SPRINGER LINK

Innovations in Computer Science and Engineering pp 43–52

Home   Innovations in Computer Science and Engineering   Conference paper

Pattern Prediction Using Binary Trees ›

T. Aditya Sai Srinivas, Ramasubbareddy Somula , Karrothu Aravind & S. S. Manivannan

Conference paper   First Online: 24 April 2021

509 Accesses

Abstract

In this busy world, no one has time now. Technology is being developed every day to increase the efficiency. In this front, word predictor is a small step which increases our efficiency multifold times. Word predictor has applications in various areas like texting, search engine, etc. To develop our word predictor program, this project uses the data structure Trie. Our program uses a stored file of words to predict the words which the user may think of thus helping a lot. This project has compared the implementation of word completion using binary trees to that of binary tries. The proposed method that this project has used is word prediction using binary trees as compared to already existing binary tries and has proved that implementation of binary tries takes longer time as compared to our proposed work. Auto-complete is a feature which helps the user to find out the things that one wants to search by predicting the value in the search box. This auto-complete starts predicting the searches related to the few letters or words that are being typed by the user in the search box. This feature works best when the words

WILEY | Hindawi

Research Article

Ensemble Learning by High-Dimensional Acoustic Features for Emotion Recognition from Speech Audio Signal

M. M. Venkata Chalapathi [ID]**,**[1] **M. Rudra Kumar** [ID]**,**[2] **Neeraj Sharma,**[1] **and S. Shitharth** [ID][3]

[1]*School of Engineering, Computer Science and Engineering, Sri Satya Sai University of Technology and Medical Sciences, Sehore,*
 Bhopal, India
[2]*Department of Computer Science and Engineering, G. Pullaiah College of Engineering and Technology, Kurnool,*
 Andhra Pradesh, India
[3]*Department of Computer Science and Engineering, Kebri Dehar University, Kebri Dehar 001, Ethiopia*

Correspondence should be addressed to S. Shitharth; shitharths@kdu.edu.et

In the recent past, handling the high dimensionality demonstrated in the auditory features of speech signals has been a primary focus for machine learning (ML-)based emotion recognition. The incorporation of high-dimensional characteristics in training datasets in the learning phase of ML models influences contemporary approaches to emotion prediction with significant false alerting. The curse of the excessive dimensionality of the training corpus is addressed in the majority of contemporary models. Modern models, on the other hand, place a greater emphasis on merging many classifiers, which can only increase emotion recognition accuracy even when the training corpus contains high-dimensional data points. "Ensemble Learning by High-Dimensional Acoustic Features (EL-HDAF)" is an innovative ensemble model that leverages the diversity assessment of feature values spanned over diversified classes to recommend the best features. Furthermore, the proposed technique employs a one-of-a-kind clustering process to limit the impact of high-dimensional feature values. The experimental inquiry evaluates and compares emotion forecasting using spoken audio data to current methods that use machine learning for emotion recognition. Fourfold cross-validation is used for performance analysis with the standard data corpus.

1. Introduction

Emotions have a profound influence on the physical and psychological well-being in humans. How well patients convey their emotions and how well their therapists recognize and respond to them determine improvement in therapeutic settings. [1] Therapists must deal with enormous volumes of data over a lengthy period of time, which is difficult because they must see numerous patients throughout that time. A platform that can give meaningful speech-based emotion identification insights, for example, might be useful in therapy sessions. EmoViz allows users to take voice samples and use a neural network to determine emotional feelings (such as joyful, sad, angry, surprised, or neutral). Emotional information may be obtained through the examination of spoken audio signals without the need of intrusive technology such as facial recognition or internal signal-based physiological sensor data. Users may view how their emotions have evolved over time and how they have grouped audio and texts based on their emotions using the application EmoViz. [2] Emotion is important in everyday interpersonal connections and is seen as a necessary skill for human communication. [2] It facilitates communication by expressing emotions and responding to individuals being communicated with. Many cognitive and affective computing tasks, such as rational decision-making, perception, and learning, benefit from emotional input. As intelligent systems grow more ubiquitous, emotion identification is becoming increasingly crucial. [3].

Crop Yield Prediction using Machine Learning Algorithm

N.Parashuram.
Research Scholar
Department of Computer Science And Engineering
Jawaharlal Nehru Technological University
Anantapur, AP,India
parashuram@gmail.com

Dr M. Rudra Kumar
Professor and Head,
Department of Computer Science and Engineering,
Annamacharya Institute of Technology and Sciences
(Autonomous)
Rajampet, AP,India
mrudrakumar@gmail.com

Abstract—**Agriculture is the pillar of the Indian economy and more than 50% of India's population are dependent on agriculture for their survival. Variations in weather, climate, and other such environmental conditions have become a major risk for the healthy existence of agriculture. Machine learning (ML) plays a significant role as it has decision support tool for Crop Yield Prediction (CYP) including supporting decisions on what crops to grow and what to do during the growing season of the crops. The present research deals with a systematic review that extracts and synthesize the features used for CYP and furthermore, there are a variety of methods that were developed to analyze crop yield prediction using artificial intelligence techniques. The major limitations of the Neural Network are reduction in the relative error and decreased prediction efficiency of Crop Yield. Similarly, supervised learning techniques were incapable to capture the nonlinear bond between input and output variables faced a problem during the selection of fruits grading or sorting. Many studies were recommended for agriculture development and the goal was to create an accurate and efficient model for crop classification such as crop yield estimation based on the weather, crop disease, classification of crops based on the growing phase etc., This paper explores various ML techniques utilized in the field of crop yield estimation and provided a detailed analysis in terms of accuracy using the techniques.**

Keywords—Agriculture, Artificial Neural Network, Convolution Neural Network, Crop yield prediction, Machine learning method.

I. Introduction

Agriculture is the backbone of India's economy since its plays a vital role in the survival of every human and animal in India [1]. The worldwide population was estimated at 1.8 billion in 2009 and is predicted to increase to 4.9 billion by 2030, leading to an extreme increase in demand for agricultural products. In the future, agricultural products will have higher demand among the human population, which will require efficient development of farmlands and growth in the yield of crops. Meanwhile, due to global warming, the crops were frequently spoiled by harmful climatic situations [2]. A single crop failure due to lack of soil fertility, climatic variation, floods, lack of soil fertility, lack of groundwater and other such factors destroy the crops which in turn affects the farmers. In other nations, the society advises farmers to increase the production of specific crops according to the locality of the area and environmental factors [3]. The population has been increasing at a significantly higher rate,

so the estimation and monitoring of crop production is necessary [4]. Accordingly, an appropriate method needs to be designed by considering the affecting features for the better selection of crops with respect to seasonal variation [5].

The core objective of crop yield estimation is to achieve higher agricultural crop production and many established models are exploited to increase the yield of crop production. Nowadays, ML is being used worldwide due to its efficiency in various sectors such as forecasting, fault detection, pattern recognition, etc. The ML algorithms also help to improve the crop yield production rate when there is a loss in unfavorable conditions. The ML algorithms are applied for the crop selection method to reduce the losses crop yield production irrespective of distracting environment.

The existing model used SVM that classified the crop data based on the texture, shape, color of patterns on the diseased surface as it includes an unambiguous perception of the defects [6]. An existing technique used CNN that reduced the relative error as well as decreased the prediction of crop yield [7]. Similarly, the existing model used Back Propagation Neural Network (BPNNs) with the time series model and used smaller dataset size gained lower performance as less number of sample was used for prediction [8], [9]. ML methods were applied in the field of stability of selection and greater precision. ML provides several effective algorithms which are used to find the input and output connection in yield and crop prediction. There are various machine techniques used in agriculture for yield prediction, smart irrigation system, Crop disease prediction, crop selection, weather forecasting, deciding the minimum support price, etc. These techniques will enhance the productivity of the fields along with a reduction in the input efforts of the farmers. Besides, the advances in machines and technologies were accurate as they used significant data and played an important role. [10]. This research work analyses the various agricultural methods that utilize ML, along with the merits and limitations.

This research paper is structured as follows: the stepwise process on crop yield analysis is explained in Section 2. The analysis of several ML methods used to examine Crop yield prediction is given in Section 3. The objectives and problem statement of crop yield prediction are shown in 4 and 5 and comparative analysis of several types of research are shown

Stress Detection in IT Professionals by Image Processing and Machine Learning

[1]R.Varaprasad, Assistant Professor, Dept. of CSE, GPCET, Kurnool

[2]C.Keerthi, B-Tech, Dept. of CSE, GPCET, Kurnool

[3]K.Chinmai, B-Tech, Dept. of CSE, GPCET, Kurnool

Abstract

The main motive of our project is to detect stress in the IT professionals using vivid Machine learning and Image processing techniques. Our system is an upgraded version of the old stress detection systems which excluded the live detection and the personal counseling but this system comprises of live detection and periodic analysis of employees and detecting physical as well as mental stress levels in his/her by providing them with proper remedies for managing stress by providing survey form periodically. Our system mainly focuses on managing stress and making the working environment healthy and spontaneous for the employees and to get the best out of them during working hours.

