and data interpretation problems. Weighted distributions occur in a natural way in specifying probabilities of events as observed and recorded by making adjustments to probabilities of actual occurrence of events taking into account the method of ascertainment. Failure to make such adjustments can lead to wrong conclusions. The concept of weighted probability models attracted a lot of researchers to contemplate on and to carry out research on this topic. This concept of weighted models can be traced from the work of Fisher (1934), in connection with his studies, on how methods of ascertainment can influence the form of distribution of recorded observations. Later Rao (1965) developed this concept in a unified manner while modelling the statistical data when the standard distributions were not appropriate to record these observations with equal probabilities. As a result, weighted models were formulated in such situations to record the observations according to some weighted function. The weighted distribution reduces to length biased distribution when the weight function considers only the length of the units. The concept of length biased sampling was first introduced by Cox (1969) and Zelen (1974). Different authors have reviewed and studied the various weighted probability models and illustrated their applications in different fields. Weighted distributions were applied in various research areas related to reliability, biomedicine, ecology and branching processes. Weighted probability models play very important role in some situations arising in various practical fields like medical sciences, engineering etc. These

Weighted OM distribution with properties and Applications to Survival Times

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Abstract

In this paper, weighted OM distribution is proposed and studied. The density function and its behavior, moments, survival functions and hazard rate, reverse hazard rate, order statistics, entropies and likelihood ratio test have been discussed and studied. The parameters of this distribution are estimated by the method of moments and the maximum likelihood estimation method and the Fishers information matrix have been also discussed. Finally, an application of the model to a real life data set is presented and compared with other distributions.

Keywords: *Weighted distribution, OM distribution, Order statistics, Entropies, Maximum likelihood estimation*

1. INTRODUCTION

The theory of weighted distributions provides a collective access for the problems of model specification and data interpretation. it provides a technique for fitting models to the unknown weight functions when samples can be taken both from the original distribution and the developed distribution. Weighted distributions take into account the method of ascertainment, by adjusting the probabilities of the actual occurrence of events to arrive at a specification of the probabilities of those events as observed and recorded. The weighted distributions occur frequently in the studies related to reliability, analysis of family data, Meta analysis and analysis of intervention data, biomedicine, ecology and other areas, for the improvement of proper statistical models. The concept of weighted distributions was provided firstly by Fisher (1934) and studied how the methods of ascertainment can influence the form of the distribution of recorded observations and later Rao (1965) introduced and formulated it in general terms in connection with modelling statistical data when the usual practice of using standard distributions were found to be unsuitable. Many authors have employed the concept of weighted distribution for different purposes. Warren (1975) was the first to apply the weighted distributions in connection with sampling wood cells. Patil and Rao (1978) inspected some general models leading to weighted distributions with weight functions and studied length biased (size biased) sampling with applications to wildlife populations and human families. As a result, weighted models were formulated in such situations to record the observations according to some weighted function. Different authors have reviewed and studied the various weighted probability models and illustrated their applications in different fields. Weighted distributions are utilized to modulate the probabilities of the events as observed and transcribed. There are two types of weighted distributions: length biased and size biased distributions. Weighted distributions were applied in various research areas related to reliability, biomedicine, ecology and branching processes. For survival data analysis, Jing (2010) introduced the weighted inverse Weibull distribution and beta-inverse Weibull distribution as a new lifetime models. Ghitany, Alqallaf, Al-Mutairi and Husain (2011) introduced a two-parameter

Prediction of Respiratory Syndromes through generation of Fuzzy rulesets applied with Machine Learning Classifiers

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Abstract

Respiratory syndromes are one of the current threats that brought serious problems to humanity when not treated at the earlier stage. To identify the respiratory disease a complex method is required as most of the symptoms of respiratory diseases are similar and very hard to differentiate among them. Medical world generally diagnoses the disease through scans and x-rays of lungs or through saliva. However, it is found to be expensive and time consuming. The major objective of the paper is to propose a novel framework method that will predict the presence of respiratory syndromes in the earlier stage using formation of fuzzy rulesets from numerical dataset collected based on the saliva samples of different gender and age group people. The dataset is preprocessed to be devoid of errors and loaded into fuzzy Logic designer of MATLAB using input and output features. The rulesets are formed and generated as a novel algorithm Fuzzy Ruleset Classifier and Predictor (FRCP) that applies the rulesets and predicts the confusion matrix containing True Positive, True Negative, False Positive and False Negatives respectively. The results are tested for performance in analytics. The results showed that the overall accuracy is 96.97% with good levels of Sensitivity (0.90), Specificity (0.98), F-Score (92.31%), Kappa (0.90) and less error rates of Type-I error rate (0.010) and type-II error rate (0.020) respectively. The overall results showed that Fuzzy generated rulesets with threshold values and membership functions can enhance the prediction of complex datasets with enhanced performance levels.

Keywords:

Respiratory syndrome, fuzzy rulesets, Fuzzy Ruleset Classifier and Predictor (FRCP) Algorithm, Performance Analytics, Fuzzy Logic designer

Introduction

Respiratory syndromes represent the compulsive circumstances that indicates the improper functioning of lungs [1] and its associated organs, tissues and cells of human beings and animals. The respiratory diseases normally affect various parts of the body like bronchi, bronchioles, trachea, pleurae and also various muscles, nerves connected to the respiratory tract. There are many types of respiratory syndromes possible from earlier to current COVID-19 [2] period like common cold, bacterial pneumonia, pulmonary embolism, cancer, asthma etc. However, few of those diseases are threatful and has to be handled in the earlier period itself after which it becomes life threatening problem. The major challenge of all these respiratory problems were the identification of symptoms in all the syndromes. For instance, dry cough, common cold, fever, shortness of breath were common symptoms found in asthma, harmless problems like common cold, flu or even dreadful diseases in recent times like COVID-19. There are few allergic symptoms like throat infections, diarrhea, muscle pain that were also connected with future respiratory diseases were symptoms of other common

A OUTLINE OF SUSPICIOUS AND VIOLENT ACTIVITY DETECTION OF HUMANS

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Abstract: Crimes like stealing, violence against folks, injury to property, etc., became quite common in a very society, that a significant concern. The normal police work systems act like post mortem tools within the sense that they'll be used for the investigation to detect the person behind the theft, but it is only after the crime has already occurred. During this chapter, we tend to propose a technique for mechanically detection the suspicious or violent activities of an individual from the police work video. We tend to train the SVM classifier with the HOG options extracted from the video frames of two types: frames showing no violent activities and people showing violent activities like kicking, pushing, punching, etc. In the testing phase, the frames from the surveillance video square measure browse and processed so as to classify them as violent or traditional frames. If the frames classified as violent frames square measure detected, associate alarm is raised to alert the controller. It will be wont to keep track of the time period that an individual is found loitering at a place being monitored. If the time exceeds a predefined threshold, the alarm is raised to alert regarding any potential suspicious activity in order that it will be checked on time.

Keywords: police investigation, video tracking, violence activity, svm, hog

I.Introduction

Nowadays, the crime and violence have inflated in society in a very massive manner, requiring someone to hunt safety and security at every stage of his life. Police investigation camera systems square measure accessible to stay a watch on the live happenings in a very region of interest. Observation such places exploitation cameras square measure less expensive than using human resource World Health Organization will unceasingly monitor the live footage for any violent or suspicious action. Even though one manages to rent person(s) to try such task, the efficiency of someone in doing it might be at risk of errors as 82% of security observers have multiple co-occurring duties like checking-in guests, attending calls, etc. Thus, there's a desire for associate intelligent autonomous closed-circuit television which will discover the suspicious and violent activities of humans in police investigation videos to forestall injury on time.

In this chapter, associate acceptable algorithmic program is projected to satisfy the higher than would like. Though such systems are developed, however it's difficult as a result of there square measure several problems that require be self-addressed. One in every of the problems to be self-addressed is however intelligent is that the system to grasp the human behaviour in a region being monitored. Our work focuses on higher understanding of human-movement preponderantly suspicious behaviour, so as to acknowledge associate persona non grata exploitation the human movement detection algorithmic program. Also, the actions like kicking, pushing, punching, etc., square measure treated as violent/abnormal activities associated an alarm is raised whenever such acts of violence square measure in method so no any injury will present itself. We analyze, discover and track the motion of someone in a very given police investigation video and based mostly upon it we tend to reason whether or not there square measure some sorts of acts of violence, viz. Kicking, pushing, punching or a potential suspicious activity like loitering or looking around with malicious intent. To discover acts of violence, a support vector machine (SVM) classifier is pre trained with many samples of acts of kicking, pushing and punching. Once the classifier is trained, each frame of the video is provided to the classifier to discover if there's any violence of the above-named classes. If the classifier returns positive result classifying the frame mutually within which some act of violence is found, then

A Study on Predictive Analysis of Counterfeit Profiles in Twitter using Fake Twitter Numerical Predictive Analytical (FTNPA) Framework

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Abstract
Detection of counterfeit profiles in Twitter is common in many cases. Earlier methods including the mining of text information, sentiment analysis, emotional analysis based on text information was practiced. However it requires more complex structures to build the prediction system. The objective of the research is to predict the counterfeit profiles in Twitter using machine learning techniques with Twitter data collected during COVID-19 that is in existence. The Pre-processing was carried out and feature selection was completed using K-means cluster analysis. The best selected numerical datasets are formed as testing set and applied with classifiers like SGD text Algorithm, LWL Algorithm, Bagging Algorithm, Decision Table Algorithm and HOEFFDING Tree algorithms in WEKA environment. The results were obtained after evaluation and found to be closer to 99.72% accurate in average of all the five classifiers. The research work provides excellent prediction results with efficient performance measures and promised for big data predictions with huge and live datasets in the future.

Keywords: Twitter, Social Media, Counterfeit Profiles, Machine Learning Classifiers, Numerical Analysis, Predictive Analytics, Clustering

1. Introduction

Twitter is one of the popular social networks especially among the celebrities. To assess and identify the Fake profiles in social networking is a challenging arena [1]. Planning the Twitter content to obtain relevant information for maximum exposure and engagement is a tough task, even for the most experienced analyser. However, there is an opportunity to test the existing profiles, providing valuable insight into their account, their followers, and the Twitter community as a whole. Twitter analytics is one of the wealth information available for people to enhance their popularity [2].

The research encompasses a most common social problem normally faced by individuals using the social networks like Twitter. The Fake profilers are growing day by day since millions of users are using the social networks to share their views and comments on various social issues from time to time. Many profilers fail to recognize the truthfulness of profiles and also on the importance of the comments posted in different profiles. Hence this research benefits the society based on the user's individual identity and their involvement in the social activities. Many social activities are created and moderated in social networks like Twitter. Hence, this research provides a social responsibility for every individual to attain right message to right group of people in social networks.

The rest of the paper organized as follows. Section 2 describes about literature review, section 3 describes about architecture of the proposed system, section 4 describes the experimentation details, section 5 discuss the results and section 6 concludes the paper with future enhancements.

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IOT WITH CLOUD BASED DISTRIBUTED HEALTHCARE SYSTEM FOR DISEASE DIAGNOSIS USING OPTIMIZED SUPPORT VECTOR MACHINE

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Abstract

Internet of Things (IoT) and cloud computing technologies offers several applications in healthcare sector. On a distributed healthcare management, a number of IoT devices are utilized for monitoring the health conditions of the patients and transmit the data to the cloud server for further processing. This paper introduces a new cloud and IoT based distributed healthcare system using improved particle swarm optimization (IPSO) with support vector machine (SVM), named IPSO-SVM model. The proposed method initially involves the data acquisition process, where the data will be generated using IoT devices and benchmark medical data repositories. The IPSO-SVM model will be trained using repository data in the cloud server and is thereby employed to test the patient's data transmitted from the IoT devices. The proposed IPSO-SVM model performs disease diagnosis process in the cloud, which identifies the existence of disease effectively. At last, the generated test reports will be sent back to the patient's, healthcare centres, and physicians. A series of experiments takes place on diabetes disease to verify the effective performance of the proposed IPSO-SVM model. The simulation outcome indicated that the IPSO-SVM model has offered superior results with the maximum average sensitivity of 96.28%, specificity of 93.72% and accuracy of 94.44%.

Keywords: Cloud computing, Distributed systems, IoT, Healthcare, Parameter optimization

1. Introduction

IoT offers the design and development of Internet-connected Things via computer networks. The main aim of using IoT is that, rather to use small amount of powerful computing tools like laptop, tablet, and mobile phone, it is better to use large number of minimum powerful gadgets like wristband, air-conditioner, umbrella, and fridge. Some of the prominent human-applicable devices like air fresheners and transports are smartly designed by processing units, and sensors. It produces a practical simulation outcome that can be applied in day-to-day life. Thus, the embedded devices hold the computation and communication abilities that exceeds the requirements of small gadgets like a tiny lamp and umbrella and also it has been connected to the buildings by network communication. Such enlightened objects in IoT are composed of technical reasoning capability to perform the allocated work without holding the details of name and personality. The norm ‘‘Ubiquitous computing’’ varies from IoT in the way that, IoT can be applied all over the world through Internet connections. A ‘‘Thing’’ that exist in today's world could obtain inputs from users or living things and convert these data to the Internet, so that the data can be collected and computed. For illustration, a sewing machine can store the data of remaining number of threads, count of stitches sewn and number of stitches it can perform in future. It can be accomplished under the utilization of sensors which saves the function of objects within the given time limit. ‘‘Actuators’’ are also employed with the sensors to show the results to today's world by linking the things present globally. A sewing machine might provide an alert signal for the lack of thread and to place a new one into the system.

To maximize the efficiency of IoT, it is embedded with Cloud Computing (CC) so that the system's productiveness has been improved with massive benefits. An observation model is deployed under the combination of IoT and CC methodologies to observe the patients health at the distant site which is helpful for the doctors and care takers to know the person's present condition. IoT is one of the significant tools in CC, used to improvise the performance with respect to maximum resource application, memory, power and processing ability. Additionally, CC acquires the merits from IoT model by maximizing the potential to manage problems of the present world and establishes maximum services in a dynamic manner.

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An Ensemble of IoT with Cloud Enabled Distributed Disease Diagnosis System using Optimal Kernel Extreme Learning Machine Model

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ABSTRACT

In recent times, Internet of Things (IoT) and cloud computing (CC) technologies provides diverse applications and services in the healthcare sector. In a distributed healthcare management, manyIoT devices are used to monitor the health status of the patients and send the data to the cloud server for processing. This paper devises a new IoT and cloud enabled intelligent distributed disease diagnosis model using Elephant Herd Optimization (EHO) with Kernel Extreme Learning Machine (KELM), called EHO-KELM model. The proposed EHO-KELM model initially performs the data acquisition process to collect the medical data of the patients from different sources. Then, the collected data is transmitted to the cloud server for further processing, where the EHO-KELM model gets executed to classify the patient data to identify the existence of diseases. The application of EHO algorithm helps to tune the parameters of the KELM model for better classification performance. The performance of the EHO-KELM model has been validated using two medical dataset namely diabetes and heart disease. The simulation outcome indicated that the EHO-KELM model has demonstrated effective outcome with the maximum classification accuracy of 94.25% on the applied heart disease respectively.

Key words: IoT, Cloud computing, Distributed system, Disease diagnosis, Healthcare

1. INTRODUCTION

Nowadays, Internet of Things (IoT) becomes a more interesting topic among the researchers, public area, and industries. While conventional internet helps communication among limited device count and individuals, it relates all type of linked “Things” into a broad web associated with computing intelligence without individual’s involvement. The acceptance of IoT and the growth of wireless communication models permit sending patient’s health status to caretaker in real time. On the other hand, distributed computing in healthcare comprises a set of IoT based medical gadgets and networking devices, which transmit and interact data with one another for passing the patient data to the cloud server. Moreover, various existing sensor and the convenient device could evaluate particular person's physiological limit such as Respiration Rate (RR) Blood Pressure (BP) and Heart Rate (HR) in just single tap. Still, it is in the initial stage of development, business and industrial sectors have rapidly supported the control of IoT in their active system, and it observed development in the invention includes user familiarity. CC brings IT services including data analytics, software, networking, databases, and servers over the web to supply more rapidly operations, responsive income, and economies of scale. In addition to this, the existing transition from centralized theory of CC to decentralized theory (fog computing) are holding the topmost parts. Fog computing executes data analysis on edge devices, so it permits real time processing, develops privacy of the data, and it minimizes the costs too. The growth of CC, Artificial Intelligence (AI), and portable devices certifies a definite groundwork for the development of IoT in the medicinal sector to modernize all features of individual lives. Figure 1 shows the structure of IoT with cloud based healthcare method.

