ESTIMATION OF MINIMAL INITIAL SAMPLE SIZE IN PROGRESSIVE SAMPLING FOR BIG DATA ANALYTICS

YATHISH ARADHYA B C[1], DINESHA H A[2], LOKESH M R[3]

[1] Research Scholar, VTU-RRC, Department of Computer Science and Engineering, Belagavi, India

[2] Professor, SIET, Department of Computer Science and Engineering, Tumkur, India

[3] Professor, Vivekananda College of Engineering & Technology (VCET), Puttur, Department of Computer Science and Engineering, Visvesvaraya Technological University (VTU), Belgaum, Karnataka., India

E-mail: [1]docs.kit@gmail.com, [2]sridini@gmail.com, [3]lokeshmrmysore@gmail.com

ABSTRACT

Big data are vectored, high dimensional and voluminous. Sampling such data is daunting task. Progressive sampling is the solution for such data. However initial sample size of the progressive sampling technique plays a vital role in the overall computational time and convergence time of any classifier. In Progressive Sampling Algorithm (PSA) a number of times iterative computation runs will be accountable for the total time cost of the sampling and indirectly to the time required for convergence of the classifier to learn a hypothesis. All existing works on minimal sample size estimation are not appropriate to carry out in the Distributed File system like Hadoop. In this work we present a novel statistically optimal sample size technique and its analysis, to estimate the initial minimal sample size for big data in an HDFS environment. Heterogeneous big data datasets were experimentally used to estimate initial sample size in a Hadoop environment with the analysis of computational time and space complexity in all degrees of freedom along with the convergence of the learning algorithm. If the initial sample size were accurately estimated, then there will be a substantial reduction in PSA. Thus providing a proper initial sample size for PSA will ensure optimally fast learning of the classifier in Information Technology applications for substantial prediction and assessments thus leading to robust software performance.

Keywords: *Progressive Sampling Algorithm (PSA), PAC Framework, Big Data, Sample Size, Initial Sample Size*

1. INTRODUCTION

Sampling in Big data with various parameters and metrics is tedious task. Training a classifier for entire big data is a daunting task. The solution would be to train the classifier to samples selected out of big data. The quantity of samples selected will always be a problem that yields only optimal solutions and so is the task of training a classifier to samples of large data, with expected empirical results [8]. Whether the generated samples would be sufficient enough to train is a problem addressed in past times. The quality of samples selected via approximation techniques has various statistical approaches [7]. To provide efficient strategies to train a classifier with possibly fewer numbers of samples yet keep its classifying correctness within probably approximate correct framework progressive sampling methodology was resulted. A progressive sampling methodology is an iterative approach where each iterative step is designed to increment the sample size for the next iterative step depending on whether the convergence of the classifier is met for the given problem. [5][6]. All previous work related to PSA computation time was not tested upon a dataset with millions of instances and high dimensional. The initial sample size for the first iteration of PSA plays a significant role reduction the computational time for progressive sampling and also in turn overall run time [5][6][8][1]. The total number of iterations of PSA will be greatly reduced if the starting sample size or the initial sample size is very much minimal. Previous works concerned with minimal initial samples have not experimented on Big data sets.

Although there are few works on Statistical estimation of minimal starting sample size, none was concerned with the computational time of progressive sampling methodology for Big Data in a distributed file system environment.

To the best of our knowledge, our approach presented in this work efficiently determines a

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A Progressive Sampling and RadeMacher Average for an Effective Frequent Pattern Mining in Big Data Environment

Yathish Aradhya Bandur Chandrashekariah[1]*   **Dinesha Hagare Annappaiah[2]**

[1]Department of Computer Science and Engineering, VTU-RRC, Belagavi, India
[2]Department of Computer Science and Engineering, Sridevi Institute of Technology, Tumkur, India
* Corresponding author's Email: docs.kit@gmail.com

Abstract: Big data refers to the large amount of information that is collected from different areas and shared on the internet. However, this development has led to difficulties in using frequent itemset mining applications. To overcome the issue of frequent data mining, this research has introduced an empirical sampling algorithm using RadeMacher average (ESA-RMA). When considering the size of the initial sample and scheduling the samples, the ESA utilizes the RadeMacher average to bound the samples. Initially, the data is obtained from the dataset of the human activity recognition (HAR) and real time datasets from smartphone gyroscope and accelerometer, then obtained data is pre-processed using the data normalization technique. Then, the ESA is used to select the labelled data and RMA is used to bound the samples. This bounding process defines the upper limit of the input data which helps in the effective mining of frequent item sets. Thus, the data with redundant items are mined out using the proposed ESA-RMA method. The experimental results show that the proposed ESA-RMA has taken a minimum run time of 212 ms for data obtained from smartphone accelerometer which is comparatively lower than the existing Scalable Simple Random Sampling (ScaSRS) with processing time of 362 ms. Similarly, for HAR dataset, the proposed method took processing time of 5.43 s whereas the existing vertical frequent time interval–related pattern (VertTIRP) mining approach took processing time of 7.82 s.

Keywords: Big data, Empirical sampling algorithm, Frequent item set mining, Rademacher average, Human activity recognition.

1. Introduction

Database systems play an important role in storing big data with real-time applications. Moreover, the data varies from structured to unstructured data obtained from various applications such as system transactions, the world wide web, and so on [1,2]. Frequent item set mining (FIM) is known as one of the significant processes involved in mining big data which attracts more researchers to work on it. Mining out the frequent item set from the stream of data is one of the major issues involved in the process of FIM [3]. The process involved in mining the frequent item aims to detect the item set where the occurrence frequency exceeds the present frequency of massive databases like big data. The process involved in mining the redundant item offers

different types of tasks regarding correlation analysis, local periodicity and plotting the fragments [4]. The detection of frequent item sets involves various types of resources which help in mining the frequent items and diminishes the burden of the process [5]. Mining the frequent dataset requires multiple passes through a database which helps in the progress of detecting frequent items in static or dynamic databases [6, 7]. However, complexities occurred during the evaluation of time in mining the data and this can be overwhelmed using the sampling technique.

The sampling technique can select the labelled data from the group of unlabelled data [8, 9]. Moreover, the techniques based on sampling consider the type of data and helps to minimize the response time [10]. However, the limitation occurs in the sampling technique in form of diminished accuracy value. To improve the efficiency and accuracy of

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State Wise Covid-19 Case Forecasting Based on Machine Learning by Using SEIR and Time Series Models

Suhas G.K.[1],*, Charan K.V.[2], Bhagappa[3]

Abstract

Forecasting mechanisms that are based on machine learning have proved to be significant to anticipate in peri-operative outcomes that improve in decision making in future. Applications where it is necessary to identify risk factors with a negative impact have used machine learning models. To solve problems with forecasting, many prediction techniques are applied. The Covid-19 virus, which is active and is currently regarded as a serious threat to humanity, is shown in this research to have the potential to forecast the number of patients who would be affected by it. The total number of newly identified cases, the number of accidental deaths, and the percentage of recoveries are the three forecasts made by each model. One of the important factors is to look at the lifestyle of spread of disease state wise separately. To analyze data such as no of infected people in each state and number of infections for that state etc. We anticipate that such state-level forecasts will assist the central government in more effectively allocating its scarce healthcare funds. The analysis of spreading of COVID19 disease predicts the scale of the pandemic, along with the recovery rate and fatality rate.

