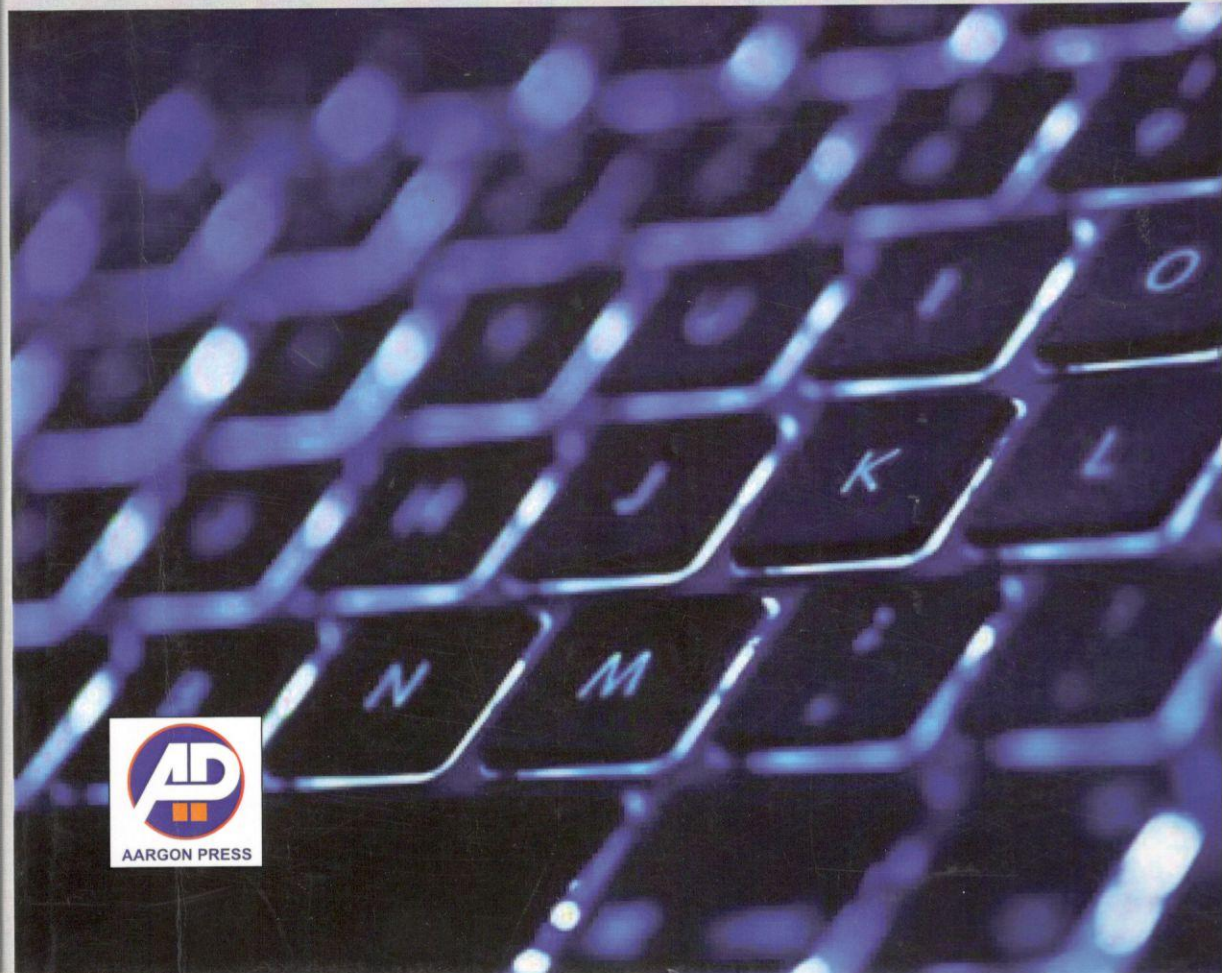


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Computer Science Advancement