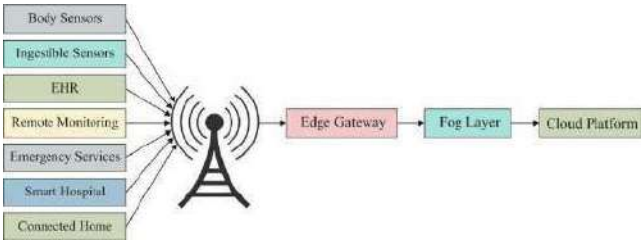

Figure 1: Structure of IoT with Cloud based Healthcare Model

IoT gives proper solution for different applications that includes all aspect of growth like health care, smart traffic management, supply chain, structural health monitoring, emergency services, retail, smart cities, industrial management, security, and waste management. Based on details by CISCO, at the end of 2030, 500 billion devices

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Misclassified Reduced Instance and Stochastic Gradient Descent with Logistic Regression Model for Customer Churn Prediction

Isabella Amali, R. Arunkumar, R. Madhan Mohan

Abstract*: Customer Churn Prediction (CCP) is a difficult problem found to be helpful to make decisions due to the rapid growth in the number of telecom providers. At present, deep learning models are familiar because of the significant improvement in different areas. In this paper, a deep learning based CCP is introduced by the use of Stochastic Gradient Boosting (SGD) with Logistic regression (LR) classifier model. By the integration of SGD and LR, effective classification can be accomplished. To further improve the classifier efficiency, misclassified instances are removed from the dataset. Then, the processed data is again provided as input to the classification model. The presented SGD-LR model is validated on a benchmark dataset and the results are examiner with respect to different measures. The experimental outcome pointed out the projected model is superior to available CCP models on the identical dataset.

***Keywords* : CCP; Classifier; Machine learning; Deep learning .**

I. INTRODUCTION

Nowadays, the telecommunication providers have been increased which leads to heavy competition as well as churn users. Because of maximum churn users, many firms have been focusing to the clients individually. Churn is stated that [1] it is the ability of a customer to terminate the business over alternate company. The prior need is to analyze the customers who have high possibility to transfer to other products. A firm should be capable of tracking the user to avoid the cause for churn. Churn occurs mainly due to the dissatisfaction of the customer. In order to detect this complaint different types of parameters has been utilized. In general, a customer would not become as a churn for single aspect of any complaint regarding the product [2].

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Generally, before ceasing the entire transaction, several factors of dissatisfaction associated with the company has been existing.

Different operation models with the firm as well as a feature which is connected along with the customer is stores by an organization, this process illustrates the nature of the information. An efficient concept is achieved by examining the data and present condition of a user might be gained [3]. Churn prediction could use these data as basic knowledge. The dense nature of information, depicts the whole product by considering the firm. Therefore, the necessity of information in a structural form, all instances are included with whole property corresponding to common user in the industry [4].

Based on the sparse data, customers are connected only with few properties and not with all properties. While predicting churn, sparsity and massiveness of a data is promising issue. To provide various facilities, several firms interact with their clients [5]. The ability of forecasting while a customer moves to other product and this operation could increase the customer service. But this problem is very complex whenever the nature of information is consecutive and different. In any type of organization, churn could not be removed. Therefore, there are some possibilities to analyze the cause of churn. In recent times, machine learning (ML) techniques have been applied in different domains to achieve best results. The ML model could be used to resolve CPP.

By analyzing the probable customers of churn with the threat detection model is proposed by [6]. Generalized Additive Models (GAM) is employed in this technique. This model stabilizes linear limitations by allowing the non-linear fits to information. Recognizing the dangerous users and suggest the non-linear relationships, it helps to improve the marketing solutions. In [7] deployed a profiling technique based on Neural Network (NN) that could be applied to detect churn. Hence this models is different from alternate methods, because several models have been proposed to analyze the clients could rapidly move as churn. To compute the anticipation activities, it detects the user's advanced churn nature, providing enough data which is essential buffer to the company. [8] incorporates the similar NN based method. The scheme in [9] is based on the 80-20 pattern of recognizing the main attributes influencing churn as well as analyzing the key features of the data to decide churn. In [10] introduced a regression depended method of predicting churn. The above models deploy the user characteristics data to analyze and present extended performance.

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Segments Associated with the Discernment of Risk and Information of Contracting the 2019-nCoV in India

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Authors' contributions

This work was carried out in collaboration between both authors. Author LV designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author SJ managed the analyses of the study. Author SJ managed the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

This examination explored hazard discernment and mindfulness among India grown-up members about Coronavirus Disease 2019 (COVID-19). Two self-managed online studies were led on 1000 respondents (320 and 680 members, individually) during the lockdown time frame in India at two separate time focuses from 26-31 March 2020 (early lockdown) and 11-16 May 2020 (late lockdown) by means of internet based life. Univariate and numerous straight relapse models were utilized to look in danger observation and information related elements toward COVID-19. Scores of mean information (8.4 versus 8.0, P=0.021) and impression of hazard (11.2 versus 9.4, P < 0.001) vary altogether among right on time and late lockdown. There was a huge reduction in saw hazard scores for contracting 2019-nCoV [β=-0.83, 95%CI: - 1.29, - 0.29], while information around

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ALGEBRAIC OPERATIONS OF T-FUZZY IDEALS IN TERNARY Γ-SEMIRING

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ABSTRACT: In this paper, we introduced the notion of T-fuzzy ideals, T-fuzzy left(resp., right, lateral) ideal in ternary Γ-semiring. Also we investigated algebraic operations on T-fuzzy ideals in ternary Γ-semiring and to prove subsequently these operations give rise to different structures on T-fuzzy ideals in ternary Γ-semiring. Some characterization of ternary Γ-semiring has been obtained in terms of fuzzy subsets.

KEYWORDS: T-fuzzy ideals, T-fuzzy left ideal, T-fuzzy right ideal, T-fuzzy lateral ideal, Ternary Γ-semiring, t-norm, Composition of ternary Γ-semiring.

1.INTRODUCTION

The theory of fuzzy sets was first proposed by Zadeh[4]. Triangular norm was introduced by Schweizer and skla[1]. In fuzzy set theory t-norm is extensively used to model the logical connective conjunction (AND), Which have application in several fields of mathematics and artifical intelligence. Zimmerman [2] have introduced fuzzy set theory and its application. Dudek and Jun[17] studied fuzzy subquasigroups over a t-norm. Srinivas and Nagaiah [14] studied T-fuzzy ideals of gamma near rings. The concepts of fuzzy ideals in algebraic structures have introduced by Chinnadurai[16] and in 2014, Chinnadurai et.al.[15] have studied fuzzy lateral ideals in ternary near-rings. Akram[6] studied T-Fuzzy ideals in near rings. SajaniLavanya et.al.[7,9] introduced the notion of ternary Γ-semirings. Murali Krishna Rao et.al [8] studied L-fuzzy ideals in Γ-semirings. In the year 2017, Revathi et.al.[11] introduced the compositions of fuzzy TΓ-ideals in ternary Γ-semiring. Marapureddy Murali Krishna Rao [10] have introduced T-fuzzy ideals in ordered Γ-semirings. Kavikumar et.al. [3] studied fuzzy ideals and fuzzy quasi-ideals of ternary semirings. The concepts of L-fuzzy ideals in semirings were studied by Jun,Neggers and Kim[18]. Ronnason chinram et.al. [12] have introduced the L-fuzzy ternary subsemirings and L-fuzzy ideals in ternary semirings. The theory of ternary rings was introduced by Lister[5].In [13], Kar studied quasi-ideals and bi-ideals in ternary semirings. The main purpose of this paper is to introduced the notion of T-fuzzy ideal, T-fuzzy left ideal, T-fuzzy right ideal, T- fuzzy lateral ideal in ternary Γ-Semiring and to investigate the algebraic operations and relations between them.

FACE RECOGNITION TECHNOLOGIES – A REVIEW

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Abstract: The biometric is associates in investigation of human conduct and highlights. Face recognition could be a procedure of biometric. Different approaches area unit used for it. A study for each one in every of these procedures is in this paper for investigation completely different calculations and techniques. Face recognition is developing a part of biometric for security as no countenances is vanquished as a security approach. During this method, how we can perceive a face with the help of PCs is given during this paper.

Keywords: Face features, feature selection, local binary pattern.

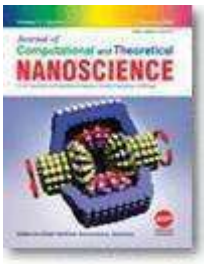
I.INTRODUCTION

Humans usually use faces to acknowledge people and advancements in computing capability over the past few decades currently modify similar recognitions mechanically. Early face recognition algorithms used straightforward geometric models, but the recognition method has currently matured into a science of sophisticated mathematical representations and matching processes. Major advancements and initiatives within the past ten to fifteen years have propelled face recognition technology into the spotlight. Face recognition is used for each verification and identification (open-set and closed-set).

In face recognition system it identifies faces gift existing with the images and videos deliberately. It is classified into two modes:

1. Face verification or authentication
2. Face identification or recognition

Face verification or authentication there's a coordinated coordinating that appears at an issue face image against a layout face image whose character is being secured. In face identifying proof or nevertheless acknowledgment there's a one-to-many coordinative that suppose an inquiry face image against all the format face photos within the information base to make a decision the temperament of the question face image. Another face acknowledgment scenario includes a watch-list check, where associate inquiry face is coordinated to a summary of suspects (one-to-few matches). The exhibition of face acknowledgment frameworks has improved basically since the principal programmed face acknowledgment framework was created by Kanade (T.Kanade, 1973). Furthermore, face detection, facial classification.



Implementation of Internet of Things-Based Sentiment Analysis for Farming System

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The Internet is slowly shaping to be the primary information source that fulfils all the needs of a person. Whenever someone plans to buy a product, they tend to consult with the reviews online to get a clear idea of the product in terms of its various aspects. The problem is that the information available about a single product is so much in volume that the users not be able to extract the information they require from this massive amount of data. The paper proposes a system that generates a temporal aspect based text summary of user opinions that are collected from different sources across the Internet with their time-stamp. These comments are broken into sentences and sub-sentences after predefined based classification. Then, Sentiment analysis is performed. The time relationship is taken into account, and the causal relationship is identified at the deflection points or the time frames during which there is a significant opinion change. The major advantage of this system is that the changes in user opinions with time can be traced and the cause of this sentiment change can be found out in addition to offering customers a quick, convenient and easy way to consume information about a product to help them decide whether or not to purchase it. It also helps enterprises to get relevant insights related to their products based on the customer reviews online.

Keywords: Aspect-Based Review; Cause Prediction; Data Representation; NLP; Temporal Sentiment Analysis
Document Type: Research Article

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AN OUTLINE OF SENTIMENT ANALYSIS FROM SOCIAL MEDIA

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Abstract: At the present time of computerization, machines are continually being channeled to give precise translations of what individuals express via social media. Humankind these days is lowered in what and how individuals think and the choices taken from that point are generally found on the float of the majority on social media. This article gives a multifaceted knowledge into the development of slant examination into the spotlight through the unexpected blast of plenty of information on the web. This article additionally addresses the procedure of catching information from internet based life throughout the years alongside the similarity discovery dependent on comparative decisions on the clients in social systems. The procedures of criminalizing client information have moreover been studied in this article. Information and its various structures, have been investigated and introduced as a piece of overview in this article. Other than this, the strategies for assessing sentiment have been contemplated, arranged, and thought about, and the impediments uncovered with the expectation this will give extension to more readily look into in what's to come.

Index Terms: sentiment analysis, grouping, identifying, social media, social systems.

I. Introduction

As humans, we generally get pulled in to like minded individuals. Indeed, even studies recommend that we are agreeing in associating with individuals with comparative convictions, with individuals on whom we can trust and who can encourage to help accomplish our desires. Etymologically, individuals have an inclination to be related with comparable disapproved of networks. Different groups make a network. Measured quality is one of the prime instruments considered while deciding the amount of networks [1]. In the event that the attributes of the groups are minutely broke down, at that point it tends to be instrumental in serving to recognize the particular character set of individual bunches or like-minded society. Placing it in the other manner, it can likewise be said that the nearness of a typical associate between a lot of people guarantees that there lie comparative standards and purposes between that arrangements of individuals. To be increasingly explicit, there is the accessibility of two sorts of internet based life; Social Networks and Online Communities.

Social networks are shaped of individuals who are interconnected through some past close to home connections, hold the equivalent socially and further would lean toward interfacing with new relationship to augment their own contacts. It associates individuals who have a straight interface with the other. Contrasted with the previous networks involve individuals from numerous fields having less or no association between them. The principle associate between people in a network lies in the affection toward a natural intrigue. Clearly, individuals remain inside a network for fluctuated reasons, it may be the preference for a uncommon thing, or it may be that the individual feels that he/she ought to be related with that network or he/she may accomplish something by holding fast to that network. Unmistakably, social network contain sorted out course of action while networks contain game plans which cover and are settled in the midst of them.

social media is the technique for imparting information to a gigantic and immense crowd. It tends to be tended to as a mode of proliferating data through an interface. Social media in tandem with social networks helps individuals cater their content to a wider society and reach out to more people for sharing or promotion [2].

Sentiment Analysis is the strategy of arranging the ideas communicated over a specific item. With the appearance of fluctuated innovative instruments, it has gotten a significant measure to know about the mass view in business, items or in issues of normal like and aversion. Following down the feeling behind the posts via social media can help to relate to the setting wherein the client will respond and progress.

This article gives the progression of social network analysis (SNA) from more than 200 papers and presents the examination that has been acted in social network and its related fields.

This article is sorted out in the accompanying way—Section II manages the commencement of social media in the examination region. Area III notices the inspiration for this article. Area IV contains the point by point techniques suggested to discover bunches just as networks from more than 40 papers. Area V manages the audit done on 45 papers in the relating field and Area VI arrangements with the changed procedures applied to recognize exact feelings from information via social media. Area VII finishes up the paper with some future degree for look into in this field. A crawler, device to assess semantics, a motor that permits language preprocessing and a classifier are the fundamental segments of an opinion investigation framework [3].

II. Social network and its analysis

In SNA, the interconnectivity of people in an informal community is called as inner circles, which can be characterized as a structure where each individual from the assortment of individuals is straightforwardly furthermore, durably attached to one another. Bron and Kerbosch [4] proposed that there are approaches to discover maximal all out subgraphs of charts which are not coordinated, particularly through backtracking calculations using branch and bound to cut off the branches that don't prompt the development of coterie. Research identified with create calculations to bunch corresponded information from various uses of social network has been started path in 1975 [5], where the merging nature of item second corelational networks was utilized in the CONCOR calculation to group in a various leveled way. It is to be considered additionally, that with the most recent lavish expenditure in the measure of online information, it more likely than not

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Detecting Outliers using R Package in Fitting Data with Linear and Nonlinear Regression Models

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Abstract:
Background
Linear and non linear regression analysis assumes scatter of data, fitting of straight line or normal distribution. An outlier is an extreme observation when the residual is larger in absolute value when compared with other observed data set. The detection of outlier can be defined as the process of detecting and subsequently excluding outliers from the given set of data. Outlier can dominate sum of square calculation and lead to misleading results. In this paper, an attempt is made to detect the outlier of linear and non linear regression models using new approach of standardized scores of detecting outliers without the use of predicted values.
Results
First describe the methods of linear and non linear regression model. The data fitted four times of regression model. Initially the original data to fit linear regression model and deduct outlier and visualize the results. Second method is to fit linear regression without outlier and visualize the data. Third method is to fit non linear regression with original data and visualize the results. Last method is to fit non linear regression for removal of outlier data and visualize the results. In both the methods only one outlier is identified and removed using standardized score. The primary data sources were collected from case sheets in a private hospital at Bangalore. In this analysis, two parameters are Age and SBP (Systolic Blood Pressure) were used. Blood pressure is measured in two types, top level Systolic blood pressure and Bottom level DBP (Diastolic Blood Pressure). Both are measured from arteries during the contraction of heart muscles of the patient.
Conclusion
The linear and nonlinear regression model fitted for original and outlier removed data. The result of linear and non linear regression for the original data is an average model. In both the models, R^2 value is less than 0.5. After removal of outlier better fit of linear and nonlinear regression model is achieved. The R^2 values are more than 0.7. The F and t statistic are significant in two models. The scatter plot clearly visualized the outlier and without outlier data for different plots. The summary statistics of both regression models results are expressed in following section. A new approach for detecting outliers without the use of predicted values have been proposed which is quite useful in detecting outliers that detects the outliers as similar to residual and standardized residual method.
Keywords: *Outlier, Linear Regression, Nonlinear Regression, Summary statistics, Residual, Predicted, Standardized Analysis and Scatter Plot Visualization.*

1. INTRODUCTION

Regression analysis is one of the most widely used statistical tools for analyzing multifactor database. It is appealing because it provides a conceptually simple method for investigating functional relationships among variables. Regression analysis is concerned with the study of dependence of one variable, on one or more other variables, called the explanatory variables, with a view to estimating and or predicting the mean or average value of the former in terms of the known or fixed (in values of the latter. The problem of model selection in linear regression model has received much attention in statistical literature. For a detailed study, refer to Draper and Smith, 1981 [1]. The statistical tools available for analysis of data are "regression." Theory of regression deals with prediction of one or more variables, called "dependent (response) variables" on the basis of other variables called "independent variables." The dependent variable is also called "criterion variable." For independent

BOGUS RUMORS DISCOVERY ON ONLINE PUBLIC MEDIA – A REVIEW

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Abstract: In the present online networking time, individuals are sharing a few snippets of data about various kinds among one another utilizing different web based life stages. This kind of accessible data isn't bona fide and solid purported deception. These days, Detection of deception recovered enormous consideration among scientists. Deception recognition is identified with the content classification issue and interfaces the substance plain of report stories along the location examination dependent above any Machine Learning calculations related Naive Bays and Support Vector Machine and so on. Untie specific space examination, named information dependent on unwavering quality area is seldom accessible. Past examination work depended on news stories gathered from supposed legitimate and dubious sites and named as needs be. We influence certainty checking sites to gather independently marked news stories as toword the accuracy of their substance and utilize the present information facing check the cross-area speculation about a classifies prepared at greater content assortments however named by source notoriety. This paper gives a complete overview of deception and its recognition utilizing different web based life stages. Future bearings for research have likewise been additionally talked about in this examination article. Thusly gathering even and cautiously evaluated preparing information is a need for creating vigorous deception discovery frameworks later on.