Keywords: Corona virus cases, deep learning, machine learning, SEIR, and time series model

INTRODUCTION

India has a geographical size of 3,287,240 square kilometres and a population of 1.3 billion people. Most Indian states have sizable populations and physical areas. It is a highly laborious effort to analyse Covid-19 infection statistics for the entire nation. It's because each state has a varied first infection rate, new infection rate, improvement over time, and preventive measures implemented by the state government. We need to specify each state separately so that the government can use the limited remaining resources accordingly as per their needs. Because of resource constraints, there must be a distinct approach taken when dealing with multiple states at once. The current system employs different approaches to forecast future COVID-19 cases, including newly diagnosed cases, the total number of fatalities and recoveries, and others. These methods include the logistic technique, the exponential growth method, the susceptible infectious recovered (SIR) method, linear regression (LR), the least absolute shrinkage and selection operator (LASSO), the support vector machine (SVM), and others. A Time Regression model is used to evaluate the impact of lockdown and other interferences, a SIR model is used to predict the maximum number of active instances, and a logistic model is used for short-term projections. The logistic model successfully predicts the near future for states and nations. The

*Author for Correspondence
Suhas G.K.
E-mail: suhask300@gmail.com

[1]Professor, Department of Computer Science and Engineering, Akshaya Institute of Technology. Tumkur-572106
[2]Associate Professor, Shridevi Institute of Engineering and Engineering and Technology, Tumku, Karnataka, India.
[3]Professor, Department of Computer Science and Engineering Bridhavan College of Engineering, Bangalore, Karnataka, India

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RESEARCH ARTICLE

Optimizing durability of the thin white topping applying Taguchi method using desirability function

Akshay J.[1]*, G. Mahesh Kumar[2], B.H. Manjunath[3]

Abstract

White topping is a relatively new rehabilitation technology for giving strength to Asphalt pavement. Time to time resurfacing is necessary for bituminous pavement in hot climate region of India where heavy vehicles, operating under frequent start/stop conditions. So, we can apply white topping where recurring problem arises due to rutting of bituminous pavement. In India, endeavors to develop both traditional and ultra-thin white toppings as well as thin white toppings were built on an experimental basis, but their outcomes have not been specifically tracked. The performance and existence of pavement is affected by a range of things such as the load imposed by means of the site visitors plying on it, the weather, indigenous materials used and renovation standards. To examine their overall performance below Indian site visitors and climatic conditions road roughness test, compressive power by way of taking concrete cores and visible inspection survey has been executed.

Moreover, the necessity for the new sorts of concrete with higher durability and higher overall performance for precise purposes, as compared to the available sorts, is sensed greater than ever. The concrete durability, laid low with one kind of variables consisting of compressive strength, resistance and permeability, has already attracted the attention of many researchers. In this research the effects of adding white topping concrete, changes in the humidity and temperature of the rehabilitated surrounding atmosphere are investigated to observe whether they will cause any growth in compressive strength and resistance of concrete and/or any decay in its permeability. For this, the Taguchi method is carried out as a method of design of experiment to get the most excellent level for every variable, accompanied by applying the regression approach to model the variables. finally, the final most desirable degrees for the sturdiness are offered primarily based on the desirability function.

Keywords: White topping, Compressive strength, Permeability, Taguchi method, Desirability function.

Introduction

A bituminous road is covered with a Portland Cement Concrete (PCC) overlay known as white topping. Long-term restoration or structural strengthening of roadways may be replaced with this overlay. Traffic on the roads is progressively increasing over time, which is a global phenomena. According to a worldwide prediction, this surge will continue. There is a shortage of capital for new infrastructure projects everywhere, even the most developed countries. This is true for both their initial creation and, more importantly, their ongoing maintenance and repair. Increasing vehicle weights and tire pressures on our pavements have raised the requirement for pavement performance in recent years. As a consequence, more and more roads are degrading, and it is often determined that the current pavement structure as a whole is unable to keep up with the present. The importance of this huge community's development and restoration using a traditional manner would need enormous resources, both physical and financial, which may be relatively rare. Most resilient pavements on the grid consist of thin layers of bitumen. Increasing vehicle weights and tire pressures on our sidewalks in recent years have put pressure on the overall performance of our sidewalks. Most cracked asphalt roads may be traced back to longitudinal cracking. White layer (WT) cement concrete may be applied over an asphalt

[1]Visvesvaraya Technological University, Belagavi, Karnataka, India

[2]Department of Civil Engineering, Shridevi Institute of Engineering and Technology Tumakuru, Karnataka, India

[3]Sri Siddhartha Institute of Technology, Tumakuru, Karnataka, India

*Corresponding Author: Akshay J., Visvesvaraya Technological University, Belagavi, Karnataka, India, E-Mail: akshayaradhya89@gmail.com

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RESEARCH ARTICLE

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Fabrication of cost-effective green assisted synthesis of MoO₃ NPs: its photocatalytic activity and electrochemical sensing actions on lead, mercury, and paracetamol molecules

Shruthi K S[a,b], Chandrasekhar N[c], Surendra B S[d] (iD),
Mahadeva Swamy M[e] and Basavaraju N[f]

[a]Reseach scholar, R&D Center, Shridevi Institute of Engineering and Technology, Tumkur, India; [b]Department of Chemistry, Akash Institute of Engineering and Technology, Bangalore, India; [c]Department of Chemistry, Shridevi Institute of Engineering and Technology, Tumkur, India; [d]Department of Chemistry, Dayananda Sagar College of Engineering, Bengaluru, India; [e]PG Department of Chemistry, JSS College of Arts Commerce & Science, Mysuru, India; [f]Department of Physics, East West Institute of Technology, Bangalore, India

ABSTRACT

The synthesis of transition molybdenum metal oxide (MoO₃ nanoparticle) was achieved by bio-mediated (*Aegle marmelos* leaves) combustion process. The characteristics of prepared nanoparticle were well analysed by Powder-X-ray diffraction (PXRD), Scanning electron microscopy-Energy dispersive X-ray (SEM-EDAX), Fourier transform infra-red (FT-IR) spectroscopy, and UV–Visible absorption spectroscopy. The formation of orthorhombic phase structure and average crystallite size (23.6 nm) of MoO₃ nanoparticle was confirmed by PXRD studies. The energy-band gap of achieved sample was found to be 3.1 eV recorded by UV–Visible absorption spectroscopy. This electron transition property directly influences the prepared sample as an excellent photocatalyst for textile industrial Bromophenol Blue (BPB) dye under irradiation of UV light. The excellent photocatalytic performance on BPB dye was observed with 89.7% at 105 min, which is supported by its lower kinetic constants 17.42×10^{-3} min^{-1}. The electrochemical measurements for investigating capacitance and resistance of modified graphite-MoO₃ nanoparticle electrode under three-electrode system using 0.1 M HCl in the different scan rates 0.01–0.05 V/s by cyclic-voltammetry (CV) and electrochemical impedance spectroscopic (EIS) analysis. This investigation confirms the good sensing actions towards Lead, mercury, and Paracetamol molecules by impact of alteration in redox peak potentials.