Keywords: - Machine learning, Image processing techniques, IT professionals

1. INTRODUCTION

Stress management systems play a significant role to detect the stress levels which disrupts our socio economic lifestyle. As World Health Organization (WHO) says, Stress is a mental health problem affecting the life of one in four citizens. Human stress leads to mental as well as socio-fiscal problems, lack of clarity in work, poor working relationship, depression and finally commitment of suicide in severe cases. This demands counselling to be provided for the stressed individuals cope up against stress. Stress avoidance is impossible but preventive actions helps to overcome the stress. Currently, only medical and physiological experts can determine whether one is under depressed state (stressed) or not. One of the traditional method to detect stress is based on questionnaire. This method completely depends on the answers given by the individuals, people will be tremulous to say whether they are stressed or normal. Automatic detection of stress minimizes the risk of health issues and improves the welfare of the society. This paves the way for the necessity of a scientific tool, which uses physiological signals thereby automating the detection of stress levels in individuals. Stress detection is discussed in various literatures as it is a significant societal contribution that enhances the lifestyle of individuals. Ghaderi et al. analysed stress using

An Efficient Spam Detection Technique for IoT Devices using Machine Learning

[1]R.Varaprasad, Assistant Professor, Dept. of CSE, GPCET, Kurnool

[2]D.Uday Kiran Reddy, B-Tech, Dept. of CSE, GPCET, Kurnool

[3]B.Teja Arun, B-Tech, Dept. of CSE, GPCET, Kurnool

Abstract

The Internet of Things (IoT) is a group of millions of devices having sensors and actuators linked over wired or wireless channel for data transmission. IoT has grown rapidly over the past decade with more than 25 billion devices are expected to be connected by 2020. The volume of data released from these devices will increase many-fold in the years to come. In addition to an increased volume, the IoT devices produces a large amount of data with a number of different modalities having varying data quality defined by its speed in terms of time and position dependency. In such an environment, machine learning algorithms can play an important role in ensuring security and authorization based on biotechnology, anomalous detection to improve the usability and security of IoT systems. On the other hand, attackers often view learning algorithms to exploit the vulnerabilities in smart IoT-based systems. Motivated from these, in this paper, we propose the security of the IoT devices by detecting spam using machine learning. To achieve this objective, Spam Detection in IoT using Machine Learning framework is proposed. In this framework, five machine learning models are evaluated using various metrics with a large collection of inputs features sets. Each model computes a spam score by considering the refined input features. This score depicts the trustworthiness of IoT device under various parameters. REFIT Smart Home dataset is used for the validation of proposed technique. The results obtained proves the effectiveness of the proposed scheme in comparison to the other existing schemes.

Keywords:- REFIT,SH-Dataset, IoT

Placement prediction Based on ML Accuracy Metrics

[1]R.Varaprasad, Assistant Professor, Dept. of CSE, GPCET, Kurnool

[2]J.Devi Bhavani, Dept. of CSE, GPCET, Kurnool

[3]K.M.Geethalakshmi, Dept. of CSE, GPCET, Kurnool

[4]N.B.Akhiladeshwari, Dept. of CSE, GPCET, Kurnool

Abstract

The campus placement is playing an important role in the education system. Now a day the students before take the admissions into the colleges, at counseling stages they are choosing a specific colleges which willoffer the campus placement requirement.Because without having, the campus placement at the outside the students are getting the job very hardly. So, they decided to before leaving the college they have to get job. For them the placement chance prediction system is a useful approach. In this approach, the students came to know how to prepare and which subjects need to be preparing for gaining in campus placement tests. But conducting the test with paper work become a time complexity and tedious work, so by implementing the software application to conducting online test application then it can become easy and reduce the time consuming process. This application can provide number of tests to improve the student academic performance. For student placement prediction we are using machine learning techniques at back ground level. In machine learning algorithms,themultilayer perceptronof neural network deep learning algorithms is to use classify the placement chance prediction. In the prediction system, we require training dataset to predict placement with current participant student as testing dataset. The senior and super senior data records can be take it as training dataset. The experimental results show that our proposed system is providing accurate results.

Keywords: - ML, DL, Placement prediction, Accuracy, Metrics.

1. INTRODUCTION

Everyone knows that in the world that admittance of students in an educational institution relay on the student campus placements. Because, the campus placement is one of the reason evaluate for regulate the performances of the college or institution. Here every institution works hard to get the god placements to their students. The huge student records will be store in educational institution systems. These student's records are very profitable information but is full-sized data to understand for everyone entirely. In the education analysis searching

Application Aware Self Adaptive Decentralized Management In Software Defined Networking

[1]boggula Rojaramani, [2]bathula Sowjanya, [3]sirisha Kamsali, [4]dr K Sreenivasulu

[1,2,3]Assistant Professor, Department of CSE, G.Pullaiah college of Engineering and Technology (Autonomous), Kurnool, A.P, India
[4]Professor, Department of CSE, G.Pullaiah college of Engineering and Technology (Autonomous), Kurnool, A.P, India

Abstract

The Software Defined Networking (SDN) will enable the network programmability realization and application-aware networking in network devices based on the separation of data and control planes. While developing the management architectures based on SDN, this has significant importance for designing a system which will offer consistent updates in real time for the management applications of heterogeneous systems. The management system should scale as the network size grows, minimize the overhead of available resources, provide an accurate network view, and support vacuum applications with low latency requirements. As a result, self-adaptive distributed management will be introduced for applications in software-defined networks. Management functions will be implemented on a case-by-case basis. This concept has the potential to introduce a new node, namely the SDN manager, into the SDN architecture. This presented approach is evaluated based on realistic use case conditions, and a test bed will be set up to compare performance between scenarios with and without mapping, which can show that mapping between network resources and applications results in a significant improvement in performance. This demonstrated management approach will have strong impact on SDN architecture evolution since presented distributed execution filed will be a generic one, so this will be utilized for management as well as application or control functions distribution.

KEYWORDS: network management, Software-Defined Networks, Self-adaptation, application-aware networking.

I. INTRODUCTION

Traditional network management methods have been challenged by advanced SDNs in recent years [1]. SDN technologies are emerging as one of the most promising solutions for simplifying and improving operator tasks, as they will enable the development of applications that will automatically reconfigure the network [2]. The SDN is aiming for providing network

programmability through a unified control plane of network. Controllers in current

SDN solutions may be able to expose open APIs (Application Programming Interface) via a service abstraction. For example, an application may be able to use a service plug-in that is distinct from a single controller to call a connection service that spans multiple domains [3].

VTN (Virtual Tenant Network) Coordinator applications can build virtual networks on top of the underlying physical network [4]. You can maintain an underlying connection or call network resources by adding a set of flow table entries to your physical network via the

Application Aware Self Adaptive Network Protocols for High Band Width

Boggula RojaRamani[1], B. Ravi[2], K. Pravallika[3]
brojaramani@gmail.com
Department of Computer Science and Engineering

Abstract—Clouds offer significant advantages over traditional cluster computing architectures including ease of deployment, rapid elasticity, and an economically attractive pay-as-you-go business model. However, the effectiveness of cloud computing for HPC systems still remains questionable. When clouds are deployed on lossless interconnection networks, challenges related to load-balancing, low-overhead virtualization, and performance isolation hinder full potential utilization of the underlying interconnect. In this work, we attack these challenges and propose a novel holistic framework of a self-adaptive IB subnet for HPC clouds. Our solution consists of a feedback control loop that effectively incorporate optimizations based on the multidimensional objective function using current resource configuration and provider-defined policies. We build our system using a bottom-up approach, starting by prototyping solutions tackling individual research challenges associated, and later combining our novel solutions into a working self-adaptive cloud prototype. All our results are demonstrated using state-of-the-art industry software to enable easy integration into running systems.