Index Terms: Deception, Online social network, Red herring, false information, Cognitive brain research,

I. Introduction

Internet based life comprises of sites and operation this empower individuals toword more content in a quick, active and constant way. The capacity to partake progressively photographs, feelings, occasions, and so forth has changed the manner in which we live and the manner in which we work together. Retailers who utilize web based life as a major aspect of their advertising technique typically observe quantifiable outcomes. These days, internet based life is the all-inclusive strategy showcasing technique of organizations and exporter. Against little to enormous, advance to old, almost whole organization has an online networking history. Individuals call their outline now various web based life stages, gets pulled in. And attempt to purchase the item, which reinforces their business.

As of now client information data, few popular web based life stages are:

Face book is a notable free site that empowers enlisted customers to make study, move photos, and accounts, send messages and remain in contact with associates, family, and partners.

Twitter is a free smaller scale blogging organization that enables enlisted people to convey short tweets. Away using various point along with devices, Twitter people keep convey tweets also seek after tweets against different clients.

Looked on is a business network - distinct long range interpersonal communication site. This site will likely empower enlisted individuals to set up and report proficient systems of individuals they know and trust.

Reddit is a site and discussion for social news where stories are advanced by individuals from the site.

Bogus Information accessible via web-based networking media is of numerous sorts, not many of these have been unfolded in the figure 1.

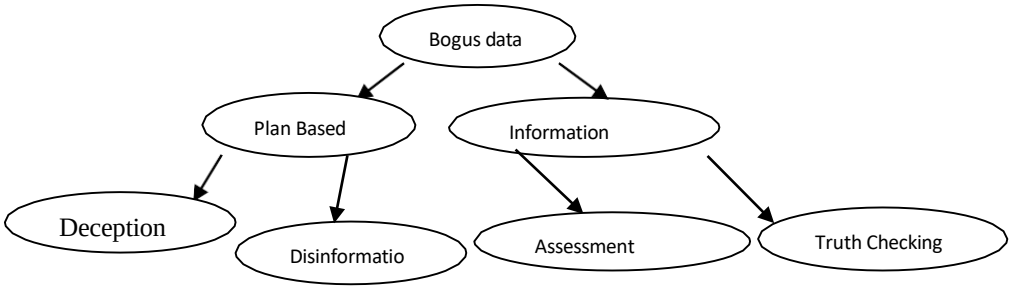

Fig.1 Bogus Information on online internet based life

Plan Based could possibly be tricky. In this way, it passes on that the data which is deluding might possibly have in plan positioned . The plan is questionable present models incorporate popular tradition.

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Volatility Spillover of Exchange Rate on Stock Market Evidence from South Africa

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Authors' contributions

This work was carried out in collaboration between both authors. Author SB designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Author AA managed the analyses of the study and the literature searches. Both authors read and approved the final manuscript.

Original Research Article

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ABSTRACT

The present study analyses the volatility spillover of exchange rate on South African Stock Market. The Capital market of South Africa has yardstick of African markets. The economic factors are crucially impacting the returns of stock of South Africa. The study collected data from Johannesburg Stock Exchange (JSE) website and Exchange rate from www.resbank.co.za and used the monthly data available from May 2009 to May 2020. The paper employed the statistical tools such as descriptive statistics test, Augmented Dickey-Fuller test, Correlation, GRACH (Generalized Autoregressive Conditional Heteroskedasticity) model, Cointegration test and Granger Causality test. The major finding of this study described that changes in exchange rate were significant, and negative linkages influenced low on Johannesburg Stock Exchange (JSE). The presence of long run cointegration was the reason for the absence of causal effect during the study period. The study concluded that change or movement of exchange was negative and low and it would cause miniature impact on returns of Johannesburg Stock Exchange (JSE). The investors' community should consider the movement of economic factor such as exchange rate for the long term which would agree concretely to go for the investment decision in African Capital Market. The policymaker could become more supportive to exports and export companies which bring stationary in stock market.

Keywords: Macroeconomic; foreign exchange; financial market; investment; capital market.

JEL Classification: E6, F31, O16, E2, E22.

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An Automated Classification Of Intracranial Haemorrhage Using Deep Convolution Neural Network Model

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Abstract

Traumatic brain injury might result to intracranial haemorrhage (ICH). The ICH could become a major disability or mortality when it is not precisely and timely diagnosed at the earlier stage. Due to the advanced developments in the deep learning models, automated medical diagnosis models can be developed to solve complicated decision making problem in healthcare sector. Keeping this in mind, this paper presents a new automated DL based segmentation and classification model for ICH diagnosis.The proposed method initially undergoes a set of preprocessing technique to improve the quality of the input images. Besides, instance segmentation model using DL based Depthwise Separable Network is employed to perform the segmentation process, called ISM-DL, thereby the injured regions in the brain can be identified. The proposed model also uses scale-invariant feature transform (SIFT) and residual network (ResNet) are used for feature extraction process. At last, a set of three machine learning (ML) classifiers namely logistic regression (LR), multilayer perceptron (MLP), and gradient boosting tree (GBT) are employed to determine the appropriate class labels of ICH. The performance of the proposed models are evaluated on the benchmark ICH dataset and the experimental outcome stated that the proposed model outperformed the compared methods under different aspects. Accuracy rate of 96.95% was achieved from the proposed methods using convolutional Neural Network-residual network (CNNRN).

Keywords: *Intracranial hemorrhage, Deep learning, Feature extraction, Image segmentation, Machine learning*

1. Introduction

IntracerebralHemorrhage (ICH) is a type of dangerous brain stroke that results in higher mortality and morbidity [1]. The patients affected with hemorrhage also suffer from various other diseases where the brain tissues are defected that results in edema[2]. Edema is caused because of blood vessel leakage which interrupts the nerve cell communication where the functions like speech, eyesight, memory, movement of the body are completely affected. Furthermore, the additional risk factors of ICH are head trauma, high BP, infected blood vessel walls, vein leakage, and so on. These defects are examined by various imaging modalities such as X-ray, magnetic resonance imaging (MRI), Computerized Tomography (CT), Positron Emission Tomography (PET), Single-photon emission computed tomography (SPECT) where brain hemorrhage is screened. Among them, CT scan is one of the well-known and effective methods applied for hemorrhage prediction as it is cost- effective, widely accessible, limited scanning duration for imaging. Thus, CT scan is preferred by most of the users for ICH diagnosis, surgical plans, and prominent observation of ICH patients. In past decades, radiologists view the hematoma manually by delineating the CT scan and measure the amount of tumor volume which helps in predicting the health condition of a patient. Unfortunately, it is a lengthy process correlated with inter-rater variability and the requirement for well-trained physicians has been increased in conventional system. For computing an accurate quantitative analysis of hematoma, it is essential to conduct précised and automatic segmentation.

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The relationship between quality of work life and work-life-balance mediating role of job stress, job satisfaction and job commitment: evidence from India

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Abstract

Purpose

The purpose of this study is to investigate the relationship between quality of work-life (QWL) and work-life balance (WLB).

Design/methodology/approach

Using a structured survey instrument, this paper gathered data from 445 respondents in cosmopolitan city in southern part of India. First psychometric properties of the instrument were tested, and then hierarchical regression was used as a statistical technique for analyzing the data.

Findings

The hierarchical regression results indicated that QWL is (1) negatively related to job stress, (2) positively related to job satisfaction and (3) positively related to job commitment. The results also indicated that (1) job stress is negatively related to WLB, (2) job satisfaction is positively related to WLB and (3) job commitment is positively related to WLB. The results also show partial mediation of job stress, job satisfaction, and job commitment in the relationship between QWL and WLB.

Research limitations/implications

Since the present research is based on self-report measures, the limitations of social desirability bias and common method bias are inherent. However, sufficient care is taken to minimize these limitations. The research has implications for human resource managers in work organizations.

Practical implications

This study contributes to both practicing managers and the literature on human resource management. The study suggests that employers need to be aware of the importance of quality of work-life and work-life balance in achieving organizational effectiveness.

Social implications

The study is expected to contribute to the welfare of the society in terms of identifying the antecedents of work-life balance.

Originality/value

This study provides new insights about the effects of QWL on WLB through mediating variables. This is a conceptual model developed and tested and first of its kind in India.

Keywords

Quality of work life | Work life balance | Job satisfaction | Job stress | Job commitment

Citation

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"MAKE IN INDIA": SUSTAINABLE EMPLOYMENT OPPORTUNITIES IN MANUFACTURING SECTOR, TAMIL NADU.

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Abstract:
To attract businesses from all around the world to invest and produce in India, an international magical slogan coined by the Prime Minister of India, Narendra Modi is "Make in India". The initiative is aimed to fulfill the purpose of Job Creation, Enforcement to Secondary and Tertiary sector, Boosting Indian national economy, Converting India to a self-reliant country and to obtain global recognition for Indian economy. Projecting India as the manufacturing hub of the world, ultimate idea is utilizing abundant labor to produce for the world is a new conceived concept. Meanwhile growth miracle is slowly happening in Southern parts of the county that gave phenomenal results for three decades. The international economic reports reveal that countries such as South Korea, Malaysia, Thailand, Indonesia saw a rapid fall in the poverty and unemployment between 1960's and mid 1990's, the Indian government through this new initiative aims to rapidly increasing workforce to productive use, assuming that service sector will contribute about 55-60% of the GDP in the economy. In the present paper an attempt has been made to throw some light on the concept of `Make in India' and its advantages on sustainable employment opportunities in Tamil Nadu. Further, an attempt has also been made to review the advantages and disadvantages of the areas which are going to reap benefit with this magical slogan of Mr. Modi's "Make in India".
(Note: Secondary Data, reports, articles and journals reviewed for this paper is from McKensy report World Economic Fourum, FY18-19 Economic Survey Report)

Keywords: Make In India, Growth, Made In India, Key Differences, GDP, Impact On Indian Economy

1. Introduction:

'Make in India' is the initiative taken by the present government and our Prime Minister Mr. Narinder Modi who officially declared this policy pertaining to Make in India on September 25th, 2016 and within a very short period many countries started patronizing this concept and started investing in different sectors. The results are cumulative but eventually it takes time to set up industrial units, enhance capabilities and only the returns can be judged. To quote some reference of industries, Foxconn (Apple iPhone maker) initiated its operations at Sriperambadur, Tamil Nadu during 2014, unfortunately closed its unit and now has signed a new an MOU with Tamil Nadu government to bring investment worth $5 billion to our country and create thousands of direct and indirect jobs but this won't start before 2020. Nissan, Datsun, MRF, has already set up an factory in Oragadam, near Kanchipurm which created thousands of employment opportunities again. Even Asus has decided to set up a handset manufacturing unit in India in Andhra Pradesh. Considering the above new ventures, the direct benefits would be in terms of inflow of FDI exchange, job creation leading to decrease unemployment and also technological up- gradation. India since 1990's has particularly seen a rapid growth in service sector. For a country with
1.30 billion individuals and thousands joining the labor force every month, service sector is definitely not

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Women Empowerment Through Self Help Groups In Pudhucherry

❒ B.KIRTHIKA*
DR.I.SAVARIMUTHU**

ABSTRACT

Women participation in Self Help Groups have obviously created tremendous impact upon the life pattern and style of poor women and have empowered them at various levels not only as individuals but also as members of the family members of the community and the society as whole. They come together for the purpose of solving their common problems through self-help and mutual help. The more attractive scheme with less effort is "Self Help Group" (SHGs). It is a tool to remove poverty and improve the women entrepreneurship and financial support in India. The present paper confines itself to study of Women Empowerment through the Self Help Groups in Pudhucherry. The main objective of this paper "Impact of Self Help Groups on Women Empowerment in kannikoil in Pudhucherry. In the present study simple statistical tools adopted. Based on the analysis of women empowerment through self help groups in kannikoil the major findings of this study there is a positive impact of Self Help Groups on Women empowerment in kannikoil in Pudhucherry.

Keywords: Women, empowerment, self help.

INTRODUCTION

Self Help Groups are considered as one of the most significant tools in participatory approach for the economic empowerment of women. It is an important institution for improving life of women on various social components. The basic objective of SHG is that it acts as the platform for members to provide space and support to each other. SHGs Comprises very poor people who do not have access to formal financial institutions. It enables its members to learn to cooperate and work in a group environment[1]. Today, in India, Self Help Groups (SHGs) represent a unique approach to financial intermediation. This combines access to low-cost financial services with a process of self management and development for the women who are SHG members. SHGs are formed and supported usually by Non-Governmental Organizations by Government agencies. Linked not only to banks but also to wider development programmes.

SHG are seen to confer many benefits, both economic and social. SHGs are enable women to grow their savings and access the credit which banks are increasingly willing to lend. SHGs can also be community platform from which women become active in village affairs, stand for local election to take action to address social[2]. In India before introduce this scheme for rural women were largely negligible.

But in recent years the most significant emerging system called Self Help Group is a major breakthrough in improving lives of womenfolk and alleviating rural poverty. However the significant success of several SHGs show that the rural poor indeed efficient to manage credit and finance. Women participation in Self Help Groups have obviously created tremendous

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Traumas of Women in their Relationships in the Select Novels of Nayantara Sahgal

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ABSTRACT

Nayantara Sahgal is of the important woman novelist in the Indian English Fiction. She depictsa new form of feminism and insists humanism in her novels. She describes clearly how women are exploited even in the modern times both by the society and by the individuals. Her women in her novels are victims of a conventional society. Sahgal demands social justice and freedom for woman. Her heroines are solitary individuals striving for self assertion. They are liberal and unconventional. They are self-respectful and self-assertive. Sahgal portrays women's anger and protest. She insists and expects a real change in the position of women. They should not be a mere object in the hands of man. They should be a equal partner in life with all rights and respect. The women who compromise in everything are finally feeling to break the tradition. They develop courage to reject traditional and social setup to lead liberal and unconventional life. As a woman novelist, Sahgal tries to emancipate women through her writings. She wants women to transform themselves to get their own identity.

Keywords: Rejection, Loneliness, Sufferings, Individuality, Emancipation.

Introduction

During the 1950's Nayantara Sahgal becomes one of the most significant writers of Indian English Fiction. She projects the picture of the contemporary woman with all her hopes and despairs. Her perceptions and ideas of women are different. She wants to project virtuous women who are different from the typical virtuous women in India. She does not allow her women to be a mere toy or an object of pleasure. Her women are self-respectful and self-assertive. They expect equality in marriage. They must be treated as honoured partner. They believe that marital relationships are the establishment of love and companionship. But the truth is that no man-woman relationship in marriage exists on the principles of equality. Women's voice is often unheard by the man in marriage life. She remains passive rather than fight of protest. But Sahgal portrays women characters who want freedom and independence to lead an honorable life.