CONTACT Surender B S ✉ surendramysore2010@gmail.com; Chandrasekhar N ✉ chandruharshu@gmail.com

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"A STUDY ON IMPACT OF SOCIAL MEDIA ON OUR MENTAL HEALTH IN TUMKUR"

Dr. Grace Hemalatha[1], Ms. Anjum Zehra M[2]

[1] Associate professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India (graceprabhu2000@gmail.com)

[2] 2nd year MBA Student, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India (anjumzehram2001@gmail.com)

ABSTRACT

Everyone's life now revolves around social media, which has altered communication and information availability. Despite its many benefits, concerns have been raised about how it may damage mental health. This study adds to our understanding of this complex subject by examining the association between social media use and emotions such as stress, anxiety, and sadness. Furthermore, we will look at a variety of online situations, such as cyberbullying, as they relate to various social media platforms. We intend to gain a complete understanding of this link by applying a range of research approaches. The research will not only demonstrate the benefits and drawbacks of social media, but it will also provide valuable information for improving mental health aspects in the digital age era .

INTRODUCTION :

Social media has revolutionized communication, entertainment, and information gathering, and it remains an indispensable part of modern life. Despite its widespread use, worries regarding its negative impact on psychological well-being have grown. This study investigates this critical issue by looking at the links between social media use and elements like cyberbullying, as well as how these connections affect stress, anxiety, and depressive symptoms. This study aims to gain a better understanding of these complex relationships by evaluating multiple platforms and user groups. Social media platforms have become pervasive in the modern day, radically altering how individuals connect and communicate. For billions of users worldwide, communication platforms like Facebook, Instagram, TikTok, and Twitter have become a vital part of daily life in youth generation .

METHODOLOGY

STATEMENT OF PROBLEM

Despite social media's ubiquitous presence in people's daily lives, there are ongoing concerns about its potential negative impact on mental health. The increase of cyberbullying is especially troubling because it poses a significant threat to people's psychological health. Furthermore, the relationship between social media use and the incidence of stress, anxiety, and depression is not obvious. Furthermore, while some platforms may offer beneficial characteristics, it is unclear which ones have the most impact on mental health. Addressing these concerns is crucial for creating personalised therapies and policies that support positive mental health outcomes in the digital age.

OBJECTIVES

1. Understanding social media consumers.
2. Assessing cyberbullying and harassment .
3. Assessing the relationship between social media engagement and stress, anxiety, and depression levels.
4. Identify social media sites having the largest influence on mental health.

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A Study on Impact of Online Market Perception on Consumer Buying Behaviour Towards Cosmetics

Dr. Grace Hemalatha[1], Ms. Namitha M N[2]

[1]Associate professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India (graceprabhu2000@gmail.com)

[2]2nd year MBA Student, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India (namithanami7026@gmail.com)

ABSTRACT:

In the contemporary digital marketplace, the impact of online market perception on consumer purchasing patterns in the cosmetics industry has emerged as a focal point of investigation. This study aims to delve into the intricate interplay between online market perception and consumer buying behavior within this sector. Leveraging established frameworks such as the Technology Acceptance Model and the Elaboration Likelihood Model, the research adopts a quantitative approach, employing surveys to collect pertinent data. The analysis uncovers a notable association between favourable online market perception, characterized by factors like user reviews, brand standing, and website usability, and consumer purchasing decisions in the cosmetics realm. These findings underscore the pivotal role of online market perception in moulding consumer confidence, interaction, and choice-making processes. The study concludes by delineating practical implications for cosmetics enterprises, emphasizing the imperative of cultivating a positive online market perception to nurture customer loyalty and bolster sales in the digital landscape.

INTRODUCTION:

In today's consumer landscape, the cosmetics industry is undergoing a profound transformation fuelled by digital advancements. The intersection of online market perception and consumer purchasing behavior has emerged as a central focus for both academic research and industry exploration. Enabled by various digital platforms offering comprehensive product information, reviews, and brand engagement opportunities, consumers now have unprecedented access to make informed decisions irrespective of geographical constraints. Online market perception encompasses a myriad of factors, including website functionality, user-generated content, and brand visibility, collectively shaping consumer trust and emotional connections. Against this backdrop, understanding consumer behavior within the cosmetics sector, particularly in the online sphere, is of paramount importance. Theoretical frameworks such as the Technology Acceptance Model (TAM) and the Elaboration Likelihood Model (ELM) offer insights into the cognitive and emotional drivers that influence consumer responses to online stimuli. This study seeks to unravel the complex relationship between online market perception
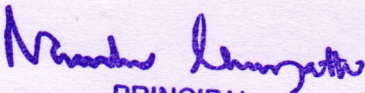
METHODOLOGY

STATEMENT OF THE PROBLEM:

The central issue lies in comprehending "The Influence of Online Market Perception on Consumer Purchasing Behavior in the Cosmetics Industry." The dynamic nature of customer expectations underscores the importance of meeting their needs, particularly within the cosmetics sector. Succeeding in this competitive landscape necessitates online platforms to decipher customer behavior, purchasing trends, decision-making processes, and preferences. Importantly, consumer behaviours exhibit variations influenced by cultural norms, socioeconomic status, income levels, age demographics, and gender dynamics, especially when comparing diverse customer segments across different countries.

OBJECTIVES:

- Analyse consumer demographics within the cosmetic industry.
- Explore the most commonly used cosmetic product categories among customer.
- Accesses the impact of online market dynamics on consumer behaviour.

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International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

"Role of Self-help Group's (SHG'S) for Women Empowerment in Tumkur Taluk"

Dr. Prathap B N¹, Mr. Syed Naveed²

¹ Associate professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India (prathap.bn@gmail.com)
² 2ⁿᵈ year MBA Student, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India (naveedsyed672@gmail.com)

CHAPTER: - 1

INTRODUCTION :

Self-help groups are community-based gatherings where individuals come together to support each other in addressing common challenges. These groups focus on mutual assistance and empowerment, with members working together to improve their lives and promote social change. In the development sector, self-help groups have been instrumental in poverty reduction, human development, and financial inclusion, particularly for women in rural areas. By pooling resources and sharing knowledge, members of self-help groups are better equipped to overcome obstacles and achieve their goals. Through training programs and financial education, organizations are helping self-help group members enhance their skills and decision-making abilities, leading to positive impacts on their families and communities.

OBJECTIVE OF THE STUDY: -

1. To find out the Role of self-help groups for women empowerment.
2. To study the number of women's, participate in SHG's.
3. To know what type of opportunities utilised by respondents.
4. To know that, how many women were interested in start-ups.

SCOPE OF THE STUDY: -

This research would help to have better understanding about the Role of Self-Help Group's (SHG's) for women empowerment, only aspects related to members were collected.