I. INTRODUCTION AND MOTIVATION

Over the last decade, we have seen an incredible growth in the popularity of InfiniBand (IB) as a network interconnect for high-performance computing (HPC) systems and data centers. The recent *Top 500* supercomputer list, released in June 2016, reports that about 40.8% of the most powerful supercomputers in the world use IB as their interconnect. The popularity of IB is largely attributed to the high-throughput and low-latency communication it offers. More recently, the use of IB in cloud computing has also gained interest in the HPC community. Cloud systems built on an IB interconnect promises high potential of bringing applications which require a greater level of predictability and performance guarantees, such as HPC applications, to the clouds [1]. However, IB-based clouds that are designed oblivious to the underlying network topology and the installed routing algorithm, and without network optimizations based on the running workload fails to unfold the true potential. Challenges related to elastic load-balancing, efficient virtualization, and tenant performance isolation hinder full utilization of the underlying interconnect. On the other hand, the dynamic nature of the clouds, where tenant server machines are allocated, freed, and reallocated often, requires a self-optimizing network that takes the current resource configuration, network link loads, tenant node assignments, Service Level Agreements (SLAs), and provider-defined policies into account for optimization. Static network configurations normally used in HPC systems turns out sub-optimal and potentially insecure, requiring new rapid network reconfiguration schemes for IB to realize efficient HPC clouds.

In this work, we take on the challenge of designing a holistic self-adaptive framework for IB subnets realizing HPC clouds based on fat-trees, the most popular network topology for HPC systems. We build our system using a bottom-up approach, starting by prototyping solutions taking on individual research challenges associated with HPC clouds, with an proactive plan to combine them later into an integrated cloud prototype. A self-adaptive IB subnet will help achieving better network and system performance for the HPC clouds without any management interaction, running as an autonomous system. In addition, the resultant HPC cloud will improve QoS compliance and reduce SLA violations by proactive monitoring and optimization. More specifically, we address the following research challenges to realize an efficient cloud platform using IB systems and fat-tree topologies.

Challenge 1, Efficient Load Balancing: *What mechanisms are required to achieve efficient load-balancing on network links in the presence of distinct node traffic profiles in HPC systems.*

Challenge 2, Tenant Performance Isolation: *How to provide performance isolation to different tenants in a shared HPC cloud.*

Challenge 3, Fast Network Reconfiguration: *How to make network reconfiguration in IB fat-trees fast and compact.*

Challenge 4, Efficient Virtualization: *How to address scalability issues with virtual machine (VM) live migrations, and how to efficiently route virtualized IB subnets.*

Challenge 5, Self-Adaptive IB network for HPC clouds: *How to design and build a self-adaptive network architecture that can autonomously optimize itself according to the current resource configurations and provider defined policies.*

II. OUR APPROACH AND RESULTS

In this work, we follow the canonical action research methods [2] where the project is driven by the goal of building small working prototypes that meet the requirements identified in each of the challenges. All prototypes are demonstrated on a local test-bed using an IB-based cloud infrastructure. We use the OFED[1] software stack with OpenSM on top of Ubuntu to enable IB communication. For running MPI programs over RDMA, we use the MVAPICH2 MPI library. Several benchmarks are used throughout the work to evaluate our implementations including OFED's IB performance testing utility (*perftest*), the HPC Challenge Benchmark, the OSU Micro benchmarks, the Netgauge performance measurement toolkit, and the NAS parallel benchmark (NPB) suite. In addition, for large scale evaluation, we use simulations to complement the results we obtain from our test cluster. For flit-level simulations, we use an extended IB simulation model implemented in the OMNeT++ network simulation framework. We also use the *Oblivious Routing Congestion Simulator* (ORCS for simulating communication patterns on statically routed networks. Furthermore, we use OFED's *ibsim*, a tool that is distributed with the OFED software stack, to emulate physical topologies for generating routing tables using OpenSM.

We now present the solutions we have devised to address the challenges to realize a self-adaptive network architecture for IB-based HPC clouds.

A. Challenge 1: Efficient Load Balancing

For an efficient HPC cloud, it is highly important that the network links are balanced and network saturation is avoided. Network saturation can lead to low and unpredictable application performance, and a potential loss of profit for the cloud service providers. Furthermore, due to the dynamic workload admission, the network architecture should be able to reconfigure itself according to the current node traffic profiles. The current routing schemes used in IB fat-trees can be mainly categorized into either *deterministic*

---

[1]The OpenFabrics Enterprise Distribution (OFED) is the de facto standard software stack for building and deploying IB based applications. http://openfabrics.org/

Application Aware Self Adaptive Decentralized Management In Software Defined Networking

[1]boggula Rojaramani, [2]bathula Sowjanya, [3]sirisha Kamsali, [4]dr K Sreenivasulu

[1,2,3]Assistant Professor, Department of CSE, G.Pullaiah college of Engineering and Technology (Autonomous), Kurnool, A.P, India
[4]Professor, Department of CSE, G.Pullaiah college of Engineering and Technology (Autonomous), Kurnool, A.P, India

Abstract

The Software Defined Networking (SDN) will enable the network programmability realization and application-aware networking in network devices based on the separation of data and control planes. While developing the management architectures based on SDN, this has significant importance for designing a system which will offer consistent updates in real time for the management applications of heterogeneous systems. The management system should scale as the network size grows, minimize the overhead of available resources, provide an accurate network view, and support vacuum applications with low latency requirements. As a result, self-adaptive distributed management will be introduced for applications in software-defined networks. Management functions will be implemented on a case-by-case basis. This concept has the potential to introduce a new node, namely the SDN manager, into the SDN architecture. This presented approach is evaluated based on realistic use case conditions, and a test bed will be set up to compare performance between scenarios with and without mapping, which can show that mapping between network resources and applications results in a significant improvement in performance. This demonstrated management approach will have strong impact on SDN architecture evolution since presented distributed execution filed will be a generic one, so this will be utilized for management as well as application or control functions distribution.

KEYWORDS: network management, Software-Defined Networks, Self-adaptation, application-aware networking.

I. INTRODUCTION

Traditional network management methods have been challenged by advanced SDNs in recent years [1]. SDN technologies are emerging as one of the most promising solutions for simplifying and improving operator tasks, as they will enable the development of applications that will automatically reconfigure the network [2]. The SDN is aiming for providing network

programmability through a unified control plane of network. Controllers in current

SDN solutions may be able to expose open APIs (Application Programming Interface) via a service abstraction. For example, an application may be able to use a service plug-in that is distinct from a single controller to call a connection service that spans multiple domains [3].

VTN (Virtual Tenant Network) Coordinator applications can build virtual networks on top of the underlying physical network [4]. You can maintain an underlying connection or call network resources by adding a set of flow table entries to your physical network via the

Self-Adaptive Decentralized management network protocols in Networking.

Dr K Sreenivasulu AssosiateProfessor,Dept of CSE

sreenivasulucse@gmail.com

G. Pullaiah college of engineering &technology

Abstract. Self-adaptation is typically realized using a control loop. One prominent approach for organizing a control loop in self-adaptive systems is by means of four components that are responsible for the primary func- tions of self-adaptation: Monitor, Analyze, Plan, and Execute, together forming a MAPE loop. When systems are large, complex, and hetero- geneous, a single MAPE loop may not be sufficient for managing all adaptation in a system, so multiple MAPE loops may be introduced. In self-adaptive systems with multiple MAPE loops, decisions about how to decentralize each of the MAPE functions must be made. These decisions involve how and whether the corresponding functions from multiple loops are to be coordinated (e.g., planning components coordinating to prepare a plan for an adaptation). To foster comprehension of self-adaptive sys- tems with multiple MAPE loops and support reuse of known solutions, it is crucial that we document common design approaches for engineers. As such systematic knowledge is currently lacking, it is timely to reflect on these systems to: (a) consolidate the knowledge in this area, and (b) to develop a systematic approach for describing different types of con- trol in self-adaptive systems. We contribute with a simple notation for describing interacting MAPE loops, which we believe helps in achieving (b), and we use this notation to describe a number of existing patterns of interacting MAPE loops, to begin to fulfill (a). From our study, we outline numerous remaining research challenges in this area.

Introduction

Self-adaptive systems have the ability to adapt themselves to changes in their exe- cution environment and internal dynamics, such as response to failure, variability in available resources, or changing user priorities, to continue to achieve their goals.