With the great insight and understanding, Sahgal explores female inner feelings in her novels. As loneliness and frustration have mellowed, Sahgal has been able to transform those sufferings into compassion. She believes in women's potentialities. Though her women characters are individuals, they can be independent and lead their life within the framework of society. Being a woman, Sahgal studies the female psyche. Her novels concern the hardships faced by women in the established order of marriage and the trembling experience of divorce and also about the resultant separation of parents and children. Sahgal portrays women's suffering in marriage life in her novels. She shows how the suffered women came out of the suffocating bondage. She depicts the suffered who prefer divorce rather than lead a life of agony and inequality. According to her, though divorce does not solve the problems, women can be free from the prolong sufferings and pains which are faced in the unjust relationships of marriage life.

In Sahgal's novel *A Time to be Happy*, Maya is a character who tries to overcome her unhappy situation. She seems incapable of emotion. She is longing for communication. But she

MENTAL HEALTH STATUS OF FLOOD AFFECTED ADULTS IN CUDDALORE SLUM

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ABSTRACT

In India, the incidence of PTSD in major natural disasters varies considerably depending upon the magnitude of event, with the highest rates reported of around 70%. Studies conducted during initial few months post-disaster, showed a higher occurrence of psychiatric manifestations. This study the mental health status of flood affected adults aged 18years and above residing in a rural village of Tamil Nadu affected by flood in December 2015. The study adopted descriptive design. Adult member (age>18years) preferably, head from each of the flood affected households of Cuddalore slum area, Tamil Nadu, was included in the study. Participants were interviewed face to face 8months after the occurrence of flood, and information on socio-demographic details and immediate effect of flood on health and property was obtained using semi-structured pre-tested questionnaire. Mental health and social support were assessed using the Mental health was expressed in terms of PTSD. Data analysis was done using statistical software. Even after 8 months of flood, the prevalence of screened PTSD was found to be very high and crisis social support low among individuals aged 18years or above. Hence, mental health care services including counseling support during and after the flood should be given priority by policy-maker.

Keywords: *Disaster, Mental Health, Posttraumatic Stress Disorder (PTSD)*

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HYBRIDIZATION OF METAHEURISTIC ALGORITHMS FOR LOAD SCHEDULING IN CLOUD COMPUTING ENVIRONMENT

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Abstract

Load scheduling defines the process of offering, assigning and balancing the load (tasks/ cloudlets to the virtual machines) in the cloud system effectively. The major intention is to minimize the transfer time and the total cost incurs in the load scheduling of the system. The traditional load scheduling techniques necessitate massive amount of resources and mechanisms, which are dynamic in processing, thereby increases the response time, waiting time and the total computation cost. This paper presents an efficient load scheduling technique called hybridization of binary tree optimization with Gravitational Search Algorithm (BTO-GSA) algorithm to minimize the computation time. The total computation time cost comprises of execution cost and transferring cost. It operates on hybrid Splitting Point Selection technique based GSA to search the optimal positions of the particles in the search space. The use of BTO algorithm depends upon the mathematical tree subject and enhances the outcome and searching speed by continuously eliminates the portions of the search space with minimum fitness for minimizing and purifying the search space. The BTO-GSA model has been implemented using CloudSim simulator and a detailed comparative result takes place under several aspects. The simulation outcome indicated that the BTO-GSA algorithm has offered superior performance over the compared methods in a significant way.

Keywords: Binary tree optimization, CloudSim, Cloud computing, Load scheduling, Swarm intelligence

1. Introduction

Nowadays, Cloud Computing (CC) has been developed rapidly in the field of distributed and grid computing by applying virtualization models. Here, the term computing means the functions which are executed in the virtual machines (VM) of a system in order to enhance the working function of a device. CC used here is treated as a repository of the resources that enables the individuals with massive potential as well as processing facilities such as memory, processing, extraction, and information retrieval about the heterogeneous operations to provide best resources for the users. CC is relied on pay-as-you-go or pay-as-you-use method for the resources consumption. The CC offers resources, task scalability, timely resource implementation, dynamic maintenance, fault tolerance and interoperability of resources. Also, it is helpful in allocating the tasks to VMs in a dynamic manner. This dynamic allocation can be attained using load scheduling process in an optimal fashion. Hence, it is mainly computed to accomplish maximum throughput, minimum implementation and waiting time, lower transfer time, as well as least computational cost.

Load scheduling is mainly applied to perform of the operations like task allocation, providing and management of load or tasks to the VM in the cloud effectively. The major aim of this model is to limit the transferring duration as well as the overall cost involved in the load scheduling system. This action has been processed under the application of diverse scheduling methods. These scheduling models are used accordingly to the static and dynamic techniques. Furthermore, it is divided into heuristic and non-heuristic methodologies. The meta-heuristic approach is a mandatory objective while performing the load scheduling process with the help of search framework. [1] expanded the problem solving technique with massive objectives of the cloud. It offers the conclusion for the applied problem by employing optimization criteria. It depends upon the SI models, which simulates the real nature of the swarms. The collection of objects, particles, ants and so forth follows the approach of placing the food that is applied for food discovery or optimal solution. The allocation of load in a cloud is one of the major complexities which have to be solved by applying effective models instead of using previous methods like Segmented Min-Min, Tabu Search, Simulated Annealing (SA), Genetic Algorithm (GA), particle swarm optimization (PSO), and so on. [2,22-30].

[3] pointed that the structure of cloud withstands 2 modules like Deployment model and Service model as shown in Fig. 1. Initially, deployment model states the location of resource maintenance with the organized architecture. Also, clouds are differentiated on the basis of metrics as Private, Public, Community and Hybrid Cloud. Secondly, service model defined the class of available resources for the people. Software as a Service (SaaS) is the application which can be applied by standard interfaces, Platform as a Service (PaaS) is defined as the task and deploying environments. At last,

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Common psychiatric disorders in rural people epidemiological study at Villupuram District.

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Abstract: *Psychiatric disorders are common but many of them are under-recognized and under-treated in the population because of various reasons. But the same time advances with respect to powerful, investigative and potential untried epidemiological studies have been minimal. The objective is to estimate the prevalence of common psychiatric disorder and its association with social-demographic variables. We had conducted a general psychiatric Epidemiological study of door –to door survey in 9 villages, 12 schools and one college of Thiruvennainallur Block with 34,618 populations in Thirukoilur taulk Tamilnadu. The data was collected using MINI 7.0.0, CBCL, IPDE and ICD – 11 diagnoses. We had identified 1902 vulnerabilities of person have been affected and need psychiatric treatment. The overall prevalence of general psychiatric disorder shows mood disorder(26.2%), anxiety disorder(14.7%), personality disorder(15%), childhood disorder(14.5%), neuro developmental disorder(10.1%) adjustment disorder(3.4%) and conversion disorder(1.4%) are significantly higher in female, whereas male are higher in substance abuse(12.3%) and sexual disorder(0.3%) but psychotic disorder(1.6%) were common among psychosis and schizophrenia. The study concluded that most psychiatric disorder are belongs to illiterate, lower socioeconomic status, first born, marital status – single, consanguineous, no children in their family, nuclear family, family history of psychiatric illness and 98% of affected individuals are living with psychiatric disorder.*

Key Words: *Psychiatric Disorders, Anxiety, Depression, Personality.*

1. INTRODUCTION:

Psychiatric epidemiology is the study of the distribution and determinants of mental illness frequency in human beings, with the fundamental aim of understanding and controlling the occurrence of mental illness. Dr.M.V.Govindaswamy was the first person to consider psychiatric epidemiology in India. He failed to make any significant impact due to methodological errors. The first major survey on psychiatric problems in India was undertaken by Professor K.C.Dube in Agra in 1961[1].

According to Dr. D. Ram, Director of Central Institute of Psychiatry, 13 per cent of the Indian population suffers from acute mental illness and mental health professionals are not depressingly low in number in India. He added that for the first time a mental health survey was conducted on a large scale in 12 states covering almost 60 per cent 0f population to ascertaining the incident of mental illness at national level. The report indicated that 10.6 per cent population from age 18 and above suffered mental illness (Times of India, October 22, 2016). These discrepancies are not specific to Indian studies but are also seen in international studies like the Epidemiological Catchment Area Program and the National Co-morbidity Survey.[2-3] Interesting to note that the prevalence of mental disorders in India is very low compared to the western world14.

In India there are very scant epidemiological studies in psychiatry. The last study conducted is about 20 years ago. There are 22 studies in India on general epidemiological studies. The psychiatric epidemiological studies on the Indian map, studies are found to be concentrated only in certain places like West Bengal (40%) and Uttar Pradesh (10%), which leads to difficulty in generalizing the findings[15]. In Indian epidemiological studies, many researchers interviewed only the head of the family or the housewife or any other responsible family member for data collection. This will lead to responder bias and also recall bias. There is a high chance of underreporting of symptoms of minor mental disorders.

This study attempted to address unmet needs and to form a basis for formulating the mental health need of the community. Therefore, this study was conducted to find out the prevalence and correlates of psychiatric cases in the rural community. So we want to study the prevalence of psychiatric disorder in a rural community of Thiruvennainallur Taluk, Thirukoilur district, Tamilnadu.

2. METHODOLOGY:

The Effect and Degree of Job Satisfaction on Employee Performance in Larson Toyota Car Service Company Private Ltd in Pondicherry

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Abstract

The present study examine the employee's job satisfaction in Lanson Toyota car service company private Ltd. in Pondicherry. This study is employed Questionnaire to examine the employee's job satisfaction level through 102 employees of the company. The statistical tools are used in thus study such as percentage analysis, cross table analysis, and chi-square test. The finding of the study is majority of the employees are satisfied in their job and their company benefits. The results revealed that most of employees are dissatisfied with their working conditions, management communication and interaction level. Also study exhibited that the promotion opportunity in the company was disappointed among the employees. The company properly providing salary and other monetary benefits, fringe benefits, and facilities benefits to the employees at satisfactory level. The study results suggest that company/management should have proper communication with all level employees in particular to job and work condition which would bring more efficiency in job performance and effective in work and also lead to enhance the growth of the company. The study concluded that there is an existence in employees job satisfaction in Toyota car service company Ltd. Pondicherry. The study evidence that Job satisfaction should increased by the management interaction and welfare measures.

Keywords: Job Satisfaction, Monetary Benefits, Employees, Working Condition, Job Performance.

I. Introduction

Job satisfaction is term which revealing one's feeling or emotion or state of mind pertaining nature of their work. Job can be impacted by different kind of factors such as quality of one's relationship with his or her supervisor, physical environment quality in which they work, degree of fulfillment in their work, etc. The Positive attitude and behavior headed for job is equivalent and it exhibit job satisfaction whereas negative behavior or attitude towards job has been revealed variously from time to time. In diminutive, job satisfaction is directly reflecting a person's attitude towards job. Job satisfaction is an behavior or attitude which evidence from balancing & summation of various precise likes and dislikes experienced in association with the job- their assessment may respite largely

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Prediction of Time to Terminate Enrolment for Recruitment in Human Resources

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Abstract: *HR issues can be a difficult hurdle to cross for many companies, there are all kinds of different components that can confuse business owners and cause them to make ineffective decisions that slow down the operations for their employees as well as their business. They keep a reserve or inventory of manpower and apply the same to organizations which need manpower at random points. The reserve of manpower cannot be beyond a certain limit called the threshold, because it would be expensive and also has impact on the goodwill of the recruiting organization. Using the shock model and cumulative damage process concept the expected time to stop registration and its variance are derived in this paper.*

Keywords: Employment, Threshold, Shock Model and Damage Process.

I. INTRODUCTION

In order for strategic human resource management to be effective, human resources (HR) must play a vital role as a strategic partner when company policies are created and implemented. Strategic HR can be demonstrated throughout different activities, such as hiring, training, and rewarding employees. Strategic HR involves looking at ways that human resources can make a direct impact on a company's growth. HR personnel need to adopt a strategic approach to developing and retaining employees to meet the needs of the company's long-term plans.

Human resource management is gaining more and more of importance because the need for manpower especially the specialized, in several areas is increasing with advancement of science and technology. The system of hiring of manpower from the other countries has become a common phenomena. Nowadays in many developing countries the need for construction workers, nursing staff etc., is on the increase. If the manpower inventory exceeds a particular level called threshold the process of recruitment is stopped, due to following reasons.

1. The processing of records of details of individuals, maintenance of such records and administration will be more expensive.
2. Too much of inventory of workers will delay the process of getting recruitment for all, and hence the goodwill of the organization will suffer.

In this paper the model discussed is pertaining to determination of the expected time to stop recruitment which is opposite to the concept discussed above.

a) Assumptions

1. Recruitment of personnel implies registering them for employment.
2. If the total manpower registered on successive occasions in (0,t] exceeds a particular level called threshold the process of registration for recruitment stops.
3. The registration process is taken at random time intervals.
4. The cumulative processes of manpower, registration, the threshold level are statistically independent.

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Segmentation and Classification of Brain Tumor using Machine Learning and Deep Learning based Inception Model

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Abstract-- **In recent times, Brain Tumor(BT) has become a common phenomenon affecting almost all age group of people. Identification of this deadly disease using computer tomography, magnetic resonance imaging are very popular now-a-days. Developing a computer aided design (CAD) tool for diagnosis and classification of BT has become vital. This paper focuses on designing a tool for diagnosis and classification of BT using deep learning (DL) models, which involves a series of steps via acquiring (CT) image, preprocessing, segmenting and classifying to identify the type of tumor using SIFT with DL based Inception network model. The proposed model uses fuzzy C means algorithm for segmenting area of interest from the BT image acquired. Techniques like Gaussian Naïve Bayes (GNB) and logistic regression (LR) are used for classification processes. To ascertain all the techniques for its efficiency a benchmark dataset was used. The simulation outcome ensured that the performance of the proposed method with maximum sensitivity of 100%,specificity of 97.41%% and accuracy of 97.96%.**

Keywords: Brain Tumor, Deep Learning, Feature extraction, Fuzzy C means, Inception V3, SIFT, Gaussian Naïve Bayes, Logistic Regression.

I. INTRODUCTION

In human body, brain is a vital organ which acts as a central nervous system. It controls and directs the body to function properly. Since brain is an important organ, it has to be covered from harm and ailments. Few of the brain tumors are Meningioma, Glioma, and Pituitary. Firstly, Meningiomas are prominent diseases; however, it is a non-cancerous type of tumors developed in narrow walls around the brain tissues and cells [1]. Brain Tumors (BTs) are considered to be most dreadful disease which mitigates the lifetime of a human being within a short span of time. Earlier prediction of BT is highly essential and significant to extend the patient's lifespan. This is accomplished by using Magnetic Resonance Imaging (MRI) scanning model which is applied extensively by radiologists in order to examine the BT. Finally; the scan report shows whether the brain is healthy or unhealthy. Followed by, it also finds the class of tumors when it is affected by a disorder. Fig.1. depicts the images of normal, Benign and Malignant tumor captured from computer tomography(CT). Under the application of Machine Learning (ML), MRI reports should have a précised image for predicting BT. Initially, developer's assumed 3 portions namely, Pre-processing of MRI, Feature generation, and extraction as well as Classification.