LIMITATIONS OF THE STUDY: -

1. Many members are not ready to give actual information.
2. Time is one of the constraints to meet more respondents
3. The study is confined to the members of the SHG's

NEED FOR THE STUDY: -

Women are equally capable as men and play a crucial role in economic development. Self-Help Groups are key in promoting social and economic progress by empowering their members to achieve independence and increase their knowledge through education and awareness. By providing access to microfinance and building partnerships with banks and NGOs, SHGs empower women and support rural economies. It is important for SHGs to remain neutral to ensure their continued success and expansion. Ultimately, these groups offer hope and positivity to their members and communities, leading to better economic conditions and a brighter future for all.

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A STUDY ON THE AWARENESS OF MUTUAL FUNDS INVESTMENT WITH SPECIAL REFERENCE TO TUMKUR

Dr. Prathap B N[1], Mr. Balaraju D G[2]

[1]Associate professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

[2]2nd year MBA Student, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

ABSTRACT

This study explores individuals' awareness and understanding of mutual fund investments through surveys and interviews across diverse demographics. The findings indicate a widespread recognition of mutual funds, but a limited grasp of their various types, risks, fees, and benefits. Higher awareness is observed among younger, more educated individuals, while older, less educated individuals show lower levels of understanding. Primary information sources include digital media, financial advisors, and peer recommendations, with barriers to awareness identified as financial literacy, information complexity, and perceived risks. The study emphasizes the need for improved financial education and clearer communication from financial institutions to bridge the awareness gap, offering actionable insights to enhance mutual fund literacy and support informed investment decisions.

Key words: Investment, Risk, Return, Awareness.

1. INTRODUCTION

In the ever-evolving landscape of personal finance, mutual funds have emerged as a vital investment vehicle, offering individuals a more accessible and diversified gateway into financial markets. By pooling money from numerous investors, these funds allow for investment in a wide array of stocks, bonds, and other securities, managed by professional fund managers. This approach not only mitigates risk through diversification but also enables individuals to invest smaller amounts of capital than would be needed to construct a similar portfolio on their own. Despite these benefits, public awareness and understanding of mutual funds vary greatly, influenced by factors such as financial literacy, access to financial advice, and cultural attitudes toward investing. In many regions, mutual funds are less favoured compared to traditional savings instruments like fixed deposits, real estate, and gold, especially among conservative investors who focus on capital preservation. The significance of awareness in mutual fund investments cannot be overstated, as informed investors are more likely to make prudent decisions, align their investments with financial goals, and adeptly navigate market complexities. Conversely, a lack of awareness can lead to misconceptions, suboptimal investment choices, and missed opportunities for wealth creation. This study aims to evaluate the current level of awareness regarding mutual fund investments among different demographic groups, examining variables such as age, income, education, and geographic location to identify trends and gaps in knowledge that may influence investment behaviour. Furthermore, it will explore the sources of information that investors depend on, including financial advisors, media, and digital platforms, to understand how these channels impact awareness and decision-making. Understanding the degree of awareness and the contributing factors is crucial for policymakers, financial institutions, and educators, as increased awareness can empower individuals to effectively utilize mutual funds for their financial well-being, thereby promoting broader economic growth and stability. As the financial ecosystem continues to change, fostering a well-informed investor base will be key to ensuring that mutual funds remain a robust and advantageous investment option for a diverse population.
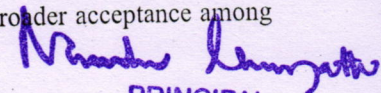
2. METHODOLOGY

STATEMENT OF THE PROBLEM

Mutual fund investment awareness in Tumkur is notably lacking, resulting in its limited use for wealth creation. This study seeks to evaluate the existing levels of awareness and identify obstacles that hinder broader acceptance among residents of Tumkur.

OBJECTIVES

- To Investigate the awareness of mutual funds relative to age, income, and education levels.
- To Analyze the motivations behind investing in mutual funds.
- To Understand preferences for investing in mutual funds compared to other investment options.

"A STUDY ON INFLUENCE OF VIRTUAL MARKETPLACE PERCEPTION ON CONSUMER BUYING BEHAVIOUR IN COSMETICS"

Dr. Prathap B N[1], Ms. Anjum Zehra M[2]

[1]Associate professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

[2]2nd year MBA Student, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

ABSTRACT

In the contemporary digital marketplace, the impact of virtual market perception on consumer purchasing patterns in the cosmetics industry has emerged as a focal point of scholarly investigation. This study endeavors to elucidate the intricate interplay between virtual market perception and consumer buying behavior within this sector. Utilizing established theoretical frameworks such as the Technology Acceptance Model and the Elaboration Likelihood Model, the research adopts a quantitative methodology, employing surveys to amass pertinent data. The analysis uncovers a noteworthy association between favorable virtual market perception, epitomized by factors such as user testimonials, brand eminence, and website usability, and consumer purchasing decisions in the cosmetics domain. These findings underscore the pivotal role of virtual market perception in molding consumer confidence, interaction, and decision-making processes. The study concludes by delineating practical implications for cosmetics enterprises, emphasizing the imperative of cultivating an affirmative virtual market perception to nurture customer loyalty and augment sales within the digital milieu.

1. INTRODUCTION

The cosmetics industry is undergoing a profound metamorphosis catalyzed by digital advancements. The confluence of online market perception and consumer purchasing behavior has emerged as a pivotal focus for both academic research and industry analysis. Empowered by a plethora of digital platforms offering comprehensive product information, critiques, and brand engagement opportunities, consumers now possess unprecedented access to make informed decisions, irrespective of geographical constraints. Online market perception encapsulates a myriad of factors, including website functionality, user-generated content, and brand visibility, collectively shaping consumer trust and emotional bonds. Within this context, understanding consumer behavior in the cosmetics sector, particularly within the online realm, is of paramount significance. Theoretical constructs such as the Technology Acceptance Model (TAM) and the Elaboration Likelihood Model (ELM) elucidate the cognitive and affective drivers that influence consumer responses to digital stimuli. This study endeavors to unravel the intricate relationship between online market perception and consumer purchasing behavior in the cosmetics industry.

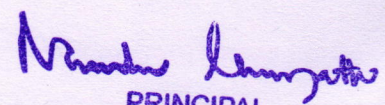## 2. METHODOLOGY

STATEMENT OF THE PROBLEM

The principal conundrum entails apprehending "The Influence of Online Market Perception on Consumer Purchasing Behavior in the Cosmetics Industry." The mercurial nature of consumer expectations accentuates the exigency of fulfilling their requisites, especially within the cosmetics domain. Excelling in this competitive arena necessitates online platforms to decrypt consumer comportment, procurement tendencies, decision-making paradigms, and predilections. Significantly, consumer behaviors exhibit heterogeneity influenced by cultural paradigms, socioeconomic stratifications, income echelons, age demographics, and gender dynamics, particularly when contrasting diverse consumer segments across various nations.

3. OBJECTIVES

1. Scrutinize consumer demographics within the cosmetics industry.
2. Investigate the predominant cosmetic product categories favoured by consumers.
3. Appraise the influence of online market dynamics on consumer comportment.
4. Dissect consumer perceptions and purchasing proclivities.

SCOPE OF THE STUDY

o Advancements in Cosmetology: Innovations Driving the Development of Beauty Products
o Formulation Synergies: Key Ingredients and Compound Interactions

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"THE EFFECTS OF SOCIAL MEDIA ON MENTAL HEALTH: A COMPREHENSIVE STUDY IN TUMKUR".