A HYBRID SCHEME ON SOCIAL NETWORKS FOR IDENTIFICATION OF FAKE USER & SPAM DETECTION

BATHULA SOWJANYA, Dr K SREENIVASULU

[1]*Professor, Department of CSE, G.Pullaiah college of Engineering and Technology (Autonomous),*
Kurnool, A.P, India
2Assistant Professor, Department of CSE, G.Pullaiah college of Engineering and Technology (Autonomous), Kurnool, A.P, India

ABSTRACT:

Numerous past works have concentrated on detection of malicious user accounts. Identifying spam's or spammers on twitter has become an ongoing zone of research in social system. In any case, we present a technique dependent on two new angles: the recognizable proof of spam-tweets without knowing past foundation of the user; and the other dependent on examination of language for identifying spam on twitter in such themes that are in inclining around then. Slanting subjects are the points of exchange that are famous around then. Social networking locales have become a main consideration of the Web and are assuming a significant job in the life of person. Individuals speak with one another through social networking services (SNSs). Shockingly, the Blogosphere has been contaminated by various types of spam-like substance. The ascent of social networking locales made them the objectives of spammers as they lead the users to be tired of unimportant data while surfing. During early days, analysts were focusing on the advancement of Honey pots for identifying spam's. Twitter is an objective stage for advertisers and spammers. The creators review the related writing that recognizes the nearness of spam just as spammers in famous social media systems. Data quality in social media is an undeniably significant issue, however web-scale information thwarts specialists' capacity to survey and address a great part of the mistaken substance, or "fake news," present in these stages. An element examination at that point recognizes highlights that are generally prescient for publicly supported and journalistic precision appraisals, consequences of which are steady with earlier work. We close with an exchange differentiating precision and believability and why models of non-specialists beat models of columnists for fake news detection in Twitter.

Keywords: Fake user, Spammers, Malicious, Social Networking Services

1. INTRODUCTION

The fame of social networking locales was brought up in India since 2014 as a significant change was seen in the way where the ideological groups led the political race, and TV channels

Different Strategies and Social Networks for Identification spam detection

Dr.k.Sreenuvasulu[1], B. Saroja[2], K. Leela[3]

ksreenivasulu@gmail.com

Department of Computer Science and Engineering

Abstract

In this paper, we present a generic statistical approach to identify spam profiles on Online Social Networks (OSNs). Our study is based on real datasets containing both normal and spam profiles crawled from Facebook and Tweeter networks. We have identified a set of 14 generic statistical features to identify spam profiles. The identified features are common to both Facebook and Twitter networks. For classification task, we have used three different classification algorithms – *naïve Bayes*, *Jrip*, and *J48*, and evaluated them on both individual and combined datasets to establish the discriminative property of the identified features. The results obtained on a combined dataset has detection rate (DR) as 0.957 and false positive rate (FPR) as 0.048, whereas on Facebook dataset the DR and FPR values are 0.964 and 0.089, respectively, and that on Twitter dataset the DR and FPR values are 0.976 and 0.075, respectively. We have also analyzed the contribution of each individual feature towards the detection accuracy of spam profiles. Thereafter, we have considered 7 most discriminative features and proposed a clustering-based approach to identify *spam campaigns* on Facebook and Twitter networks.

Keywords: Data Mining, Social network analysis, Social network security, Spam profile identification, Spam campaign identification

A Comprehensive Survey of Techniques, Applications: A Revolution in Machine Learning

T. Aditya Sai Srinivas[1]

Department of computer science engineering

G. Pullaiah College of Engineering and Technology

G Mahalaxmi[2]

Department of electronics and communication engineering

G. Pullaiah College of Engineering and Technology

R Varaprasad[3]

Department of computer science engineering

G. Pullaiah College of Engineering and Technology

D Raziya[4]

Department of electrical and electronics engineering

G. Pullaiah College of Engineering and Technology

Abstract

Deep learning (DL) is a hot topic in machine learning (ML). To limit the amount of time and money spent on supervised machine learning, we use DL. With a variety of methodologies and topographies, DL may be applied to address complicated problems in a variety of contexts. Features that illustrate or differentiate are learned in a layered manner. When it comes to effective security solutions, DL has made significant strides in a wide number of application domains. The best alternative for revealing high-dimensional data's complex architecture is to use the back propagation technique in this manner. DL is benefiting business, science, and government in a variety of applications such as Artificial Intelligence (AI) and ML, which can be applied to everything from cancer detection to stock market research to smart cities. As a result, the focus of this work is on the basic ideas and limitations of DL.

Keywords: Deep learning (DL), Artificial Intelligence (AI), Machine learning (ML), Deep belief network(DBN), Artificial Neural Network(ANN), Intelligent systems

1.　Introduction

ML and AI began to pay more attention to neural networks in the late 1980s a lot of effective learning algorithms and network structures were made[1]. Methods such as "Backpropagation"-trained multilayer perceptrons, self-organizing maps, and radial basis function networks [2], [3]and other new things to make them more interesting. Interest in neural networks has dwindled, despite their widespread use. When Hinton and colleagues [4] first proposed "Deep Learning" (DL) in 2006, they were using artificial neural networks (ANN). The term "newgeneration neural networks" was coined once DL became a trendy topic, rejuvenating neural network research. It's because well-trained deep networks have shown excellent results in a lot of different classification and regression tasks.

DL technology has become a prominent topic ML, AI, data science (DS), and analytics as it can learn from data. As a result, it is being actively researched by a wide range of companies like Google; Microsoft; Nokia; and others. As a part of ML and AI, DL is an AI feature that mimics the human brain's ability to process information. According to Google Trends statistics, "Deep learning" has been more popular around the world in recent years. DL technology leverages many levels of data abstraction to construct computational models. DL takes longer to train than other machine learning algorithms because of the large number of parameters [5].

Using the term "deep" to describe data transformations in DL relates to how many levels of data transformation are feasible. The depth of the credit assignment path (CAP) reflects the impulsive relationship between the input and output layers in these systems[6]. It's possible to distinguish between representational and deep forms of learning. It is combinations of techniques that help the computer develop representations for detection and classification. The term "deep learning" refers to a sort of learning

A Comprehensive Survey of Techniques, Applications, and Challenges in Deep Learning: A Revolution in Machine Learning

R Varaprasad[3]

Department of computer science engineering

G. Pullaiah College of Engineering and Technology

G Mahalaxmi[2]

Department of electronics and communication engineering

G. Pullaiah College of Engineering and Technology

T. Aditya Sai Srinivas[1]

Department of computer science engineering

G. Pullaiah College of Engineering and Technology

D Raziya[4]

Department of electrical and electronics engineering

G. Pullaiah College of Engineering and Technology

Abstract

Deep learning (DL) is a hot topic in machine learning (ML). To limit the amount of time and money spent on supervised machine learning, we use DL. With a variety of methodologies and topographies, DL may be applied to address complicated problems in a variety of contexts. Features that illustrate or differentiate are learned in a layered manner. When it comes to effective security solutions, DL has made significant strides in a wide number of application domains. The best alternative for revealing high-dimensional data's complex architecture is to use the back propagation technique in this manner. DL is benefiting business, science, and government in a variety of applications such as Artificial Intelligence (AI) and ML, which can be applied to everything from cancer detection to stock market research to smart cities. As a result, the focus of this work is on the basic ideas and limitations of DL.

Keywords: Deep learning (DL), Artificial Intelligence (AI), Machine learning (ML), Deep belief network(DBN), Artificial Neural Network(ANN), Intelligent systems

1. Introduction

ML and AI began to pay more attention to neural networks in the late 1980s a lot of effective learning algorithms and network structures were made[1]. Methods such as "Backpropagation"-trained multilayer perceptrons, self-organizing maps, and radial basis function networks [2], [3]and other new things to make them more interesting. Interest in neural networks has dwindled, despite their widespread use. When Hinton and colleagues [4] first proposed "Deep Learning" (DL) in 2006, they were using artificial neural networks (ANN). The term "newgeneration neural networks" was coined once DL became a trendy topic, rejuvenating neural network research. It's because well-trained deep networks have shown excellent results in a lot of different classification and regression tasks.

DL technology has become a prominent topic ML, AI, data science (DS), and analytics as it can learn from data. As a result, it is being actively researched by a wide range of companies like Google; Microsoft; Nokia; and others. As a part of ML and AI, DL is an AI feature that mimics the human brain's ability to process information. According to Google Trends statistics, "Deep learning" has been more popular around the world in recent years. DL technology leverages many levels of data abstraction to construct computational models. DL takes longer to train than other machine learning algorithms because of the large number of parameters [5].