Ultimately, Median Filter (MF) has been applied to enhance the superiority of images and to conserve the edges in pre-processing phase [2]. Then, image segmentation is performed with the help of K-Means, Fuzzy C Means (FCM), and so onoffers more advantageous

Machine Learning based Kernel Extreme Learning Machine Model for Medical Data Classification

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Abstract

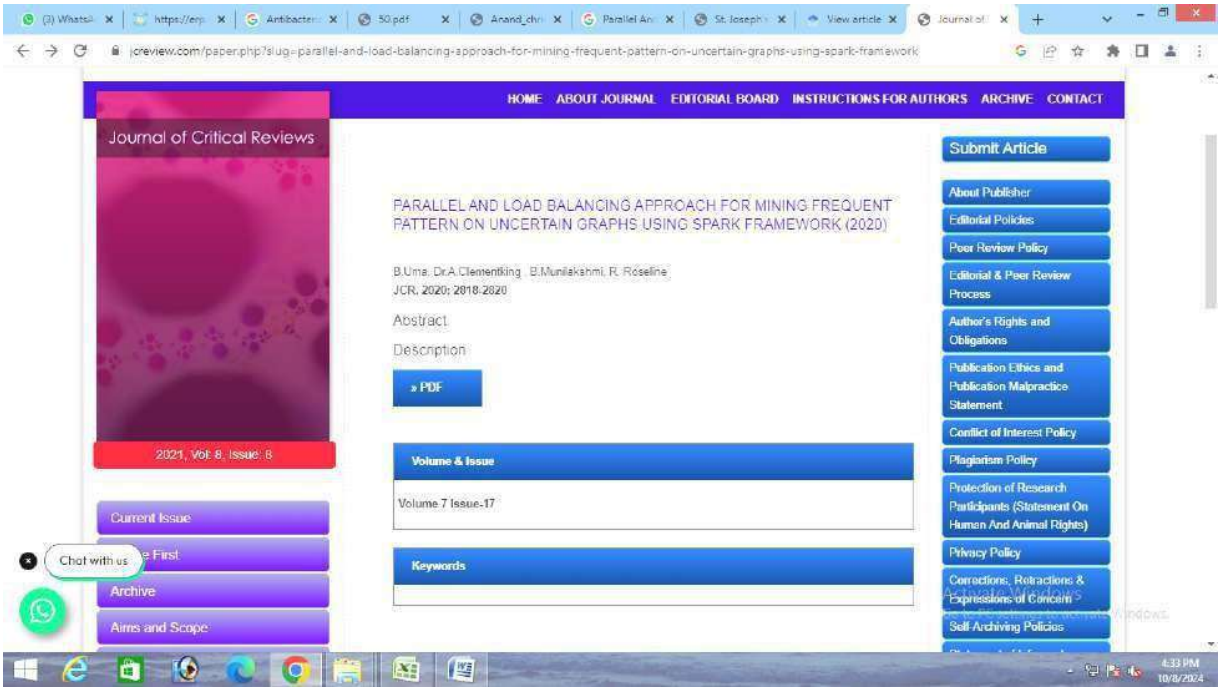
In recent decades, Chronic kidney disease (CKD) becomes a deadliest disease and affects people at all age groups. Several research works have reported that the CKD has considerably raised the risk of heart disease and stroke. Persistent and accurate diagnostic procedures can find useful to control the risks of CKD. Owing to the advancements in the field of artificial intelligence (AI) and machine learning (ML) techniques, automated disease diagnosis models are being developed to detect and categorize the presence of CKD. In this aspect, this paper performs a study of ML based classification models for the diagnosis of CKD. This study involves three ML models namely extreme learning machine (ELM), support vector machine (SVM), and kernel extreme learning machine (KELM). The CKD diagnosis process takes place in two levels namely pre-processing and classification. At the first stage, pre-processing is performed to raise the quality of the data to a certain extent. Next, in the second stage, classification process takes place using three ML models such as SVM, ELM, and KELM. For validating the effective classification performance of the presented model, a set of simulations were carried out on benchmark UCI CKD dataset. The outcomes from the simulation process depicted that the KELM model has reached to a maximum accuracy of 92.78% whereas the ELM and SVM models have obtained a slightly lower accuracy value of 90.22% and 89.05% respectively.

Keywords: - Chronic disease, CKD, Machine learning, Classification, Pre-processing

I. INTRODUCTION

At recent times, the ongoing advancements in data innovation incorporate information technology, mobile networking, huge information, Internet of Things (IoT), and wearable devices are utilized in the area of medical services. Specifically, a diverse set of smart medical care frameworks are demonstrated with the assistance of huge information and versatile processing gadgets to offer scholarly and master administrations. Additionally, the expansion in clinical information prompts various issues for overseeing, putting away and preparing information. Persevering, low grade inflammation is currently treated as a significant attribute of chronic kidney disease (CKD). Despite the fact that significant improvements are done in the medical care space, CKD as yet a serious condition that influences more population, and its inescapability is consistently expanding. As a result of its unpretentious nature, CKD isn't regularly distinguished in untimely stages [1]. An individual with CKD is highly perceptible to creating coronary illness [2, 3]. The prior phase of CKD doesn't show any significant indications and it difficult to distinguish it without certain tests as urine as well as blood test. At the point when the CKD is distinguished at the underlying stages, preventive activities and best treatment is provided for managing the odds of dialysis. An investigation announced that the previous discovery of CKD is decrease the development of diseases by the attendants in the area of nephrology and essential consideration specialists [4].

CKD is related with an enhanced risk for unfavourable medical events. In general, imaging methods are utilized to distinguish the presence of CKD. However, due to a numerous person affected by CKD, it can be difficult to test every individual, and individuals with a higher chance of having CKD will be prescribed to go through broad testing. As of now, the conservation of clinical dataset turns into a troublesome cycle in the healthcare business. The person's information has various highlights and conclusion identified with disease should be furnished with risky significance to accomplish high quality administration. Since the information documented in the clinic database could have absent just as unnecessary information, it gets difficult to mine the patient information. Along with, optimal data handling and information decrease approaches are required preceding the use of data mining (DM)



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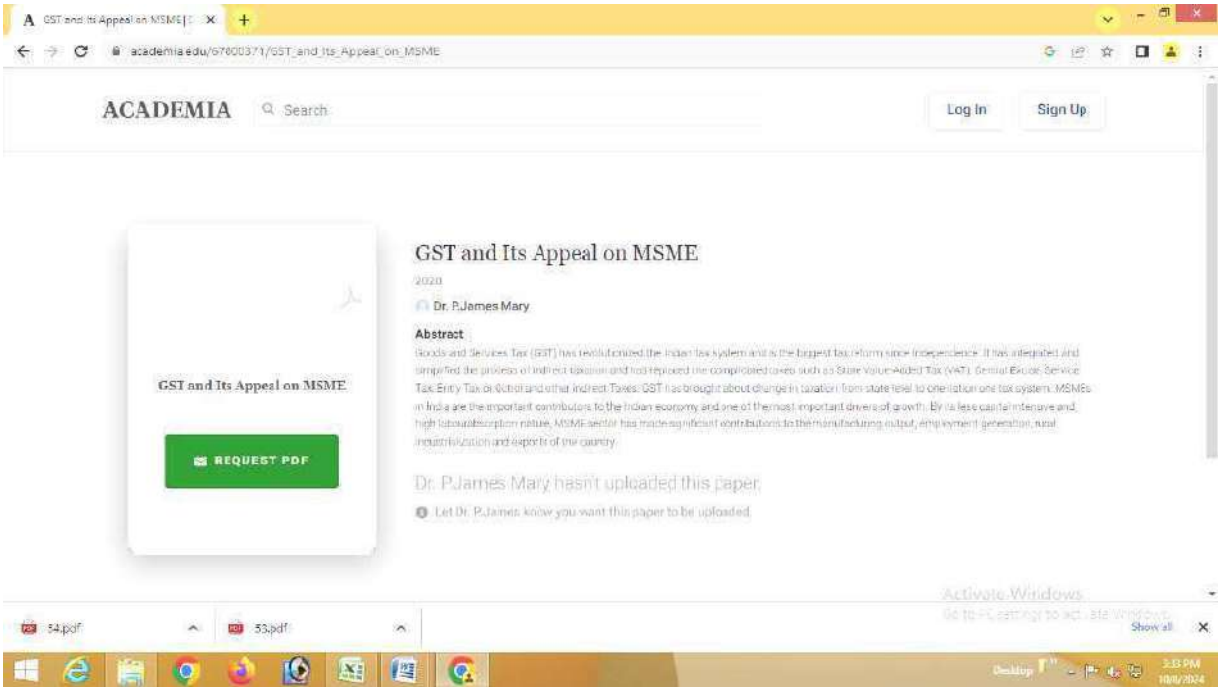

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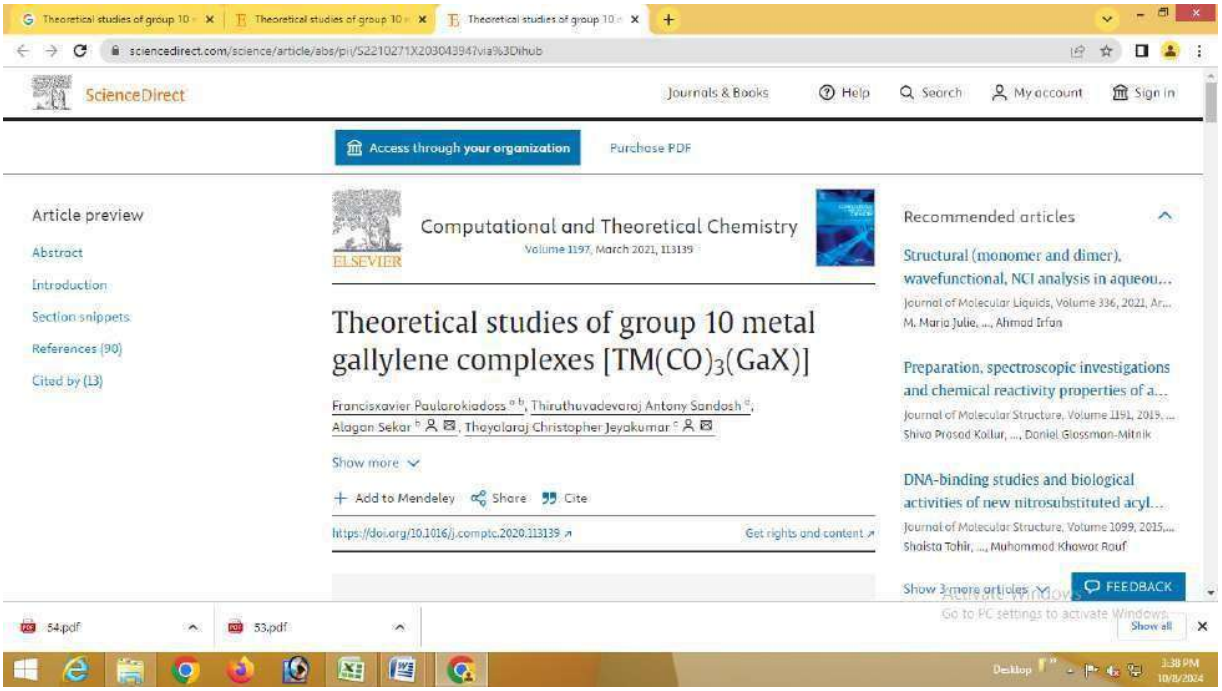

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A Study and Experimentation of Identification of Spammers in Twitter using Essential User and Content Attributes

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Abstract

Spammer identification is one of the important problems in Tweeter and many techniques have been proposed using user attributes and content attributes. This research proposes a technique which can detect the fake profiles efficiently with minimum number of features. It combines both user account and content features which in turn boost the accuracy of finding the fake profiles. To distinguish the fake profiles from genuine profiles classification techniques such as decision tree, random forest and deep learning are applied. The experimentation result show that spammer detection accuracy is improves when the account and content features are combined. Among the selected techniques deep learning shows significant classification performance with the accuracy of 99.2% with user account attributes 67.5% with content attributes and 99.54% with hybrid of user and content attributes. Hence deep learning with essential features from user and content attributes can be used to detect the fake profiles in Twitter efficiently.

Keywords: Spammers, Twitter, essential user attributes, content attributes, deep learning, fake profiles, combined user and content attributes

1. Introduction

Social media websites are platform for people to share their actions, interests, background and any personal information. The Rapid growth of social media sites allows the single user to create accounts and share information in multiple sites that will reach more people because of numerous scopes of friends and followers. For example, to promote a new product, movie or song albums, the contents are shared almost in all the social media platforms to gain popularity among all the people.

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On

REMEMBERING THE CULTURAL HERITAGE OF TAMIL NADU THROUGH MONUMENTS

Date:29th February, 2020

CERTIFICATE

This is to certify that Dr./Mrs./Ms./Mr. [illegible] has attended the National Seminar on REMEMBERING THE CULTURAL HERITAGE OF TAMILNADU THROUGH MONUMENTS held at P.G. & Research Department of History, Government Arts College, Tiruvannamalai on 29 February 2020.

He / She Presented a paper titled [illegible]

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EFFECTS OF FLOOD ON THE MENTAL HEALTH OF THE RESIDENTS AT THIRUPAPULIYUR SLUM IN CUDDALORE DISTRICT

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ABSTRACT

The occurrence of flooding is the most frequent type of major disasters due to the bad impact of climate change in the recent years. On an average, 75lakh hectares of land are affected, properties worth of 1800crores are damaged and 1600 lives are lost every year due to flood in India. Any disaster affects the mental health of affected population and the psychosocial impact of flood events has a significant effect on people's wellbeing, relationships and mental health. Various mental health problems are abnormal grief, depression, anxiety disorder, and Posttraumatic Stress Disorder (PTSD) and so on. As Cuddalore, which is a disaster prone district, having faced a constant disaster since 2004, the present study focuses on the mental health problems due to flood at the residents of Thirupapuliyur slum in Cuddalore district which has 110 households. The systematic sampling method with 55 samples was used in this study. Data were analyzed with the help of SPSS version 20.0. The findings of the study revealed that there is no significant flooding effect on the mental health of the respondents. Suggestions were made to promote good mental health after of any disaster.

Keywords: Mental Health, Effects of flood, PTSD

INTRODUCTION

A disaster is a natural or man-made event that negatively affects life, property, livelihood or industry often resulting in permanent changes to human societies, ecosystems and environment and it is inevitable and we cannot completely stopped the disaster. Some certain types of natural disasters are more likely to occur in particular parts of the world. Some of the types are: Natural (Hurricanes, tornadoes, earthquakes, floods, volcanoes, etc.), Technological (Chemical releases, power outages, natural gas

ASSESSMENT OF JOB SATISFACTION AMONG FISHERS AT CUDDALORE PORT, FISHING HARBOUR, CUDDALORE

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ABSTRACT

Job satisfaction is an important aspect of any profession that motivates a worker to do more and become more to lead a happy and contented life which every humans long for. Fishing is one of the main occupation in Cuddalore dangerous working conditions, lucrative income, stress, threat to self-esteem, heavy monsoon weathers, reported stress levels which including body and particularly back pain, forgetfulness mainly associates to the difference and inability to maintain economic management of operation fishing. Offshore fishing in the absence of safety measures there are several chances of accidents, injuries and death, they face anxiety, stress, physical and mental illness due to continuously working for many days in wet area that sometimes may even lead to slippery injures. Mandatory occupational health screening measures have not yet included by the government and the safety of the fishers always lies hidden. Hence to assess the Job Satisfaction among Cuddalore port fishers after facing all occupational challenges by the fishers was the main purpose of carrying out the research. Convenient sampling method is used in the study. Data were analyzed with the help of SPSS 20.0. It is conferred that there is no relationship between respondents' age, number of days spent by them and their job satisfaction. Recommendations were given to focus on the job satisfaction among fishers.

Quadruple Layered Fuzzy Graph

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Abstract: An absorbing a type of new Fuzzy Graph namely Quadruple Layered Fuzzy Graph (QLFG). which is extension of TLFG and illustrated some examples and further we introduce some theorem which give the relationship between the QLFG with the parental graph G using order, size, and degree of Fuzzy Graph.

Keywords: order, size, degree and Quadruple Layered Fuzzy Graph.

1. Introduction

Fuzzy logic has expand into a large and deep subject. Zadeh [11] explain the terminology and stresses that Fuzzy Graph (FG) gets broad view of the calculi of crisp graphs. Kaufman [4] in 1975 was first introduce the bases on Zadeh's fuzzy relations. In Rosenfeld [9] in 1975 who explained fuzzy relation on fuzzy sets and expand the theory of FG. The author introduced fuzzy analogues of several graph theoretic concepts such as subgraphs, paths and connectedness, cliques, bridges and cut nodes, etc. During the same time Yeh and Bang [10] in 1975 also discovered FG independently and studied different connectedness concepts. The degree of a vertex in some FG was explain by Nagoorgani and Radha [6]. Nagoorgani and Malarvizhi have introduced different kind of FG and explain its relationships with isomerism in fuzzy graphs [6 – 7 - 8]. In this paper a new fuzzy graph namely Quadruple Layered Fuzzy Graph (QLFG) is defined and is illustrated with examples and some properties in the form of theorems.