Dr. Prathap B N[1], Ms. Namitha M N[2]

[1]Associate professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

[2]2nd year MBA Student, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

ABSTRACT

In an era where social media has seamlessly embedded itself into our daily routines, redefining how we communicate and access information, concerns about its impact on mental well-being are on the rise. Despite its undeniable advantages in fostering connectivity, facilitating information dissemination, and providing entertainment, the shadows of apprehension loom large.

This study endeavors to plunge into the depths of this complex issue by dissecting the intricate interplay between social media usage and mental health, with a laser focus on the manifestations of stress, anxiety, and depression among the populace of Tumkur.

Through a meticulous gathering and analysis of data from diverse demographic strata within Tumkur, this research aspires to unearth the subtle patterns and correlations between engagement with social media platforms and the nuanced landscape of mental health outcomes.

Furthermore, the study will undertake a granular examination of the prevalence and characteristics of online adversities, such as the insidious phenomena of cyberbullying and harassment. It will endeavor to peel back the layers of these negative experiences, meticulously scrutinizing their manifestations across the multifaceted landscape of different social media platforms.

1. INTRODUCTION

The ubiquitous nature of social media platforms in contemporary society necessitates a critical exploration of their correlation with mental well-being. This scholarly investigation delves into the intricate relationship between social media usage and psychological phenomena such as cyberbullying, aiming to elucidate how these interactions influence stress, anxiety, and depressive symptomatology.

Through a multifaceted analysis encompassing diverse social media platforms and user demographics, this research aspires to illuminate the nuanced interplay between online engagement and mental health. By unraveling this complex web, the study seeks to demarcate the spectrum of social media's effects on the psyche, acknowledging both its potential benefits and detrimental consequences.
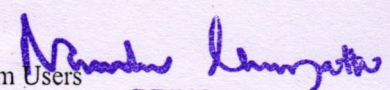
2. METHODOLOGY

STATEMENT OF PROBLEM

The infiltration of online communication platforms within our quotidian lives has engendered persistent anxieties regarding their potential deleterious effects on psychological well-being. Cyberbullying, specifically, has materialized as a significant menace to mental health.

Additionally, the nexus between engagement with these platforms and the proliferation of stress, anxiety, and depression continues to be shrouded in ambiguity. While certain platforms undeniably offer advantageous functionalities, pinpointing which ones exert the most demonstrably impactful influence on mental health remains an elusive pursuit. Confronting these issues head-on is paramount to the development of targeted interventions and policies that cultivate propitious mental health sequelae in the contemporary, technologically-driven er.

3. OBJECTIVES

1. Delineate the Demographic and Behavioral Landscape of Online Communication Platform Users
2. Quantify and Analyze the Prevalence and Psychological Repercussions of Cyberbullying and Harassment
3. Elucidate the Nexus Between Online Engagement and Psychological Distress
4. Ascertain the Platforms with the Most Demonstrably Detrimental Influence on Mental Health

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A STUDY ON IMPACT OF CURRENT WORK – LIFE BALANCE OF WOMAN IN TUMKUR CITY

Mrs. Bindu R[1], Ms. Vijayalakshmi S[2]

[1]Assistant Professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

[2]2nd Year MBA Student, Department of MBA, Sridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

DOI: https://www.doi.org/10.58257/IJPREMS35166

ABSTRACT

The 'balance between fun and serious activities' is viewed as one of the siginificant issues that assume an essential part in hierarchical achievement. In any case, balance between serious and fun activities is seen diversely in various society. This paper means to figure out the reasons, which make work-life lop-sidedness. A female representative, this study has been led in light of essential examination where an example of 50 female workers from various associations is chosen. Poll and meetings were taken to uncover the reasons that lead the purposes behind which female representative are confronting inconvenience to keep a balance between fun and serious activities are for the most part a direct result of : long working hours, work unbending nature, work over-burden, obligation and biasness at work place, absence of administrative help, prevailing administrative style and scant family support. The finding of the review centers around planning an organized rule for the associations so the previously mentioned reasons can be discarded and female representatives can adjust their expert and individuals life and live as one.

1. INTRODUCTION

In the present serious world, the issue of balance between fun and serious activities has gotten the notice of scientists and scholastics due with its impact on proficient as well as private life. Clear show that while a decent work-life blend makes concordance in both expert and individual life, unevenness among work and life can make pessimistic effect on a representative's very own life which prompts work disappointment that harms association's efficiency and notoriety.

The ladies have been taking part and contributing astoundingly in our economy. In spite of it, working ladies experience different deterrents in their own as well as expert life. Ladies are batting to adjust between work-life which at last hampering their public activity. While attempting to adjust work-life, ladies feel the tension from their work place as well as from their loved ones. Since ladies need to assume various parts in the public eye, its especially more enthusiastically for ladies to keep balance between work-life.

This paper means to figure out the causes that make awkwardness in work-life of working ladies in Tumkur. Results and plausible arrangements have been given too since it is totally important to figure out a helpful method for wiping out the issues that hampers balance between fun and serious activities of working ladies in Tumkur. Taking into account all viewpoints, an endeavour has been made to resolve the accompanying inquiries : 1) Causes that make awkwardness in work-life of working ladies. 2) Results of the causes. 3) Likely answers for keeping up with balance between work-life of working ladies in Tumkur

2. OBJECTIVES

➢ To explore the relationship between work life balance and job satisfaction.
➢ To explore the relationship between work life balance and mental health outcomes.
➢ To evaluate the impact of the career aspirations and goals of womens.
➢ To examine the role of family and social support system in influencing the work-life balance.
➢ To identify the challenges faced by women in achieving a satisfactory work life balance.

3. LITERATURE REVIEW

1). Gayatri Pradhan

Gayatri Pradhan Foundation for social and financial Change, 2016 this paper investigates the manners by which working ladies balance their work and day to day life. There has been a developing worry over work-family issues and the thought of adjusting these two spaces because of a rising number of ladies entering the universe of paid business. Such a conversation seldom comes into the image on account of men. An obvious outline among work and home is made with men being less associated with errands at home. The idea of work family balance has been utilized to make sense of the harmony between obligations at work and obligations outside paid work. Having an equilibrium in the work and

A STUDY ON CONSUMER'S PREFERENCE TOWARDS HIMALAYA PRODUCTS IN TUMKUR

Mrs. Bindu R[1], Mr. Dhanush H U[2]

[1]Assistant professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

[2]2nd Year MBA Student, Department of MBA, Sridevi Institute of Engineering and Technology.

Tumkur, Karnataka, India.

DOI: https://www.doi.org/10.58257/IJPREMS35114

ABSTRACT

Himalaya, prestigious for its accentuation on regular and natural fixings, develops an impression of tenderness and wellbeing among buyers, rather than items loaded down with manufactured synthetic substances. It's getting through presence and notoriety as a dependable brand highlight its obligation to quality. Upheld by thorough exploration and logical approval, Himalaya items rouse trust in their adequacy and wellbeing, forming buyer inclinations with trust in the brand's honesty and commitment satisfaction.