Using the term "deep" to describe data transformations in DL relates to how many levels of data transformation are feasible. The depth of the credit assignment path (CAP) reflects the impulsive relationship between the input and output layers in these systems[6]. It's possible to distinguish between representational and deep forms of learning. It is combinations of techniques that help the computer develop representations for detection and classification. The term "deep learning" refers to a sort of learning

Medical Imaging using Machine Learning and Deep Learning Algorithms: A Review

[*]T Aditya Sai Srinivas
Assistant Professor,Dept.of.CSE,GPCET
, [*]D.Navya devi
Assistant Professor,Dept.of.CSE,GPCET
Email: adityasai@gmail.com, navyadevi2019@gmail.com

Abstract—**Machine and deep learning algorithms are rapidly growing in dynamic research of medical imaging. Currently, substantial efforts are developed for the enrichment of medical imaging applications using these algorithms to diagnose the errors in disease diagnostic systems which may result in extremely ambiguous medical treatments. Machine and deep learning algorithms are important ways in medical imaging to predict the symptoms of early disease. Deep learning techniques, in specific convolutional networks, have promptly developed a methodology of special for investigating medical images. It uses the supervised or unsupervised algorithms using some specific standard dataset to indicate the predictions. We survey image classification, object detection, pattern recognition, reasoning etc. concepts in medical imaging. These are used to improve the accuracy by extracting the meaningful patterns for the specific disease in medical imaging. These ways also indorse the decision-making procedure. The major aim of this survey is to highlight the machine learning and deep learning techniques used in medical images. We intended to provide an outline for researchers to know the existing techniques carried out for medical imaging, highlight the advantages and drawbacks of these algorithms, and to discuss the future directions. For the study of multi-dimensional medical data, machine and deep learning provide a commendable technique for creation of classification and automatic decision making. This paper provides a survey of medical imaging in the machine and deep learning methods to analyze distinctive diseases. It carries consideration concerning the suite of these algorithms which can be used for the investigation of diseases and automatic decision-making.**

Keywords—*Medical imaging; Machine learning; Deep learning; Image enhancement; Information retrieval;*

I. INTRODUCTION

Machine and deep learning algorithms play an important role to train the computer system as an expert which can be used further for prediction and decision making. Machine learning is the field of study that provides computers the ability to learn without being explicitly programmed [1]. Deep learning is a type of machine learning that empowers systems to gain for a fact and comprehend the world regarding a pecking order of ideas [2]. These fields bring intelligence into a computer that can extract the patterns according to the specific data and then process for automatic reasoning [3] [4]. Medical imaging is the rapidly growing research area that is used to diagnose a disease for early treatment. The function of image processing in the health domain is relative to the growing position of medical imaging. The digital image processing offers significant effect on decision-making procedure based on some predictions. It gives better features extraction and accuracy. The procedure of functioning assessment is complicated and contains numerous diverse properties [5] [6]. The digital image processing techniques are implanted in many different computer systems. The authentication of image processing approaches is essential that gives an implementation of specific procedures which provides influence on the performance of these systems. Therefore, it brings decisions and actions based on approaches in medical imaging. It delivers a many rudimentary and refined image analysis and visualization tools [7]. The artificial intelligence is the main domain and machine learning and deep learning works under this domain as shown in *Fig. 1*. The AI is the major field to display human intelligence in a machine, machine learning is used to achieve artificial intelligence, while deep learning is a technique used to implement machine learning [8].

The various steps are performed on medical images before the detection of output. Initially, the medical image is inserted as input to the machine and deep learning algorithms. After that, the image is divided into different segments to zoom the interested area. Then, the features are extracted from these segments through information retrieval techniques. Next. The desired features are selected and the noise is removed.
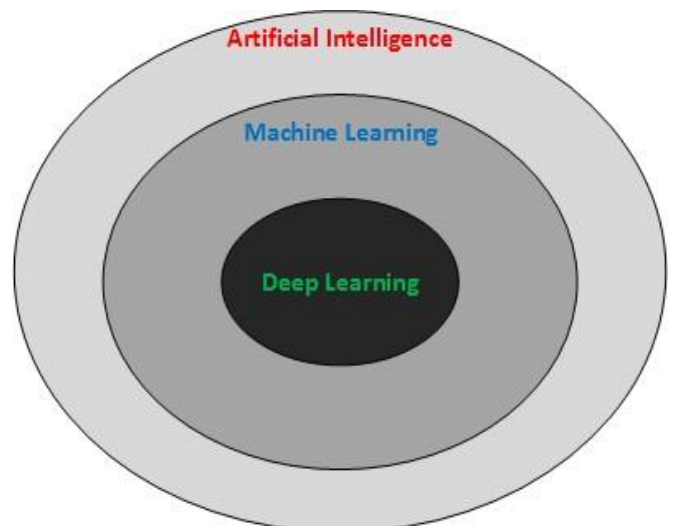

Fig. 1. Artificial Intelligence, Machine Learning and Deep Learning domain

Blue Brain Technology: A Sub Way to Artificial Intelligence

N.Parashuram
Department of CSE
GPCET
AP.,India
parashuramcse@gmail.com

Nitisha Payal
Department of CSE
MIET, Meerut
AP.,India
nitishacse@gmail.com

Ankur Kaushik
Department of IT
MIET, Meerut
AP.,India
kaushik.bmas@gmail.com

Nitin Goel
Department of IT
MIET, Meerut
AP.,India
nitingoyal0925@gmail.com

Abstract -- *Blue Brain* is the name of the world's first virtual brain. A Virtual machine is one that can function as , a very appropriate application of an Artificial Intelligence human brain . Reverse engineering is a foremost concept of implementing the human brain and recreate it at the cellular level inside a complete simulation. The four major motivations behind the Blue Brain Technology are treatment of brain disfunctioning, scientific curiosity about consciousness and human mind, a bottom up approach towards building thinking machine and databases of all neuroscientific research results and related past stories. There are three main steps 2to build the virtual brain are data acquisition, simulation and visualization of results .The mission is undertaking the Blue Brain technology is to gather all existing knowledge of the brain ,raise the global research efficiency of reverse engineering and to build a complete theoretical framework.

Keywords*: Blue Gene, Morphology, Neuroscientific, Electrophysiology, Nanobots, Neurosciences, 3D, GB.*

I INTRODUCTION

The Blue Brain Project is assumed to be the first one to explore about a true "Artificial Intelligence" via the process of reverse engineering and also the effort to reverse engineering a human brain. The vision behind Virtual Brain will help shed some light on some aspects of human recognition. The Blue Brain Project aims to build a full computer model of a functioning brain to simulate drug treatments or any other brain related problems. Blue gene supercomputer constructed by IBM was a machine first used by Blue Brain Project and then a term Blue Brain was introduced. It can be implemented by using supercomputer, the fastest type but quite expensive and are assist for special tasks which require abundant amount of mathematical computations, like weather forecasting employs a supercomputer. The back pane of Blue Brain is Artificial Intelligence, a technology which builds intelligent machines and imparts intelligent agents. Knowledge, learning, reasoning, planning, communication and perception are the main goals of its research.

Computational intelligence, statistical methods and traditional symbolic AI are its main effective approaches

Fig 1 : Supercomputer

II SCOPE

Intelligence is a boon that is created in born. One who have this quality they assume themselves to think to the level where others can't reach. Intelligence is needed everywhere and in every field. Era, in which we are in, also needs intelligent brain for Human Society's sake. Intelligence is limited to human's body and life after death, that intelligent brain stops working.

Virtual brain is therefore a key solution to it.

With the help of the virtual brain, brain and intelligence remains alive even after the death of a person.

Humans want to live in a computer as a program so that we can save ourselves from remembering a huge amount of data and facts.

The introduction to microscope signifies a broader advancement in technology.

Electron microscope provides a limited depth level for a brain cells studies and nano tech microscope outputs samples of brain tissue in mere few hours.

In depth, simulation of a small area of a brain construct molecule by molecule has been created and has re-constructed various results from real brains.

A Survey on Search Engine Optimization Techniques

R. Anil Kumar[1], M. Kavya[2], G. Gowthami[3]

1. Department of Computer Science and Engineering, GPCET,KNL,INDIA
2. Department of Computer Science and Engineering, GPREC,KNL,INDIA
3. Department of Computer Science and Engineering, GPREC,KNL,INDIA

Abstract—WebspammersusedSearchEngineOptimization(SEO)techniquestoincreasesearch-rankingofwebsites.Inthis paper we have study the essentials SEO techniques, such as; directory submission, keyword generation and link exchanges. The impact of SEO techniques can be applied as marketing technique and to get top listing in major search engines like Google, Yahoo, and MSN. Our study focuses on these techniques from four different companies' perspectives of United Kingdom and Pakistan.According to the these companies, these techniques are low cost and high impacts in profit, because mostly customers focus on major search engine to find different products on internet, so SEO technique provides best opportunity to grow their business. This paper also describes the pros and cons of using these searh engine optimization techniques in above four companies. We have concluded that these techniques are essential to increase their business profit and minimize their marketing cost.

IndexTerms—SearchEngineOptimization,LinkExchanges,DirectorySubmission,KeywordGeneration.