2. Definition:

Definition 2.1

Let G:(σ, μ) be a FG with the underlying crisp graph G^*:(σ^*,μ^*). The pair $QL(G)$:(σ_{QL},μ_{QL})is defined as follows. The node set of $QL(G)$ be$\sigma^* \cup \mu^* \cup \mu^* \cup \mu^*$. The

Fuzzy subset σ_{QL} is defined as $\sigma_{QL} = \begin{cases} \sigma(u) \text{ if } u \in \sigma^* \\ 2\sigma(u,v) \text{ if } uv \in \mu^* \end{cases}$

The fuzzy relation μ_{QL} on $\sigma^* \cup \mu^*$ is defined as

$$\mu_{QL} = \begin{cases} \mu(uv) \text{ if } u,v \in \sigma^* \\ \mu(e_i) \wedge \mu(e_j) \text{ if the edge } e_i \text{ and } e_j \text{ have a node in common between then} \\ \sigma(u_i) \wedge \mu(e_i) \text{ if } u_i \in \sigma^* \text{ and } e_i \in \mu^* \text{ each } e_i \text{ is incident with } u_i \text{ in clockwise direction.} \\ \sigma(u_i) \wedge \mu(e_i) \text{ if } u_i \in \sigma^* \text{ and } e_i \in \mu^* \text{ and each } e_i \text{ is incident with } u_i \text{ in anticlockwise direction.} \\ 0 \quad \text{otherwise} \end{cases}$$

$\mu_{QL}(u,v) \le \sigma_{QL}(u) \wedge \sigma_{QL}(v) \; \forall u,v \in \sigma^* \cup \mu^*$. *And* μ_{QL} is a fuzzy relation on the fuzzy subset σ_{QL}.

Hence $QL(G):(\sigma_{QL}, \mu_{QL})$ is *known* as Quadruple Layred Fuzzy Graph $(QLFG)$

Example 2.2

For G:(σ, μ) with n = 4 .

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அ. கிரேஸி ஜெனோவா
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மஞ்சக்குப்பம், கடலூர்

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முன்னுரை

பண்டைய தமிழர்களின் அக வாழ்வையும், புற வாழ்வையும் எடுத்துரைப்பது சங்க இலக்கியமாகும். சங்க இலக்கியமானது நில அடிப்படையில் குறிஞ்சி, முல்லை, மருதம், நெய்தல், பாலை எனப் பாகுபாடு செய்யப்பட்டுள்ளது. தமிழ் நாட்டின் எல்லையை பனம்பரனார் தொல்காப்பியப் பாயிரத்தில்,

"வடவேங்கடம் தென்குமரி ஆயிடை
தமிழ் கூறுநல் லுலகம்"

என்று தமிழ் நாட்டிற்கு எல்லை வகுக்கின்றார். அவர் காலத்தில் வேங்கடமே தமிழகத்தின் வட எல்லையாக இருந்தது என்பது தெளிவு. இந்த இரு எல்லைகளிலும் பல்வேறு குல மரபினர் ஆட்சி செய்துள்ளனர். இவ்வாறு ஆட்சி செய்தவர்களை குறுநில மன்னர்கள் எனவும் பேரரசர்கள் எனவும் அழைத்து வந்துள்ளனர். சேர, சோழ, பாண்டியர்களது ஆளுகைக்கு உட்பட்டு பல்வேறு குறுநில மன்னர்கள் ஆட்சி செய்துள்ளனர். மேலும் பல்வேறு சிறுசிறு நில அமைப்புக்களைக் கொண்டு தமிழ் மன்னர்களை பாகுபாடு செய்துள்ளமையை இலக்கியங்களின் பல்வேறு இடங்களில் நாம் காணமுடிகின்றது. அவ்வாறு பாகுபாடு செய்துள்ள இடங்களில் வாழும் நடு நாட்டு மன்னர்களைப் பற்றி எட்டுத்தொகை நூல்களான அகநானூறு மற்றும் நற்றிணையில் ஆராய்வதே இக் கட்டுரையின் நோக்கமாகும்.

தமிழரின் நில அமைப்பு

அன்பின் ஐந்திணை என்று தொல்காப்பியர் ஒழுக்கத்தின் அடிப்படையில் நிலத்தினை பாகுபாடு செய்கிறார். தொல்காப்பியர் தம் பாடலில் கொடுந்தமிழ் நாடுகள் பன்னிரெண்டு என்பதை,

"செந்தமிழ் சேர்ந்த பன்னிரு நிலத்தும்
தம் குறிப்பினவே திசைச்சொல் கிளவிசு
(தொல்காப்பியம்: சொல்லதிகாரம்:9:3)

தமிழ்மொழி மற்றும் இலக்கிய பன்னாட்டு ஆய்விதழ்
அறிஞர்களால் மதிப்பீடு செய்யப்படும் அரையாண்டு பன்னாட்டு ஆய்விதழ்

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அறநூல்களில் மருத்துவச் சிந்தனைகள்

Medical Thoughts in Ethical Literature

முனைவர் பி.கிறிஸ்டி பெலினா, உதவிப்பேராசிரியர், தமிழ்த்துறை,
புனித வளனார் கலை மற்றும் அறிவியல் கல்லூரி, கடலூர்–1

Abstract

The ethical literature of Tamil evinces lots of messages on medical practices and methods prevailed in the Tamil society. The purpose of the article is to decode such ideas from the reliable sources.

Keywords: Medical Thoughts, Ethical Literature.

முன்னுரை

'உணவே மருந்து', 'பத்துமிளகு இருந்தால் பகைவர் வீட்டிலும் உண்ணலாம்' போன்ற சொற்றொடர்கள் நம் முன்னோர் தந்த வாழ்க்கைத் தத்துவங்கள். நோய்கள் தோன்றுவதற்கு உணவு முறையே அடிப்படைக் காரணங்களாக உள்ளன. உணவு அளவுக்கு அதிகமானாலும் குறைவானாலும் நோய்கள் உண்டாகின்றன. இதனையே 'அளவுக்கு மிஞ்சினால் அமுதமும் நஞ்சு' என்றார்கள். உணவுக்கும் நோய்களுக்கும் உள்ள தொடர்பு குறித்து வள்ளுவரும் 'மருந்து' என்னும் அதிகாரத்தில் குறிப்பிட்டுள்ளார். திரிகடுகம், ஏலாதி, சிறுபஞ்சமூலம் ஆகிய அறநூல்களும் மருத்துவம் குறித்துக் குறிப்பிடுகின்றன. சான்றோர் மக்களின் வாழ்க்கை முறைகளுக்கான நீதியோடு சேர்த்து உடல் ஆரோக்கியம் சார்ந்த உணவு முறை, அதாவது மருத்துவம் குறித்து கூறியுள்ளனர்.

வள்ளுவர் சிந்தனைகள்

மருத்துவ முறைகளை நன்றாகக் கற்றவர்கள் மட்டுமே சிறந்த முறையில் நோயைக் குணப்படுத்த முடியும். கற்பித்தல் திறன் மட்டுமின்றி அதோடு அனுபவத்திறனும் சேர்ந்திருந்தால் தான் சிறந்த மருத்துவராகத் திகழ முடியும் என்பதனை வள்ளுவர்,

உற்றான் அளவும் பிணியளவும் காலமும்
கற்றான் கருதிச் செயல் (குறள் 949)

நோயின் அளவு, நோய் தொடங்கிய காலம் ஆகிய அனைத்துக் காரணங்களையும் மருத்துவன் தெரிந்து செயல்பட்டால் நோய் குணமாகும் என்பதை இக்குறள் விளக்குகிறது.

உலகத்தில் இயற்கையில் வரும் துன்பங்கள் பலவாகும். அதில் ஒன்று நோய். அந்நோய் எந்த நேரத்தில் எந்த உடம்பிற்குள் எந்த வடிவில் எந்த பெயரில் வரும் என்பதை அறிபமுடியாது. அந்த துன்பங்களிலிருந்து விடுபட்டு ஆரோக்கியமாக வாழ வள்ளுவர் 'மருந்து' என்ற அதிகாரத்தை வைத்து பத்து விதங்களில் மருத்துவ ஆலோசனைகளைத் தருகிறார்.

மிகினும் குறையினும் நோய்செய்யும் நூலோர்
வளிமுதலா எண்ணிய மூன்று (குறள் 941)

வாதம், பித்தம், கபம் ஆகிய மூன்றும் உடம்பில் ஏற்ற அளவிற்கு இல்லாமல் மிகுந்தாலும் குறைந்தாலும் நோய் வரும் என்ற மருத்துவ உண்மையை வள்ளுவர் சுட்டுகிறார்.

மாறுபாடு இல்லாத உண்டி மறுத்துண்ணின்
ஊறுபாடு இல்லை உயிர்க்கு (குறள் 945)

தமிழ்மொழி மற்றும் இலக்கிய பன்னாட்டு ஆய்விதழ்
அறிஞர்களால் மதிப்பீடு செய்யப்படும் அனைத்துலகப் பன்னாட்டு ஆய்விதழ்

335

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புதுக்கவிதைகளில் பெண்ணிய கட்டுடைப்பு

Deconstruction in the Modern Tamil Poetry

முனைவர் அ.மதலேன், உதவிப்பேராசிரியர்,, தூயவளனார் கலை மற்றும் அறிவியல் கல்லூரி, கடலூர் - 607001.

Abstract

The study is a decoding of the modern poems by the modern Tamil women writers who championed the rights of women through their poems. The ideas of the poets revealed in their poems show the liberal quality and the high spirit of the modern women. Poets like Lakshmi, Ambai, Meena Kandhasamy are noted for feminist poetry. This paper traces the feminist rationalism from the poems of the modern era.

Keywords: Deconstruction, Modern Tamil Poetry

இலக்கியங்களில் சமூக சிக்கல்கள் பரவலாக பேசப்பட்டு வருகின்றன. அவ்வகையில் பெண்ணிய உணர்வு நிலையின் வெளிப்பாடாக பெண்ணியத்தின் குரலொலியாக புதுக்கவிதை இலக்கியம் அமைந்துள்ளது. பெண்கள் சமுதாயக் கட்டுப்பாடுகளாலும் அழகுணர்ச்சியினாலும் அடக்கி வைக்கப்பட்டிருந்தனர். பண்பாட்டு அடிப்படையிலான இந்த அடக்கு முறையில் இருந்து வெளிவருவதே பெண்விடுதலையாகும். இந்த விடுதலையை நோக்கிய செயல்பாடுகளே பெண்ணியமாகும். இதனடிப்படையில் பெண்கள் சமூகத்தால் கட்டுண்டு இருந்த நிலையையும் இக்கட்டுடைக்க போராடிய தன்மையையும் புதுக்கவிதைகள் வாயிலாக இக்கட்டுரை ஆராய்கிறது.

பெண்களின் அடிமைநிலை

பெண்களுக்குச் சுதந்திரம் என்பது சில இடங்களில் இருந்தாலும் பல இடங்களில் முடங்கிக்கிடக்கிறது. இதை,

உனக்கு கிடைத்த சுதந்திரம்
இந்த நாட்டுக்குக் கிடைத்த
சுதந்திரம் போலவே ஆகிவிட்டது[1]

என்று அப்துல் ரகுமான் பெண்களின் சுதந்திரம் இந்த நாட்டிற்குக் கிடைத்த சுதந்திரம் போலவே அல்லல் பட்டுக்கொண்டிருக்கிறது என்று கூறுகிறார்.

சமுதாயத்தில் பெண்களுக்கு எதிராக மனரீதியாகவும், உடல் ரீதியாகவும் பல்வேறு கொடுமைகள் நடக்கின்றன. தனக்கு இழைக்கப்படும் கொடுமைகளை எதிர்க்க வலுவின்றி மனதிற்குள்ளேயே குமறும் நிலையை மு. மேத்தா,

ஒவ்வொரு பெண்ணும் சிலம்பை
உடைத்துக் கொண்டுதான் இருக்கிறாள்
காலிலிருந்தல்ல – கண்ணிலிருந்து[3]

என்று குறிப்பிடும் கவிஞர், பெண்கள் தங்களுக்கு நேரிடும் கொடுமையை எதிர்த்துப் போராட வேண்டும் என்றும் வலியுறுத்துகிறார்.

பெண்ணடிமைத்தனத்தை வெளிப்படுத்தும் மேத்தாவின் மற்றொரு கவிதை,

அந்தப்புரத்தில்
இராணியாக இருந்தாலும்

சங்க இலக்கியங்களில் வணிகம்

முனைவர் பி. கிறிஸ்டி பெனிலா
உதவிப் பேராசிரியர், தமிழ்த்துறை
புனித வளனார் கலை மற்றும் அறிவியல் கல்லூரி
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முன்னுரை

வணிகம் என்றால் நேர்மை என்பது அவசியமாகிறது. சங்க காலம் முதல் இன்றைய நவீன காலம் வரை வணிகம் மக்களின் வாழ்வில் கலந்துவிட்ட ஒன்றாக இருக்கிறது. சங்க காலத்தில் தமிழரின் வணிகம் மிகச் சிறப்பாக இருந்துள்ளதை இலக்கியங்கள் மூலமாக அறிய முடிகிறது. ஒரு நாட்டின் வளர்ச்சியில் முக்கிய இடம் பெறுவது வணிகம். அதாவது அந்தந்த இடத்திற்கு தகுந்தாற்போல் கிடைக்கும் உற்பத்திப் பொருள்களை தேவைக்குப் போக எஞ்சிய மிகுந்த பொருளை பிற இட்ங்களுக்குத் தந்து அங்கு கிடைத்தவற்றை பெற்றும் வாழ்ந்த செய்தியினை இலக்கியங்கள் எடுத்தியம்புகின்றன. போக்குவரத்து வசதிகள் இன்றைய அளவில் இல்லாத காலத்திலேயே நம் முன்னோர் உள்நாட்டு, வெளிநாட்டு வணிகம் செய்துள்ளார்கள். நிலத்தின் வழியாகவும் நீர்வழியாகவும் வணிகம் நடந்துள்ளது. மன்னர்கள் தமிழகத்தை ஆண்ட காலத்தில் கடல்வழி வணிகத்திற்காகத் துறைமுகங்களை அமைத்துள்ளார்கள். இலக்கியங்கள் காட்டும் வணிகத்தை இன்றைய வணிகத்தோடு ஒப்பிட்டு நோக்கும் போது வியப்பாக உள்ளது. இலக்கியங்கள் காட்டும் வணிகத்தை இக்கட்டுரை ஆய்கிறது.

தமிழரின் வணிக மரபு

மக்களின் வாழ்விற்கு அடிப்படைத் தேவைகளான உணவு, உடை, இருப்பிடம் மட்டுமின்றி போக்குவரத்துக்கானவை பொன், வெள்ளி போன்றவையும் இன்றியமையாதவை எனலாம். ஒருநாட்டின் வளர்ச்சிக்கு உழவுத்தொழில் அடிப்படை, ஆனால் அதையும் கடந்து வணிகமும் தேவை என்பதை சங்கத்தமிழர் அறிந்திருந்தனர் என்பதை இலக்கியங்கள் கூட்டுகின்றன. நிலத்தின் வழியாகவும் நீர் வழியாகவும் வணிகம் செய்துள்ளார்கள் "முந்நீர் விழவின் நெடியோன் கொற்கை வோடில்லை" என்ற தொல்காப்பியரின் கூற்று தொல்காப்பியர் காலத்திற்கு முன்பே கடல் வணிகம் தமிழகத்தில் சான்று என்று கருதலாம்.

தமிழ்மொழி மற்றும் இலக்கியங்கள் ஆய்வுகளுக்கான பன்னாட்டு ஆய்விதழ்

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விவிலியத்தில் இரு அரசிகளின் கட்டமைப்பும் கட்டுடைப்பும்

Construction and Deconstruction of Status betweeen the Two Queens in Holy Bible

முனைவர் பி.கிறிஸ்டி பெலினா. உதவிப்பேராசிரியர். புனித வளனார் கலை மற்றும் அறிவியல் கல்லூரி. கடலூர்-1

Abstract

Status of women who belong to the royal blood has been a debate in all civilizations. Eventhough they were not alive their life and their status raised and declined are a model still today for estimation of the attitudes of women. In the Old Testament, there is a story of two Queens who had been put to test and the attitudes were applaused if positive and declined from position if it is negative. Vasthi and Esther are the two queens who faced such a test. In it vasthi failed to keep her position by her negative trait and Esther achieved fame by her positive trait. Hence, this paper traces the Construction and Deconstruction of Status betweeen the two Queens from the Holy Bible.