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AARGON PRESS

New Delhi

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© Edition, 2021

Published by

Aargon Press

EG-130, Inderpuri,

New Delhi-110012, India

Tel.: +91-11-9958121300

Email: info.aargonpress@gmail.com

Website: www.aargonpress.com

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ISBN: 978-93-94070-46-2

Printed at: Aargon Press, New Delhi

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Chapter-1

ENERGY EFFICIENCY SECURITY MECHANISM IN CLOUD BASED MANET

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Upcoming age of technology and innovations in the field of communication and computing, Mobile Ad hoc Network (MANET) in combination with cloud play a significant role. The Cloud Based MANET is a sort of remote systems that are self-organizing and auto-associated in a decentralized framework and devices, which are connected to the networks of Internet of Things (IoT). Each gadget in MANET are free to move and follow any path. They can make a system with their neighbors' gadgets and forward information to another gadget. MANET security and energy efficient mechanism in cloud environment has become the focal point of productive exploration endeavors. Driven by the one of a kind and significant challenges of providing security emerging from the dynamic idea of MANETs, numerous security and energy plans have been projected. Although various research work carried out in the past has done some major contribution, but still the problems of energy efficiency are still often unsolved. This chapter introduces novel techniques that are considered major contributions in the research toward optimization of energy in MANET that is based on cloud environments. The main objective of this chapter to introduce a novel, secure and energy-optimized MANET-based cloud environment techniques. By utilizing the cloud environment and IoT enabled network devices, this chapter focuses on the enhancement and implementation of existing secure and energy efficient MANET in cloud environment using IoT devices.

1.1 Introduction

The mobile ad hoc networks (MANETs) have got a lot of consideration, making it one of the most encouraging regions of wireless system improvement. It is self-reliant, dynamic, foundation less system comprising of a lot of remote hubs that speak with each other more than at least one association or jumps without the need of a focal authority. MANETs can be conveyed rapidly and effectively, making them entirely reasonable for applications, for example, ecological checking, military observation, and so on. A significant test for MANETs is the plan of a safe and effective routing convention that can likewise guarantee

Chapter-2

Characterizing and Predicting Reviews for Effective Product Marketing and Advancement

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Nowadays, shopping on the internet has significantly grown with each passing day, so online surveys have become an integral part of data collection for clients before settling on a smart buy choice. Early reviews of an item will in general exceptionally affect the ensuing item deals. This work studies the behavioral quality of the first batch of reviewers through reviews published on a procurement portal. It clearly divides the life cycle of the item into three stages, especially the initial part. Customers who publish surveys in the initial stages of development are considered early analysts. Based on their scoring practices, the support scores obtained from other people, and the relationship between their surveys and the popularity of the item, it gives a quantitative description of the early reviewers. This work tracked down that (1) an early analyst will in general relegate a higher normal rating score; and (2) an early reviewer will in general post more supportive audits. Examining item surveys additionally demonstrates that early reviewers' appraisals and their got support scores are probably going to impact item prominence. As a survey audit release measure for competitive multiplayer games, this work proposes a novel implemented model based on Edge for early analyst forecasts. A comprehensive investigation of two different web-based business data sets showed that the proposed method defeated several cruel baselines.

2.1 Introduction

Developing web-based shopping websites has empowered clients to distribute or share by encounters by uploading item reviews, which for the most part contain helpful conclusions, remarks and criticism towards an item. Item surveys, particularly the early audits (i.e., the surveys posted in the beginning phase of an item), profoundly affect ensuing item deals. Although early analysts contribute just a little to the extent of audits, their sentiments can decide the achievement or disappointment of new items and administrations. It is significant for organizations to distinguish early commentators since their criticisms can assist organizations with changing promoting techniques and improving item plans, which can in

Chapter-3

MACHINE LEARNING BASED PREDICTION SYSTEM FOR CORONA SPREADS

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Corona virus is a Novel Virus that emerged in December in China and affected dozens of people in Wuhan, China. This infection can cause a variety of difficulties, including severe colds and shortness of breath. Although it comes under asymptomatic disease, fever, cough, and chest pain are some of the usual symptoms, according to one of the WHO publications. There is yet to be developed a vaccination capable of preventing the spread of this virus.