Keywords: consumer's preference

1. INTRODUCTION

Ayurveda, getting from 'Ayur' signifying 'life' and 'Veda' signifying 'to be aware', means 'the study of life'. Beginning from the Indo-European Nasatya or Aswin's, twin doctors of the divine beings, it finds notice in old texts like the Hurrian, Hittite, and Sanskrit dialects. Related with the Atharva Veda, Ayurveda is an all-encompassing clinical framework rehearsed basically in India, Sri Lanka, and Nepal. The Himalaya Medication Organization, starting around 1930, has blended Ayurvedic intelligence with present day research techniques to foster deductively confirmed natural arrangements.

2. STATEMENT OF THE PROBLEM

The main job includes evaluating the market execution of Himalaya items, a deep-rooted brand offering a different scope of skincare, hair care, child care, and medical services things. With expanding worldwide reception of Himalaya's Ayurveda items, understanding buyer buy conduct and inclinations becomes significant. In the present scene, Himalaya holds critical significance as an Ayurveda choice for buyers, who are progressively cognizant about picking such items. Subsequently, concentrating on purchaser inclinations towards Himalaya Ayurveda Items holds promising potential for the market.

Objectives of the study:

- To study the source of awareness about the Himalaya products.
- To study the reason for selecting the particular brand.
- To study the factor influencing the consumer to use the Himalaya products.
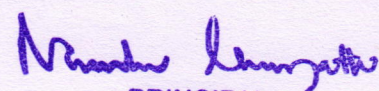- To Identify the problems faced by the respondents while using Himalaya products.

Scope of the study:

As learning is a human movement and is as normal, as relaxing. In spite of the way that learning is all unavoidable in our lives, clinicians disagree on how learning happens. How people learn involves revenue to advertisers. They need to show buyers in their jobs as their jobs as purchasers. They believe customers should find out about their items, item credits, potential buyers benefit, how to utilize, keep up with or even discard the item and better approaches for acting that will fulfil the purchaser's requirements, yet the advertiser's targets. The extent of my review confines itself to the examination of purchaser inclinations, discernment and utilization of Himalaya items

3. RESEARCH METHODOLOGY

The methodology of the study includes:

- Area of the study
- Source of data
- Sample size
- Statistical tools

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A STUDY ON DIGITAL MARKETING AS A TOOL FOR EFFECTIVE ADVERTISEMENT WITH REFERENCE TO TUMKUR CITY

Mrs. Bindu R[1], Shushmitha M V[2]

[1]Assistant professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

[2]2nd year MBA Student, Department of MBA, Shridevi institute of Engineering and Technology, Tumkur, Karnataka, India.

DOI: https://www.doi.org/10.58257/IJPREMS35165

ABSTRACT

In the present promoting time, advanced showcasing assumes a significant part in supporting up web-based business outlets however powerful commercial, Today's youth invest a lot of their energy on web, and they favor internet shopping than visiting to stores or shopping's .the economy of a nation relies on the development of deals and creation which is empowered through these computerized showcasing, thus computerized promoting turned out to well known than customary advertising, particular post corona virus. Most of the on line business is controlled through advanced promoting. This study endeavors to figure out the need and significance and the job of these advanced promoting as a significant device for a powerful adit. Likewise means to comprehend the client inclination of online advanced advertising in tumkur city.

1. INTRODUCTION

Digital marketing, utilizing electronic devices for global consumer outreach, has traditional marketing in today's era. Studies show that in developed countries like America, over 75% of individuals engage with digital marketing to promote their businesses, with 43% accessing online platforms daily and 26%being nearly always online. This trend underscores the appeal for corporation to adopt digital marketing as their primary advertising avenue.

In tandem with technology advancement, digital marketing has become indispensable for businesses of all sizes, offering enduring results. It encompasses concepts such as e-commerce, online business, and e-business, serving as a cornerstone in overall marketing strategies. Key factors like timely product distribution and stock availability sustain consistent revenue streams. This innovation marketing approach adeptly meets customer needs, ensuring swift satisfaction.

Meaning of Digital Marketing

Digital marketing facilitates the connection between potential consumers and businesses through online technology. Utilizing electronic devices, consumers have access to a wide range of goods and services at their fingertips. This form of marketing ensures transactions through channels such as emails, social media, web –based advertising and multimedia message

2. RESEARCH METHODOLOGY

This study utilizes a mixed – methods approach, combining quantitative analysis of digital marketing metrics with qualitative insights from industry case studies. Data sources include marketing analytics platforms, industry reports, and academic journals.
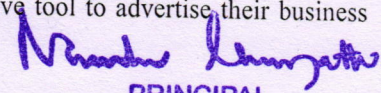
Statement of the problem

Publication, Sending off or advancing an item has turned into a critical peculiarity in the present showcasing world. Arriving at purchase through legitimate channel at reasonable time is a difficult one. There is a need to comprehend how computerized showcasing has become and powerful instrument for promoting

Objectives

- To make an attempt to study about the types of digital devices used in advertising through digital marketing
- To known the advantages of digital marketing
  To study significance about the traditional marketing v/s Digital marketing
- To study the preference of advertiser using digital marketing is an effective tool to advertise their business in Tumkur city
- To find out if there is any relationship between the mode of marketing

Limitation

1. This study is simply restricted to Tumkur city.
2. There might be private predispositions in the reaction of the respondents.

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A STUDY ON PUBLIC OPINION TOWORDS THE USE OF DIGITAL PAYMENT WITH SPECIAL REFERENCE TO TUMKUR DISTICT

Mrs. Bindu R[1], Rekha K R[2]

[1]Assistant Professor, Department of MBA, Shridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

[2]2nd Year MBA Student, Department of MBA, Sridevi Institute of Engineering and Technology, Tumkur, Karnataka, India.

ABSTRACT

The study of analyses opinion towards digital payment policy mode is contributing for a better transaction and technological development. The study is based on primary data set to understand the customer opinion, purpose, of using in digital payment in tumkur and examine the problems in the services, while demographic factors like name, age, gender, profession and income relevant factors. The consumers opinion with a sample size of 70. The instrument for data collection was a questionnaires of primary data. Fromthe digital payment it made our transaction formeasy to saving,(standing at a long queues)it as reduced dread of caring the money every day.It seeks to evaluate the motivations prompting users to embrace digital payment services, analyze user satisfaction levels, investigate the influence of digital payment on consumer daily life, and challenges inherent in these services.

1. INTRODUCTION

Digital payment information technology has modernized the various aspects of our daily lives. The government of India has been to create a cashless economy. In 2005, introduction of national electronic funds transfer (NEFT). The national payment corporation of India (NPCI) was established in 2008.India alone has 40% shares in real time digital payment. The technology revaluation is taking place everywhere it as impacted in the transaction mode and our daily lifestyle also, every sector as started adopting the use of digital payment. And also called an electronic payment. And they can use faster payment like UPI, Debit card, Credit card, Etc.

2. RESEARCH METHODOLOGY

The study of primary data take the surveys . by using google form by framing the questionnaire related to the study objectives. The secondary data by the published sources, books and so more. The research is made by framing the questionnaire by using google form, with response of 70.