————————————◆————————————

1 INTRODUCTION

INTERNETspammer's(orwebspammer)usedsearch engine optimization techniques to boost their websitesof low ranking web sites into highest level search rankings.Mostlyusedsearchengineoptimizationtechniques includematerialkeywordgeneration,directorysubmissionandlinkexchangesetc[1].Twowaysofinternet marketingareassociatedwithwebsearchengines:Paid placementandsearchengineoptimization.Thepaid placementistackledsearchenginefromsponsoredor paidresults.Theinternetsearchengineshowsresults withqualitybutthesesearchenginesplacedchargesto boosttheirwebsites.Theycalculatechargesbyplacing keywordsorclickingonthosekeywordsmeanscostper click.

Search engine optimization is another way to optimizing web sites with free of cost. Search engine optimization is going to very popular. According to the Bo Xing andZhangxiLin[4]withtwoconditionscostofkeywords hasincrease19%andnaturalresultsareseenintention andunbiasedthanpaidorsponsoredresults[4].Unlimitedkeywordsareplacedininternetsearchenginedaily andinternetuserswaitforhighqualityofresultsand theyretrievethem[2].Toachievehighrankingsinthe searchengineslinkmanipulationisimportantandanotherwaytoget thesetasksin websearchengines.Theexchanginglinksbetweenotherwebsitesisthewaytodraw linkexchangesorreciprocallinks.

———————————————————

- *MuhammadAkramisLecturerinCollegeofComputerScience&Informa-tion Systems, Najran University, Saudi Arabia.*
- *ImranSohailisAssistantprofessorinFatimaJinnahWomanUniversity,Pakistan.*
- *SikandarHayatisStudentAdministratorinBlekingeInstituteofTechnology,Sweden.*
- *MuhammadImranShafiisSEOofSamSoftsoftware-houseandvisitingLecturer in Punjab University, Pakistan.*

There are many ways to do link exchange with webmaster.Theoneisthattoshowinterestinlinkexchange on web pages. The second is that to send email to otherweb owners as request for link exchange. The webmaster also send request for link exchange on many discussion forums between specific categories of link exchanges.There are some webmaster shows interests that they will agree on good ranking website to exchange links between related categories [3]. The directories are used to promote websites and improve search engine ranking. The directorysubmissionpresentsgoodopportunitieswhenyou placelinkwithtitlesforsubmission[5].Directoriesare too big and they require assured page rank for proper indexingpages.Thedirectorysubmissionplaysavital role to build links and boost web sites with high rankings[6].

2 RELATEDWORK

According to Bo Xing and Zhangxi Lin [4] internet search engine have many features for information retrieval vehicles and search engine marketing. Internet search engines are ease and freely to use. Sen. addressed [4] the impact of search engine marketing. There are two choicestoboosttheirwebsiteseithertheyselectpaidplacement or Search Engine Optimization (SEO). But the mostlypeopleselectedSEObecauseitisnotcostlyascompared to paid placement.The directory submission is great approach to create links and increase your web rankings[6]. Directories another importance is that they provide linksanddatato otherdatabasesandalsootherweb search engines [5]. Manual submission is the best tech- nique because two things are different like directory and target users. So that is the reason manual directory sub- mission plays key role for SEO [7].

A survey of 0n machine learning

R. Anil Kumar[1] K. Gayathri[2] B. Kamala[3]

1. Department of Computer Science and engineering, GPCET, KNL, INDIA

2. Department of Computer Science and engineering, RGM, INDIA

3. Department of Computer Science and engineering, GPREC, KNL, INDIA

Corresponding Author: ranikumar@gmail.com

Abstract

There is no doubt that big data are now rapidly expanding in all science and engineering domains. While the potential of these massive data is undoubtedly significant, fully making sense of them requires new ways of thinking and novel learning techniques to address the various challenges. In this paper, we present a literature survey of the latest advances in researches on machine learning for big data processing. First, we review the machine learning techniques and highlight some promising learning methods in recent studies, such as representation learning, deep learning, distributed and parallel learning, transfer learning, active learning, and kernel-based learning. Next, we focus on the analysis and discussions about the challenges and possible solutions of machine learning for big data. Following that, we investigate the close connections of machine learning with signal processing techniques for big data processing. Finally, we outline several open issues and research trends.

Keywords: Machine learning, Big data, Data mining, Signal processing techniques

1 Review

Introduction

It is obvious that we are living in a data deluge era, evidenced by the phenomenon that enormous amount of data have been being continually generated at unprecedented and ever increasing scales. Large-scale data sets are collected and studied in numerous domains, from engineering sciences to social networks, commerce, biomolecular research, and security [1]. Particularly, digital data, generated from a variety of digital devices, are growing at astonishing rates. According to [2], in 2011, digital information has grown nine times in volume in just 5 years and its amount in the world will reach 35 trillion gigabytes by 2020 [3]. Therefore, the term "Big Data" was coined to capture the profound meaning of this data explosion trend.

To clarify what the big data refers to, several good surveys have been presented recently and each of them views the big data from different perspectives, including challenges and opportunities [4], background and research status [5], and analytics platforms [6]. Among these surveys, a comprehensive overview of the big data from three different angles, i.e., innovation, competition, and productivity, was presented by the McKinsey Global

Institute (MGI) [7]. Besides describing the fundamental techniques and technologies of big data, a number of more recent studies have investigated big data under particular context. For example, [8, 9] gave a brief review of the features of big data from Internet of Things (IoT). Some authors also analyzed the new characteristics of big data in wireless networks, e.g., in terms of 5G [10]. In [11, 12], the authors proposed various big data processing models and algorithms from the data mining perspective.

Over the past decade, machine learning techniques have been widely adopted in a number of massive and complex data-intensive fields such as medicine, astronomy, biology, and so on, for these techniques provide possible solutions to mine the information hidden in the data. Nevertheless, as the time for big data is coming, the collection of data sets is so large and complex that it is difficult to deal with using traditional learning methods since the established process of learning from conventional datasets was not designed to and will not work well with high volumes of data. For instance, most traditional machine learning algorithms are designed for data that would be completely loaded into memory [13], which does not hold any more in the context of big data. Therefore, although learning from these numerous data is expected to bring significant science and engineering

* Correspondence: dingguoru@gmail.com

College of Communications Engineering, PLA University of Science and Technology, Nanjing 210007, China

A COMPARATIVE PERFORMANCE ANALYSIS ON VARIOUS CRYPTOGRAPHIC TECHNIQUES BASED ON MULTIPLE PARAMETERS

L Aishwarya[1], Chopra Rinku Khatri[2], K Sreenivasulu[3]
[1]B.tech, Dept. of CSE, G Pulliah College of Engineering and Technology, Kurnool, A.P.
[2]B.tech, Dept. of CSE, G Pulliah College of Engineering and Technology, Kurnool, A.P.
[3]Professor, Dept. of CSE, G Pulliah College of Engineering and Technology, Kurnool, A.P.

Abstract: Data security has been a noteworthy worry in the present data innovation time. Particularly it ends up genuine in the cloud condition on the grounds that the data is situated in better places everywhere throughout the world. Encryption has come up as an answer and distinctive encryption algorithms assume a critical job in data security on the cloud. Encryption algorithms are utilized to guarantee the security of data in distributed computing. Cryptography is a standout amongst the best choices to beat this as it keeps up the protection of the client and this can't be executed with the utilization of encryption process. There are two sorts of cryptographic techniques to be specific symmetric and asymmetric. In this investigation, a thorough correlation of multiple symmetric techniques is examined in detail.

Keywords— Cryptography algorithms, Encryption, Decryption. Symmetric key, Asymmetric key, Hashing Algorithms, Key length, Symmetric Ciphers, Block Cipher, IOT, dynamic nature, Modern Ciphers, security metric.

I. Introduction

One of the best needs of the state is to procure fitting countermeasures to ensure its national data. The fundamental explanation behind this propensity is to enhance the execution and security of the correspondence framework for a nation. Simple and quick gets to data containing figuring assets are sharing the web and these might be considered as a prerequisite of a created nation. Data Technology is getting to be prominent these days and data security consequently is considered as an essential segment. The prerequisite of data security has been expanded on account of access utilization of web, disseminated system and correspondence offices. Productivity and activity of data framework application rely upon their security and unwavering quality.