3.1 Introduction

Scientists Tyrell and Bynno found the first corona virus that affected people in 1965. Then it was assigned the label B814 strain, but the term Corona virus was approved in 1968. Humans saw a lot of changes in the last two decades, according to the Indian Express article. In 1937, the first corona virus was found. It was dubbed the Infectious Bronchitis Virus as it caused respiratory sickness in chickens.

Why CORONA Spread Prediction Analysis

When an infected person blows out virus-containing droplets and very minute particles, COVID-19 spreads. Other people may inhale these droplets and particles, or they may settle on their eyes, noses, or mouths. COVID-19 is transmitted in three ways:

- When near an infected individual who's really breathing minute droplets and particles containing the virus, inhaling air.
- Having virus-carrying droplets and particles land in the eyes, nose, or mouth, particularly through splashes and sprays such as a cough or sneeze.
- Touching their eyes, nose, or mouth with virus-infected hands

The corona virus (Covid-19) transition elements came to China in December 2019, implying that it had spread widely, and many people were tainted by the virus. As of now, the corona virus has infected more than 150 countries, such as the United States, Brazil, India, and others, and the number of cases is steadily increasing throughout them, with an estimated 15.3 million cases worldwide.

Chapter-4

ORDERING OF HUGE BIOMETRIC INFORMATION IN DATABASE SYSTEM

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Biometrics is got from the Greek word 'life' and 'measure' which implies living and evaluation taken apart. It simply converts into "life estimation". Biometrics uses computerized acknowledgement of people, dependent on their social and natural attributes. Biometric characters are data separated from biometric tests, which can use for examination with a biometric orientation. Biometrics involves techniques to unusually recognize people dependent on at least one inherent physical or behavioural attribute. In software engineering, specifically, biometrics is used as a form of character retrieve the Committee and retrieves command. Biometrics is identically utilized to recognize people in bunches that are in observation. Biometrics has quickly risen as an auspicious innovation for validation and has effectively discovered a spot in most scientific safety regions. An effective bunching method suggests dividing enormous biometrics data set through recognizable proof. This method depends on the changed B+ tree is decreases the discs get. It diminishes the information recovery time and also possible error rates. Hence, for bigger applications, the need to reduce the data set to a more adequate portion emerges to accomplish both higher paces and further developed precision. The main motivation behind ordering is to recover a small data set for looking through the inquiry.

4.1 INTRODUCTION

Biometrics means living calculation however; the term is typically related to utilization of distinctive activity features to identify a particular. The tactic of recognition supported biometric features is nowadays favorable over conventional passwords and PIN based methods for various reasons like the person to be recognized is required to be actually present at the time-of-recognition. Biometrics can be used with a smart card to certify the user. This is a fast, precise and extremely assured kind of user validation. Certainly an individual's features can be used for biometrics can be acknowledged in terms of the following variables:

- **Absoluteness**—specify that every person should have the features.
- **Singleness** – means however well the biometric delineated one break away another.