Limitation

The information is confined to Tumkur city only.

Objective of study:

- ❖ To assess the purpose for using digital payment services.
- ❖ To know the which kind of digital payment mode is contributing for the better transaction.
- ❖ To examine the satisfaction level of digital payment users.
- ❖ To study the digital payment impartment in consumer daily life.
- ❖ To examine the problem in digital payment services.

3. LITERATURE REVIEW

1) A M Franciska, S Sahay Selvi- International journal of research 2017- An overview on digital payments currently available digital payment system include banking cards, digital wallets, unified payment interface (UPI), Internet banking. Prime minister Narendra Modi introduce a scheme has approved "Pradhan Mantri Gramin digital Saksharta Abhiyan (PMGDISHA)" this is help to safe the cash transaction and going to increase the faster internet speed and statistic reports show the RBI Bulletin cashless transaction in India increasing day by day.

2) A Baghla- International journal of research and analytical 2018-Study on the future of digital payment in India. The initiative of digital payment was taken by government if India after the announcement of demonetization on 8thNov 2016. The main objective is digital payment was to achieve cashless economy in the long run. Due to increasing corruption and block money in India. To have an idea about the expected future digital payment in India.

3) B Angamuthu – NMIS journal of economics and public: this study reports positive growth in terms of actual volume (24.11%) and value (15.84%) of overall digital payment in the country over the last 7 years. Further the

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Identifying Strikeouts and Predicting Synonym Words for Kannada Handwritten Documents

Bhargav H K[1]

[1] Director, IIIC and Assoc.Professor, Department of Computer Science and Engineering,
Shridevi Institute of Engineering and Technology, Tumakuru-572 106
bhargavwin@gmail.com

Abstract

Handwritten character recognition (HCR) is a pivotal facet within the realm of machine learning and artificial intelligence. This research delves into the intricate challenges associated with detecting and recognizing Kannada handwritten document images. The paper introduces a novel methodology designed to identify strike-outs, addressing a significant aspect of document analysis. In this research, we employ dilation and contour analysis techniques to efficiently discriminate between sentences and individual strikeout words, enhancing the accuracy of our recognition system. Furthermore, we present an innovative synonym generation mechanism for the identified strikeout words, augmenting the utility of our approach in the context of document understanding and information retrieval. This work contributes to the advancement of HCR, especially in the context of Kannada script, and underscores the significance of tackling nuanced aspects such as strike-outs for comprehensive document analysis and interpretation.

Keywords: Handwritten character recognition, machine learning, Dilation, Contour, strike-outs, Identification

1. Introduction

Computer Vision is rapidly evolving due to ongoing advances in machine learning and deep learning techniques. Within the realm of natural language processing, the development of efficient and versatile handwritten text and document recognition poses a formidable challenge. This domain finds applications in linguistic script analysis, detection, recognition, translation, signboard interpretation, archaeological research, and aiding visually impaired individuals. Additionally, it plays a pivotal role in digitizing extensive document archives, facilitating seamless access to historical records, and preserving valuable information [1].

Handwriting recognition systems are typically categorized into two primary modes: online and offline. Optical Character Recognition (OCR) serves as a prominent example of the offline mode. Recent research endeavors have focused on recognizing words, phrases, and sentences from high-resolution digital images of handwritten documents in various languages. In contrast, the online mode involves capturing and analyzing the dynamic pen tip movements as characters are handwritten. This study primarily concentrates on Kannada handwritten text and document images.

Kannada, a regional language of the Karnataka state in India, holds the esteemed status of being an ancient classical language recognized by the Government of India. It boasts a rich heritage with a wealth of ancient handwritten scripts in need of digitization. Kannada comprises 49 distinct characters, including 13 vowels, 34 consonants, and yogavahakas. Recognizing handwritten Kannada text using advanced machine learning or deep learning techniques is particularly intriguing and challenging due to the significant variability in individual handwriting styles and the absence of consistent spacing between letters, words, and lines

One of the most pressing research challenges in Kannada handwriting recognition is the scarcity of suitable standard datasets for developing recognition models. The intricate nature of the script makes it exceedingly difficult to manually curate datasets that encompass the diverse combinations of Kannada characters. Notably, there is a noticeable absence of research efforts dedicated to the identification and recognition of strikeout annotations in Kannada handwritten text or document images.

This study aims to bridge critical gaps in the area of Kannada HCR by addressing the ability to detect strikeout annotations in handwritten Kannada text and providing suggested synonyms. The following sections of this paper are organized in the following order: Section 2 includes an extensive review of relevant literature. Section 3 explains the approach of our proposed model, including the strategies used for strikeout detection and
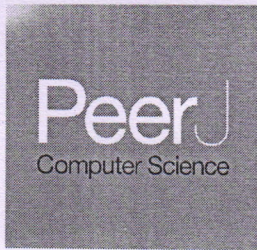
Novel grey wolf optimizer based parameters selection for GARCH and ARIMA models for stock price prediction

Sneha S. Bagalkot[1,2], Dinesha H. A[1,3] and Nagaraj Naik[4]

[1] Nagarjuna College of Engineering and Technology, Bengaluru and Visvesvaraya Technological University, Belagavi, India
[2] B.M.S. College of Engineering, Bengaluru, India
[3] SIET, Tumkur, Karnataka, India
[4] Computer Science & Engineering, Manipal Institute of Technology, Manipal Academy of Higher Education (MAHE), Manipal, Karnataka, India

ABSTRACT

Stock price data often exhibit nonlinear patterns and dynamics in nature. The parameter selection in generalized autoregressive conditional heteroskedasticity (GARCH) and autoregressive integrated moving average (ARIMA) models is challenging due to stock price volatility. Most studies examined the manual method for parameter selection in GARCH and ARIMA models. These procedures are time-consuming and based on trial and error. To overcome this, we considered a GWO method for finding the optimal parameters in GARCH and ARIMA models. The motivation behind considering the grey wolf optimizer (GWO) is one of the popular methods for parameter optimization. The novel GWO-based parameters selection approach for GARCH and ARIMA models aims to improve stock price prediction accuracy by optimizing the parameters of ARIMA and GARCH models. The hierarchical structure of GWO comprises four distinct categories: alpha (α), beta (β), delta (δ) and omega (ω). The predatory conduct of wolves primarily encompasses the act of pursuing and closing in on the prey, tracing the movements of the prey, and ultimately launching an attack on the prey. In the proposed context, attacking prey is a selection of the best parameters for GARCH and ARIMA models. The GWO algorithm iteratively updates the positions of wolves to provide potential solutions in the search space in GARCH and ARIMA models. The proposed model is evaluated using root mean squared error (RMSE), mean squared error (MSE), and mean absolute error (MAE). The GWO-based parameter selection for GARCH and ARIMA improves the performance of the model by 5% to 8% compared to existing traditional GARCH and ARIMA models.

INTRODUCTION

The prediction of stock prices has always been challenging due to the dynamic and complex nature of financial markets (*Kehinde, Chan & Chung, 2023*; *Sheth & Shah, 2023*).