Keywords: Construction and Deconstruction of Status, Two Queens, Holy Bible

முன்னுரை

பட்டங்கள் ஆள்வதும் சட்டங்கள் செய்வதும்
பாரினில் பெண்கள் நடத்த வந்தோம்

என்ற மகாகவியின் வரிகளை இன்றைய பெண்கள் நனவாக்கிக் காட்டிவருகின்றனர். "பெண்ணுக்கு ஞானத்தை வைத்தான் புவி மேவி வளர்த்திடும் ஈசன், மண்ணுக்குள்ளே சிலமூடர் நல்ல மாதர் அறிவைக் கெடுத்தார்" என்பதும் மகாகவியின் வரிகளே. இன்று பெண்விடுதலை, பெண்ணடிமைத்தனம் போன்றவை குறித்து தவறான சிந்தனைகளைக் காணமுடிகிறது. சமுதாயத்தில் மனிதர்கள் வாழ சட்டதிட்டங்கள் தேவையே. ஆனால் ஆண், பெண் என்ற இருபாலரில் தனித்தனியான கட்டுப்பாடுகள் பற்றிய தெளிவான சிந்தனை தேவையாகவே உள்ளது. இலக்கியங்கள் காலத்தைக் காட்டும் கண்ணாடிகள் எனலாம். இவ்வழியில் விவிலியத்தில் வஸ்தி, எஸ்தர் என்ற இரு பெண்கள் பற்றி இக்கட்டுரை ஆய்கிறது. அக்காலத்தில் மக்கள் தொகை கணக்கெடுப்பில் கூட பெண்களின் எண்ணிக்கை சேர்க்கப்படவில்லை. பழைய ஏற்பாட்டுக் காலத்தில் மட்டுமல்ல, புதிய ஏற்பாட்டுக் காலத்தில் இயேசுவில் காலத்திலேயே இந்நிலை இருந்துள்ளது (காண் லூக் 9:14) இந்நிலையில் பெண்கள் விடுதலை என்பது பற்றி சிந்திக்கவே இடமில்லாத காலம். ஆனால் அத்தகைய காலக்கட்டத்திலும் பெண்கள் தங்களது கட்டுக்களை உடைத்திருக்கிறார்கள் என்பதைக் காணமுடிகிறது.

மன்னர் அகஸ்வேரும் அரசி வஸ்தியும்

இந்தியா தொடங்கி எத்தியோப்பியா வரை இருந்த நூற்றி மாநிலங்களையும் ஆட்சி செய்தவர் அகஸ்வேர் - அவர் சூசான் தலைநகரில் அமர்ந்து ஆட்சி செய்துள்ளார். அவருடன் ஆட்சிப்பீடத்தில் அரசி வஸ்தி இருந்தாள். ஏழாம் நாள் விருந்தளிக்கும் போது தம் முன்னிலையில் பணியாற்றிய அண்ணகர்கள் மூலம் பேரழகியான அரசி வஸ்தியைத் தலைவர்களும் மக்களும் காண்பதற்காக அரச மகுடம் சூட்டப்பட்டவளாகத் தம்முன் அழைத்து வருமாறு கட்டளை அனுப்பினான். ஆனால் இதனை வஸ்தி மறுத்தாள். இதனால் சினமுற்ற

சங்கம் மருவிய கால இலக்கியங்களில் மருத்துவம்

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முன்னுரை

மனிதனது அன்றாட வாழ்க்கையில் தவிர்க்க முடியாத தொடர்பு கொண்டிருக்கும் கலைகளுள் மருத்துவக்கலையும் ஒன்று. மருத்துவ அறிவியல் துறையில் பெருமளவில் வளர்ச்சி கண்டுள்ள இன்றைய முன்னேற்றத்திற்கு, நமது சான்றோர்கள் கொண்டிருந்த ஆழ்ந்த அறிவாற்றல்தான் அடிப்படையாகும் என்று உறுதியாகக் கூறக்கூடிய சான்றுகள் பல உள்ளன. நமது பண்டைய தமிழ்ச் சான்றோர்களின் இலக்கியங்கள் மூலம் பல்வேறு வகையான மருத்துவம் பற்றிய குறிப்புகள் காணக்கிடைக்கின்றன. இவ்வகையில் சங்கத்தை அடுத்த தமிழ் இலக்கியங்களில் முதன்மையிடமாக விளங்கும் சங்கம் மருவிய கால இலக்கிய நூல்களில் குறிப்பிடப்படும் மருத்துவம் தொடர்பான குறிப்புகளை எடுத்துரைப்பதே இக்கட்டுரையின் நோக்கமாகும்.

கி. பி. ஏழாம் நூற்றாண்டின் தொடக்ககாலம் வரையிலான கால கட்டத்தினைச் சங்கம் மருவிய காலம் என்பர். இக்கால கட்டத்தில் களப்பிரர் ஆட்சி செய்ததால், கலை இலக்கிய நோக்கிலும், அரசியல் நோக்கிலும் 'இருண்டகாலம்" என்றழைப்பர். சங்ககாலத்தை அடுத்த காலமாதலின் சங்கம் மருவிய காலம் என்றும், நீதி இலக்கியங்கள் மிகுதியாக தோன்றியமையால் 'நீதி நூற்காலம்' என்றும் அழைக்கப்பட்டது. அக்காலத்தில் அன்றைய மருந்துப் பொருட்களைக் கொண்டு நீதியைக் கூறும் முகமாகச் சில நூல்கள் தோன்றின. அந்நூல்களில் சிலவற்றின் மருத்துவங்களைப் பற்றி அறிவோம்.

மருத்துவம் - விளக்கம்

மருத்துவம் என்பதற்கு வைத்தியம், பரிகாரி என்று விளக்கம் தருகிறது நா. கதிரைவேற்பிள்ளையின் தமிழ்ப்பேரகராதி.

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Traumas of Women in their Relationships in the Select Novels of Nayantara Sahgal

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ABSTRACT

Nayantara Sahgal is of the important woman novelist in the Indian English Fiction. She depictsa new form of feminism and insists humanism in her novels. She describes clearly how women are exploited even in the modern times both by the society and by the individuals. Her women in her novels are victims of a conventional society. Sahgal demands social justice and freedom for woman. Her heroines are solitary individuals striving for self assertion. They are liberal and unconventional. They are self-respectful and self-assertive. Sahgal portrays women's anger and protest. She insists and expects a real change in the position of women. They should not be a mere object in the hands of man. They should be a equal partner in life with all rights and respect. The women who compromise in everything are finally feeling to break the tradition. They develop courage to reject traditional and social setup to lead liberal and unconventional life. As a woman novelist, Sahgal tries to emancipate women through her writings. She wants women to transform themselves to get their own identity.

Keywords: Rejection, Loneliness, Sufferings, Individuality, Emancipation.

Introduction

During the 1950's Nayantara Sahgal becomes one of the most significant writers of Indian English Fiction. She projects the picture of the contemporary woman with all her hopes and despairs. Her perceptions and ideas of women are different. She wants to project virtuous women who are different from the typical virtuous women in India. She does not allow her women to be a mere toy or an object of pleasure. Her women are self-respectful and self-assertive. They expect equality in marriage. They must be treated as honoured partner. They believe that marital relationships are the establishment of love and companionship. But the truth is that no man-woman relationship in marriage exists on the principles of equality. Women's voice is often unheard by the man in marriage life. She remains passive rather than fight of protest. But Sahgal portrays women characters who want freedom and independence to lead an honorable life.

With the great insight and understanding, Sahgal explores female inner feelings in her novels. As loneliness and frustration have mellowed, Sahgal has been able to transform those sufferings into compassion. She believes in women's potentialities. Though her women characters are individuals, they can be independent and lead their life within the framework of society. Being a woman, Sahgal studies the female psyche. Her novels concern the hardships faced by women in the established order of marriage and the trembling experience of divorce and also about the resultant separation of parents and children. Sahgal portrays women's suffering in marriage life in her novels. She shows how the suffered women came out of the suffocating bondage. She depicts the suffered who prefer divorce rather than lead a life of agony and inequality. According to her, though divorce does not solve the problems, women can be free from the prolong sufferings and pains which are faced in the unjust relationships of marriage life.

In Sahgal's novel *A Time to be Happy*, Maya is a character who tries to overcome her unhappy situation. She seems incapable of emotion. She is longing for communication. But she

33. A study of Marginalization of Dalits in Bama's *Karukku*

[1] A. Jesintha Mary
[2] J. P. Ida Joicey

Introduction

Bama is the pen-name of a Tamil Dalit woman, from Roman Catholic family. She has published three main works: an autobiography, *Karukku* (1992); a novel, Sangathi, (1994) and a collection of short stories, *Kusumbukkaran* (1996). The book was originally written by her in Tamil in 1992 and translated into the English version by Lakshmi Holmstorm in 2000. *Karukku* is one of the first autobiographies of a Dalit woman written in Tamil. She was famous with her autobiographical novel *Karukku,* which chronicles the joys and sorrows experienced by Dalit Christian women in Tamilnadu. *Karukku* was however critically acclaimed and won the Crossword Book Award in 2000. It has since become a textbook in various courses like Marginal literature, Literature Translation, Autobiography, Feminist Literature, Subaltern Literature and Dalit Literature across many universities.

Bama's novel focuses on caste and gender discrimination. They portrayed caste-discrimination practised in Christianity and Hinduism. Bama's works are seen as embodying Dalit feminism and are famed for celebrating the inner strength of the subaltern woman. In an interview, Bama has said that she writes because she considers it her duty and responsibility to share the experiences of her people.

Karukku means Palmyra leaves, which with their serrated edges on both sides are like double-edged swords.She compares her life to Palmyra leaves. Bama draws attention to the symbol, and refers to the words in Hebrews (New Testament), "For the words of God is living and actives, sharper than any two-edged sword piercing to the divisions of soul and spirit, of joints and morrow and discerning the thoughts and intentions of the heart"(Hebrews 4; 10).

An autobiography that *Karukku* is takes one through the harsh lives of Tamil Dalit Christians in the native village of Bama and their relationship with

CULTURAL IDENTITY THROUGH DEATH: A STUDY ON JAMES WELCH'S *THE DEATH OF JIM LONEY*

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Abstract

The Native American Literature is the traditional literature of the indigenous people of America. It is also called as American Indian Literature. European colonization institutionalized the Native Americans' cultural identity and due to the cultural class between Natives and Whites, the White government forcefully dislocated the Natives. Natives suffered a lot to retain their land but all their efforts were in vain. They were made to live in the reservation land and due to this many Natives slowly assimilated to the White society but a few retained their tradition and culture. Unable to digest the atrocities of the settlers, a few Natives had death wish and through death they wanted to keep themselves united with their ancestors. In James Welch The Death of Jim Loney, the protagonist Loney chooses to die at the end of the novel in search of cultural identity and to attain divinity.

James Welch is a prominent author of novels and poetry featuring Native American identity crisis and alienation. He was born in Browning, Montana and attended school on the Blackfeet and Ft. Belknap reservations. He was considered as a founding author of Native American Renaissance. James Welch's novel, *The Death of Jim Loney*, introduces a protagonist who chooses death to live eternally at the end. Jim Loney, a mixed blood Native American lives in the reservation in Harlem, Montana. He finds very difficult to trace his roots and identity amid a White dominant society. Loney like other Native Americans does not want to assimilate himself to the White community rather he chooses to die to find cultural identity.

The Death of Jim Loney is set in a town named Harlem. Loney the central character of the novel is thirty-five years old. In his school days he was a famous basketball player but now he leads his life by dreaming and dazing about his past. He becomes a drunkard and hates to live in the White American based society. He always searches for his past roots to restore his true identity in his motherland. When the novel opens, Loney is watching football game in the heavy rain. Like the players who are playing in the muddy ground, Loney's mind is blurred and muddy without proper sense. Using the word muddy, the author shows the inner struggle of a mixed blood protagonist who tries very hard to restore his cultural identity. The novel is divided into three parts and the plot is less fragmented. The house of Loney looks dark as his inner mind.

Loney lives a secular life and he alienates himself and lives in the reservation without socializing with neighbours. Since, his life is meaningless; two women try to bring meaning to his life namely, Rhea and Kate. Rhea is Loney's lover and she is a teacher. Rhea insists Loney to settle with her in Seattle in order to bring some change in his life. Kate is the elder sister of Loney who works in federal education programs and wishes to take Loney to Washington, D.C. Unlike Loney, Kate is very much happy in the dominant White world and she comes to the Native land to take Loney along with her. While visiting Loney, she changes her outfits to be a traditional woman in the eyes of her brother. When she approaches Loney she is concerned about the dress she is wearing. Welch notes in *The Death of Jim Loney,*

> She didn't want to intimidate her brother with one of her city outfits, so she had bought the sheepskin jacket in a western boutique in Phoenix. She was little disgusted with herself for that move, but the squash blossom was authentic, right form the heart of Navaho country. (12)

Our Heritage

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Quests of Self-Discovery and Self-Actualization in Margaret Laurence's *The Stone Angel*

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Abstract

This paper aims at exploring the dimensions of Margaret Laurence"s *The Stone Angel*by examining her character portrayal in order to see the extent to which the various manifestations of the quest for identity are inscribed in her fiction. Laurence displays this type of nationalism by creating a stormy sense of place and community in the invented town of the mind, Manawaka. In Laurence"s fictional quests of self-discovery, self-actualization of her woman protagonists dilemmas of identity are resolved through the process of theircoming to terms with their past. Her commitment is in fictional terms to reclaim the indigenous cultural heritage and establish a bond between the past and the present, especially in her novels which are in terms of a fictional setting, an amalgam of many prairie towns and hence a town of the mind. Laurence"s preoccupation with creating a strong sense of place is linked with a desire to recover indigenous socio-cultural and mythic heritage of her region.

Keywords: Quests, Self-Actualization, Mind, Identity, Self-Discovery

Margaret Laurence is a Canadian novelist and a feminist writer. All the protagonists of her novels contain womanhood. Her women seek freedom from conventional roles as

THE HARLEM LITERATURE MIRRORS THE NEW NEGRO

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ABSTRACT

The Arts of the Harlem Renaissance reveals the "beauty which prejudice and caricature have overlaid." Truly, the literary output of the Harlem Renaissance era has, in a broader dimension, redefined the 'Negro' who has long been misinterpreted or underestimated. This article throws lights on the 'New Negro' who has evolved himself during the renaissance period. It makes one understand that his records of literary composition have had the power to transform his social disillusionment into race pride. The Harlem Renaissance does not end with race struggle and the attainment of an egalitarian society. The contribution of the 'Black' is decisive to produce America's National literature and to determine America's culture.

Key Words: Racism, discrimination, culture, oppression, alienation, identity crisis, assertion.

The long history of African American literature is fraught with violence, difficulty, slavery and discrimination. The component of African American writing remains inevitable for the fuller comprehension of American literature and culture. African American literature has led to offshoots namely Native American, Asian American and Chicano American streams of literature. A proper representation of African American literature is essential for the understanding of the divided American Society –the colour division which is evident in the American soil until the present day.

African American literature probes into the darker problem of racial discrimination comprehensively – philosophically, existentially and epistemologically. African American literature dates back to the mid 18th century upto the present day injecting into the American social fabric a deep exuberant literary and cultural transformation. Pioneering efforts were taken in the literary field by eminent literary figures. W.E.B. Du Bois *The Souls of Black Folk* (1903), Washington's *Up from Slavery* (1901), Alain Locke's *The New Negro* were ground breaking literary pieces, socially and politically, which are testimonials to African American Modernism. But the first published works of African American literature during the 18th century portrays Unites States as a new emergence with newer citizens, defined rights and freedom, a nation which owned 'slaves' and exploited them for centuries. Under conditions of slavery, a new 'genre' namely the 'slave narrative' came to be written as a sub genre of African American literature

The history of African-American Literature or Black Literature is largely influenced by the Harlem Renaissance. This great intellectual movement took place during the early decades of the 20th Century between 1918 and 1937. African-American literature dealt with the question of identity –crisis, black heritage, racism, slavery, discrimination and equality. The Harlem Renaissance is a multi –faceted upheaval where black writers sought to combat racial prejudice and injustice done unto their race intellectually. Therefore, the Harlem Renaissance has become an integral part of African-American literary history. Historically, the Harlem Renaissance is a prelude to the Civil Rights Movement and the American War of Independence that took place in the later

Women Enchained by Traditional Values in Githa Hariharan's *The Ghosts of Vasu Master*

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Abstract

This paper is an attempt to explore the subjugation of women in the guise of tradition and culture. Women have been handled sternly by the traditional social set-up. The cultural values and codes mainly designed by the patriarchal society, forcefully state that women need protection, guidance and supervision of the males. Many women writers either directly or indirectly have protested against the traditional system which suppresses women. Women who are sandwiched between tradition and aspirations struggle throughout their life and finally lose their battle. Githa Hariharan has reshaped the age-old social structure through the male character Vasu Master. Even in this modern world, male domination is still prevailing and women have to promptly take a stand to assert their identity and individuality.

Keywords - Tradition, identity, enchained, suppression, aspiration.