Security is the most difficult viewpoints over the web and in system applications. The proportion of the traded data over the web is expanding quickly. Cryptography is the modern art of accomplishing security by encoding messages in an indistinguishable organization and unique message must be intelligible

from just proposed client. The primary objective of cryptography is to keep data security from unapproved access[1][2]. It is the training to give secure correspondence in nearness of enemies to keep up data security, for example, data privacy, data trustworthiness, confirmation, and non-revocation. The procedure to change over plain content into incoherent content or cipher message in cryptography is called encryption. The ciphertext is reasonable just to somebody who realizes how to unscramble it. Message or data is encoded utilizing an encryption calculation. For the most part, this is finished with the utilization of an encryption key, which determines how the message is to be encoded. Any interloper that can see the ciphertext ought not have the capacity to dissect the first message[3].
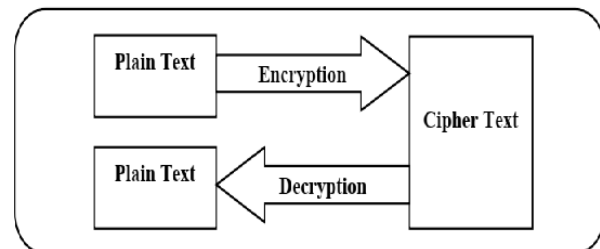
1.1 Cryptography

Figure 1: Overview of a Simple Cryptosystem

Cryptography is the craftsmanship and exploration of shielding data from the undesirable individual and changing over it into a structure undistinguishable by its aggressors however put away and transmitted. The fundamental point of cryptography is keeping data secure from unapproved people.

Data cryptography generally is the scramble of the substance of data, for example, content data, picture related data, and sound, video-related data to make the data obscured, impalpable or muddled amid correspondence or capacity called Encryption process. The switch of the data encryption process is called data Decryption.

1.2 Purpose of Cryptography

Cryptography gives various security objectives to stay away from a security issue. Because of the security

A COMPREHENSIVE STUDY ON QUERY OPTIMIZATION IN CLOUDCOMPUTING

M.Srilakshmi[1], M.Rayyan Hussain[2], S.Afzal Ahmed[3].

[1,2,3]*Computer Science, GPCET, AP , (India)*

ABSTRACT

Multiple Query Optimization in the cloud has become a promising research direction due to popularity of cloud computing, which runs massive data analysis queries routinely. Many Cloud-based Distributed Data Processing platforms have been proposed to provide efficient and cost effective solutions for big data query processing, such as Hive, Hadoop etc. This paper presents a survey on query optimization based on their approaches.

Keywords Big data, Cloud Computing, Data Warehouse, Multi-Query Result Reuse, Query Optimization.

I. INTRODUCTION

The analysis of large collection of data is a routine activity in many commercial and academic organizations. Internet companies, for instance, collect massive amount of data such as content produced by web crawlers, service logs and click streams. Analyzing these data sets may require processing tens or hundreds of terabytes of data. To perform this task, many companies rely on highly distributed software systems running on large clusters of commodity machines. So there is a need of Query Optimization for analyzing the large amount of data in order to minimize the thousands of query.

Fig. 1 Cloud Query Processing
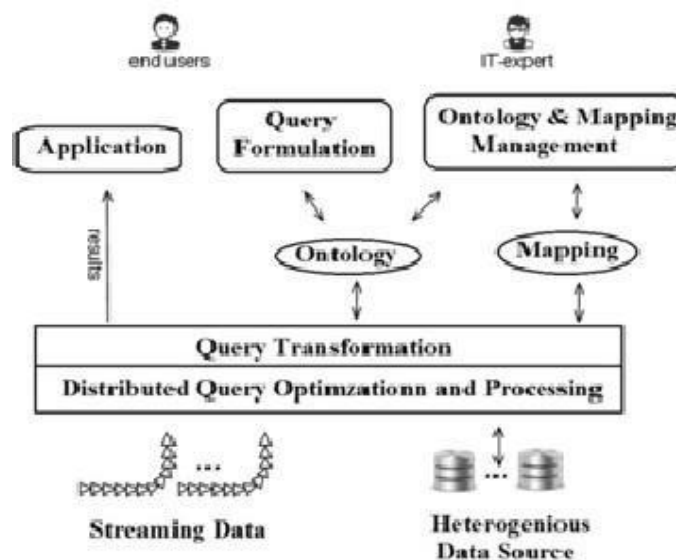
Query optimization is a method of many relational database management systems. The query optimizer attempts to determine the most efficient way to execute a given query by considering the possible query plans. Generally, the query optimizer cannot be used directly by users. Once queries are submitted to database server, and parsed

Image Processing In Brain Tumor MRI

Dr.K.Seshadri Ramana[1], G.Himanshu Khatri[2], P.Shaikshavali[3], S.Abdullah[4] , MD.Afaan Adeeb[5],MD.Adnan[6].

[1]Assistant Professor, Department of Computer Science and Engineering, GPCET-Andhra Pradesh, India
[2-4]B. Tech Scholar, Department of Computer Science and Engineering, GPCET-Andhra Pradesh, India
[5]Associate Professor, Department of Computer Science and Engineering, GPCET-Andhra Pradesh, India
[6]Professor and HoD, Department of ME, GPCET-Andhra Pradesh, India

ABSTRACT

It is very difficult for doctors to detect a brain tumor at an early stage. MRI images are more susceptible to noise and other environmental disturbances. Therefore, it becomes difficult for doctors to determine the tumor and its causes. So, we came up with a system in which the system will detect a brain tumor from images. Here we are converting an image to a grayscale image. We apply filters to the image to remove noise and other environmental clutter from the image. The system will process the selected image using preprocessing steps. At the same time, different algorithms are used to detect the tumor from the image. But the edges of the image will not be sharp in the early stages of a brain tumor. So here we are applying image segmentation to the image to detect the edges of the images. We have proposed an image segmentation process and a variety of image filtering techniques to obtain image characteristics. Through this entire process, accuracy can be improved. This system is implemented in the Matlab.
Keywords : Brain Tumor, classification, Segmentation.

I. INTRODUCTION

This work proposes two different methodologies for segmenting a tumor on an MRI image and determining the type of tumor. For this, one segmentation technique and one clustering were implemented. Among the various brain problems, the most common and life-threatening problem these days is a brain tumor. About 11,000 people are diagnosed with a brain tumor every year [1]. Annually, about 1 lakh of 50 thousand cancer patients are affected by a brain tumor [2]. A render chain in which the image is preprocessed to remove noise. A brain tumor develops due to unusual cell growth in the brain [3].

II. LITERATURE REVIEW

Rasel Ahmmed Anirban Sen Swkshar, Md. Foisal Hossain, Md. Abdur Rafiq [4] proposed method which include stages like image pre-processing, segmentation, feature extraction, SVM classification and tumor stage classification using Artificial Neural Network (ANN). Key image processing techniques for brain MRI image segmentation is classified as SVM, FCM. Swapnil R. Telrandhe, et. al [5] Proposed tumor detection inside which Segmentation separates an image into parts of regions or objects. In this it has to segment the item from the background to browse the image properly and classify the content of the image strictly. During this framework, edge detection

Plant Leaves Disease Classification using Image Processing Techniques

Dr.K.Seshadri Ramana[1], G.Himanshu khatri[2]

[1] *Department of Computer Technology,*
GPCET -AP, India.
[2] *Asst. Prof. Department of Computer Technology,*
GPCET -AP, India

Abstract: *Diseases in plants cause major production and economic losses as well as reduction in both quality and quantity of agricultural products. Now a day's plant diseases detection has received increasing attention in monitoring large field of crops. Farmers experience great difficulties in switching from one disease control policy to another. The naked eye observation of experts is the traditional approach adopted in practice for detection and identification of plant diseases. In this paper we review the need of simple plant leaves disease detection system that would facilitate advancements in agriculture. Early information on crop health and disease detection can facilitate the control of diseases through proper management strategies. This technique will improves productivity of crops. This paper also compares the benefits and limitations of these potential methods. It includes several steps viz. image acquisition, image pre-processing, features extraction and neural network based classification.*

Keywords: *Disease detection, Image acquisition, pre-processing, features extraction, classification, symptoms and neural network.*

I.   Introduction

India is an agricultural country wherein most of the population depends on agriculture. Research in agriculture is aimed towards increase of productivity and food quality at reduced expenditure, with increased profit. Agricultural production system is an outcome of a complex interaction of soil, seed, and agro chemicals. Vegetables and fruits are the most important agricultural products. In order to obtain more valuable products, a product quality control is basically mandatory. Many studies show that quality of agricultural products may be reduced due to plant diseases. Diseases are impairment to the normal state of the plant that modifies or interrupts its vital functions such as photosynthesis, transpiration, pollination, fertilization, germination etc. These diseases are caused by pathogens viz., fungi, bacteria and viruses, and due to adverse environmental conditions. Therefore, the early stage diagnosis of plant disease is an important task [1]. Farmers require continuous monitoring of experts which might be prohibitively expensive and time consuming. Therefore looking for fast [2], less expensive and accurate method to automatically detect the diseases from the symptoms that appear on the plant leaf is of great realistic significance. This enables machine vision that is to provide image based automatic inspection, process control and robot guidance. The objective of this paper is to concentrate on the plant leaf disease detection based on the texture of the leaf. Leaf presents several advantages over flowers and fruits at all seasons worldwide [3], [4].