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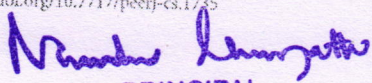
Chaos Reptile Search Algorithm Based Clustering and Routing for Internet of Things assisted Wireless Sensor Network

Narasimha Murthy Madiwala Satyanarayana Rao[1]*   Kannughatta Narasimhamurthy Shreenath[2]
Udayakumar Nittur Lakshminarayanachar[3]   Thirthe Gowda Mallinathapura Thimmegowda[4]
Atur Venkateshmurthy Krishna Mohan[2]

[1]*Department of Information Science & Engineering,*
BMS Institute of Technology & Management, Bengaluru, India
[2]*Department of Computer Science & Engineering, Siddaganga Institute of Technology, Tumkur, India*
[3]*Department of Computer Science & Engineering, Shridevi Institute of Engineering and Technology, Tumkur, India*
[4]*Department of Computer Science & Engineering, Government Engineering College, Hassan, India*
* Corresponding author's Email: narasimhamurthyms@bmsit.in

Abstract: Wireless sensor network (WSN) is a self-organizing network that contains numerous small sensor nodes for monitoring applications in a broad range. However, energy consumption and trust are considered two prominent issues, due to the limited energy sources and open medium. In this research, the Chaos Reptile Search Algorithm (CRSA) is proposed to perform clustering and routing in Internet of Things (IoT) based WSN. The CRSA is utilized to ensure the Cluster Head (CH) and route path for attain reliable data transmission. Main objective of CRSA is to achieve efficient data transmission to enhance the lifespan of WSNs. The CRSA is utilized to perform better exploitation and avoid local optima issues because of the efficient stability between exploration and exploitation. The CRSA performance is assessed through Packet Delivery Ratio (PDR), throughput, delay and energy consumption. The CRSA achieved PDR of 99.75%, 99.24% and 98.51% for 100, 200 and 300 nodes which is better when compared to Improved Metaheuristic-Driven Energy-Aware Cluster-Based Routing Scheme (IMD-EACBR), Energy Aware Clustering and Multihop Routing Protocol with mobile sink (EACMRP-MS), Improved Duck and Traveller Optimization enabled cluster-based Multi-Hop Routing (IDTOMHR).

Keywords: Data transmission, Energy consumption, Internet of things, Packet delivery ratio, Reptile search algorithm, Wireless sensor network.

1. Introduction

In recent years, the IoT-assisted Wireless Sensor Network (WSN) has played a prominent role in Industry that links the digital environment to the physical world [1]. IoT-assisted WSN provides accessible communication through various Sensor Nodes (SNs) which are initialized in a target monitoring region [2]. The WSN are generally tiny in size, low expensive devices, restricted bandwidth, memory and battery [3]. The IoT-assisted WSN can be performed in several functions like sensing, computation, monitoring, storage, and communication [4]. The incorporation of IoT with

WSN is utilized at application levels such as smart healthcare, smart cities, remote surveillance and environmental monitoring [5]. The impairments of WSN stimulate the necessary activities in an IoT such as finding the shortest route into a sink, WSN node deployment, hierarchical structure creation, and huge payload [6, 7]. The different impairments are measured and employ the limited resources by developing an effective protocol at every layer for enhance the Quality of Service (QoS) in WSN [8].

The WSN has been utilized in different applications like health monitoring, civil, military, target tracking, forage, and so on [9]. The WSN performs in an efficient form and supports energy consumption within the network lifetime [10]. The

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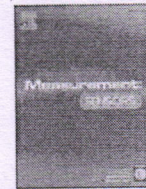
Trust aware fuzzy clustering based reliable routing in Manet

Edwin Singh C[a,*], Sharon Priya S[b], Muthu Kumar B[c], Saravanan K[d], Neelima A[e], Gireesha B[f]

[a] Department of Computer Science and Engineering, Noorul Islam Centre for Higher Education, Kumara Coil, India
[b] Department of Computer Science Engineering, B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai, Tamil Nadu, India
[c] School of Computing and Information Technology, REVA University, Bengaluru, India
[d] Department of Information Technology, R.M.D. Engineering College, Chennai, India
[e] Computer Science and Engineering, SRKR Engineering College(A), Bhimavaram, India
[f] Department of Electronics and Communication Engineering, Sridevi Institute of Engineering and Technology, Tumkur, Karnataka, 572106, India

ARTICLE INFO

ABSTRACT

Mobile Ad Hoc Network (MANET) is a wireless ad hoc network that can be routed over a Link Layer Ad Hoc network. In a MANET, nodes are able to freely and adaptably communicate with one another. Despite this, MANET remains vulnerable to serious security threats that are difficult to address with existing security measures. A MANET routing protocol must consider network dynamics and energy constraints, which makes it an optimization problem. Therefore, the security of MANETs must be strengthened through the development of secure routing protocols. In this research, an Optimal Fuzzy Clustering and Trust-based Routing (OFC-TR) can reduce consumption of energy, latency, and enhance network security and longevity. The proposed OFC-TR technique is achieved in three steps. The initial phase is to organize and select cluster heads using the improved Fuzzy C-means (IFCM) method, which solves the issue of unequal distribution by assigning each sensor a level of cluster membership. The nodes will be effectively clustered using this set of rules, and the best cluster head will be selected. The second segment includes Trust value calculation using a Fuzzy Cognitive Medium (FCM) which considers the values of direct and indirect trust. The third section includes the ideal routing using a Bacteria Foraging Algorithm (BFA) which is implemented for successful optimal control, harmonic estimation and the transmission loss reduction. The proposed approach is implemented in MATLAB. The efficacy of the proposed OFC-TR strategy is determined by using the assessment metrics such as network lifetime, packet delivery, and energy efficiency. The proposed method achieves a better network lifetime of 52.88 %, 44.34%, and 9.42%, than E-TDGO [32], S2ALBR [33], and 3LWT-GWO [35] respectively.

1. Introduction

MANETs use wireless mobile nodes to develop an autonomous network. A MANET node can communicate with another node within its communication range. A node outside the communication range communicates with another node through an intermediary [1]. MANET is primarily used to create dynamic communications for conferences, patient monitoring, smart homes, military/battlefield environments, intelligent transportation systems, and other various sensitive applications [2,3]. Wireless connections are used in this network to connect nodes in a homogeneous or heterogeneous manner, unlike traditional wireless networks [4].

MANETs are typically multi-hop, infrastructure-free networks in which every node connects to other nodes either directly or indirectly

via intermediary nodes [5,6]. However, this provides users with connectivity, open mobility, and community management responsibility depending on the nodes that form the infrastructure of the community [7,8]. A wireless network that is briefly established for a particular objective is known as an ad hoc network [9,10]. As a disaster management and emergency communication tool, MANET has emerged as a very promising solution [11,12]. MANET routing protocols are significant performance factors, as they handle nodes with limited resources in the network [13]. Routes in a MANET often cannot work properly due to external noise, transmission interference, and movement [14].

Due to the lack of fixed infrastructure, energy efficiency and security have become major issues in MANET [15]. Frequent changes in topology, limited bandwidth resulting from node migration, and the limited battery life of mobile nodes continue to be challenges for MANET. While

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