Chapter-5

SOFT COMPUTING APPROACHES FOR REDUCING PACKET DROP-IN WIRELESS SENSOR NETWORK

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Machine learning inspires numerous practical ideas that help you make the most of your resources intelligent, while also extending the life of your computing network. During the period 2002-2018, a comprehensive evaluation of machine learning techniques that have been utilized to address common issues in wireless sensor networks, as shown in this article (WSNs). When applied to the relevant issue, the benefits and drawbacks of each suggested method are compared. An overview of the available machine learning solutions is provided to assist WSN designers in developing the most appropriate machine learning solution for their application problems. It is the purpose of this method to give an overview of embedded network applications and to explain the needs that have been created because of this investigation. In addition, we reviewed the various in-network processing methods that were chosen and pointed out the similarity between the Hopfield neural network and the back propagation network that was discovered. Using a hop-field neural network, the throughput, latency, and packet delivery ratio of networks about the number of packets sent are easily computed. After the comparison of the results of the back-propagation method with the results of the Hop-field neural network in this discussion. Further complete simulations were carried out on the MATLAB-2013 command prompt as well as on the GUI that was developed during the study. It was discovered that the value of all parameters, including transmission, throughput, E2Edelay, and PDR, is typically increasing with time. The use of neural networks with high iterating values to identify packet drops and prevent packet drops would result in a more effective solution for WSN test randomization, which will further reduce packet losses. In the suggested work, it was discovered in the first seven testing of the GUI and recommended seven times, which is consistent with the findings. Because just a small number of packets were lost in a single packet, it is obvious that a specific number of packets were transmitted in the first place when certain packets were sent. Therefore, when it comes to digital data, the effects of the suggested effort are very apparent. When compared to the previous year, it has almost doubled. As a result, it is apparent that when neural networks

Chapter-6

IMPACT ANALYSIS OF ACCIDENT USING AI

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The concept of obtaining information from accident impact analysis. Car companies have a large inventory to plan and formulate car safety measures, but car accidents are inevitable. There have been countless unfortunate victims in all the metropolises and rural areas. Examples related to various conditions can be identified by cultivating an accurate predictive model, which will be equipped with program partitions for different unexpected situations. These groups will be valuable in preventing accidents and promoting safety measures. Use some logical measures and use low-cost assets to maximize accident reduction results. Due to automobile collisions, the cost of death and injury is very high, which has a great impact on the public. Recently, with respect to the fundamental determination of the severity of injuries to drivers caused by accidents on the street, the thoroughness of investigations has increased.

6.1 INTRODUCTION

Planning and controlling the flow through a state-of-the-art framework is considered an important requirement. Suspicion of the dangers of traffic congestion during rush hour and guidance and advocacy on compliance with these assumptions will reduce accidents on the streets. Presumptive framework containing accessible information and new hazards would be invaluable. The idea of information mining occurs at an advanced stage through expansion of information and consideration of capacity. Information mining includes the investigation of finding data in the structure of accurate and intentional information obtained from messy and useless information. Artificial intelligence is a subpart of the power of the artificial brain, which provides PC learning through the information clearing house. In the case of artificial intelligence, skepticism of the PC framework has improved. The use of artificial intelligence is a broad and practical technology that you can use experience to make credible decisions. Artificial intelligence can extract data from information and use measurable technology. The cost of death and injury from car accidents has had a huge impact on the public. Recently, experts have expanded to consider the components that determine the severity of driver injuries caused by motor vehicle accidents. Experts have used some methods to study this problem. Behavior, street conditions, and weather conditions related to the following reasons

Chapter-8

Fake Consumer Review and Opinion Spamming Detection

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8.1 Introduction

The information present on Online Social Media portals and websites plays an essential role in information transfer which is considered a vital source for producers in their advertising campaigns and customers in selecting products and services. In the past years, people have relied a lot on written reviews in their decision-making processes, and positive/negative reviews encouraged/discouraged them from selecting products and services. In addition, written reviews also help service providers to enhance the quality of their products and services. These reviews thus have become an essential factor in the success of a business. In contrast, positive thoughts can benefit a company, and negative reviews can potentially impact credibility and cause economic losses. Anyone of any personality can leave comments as a means of auditing, providing an attractive opportunity for spammers to write bogus words designed to mislead customer evaluation. These fraudulent audits were subsequently increased and spread across the Web through the sharing capabilities of web-based media. In this exploration chapter for identifying assessment spamming, In this chapter three distinct strategies initial one is Naïve Bayes, the second one is Logistic Regression, and the third one is Support Vector Machine (SVM) has been discussed.