Githa Hariharan has great insight and perfect understanding of the realities. She has secured a unique place of honour among the prominent Indian women writers in English. Her literary output mainly consists of feminist related notification. Women characters portrayed in her novels are lively and exhibit sensitive feminine qualities. *The Ghosts of Vasu Master* predominantly deals with the experiences of a typical English teacher in a village. In between the narration, we can enjoy the sweet fragrances of feminine tenderness spread by a few women characters. The women depicted in this novel uphold the traditional values and remain enchained throughout their lives. The writer indirectly discloses their hidden traits and emotions in her rigorous feminist avocation.

Gender studies conducted in Indian historical arena, disclose the sublime sensitive feeling of women. Women of ancient age were endowed with noble feministic traits which are accessible as lustrous illustrations appealing to modern women. Those women were commanded, harnessed and governed by the patriarchal society, yet never failed to offer their sweet virtues during their lifetime. These hidden ambiguous feminine personalities are revealed by women writers. H.B. Patel has stated that

> Many critics attempt to explore the novel with different perspectives including feminism, psychology, and self-discovery. The present novel is essentially about stereotypes as found in the literature and culture of India. The focus of the exploration of the stereotype of a traditional Indian woman in *The Ghosts of Vasu Master*. In it, Vasu Master's mother Lakshmi and his wife Mangala exhibit the stereotype of a traditional woman. These characters represent the formula of the psyche of millions of Indian women. (Web 21- 03-2020)

The Ghosts of Vasu Master, an academically renowned novel, demonstrates the life of a village school teacher who has taught for forty years Vasu master now being a retiree reflects and recollects his past memories. He is captivated both by the recently inflicted recollections and the memories of the past. The haunting memories are regarded as ghosts.

தமிழ் இலக்கியம் சுட்டும் நோயும் மருந்தும்

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முன்னுரை

தமிழ் இலக்கியங்கள் மூலம் நோய், நோய் அறியும் முறை, நோய்கான காரணங்கள் ஆகியவற்றை அறியமுடியும். ஆயக்கலை அறுபத்து நான்கிலும் அறக்கலை முப்பதிரண்டிலும் இன்றியமையாது இடம் பெறுவது மருத்துவக் கலை ஆகும். உலக மொழிகளில் பழமை வாய்ந்ததும் தனிச் சிறந்ததுமாகிய இலக்கியங்களில் தமிழ் இலக்கியமும் ஒன்றாகத் திகழ்கின்றது. தமிழ் இலக்கியம் எத்தகு பழமை வாய்ந்ததோ அதனினும் பன்மடங்கு பழமை வாய்ந்த ஒரு கலையாகச் சித்த மருத்துவக்கலை தமிழ் நாட்டில் சிறந்து விளங்குகிறது. மனிதனுக்கு நீடிய ஆரோக்கியமான வாழ்க்கையை அளித்திடும் மருத்துவக் கலையை இலக்கியத்துடன் இணைத்தவர்கள், தமிழ்நாட்டில் பல ஆயிரம் ஆண்டுகளுக்கு முன் வாழ்ந்த சித்தர்கள் ஆவர்.

மருத்துவக் கலை

மருத்துவக்கலை உலகில் ஒரு மகத்தான கலையாக விளங்குகிறது. இதன் வரலாறு இலக்கியங்களிலிருந்தே தோன்றியிருக்கின்றன. இலக்கியங்கள் மனித வாழ்க்கையைச் செம்மைப்படுத்தவே தோன்றினாலும் சில இலக்கியங்கள் நயமுடையதாகக் காணப்படுகின்றன. "அரிது அரிது மானிடராய்ப் பிறத்தல் அரிது" என்று ஔவையார் பாடியிருப்பார். அம்மானிடப் பிறவிக்கு வரக்கூடிய நோய்கள் கணக்கிலடங்காதவையாக உள்ளன. ஆத்மாவை ஆண்டவனுடன் பிணைப்பதுதான் உடல்களின் இயல்பாய் இருக்கவேண்டும். அவ்வாறு பிணைப்பதற்கு உடல் நோயற்று இருக்க வேண்டும். நோய் உண்டாவது உடலுக்கு இயல்பு என்றால் அதை நீக்குவதும் இயற்கை வழியை ஏற்றதாக இருக்க வேண்டும் என்பதை,

அகநானூற்றில் மன்னர்களின் சிறப்புகள்

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முன்னுரை

அகநானூறு அகநூல் என்று கூறினாலும் அக்கால மக்களின் பழக்க வழக்கங்கள், சமுதாய உணர்வுகள் அரசர்களின் ஆட்சி முறைகள், வாழ்வியல் நெறிகள் போன்றவற்றையும் குறிப்பிடுகின்றது. இவற்றில் நாட்டை ஆளும் அரசர்களின் வீரம், கொடை, ஈகை நிலையை அந்தந்த நில மக்களுக்குத் தோழிக் கூற்றுப் பாடல்களாகவும், பரத்தைக் கூற்று பாடல்களாகவும் தலைவி கூற்றுப் பாடல்களாகவும் வருகின்றன. அரசர்கள் தனக்கென வாழாமல், நாட்டுக்காகவும், நாட்டு மக்களுக்காகவும், வாழ்ந்ததால் அக்கால மக்களின் சமுதாய நிலைகளையும், அவர்களது ஆட்சிச் சிறப்பையும் அகநூல்களும் உணர்த்துகின்றன. அகநானூறு முப்பெரும் பிரிவுகளுடன் நெடுந்தொகை நானூறு என்றும் அழைக்கப்படுகிறது.

அகுதை

இவன் கூடல் நகர அரசன் ஆவான். கூடல் நகரம் என்பது வைகை அணைக்கு அருகில் உள்ள கூடலூர் ஆகும். இவன் மதுரையிலிருந்த ஓர் உபகாரி, கூத்தரைப் பார்க்கும் பண்பினன், அவர்களுக்குக் களிற்றொடு நன்கலம் பரிசிலாக வழங்குபவன், அகுதை என இவன் வழங்கப் பெறுவான்.

இன் கடுங் கள்ளின் அஃதை களிற்றொடு
நன் கலன் ஈயும் நாள் மகிழ் இருக்கை
அவை புகு பொருநர் பறையின், ஆனாது **(அகம்.76,3-5)**

என்ற பாடல் வரிகள் அவன் பெண்டிர், இனிமையையும் கடுப்பினையும் கொண்ட கள்ளினையுடைய அஃதை என்பான், களிறுகளுடன் நல்ல அணிகலன்களையும் பரிசிலர்க்கு வழங்கும் மகிழ்ச்சி பொருந்திய நால்லொழுக்கத்தையுடைய அகுதை புகும் கூத்தரது பறை இடைவிடாது ஒலிப்பது போன்று தழியாது சிறப்பு உடையவன் ஆவான், அகுதை என்பதை அறியலாம்.

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MEETING ABSTRACTS Open Access

Abstracts from the International Science Symposium on HIV and Infectious Diseases (ISSHID 2019): Infectious diseases

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ISSHID: E-poster Presentations

Abstract-5 Drug resistance profile of Gram negative and related exotic bacterial isolates from an urban hospital in Chennai, Tamil Nadu, India

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BMC Infectious Diseases 2020, 20(Suppl 1):ISSHID: E-poster Presentations

Background: Despite the impressive range of therapies available for treating patients in intensive care, bacterial infections continue to be the major challenge worldwide. Impact of gram negative organisms on clinical disease is well known but exotic bacterial pathogens such as Ralstonia sp are lesser known members of this group. Infections related with exotic pathogens are often reported in mechanically ventilated patients particularly associated with those who are immunocompromised. This study aims to analyse the gram negative pathogens and their antibiotic susceptibility profile from various clinical and environmental samples (blood, urine, IV and fomites) from an urban multi-speciality hospital in Chennai, Tamilnadu, India using standard protocols and the data discussed.
Methods: Basic microbiological techniques were used to screen the clinical and hospital environmental specimens for gram nega- tive bacteria and their antibiotic susceptibility testing was per- formed by standard disc diffusion method according to CLSI guidelines. Bacterial isolates which could not be confirmed by basic phenotypic techniques were identified by using automated bacterial identification system (VITEK-2, Biomerieux) and their antibiogram was noted.
Results: A total of 40 clinical samples (39 urine and 1blood) and 60 environmental samples were collected. Among these 16/39 urine samples and 17/60 environmental samples were positive for gram negative bacilli. All the gram negative isolates were resistant to nitrofurantoin used to treat UTI.
Conclusion: Gram negative organisms and exotic gram negative pathogens are most often associated with hospital acquired UTIs. All Ralstonia sp isolated showed resistant pattern for nitrofurantoin, one of the antibiotic commonly used to treat urinary tract infections.

ISSHID

Abstract-47 A quick method for designing and screening effective chemically modified siRNA against viruses – A perspective to employ RNAi in antiviral research

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Background: Viral infections have a massive negative impact worldwide as evident from recent outbreaks. For example, dengue is emerging as global health problem affecting around 400 million people per year and nearly half of world population at its infection risk. The siRNAs are one of the natural antivirals and some of them are already FDA approved (Patisiran).
Methods: We employed virus specific computational algorithms (VIRsiRNApred and SMEpred) for siRNA designing against dengue virus (DENV2) genome. We selected eleven siRNAs (si1 to si11) based on different criteria like varying inhibition efficacy, off targets and different genomic regions (5′-Untranslated region, Capsid, Pre-Membrane, Envelope and 3′-Untranslated region). The siRNAs were further chemically modified with deoxy-nucleotide at the two 3′overhangs. We cloned these genes in PsiCheck-TM2 plasmid and used dual luciferase assay for knockdown efficacy screening of the siRNAs. We tested the knockdown efficacy of siRNAs at three concentrations, their combinations and their toxicity using MTT assay in HeLa cells. Statistical analysis was done by one-way ANOVA with Tuckey post hoc test using R.
Results: The designed siRNAs and their combinations performed according to their prediction efficacies. Also, the two siRNAs from earlier studies (for external validation) showed similar silencing efficacies. The siRNAs showed almost no toxicity compared to the scrambled siRNA.
Conclusion: We demonstrate a rapid method to design, test and construct a repertoire of chemically modified siRNAs as antivirals without the use of live viruses or biosafety facilities. Our method also showed similar performance as compared to external live dengue virus.

ISSHID

Abstract-63 Herpes Zoster of the Maxillary Division of Tri-germinal Nerve with superadded Streptoccocus viridans infection , in an Immunosuppressed Individual - A Case Report

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BMC Infectious Diseases 2020, 20(Suppl 1):ISSHID

Background: Tuberculosis is a global public health problem caused by Mycobacteruim tuberculosis (MTB) and one among the leading infectious disease with high prevalence of mortality. Selenium is an essential trace element in all species including humans, which regulates the body physiological mechanism among the adult globally.Selenium has been recognized to play a vital role in both cellular and humoral mediated immune response and also evidenced with regulating the levels of interleukin during the susceptibility of bacterial and viral infection.
Methods: A total of 50 tuberculosis patients attending Anti Tuberculosis Therapy is Revised National Tuberculosis Control Program of Madurai Division in government Rajaji Hospital, Madurai were subjected in the present study. Ethical Committee constituted by Government Rajaji Hospital approved and gave ethical clearance of sample collection. Samples were collected in the informed consent of the patients.
Result: In the present study gender wise association of selenium with reference to *P* value was 0.1 which infers extremely significant correlation of selenium in the mechanism of immune regulation among the TB patients. This influence may be due to the activity of seleno enzymes in association with oxidative imbalance leading to the host vulnerability to resist co-infection thereby challenges immune competence.
Conclusion: Study concludes that selenium supplementation need to be emphasized in modulating the overall well being of the immune response and minimizing the risk of oxidative damage among patients with tuberculosis.

ISSHID

Abstract-L15 Bacteriological profile and antibiotic susceptibility pattern of urinary tract infection in children of tertiary care centre

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BMC Infectious Diseases 2020, 20(Suppl 1):ISSHID

Background: UTI is a common bacterial illness and a leading cause of morbidity in paediatric population. UTI in young children present with non specific sign and symptom that can be misdiagnosed.
Methods: Retrospective analysis was done among paediatric age group (0-16 years) in SRIHER, Chennai. Results were recorded from cultured urine samples from central laboratory.
Results: Out of 308 urine samples, 47 (15.2%) were positive for growth of organism in culture. Boy:girl ratio was 1:2.2 .Most affected age group were infants. Most commonly isolated organism was E.coli (68%) followed by *Klebsiella pneumoniae* and Enterococcus.
Antibiogram showed overall resistance to ampicillin and cephalosporins but mostly sensitive to amikacin, nitrofurantoin, cotrimoxazole.
Conclusion: The presentation of paediatric UTIs varies widely and its knowledge along with risk factors and susceptible antibiotics is necessary to prevent future complications"

ISSHID

Abstract-L16 A potpourri of infection: When Fungi, Actinomycete and Bacteria coexist in the same host

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BMC Infectious Diseases 2020, 20(Suppl 1):ISSHID

Background: Common infections encountered in CKD patients are due to defective cell mediated immunity which can be related to immunosuppressant therapy. Among the list of infections, Cryptococcal sepsis is an uncommon occurrence especially in HIV negative individuals. We encountered one such patient who presented with Cryptococcosis along with other coexisting infections.
Case report: An elderly CKD patient with underlying DM, hypertension and CAD presented with fever, altered sensorium, seizure like episode, hypotension. He was drowsy, disoriented and unresponsive, vitals were stable. A clinical diagnosis of sepsis was made for which blood cultures were sent. Procalcitonin was elevated (≥2 and <10 ng/ml). After 72 hours of incubation, Gram stain of blood showed Gram positive spherical budding yeast cells. Capsulated yeast were appreciated on India ink. Cryptococcus neoformans was identified by automated identification system (Vitek 2 compact). He developed secondary polymicrobial bloodstream infection with Enterococcus faecalis and *Acinetobacter baumannii*. His chronic non healing leg wound grew *Nocardia brasiliensis*. His viral serology for HIV antibodies and HBsAg were negative.
Conclusion: Uncommon associations of Cryptococcosis in HIV negative individuals have been rarely documented in literature. Documented conditions other than HIV predisposing to cryptococcosis are immunosuppressant therapy and hepatic cirrhosis. There are no published reports of Cryptococcosis in patients with CKD. Apart from this, our patient had a rare combination of multiple infections in multiple sites of the body. It is therefore wise to consider polymicrobial infections in patients with CKD since this mandates wider and specific antimicrobial therapy.

ISSHID

Abstract-L18 Extended spectrum Beta Lactamase coding genes mediated resistance in *Klebsiella pneumoniae*

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BMC Infectious Diseases 2020, 20(Suppl 1):ISSHID

Background: Lower respiratory infections accounted for 2.74 million deaths making them the fifth leading cause of death and leading infectious cause of death worldwide, according to data from the Global Burden of disease study. Due to the extensive use of broad spectrum antibiotics, the respiratory infections caused becomes severe complicated issues in hospitals nowadays. In addition ESBL producing strains also prevailed leads to resist beta lactamase antibiotics, thus the emergence of ESBL producing pneumonia strains limits therapeutic options contributing to the overall high mortality rates in immuncompromised patients
Methods: The present study evaluated the prevalence of ESBL coding gene(TEM) mediated resistance in hospitalized patients byRFLP and RAPD PCR.cDNA. 16SrRNA.
Results: 26 isolates of klebsiella pneumoniae were identified by 16SrRNA method and all the isolates were screened for ESBL production. Eighty percent of the isolates were found ESBL producers upon double disk synergy test. The ESBL production was further confirmed for the prevalence of ESBL encoding TEM genes which were identified in sixty percent isolates. TEM genes contributes resistance to combat therapeutic measure. All the isolates were Biofilm producers.
Conclusion: This study reveals that there was a strong correlation between Biofilm mechanism and TEM genes were observed during the study.

ISSHID

Abstract-L19 Reporting of notifiable diseases in a multispeciality hospital "the what, when, how and why?

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BMC Infectious Diseases 2020, 20(Suppl 1):ISSHID

Background: This study was undertaken in a multispeciality hospital to analyse the various notifiable diseases reported over a period of 4 years and to find out the most common diseases notified and prevalent in each season. It gives us insight into the demography and disease trend.
Methods: This is a hospital record based retrospective study. The data collected was tabulated using simple descriptive statistics and depicted as charts and tables
Results: The total number of cases reported was 6450. Only 9 diseases out of the 22 notifiable diseases listed by the government were reported. H1N1 (37.82%) was the most commonly reported disease followed by dengue (21.77%), acute febrile illness (17.18%) and acute gastroenteritis (16.58%). HIV (0.20%) and measles (0.13%)