Customers depend progressively on client-produced online audits to make or converse, buy decisions [10] [11]. Likewise, there gives off an impression of being far-reaching and developing worry among the two organizations and people in general regarding the potential for posting tricky assessment spam| references audits that have been purposely composed to sound authentic [8], to hoodwink the peruse.

Maybe shockingly, in any case, generally little is thought about the natural predominance, or rate, of trickiness in online review [13] networks. Less still is believed to about the variables that can influence it. From one viewpoint, the overall simplicity of delivering surveys, joined with the critical factor for organizations, items, and administrations to be seen in a positive light [14], may lead one to expect that a prevalence of online audits is

Chapter-9

FAKE NEWS DETECTION USING MACHINE LEARNING

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In today's era, social media provides the best platform to express your thoughts. And this is the best place to tell us about yourself, about your society, about your religion and customs. It is involved in exchanging information at a fast pace, in which news of every field is there. At present, social media has a huge impact on our life and society becoming the best medium to express your views. It offers a best medium to share the events happening around you by which the people living in the other place get to know about the culture of others and what is happening at the other place.

At present, counterfeit news has become like an infection for any online media stage, which obliterates the uniqueness of that stage itself. Since phony news is shipped off, it hurts the notions of any individual, society or religion. Therefore, today there is a strong need to have some smart tools that can verify any news whether it is genuine news or fake one. All web-based media stages have worked toward this path; however some places it appears to be that their model is deficient to catch such phony news. Since some web-based media organizations have tried to choose whether the news is phony or not based on some predefined datasets. Furthermore, a few organizations have looked through just on the watchwords of the news that the news is phony. This demonstrates that a model that depends on the old dataset, and the current news dataset and watchwords needed. Alongside this, focus on the circumstance, spot, and kind of information, while these things are not dealt with in the current models. On the off chance that perceiving the Fake News at the ideal opportunity, the perfect strides at the perfect time must be there. PC-based models are not generally exact, so the model ought to likewise have the office to contrast and genuine news. Assuming news is contrasted and current information, 76% of phony news can be distinguished simultaneously. Accordingly, the model ought to likewise have the office of relative survey.

Chapter-10

SENTIMENT ANALYSIS USING CONVOLUTIONAL NEURAL NETWORK WITH LSTM

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Sentiment analysis or "opinion mining" or Emotion AI is used to extract opinions, thoughts, and emotions from a text. It is a sub-field of Artificial Intelligence. Emotion artificial intelligence is ongoing research in the area of text analysis. With the growth of digital media, datasets are available in both text and images for sentiment analysis. For Emotion Artificial Intelligence, textual data is being used for data analysis and to detect sentiments using various ML techniques. As ML is a vigorous technique emerged to analyze these data. ML uses an advanced statistical and probabilistic technique to build intelligent systems that can automatically learn from the data. Machine Learning is efficient in analyzing big datasets generated from various sources. In the 1950s the term ML was theoretically referred to by Allan Turing and named by Arthur Samuel and is being used in several fields including, medical health since the 1990s. This chapter uses the IMDB movie review dataset to perform text classification for sentiment analysis. This gives a detailed overview of different feature extraction techniques named n-gram, stop words, POS tagging and so on. This chapter also discusses the existing approaches that are based on deep learning models in detail such as Long Short Term Memory and Convolutional Neural Network.

This chapter defines an ensemble approach for text classification that is based on Long Short Term Memory with Convolutional Neural Network. To perform sentiment analysis, the IMDB movie review dataset is used and word embedding is used to convert the words into vectors for performing the task. This method also provides data preprocessing techniques such as data cleaning, data formatting and different feature selection methods such as n-grams, stop words and many more. This chapter gives the summary and results in comparison of the defined ensemble approach with existing approaches. This report provides information about implementation work and results in comparison of the defined model with existing deep learning models. To compare to evaluate the accuracy of the model with existing approaches, the following hybrid model gives the accuracy 89.75% that may perform better