This paper is organized into the following sections. Section 1 gives an introductory part includes importance of leaf disease detection, plant leaves analysis, various types of leaf diseases and its symptoms. Section 2 presents a detailed discussion on recent work carried out in this area. Section 3 includes basic methodology for leaves disease detection which represents a brief review on various image processing techniques. Finally, section 4 concludes this paper along with possible future directions.

1.1. Plant diseases analysis and its symptoms

The RGB image feature pixel counting techniques is extensively applied to agricultural science. Image analysis can be applied for the following purposes:

1. To detect plant leaf, stem, and fruit diseases.
2. To quantify affected area by disease.
3. To find the boundaries of the affected area.
4. To determine the color of the affected area
5. To determine size & shape of fruits.

Following are some common symptoms of fungal, bacterial and viral plant leaf diseases.

Dynamic Clustering Approches in Heterogeneous Sensor nodes in WSN Survey

R.Varaprasad[1], S.Afzal Ahmed[2], P.Ali Babu[3], MD.Afaan Adeeb[4], and M.Rayyan Hussain[5]

Department of computer science and engineering

G.pullaiah college of engineering and technology

Abstract— Placing few heterogeneous nodes in Wireless Sensor network (WSN), such as nodes with more computing powers, is an effective way to increase network availability in terms of lifetime. Despite the success of various clustering strategies of heterogeneous WSN, the numerous possible sensor clusters make searching for an optimal network structure an open challenge. In this paper, we propose a heterogeneous sensor node clustering method using a Genetic Algorithm to optimize the energy exhaustion namely Dynamic Clustering of Heterogeneous WSNs using Genetic Algorithm 'DCHGA'. In DCHGA, the structure of the network is dynamically decided after each message transmission round. Compared with state-of-the-art methods, DCHGA greatly extended the network life and the average improvement with respect to the second best performance (using stable nodes) based on the first-node-die and the last-node-die were 33.8% and 13%, respectively. While in case of mobility heterogeneity of sensors, the improvement was between 12.6% and 9.8%. The balanced energy consumption greatly improved the network lifetime and allowed the sensor's energy to evenly deplete. The computational efficiency of DCHGA is comparable to the others and the overall average time across all experiments was 0.6 seconds with a standard deviation of 0.06.

Index Terms— Dynamic Clustering, Wireless Sensor Network, Heterogeneous Sensors

———————————— ◆ ————————————

1 INTRODUCTION

The heterogeneous clustering model has been used in Wireless Sensor Networks (WSNs) to improve its performance in terms of network availability [1]. Although there are great works in the process of forming clusters, the dynamic nature of WSN and numerous possible cluster configurations make searching for an optimal network structure a complicated defy [2]. The heterogeneous model is an adapted model of homogeneous clustering model, i.e., LEACH [3]. This modification can be achieved by placing few heterogeneous nodes in network [4]–[6], such as nodes with more computing power. In a heterogeneous WSN, in addition to the network structuring factors, e.g., distance to the base-station, and distance among nodes, factors such as initial energy, data processing capability, ability to serve as a cluster head, and node mobility greatly influence the network lifespan [7]–[9]. Moreover, the lifetime of the network is maximized when the remaining energy of nodes in the network remains the same during the network lifetime. This is, however, difficult to achieve in a real-world WSN due to different roles of sensor nodes and various signal transmission distance. The nodes serving as cluster head consume additional energy to fulfill tasks such as

receiving messages from member nodes and relaying the aggregated messages to the base station. Balancing node energy consumption and extending the overall network lifespan are non-trivial given many factors that could affect the energy expenditure of each node [10], [11].

To extend the network lifetime in a heterogeneous network, several methods have been proposed that account for one or more of these factors. Stable Election Protocol (SEP) [4] used weighted probabilities to elect cluster heads depending on the remaining energy in the sensor nodes. In addition, Developed Distributed Energy-Efficient Clustering (DDEEC) [5] method improved upon SEP by categorizing sensor nodes based on their energy level. The nodes with higher energy were the "advanced nodes" and the cluster head were selected from these group of nodes. Threshold Sensitive Stable Election Protocol (TSEP) [6] extended SEP method by grouping sensor nodes into three energy levels, and the cluster heads were selected based on thresholds. Similarly, Energy Efficient Heterogeneous Clustered scheme (EEHC) [12] and Efficient Three Level Energy algorithm (ETLE) [13] selected cluster heads based on the probability proportional to the residual energy. In Hybrid Energy Efficient Reactive protocol (HEER) [14], the cluster head selection is based on the ratio of residual energy of nodes and the average energy of the network. Both of Energy efficient heterogeneous clustered scheme (EEHC) [12] and Efficient Three Level Energy algorithm (ETLE) [13] assume three levels of heterogeneity and nodes are randomly distributed and are stationary. In EEHC, the cluster heads were selected based on weighted election probabilities of each node according to the residual energy. While in ETLE, each node

Attribute based Encryption Access control for cloud computing

R.Varaprasad, PhDAssistant Professor
GPCET-AP.

G.Himanshu, PhD
Assistant Professor
GPCET-AP.

ABSTRACT
Emerge of cloud computing technology over the world has caused a revolution in internet. The virtual usage of platform, infrastructure and software over cloud has provided an environment where the user can store and run the application from anywhere. This has led to think about security over data stored over cloud. In this paper, Attribute Based Keyword Search over encrypted data in cloud are discussed which provides security over searching of data based on keyword.

Keywords
Cryptography, Cloud Computing, Attribute Based Keyword Search.

1. INTRODUCTION
Cloud computing deals with both hardware and software data center to satisfy user requirement [1]. According to National Institute of Standards and Technology (NIST) cloud computing has the capability to enable ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction [2].

Ian Foster defined cloud computing as, "a large-scale distributed computing paradigm that is driven by economies of scale, in which a pool of abstracted, virtualized, dynamically scalable, managed computing power, storage, platforms, and services are delivered on demand to external customers over the Internet" [3].

A cloud is a pool of virtualized computer resources. It can host various workloads under different platforms, helps to monitor real-time need of resources and other related workloads. Cloud is empowered by virtualization, by running hypervisor over application it is running. One main and important feature used by cloud to maximize it computing power for performing various task is virtualization. Cloud stands strong when compared to grid computing as it leverages virtualization.

Cloud computing provides customers a virtual computing infrastructure where they can store data and run applications. However, cloud computing also presents some unique security challenges as cloud operators are expected to manipulate client data without being fully trusted. From facilitating remote access to data, to the digitalization of the education system, cloud technology has touched our lives in more ways than we realize. Today, almost every application we use is powered by cloud computing. If you want to take business online (because that is where people are), you need to get your hands on this revolutionary technology as soon as possible.[4].

2. ATTRIBUTE BASED ENCRYPTION (ABE)
The cloud has moved to next generation computing with critical applications and real time applications. The main aspects are to provide flexibility, scalability and fine-grained access control. This can be achieved only when user and server are in a trusted domain in classical model.

Encryption in ABE is easy and secure and inexpensive compared to another encryption. The ABE is secure because the encrypted data contains the attributes rather than the data. The attribute-based encryption makes the application to be secure. the performance of the ABE is high compared to other encryption methods. Thus, attribute-based encryption is the solution to all cloud applications in future.

In ABE, encryption is performed as one-many approach that means the encryption is not done for only one user but for a greater number of users. So, this method was not more expressive to define a control sy2196-1115stem. So, changes made in policies are enforced in encryption techniques to maintain the authentication and security of the data [5][6]. This results in two different streams of algorithm based on key policies and cipher text policies as,

i.   Key policy based ABKS (KP-ABKS) and
ii. Cipher text policy based ABKS (CP-ABKS)
iii. Identity based Cryptography

2.1 Key Policy Attribute Based Encryption (KP-ABE)

In KP-ABE approach, attribute policies are associated with keys and data is associated with attributes. Public key encryption technique follows one-many communications. Data attributes are represented as access tree structures to the user, with leaf nodes are based on attributes and act as threshold gate for access of information/data. The secret key is generated based on tree structure. Cipher text is associated with set of attributes and for decryption the key is associated with monotonic access tree structure [7].

2.2 Cipher Text Policy Attribute Based Encryption

In this approach the data and attributes are used in generation of keys. The keys are generated based on attributes associated with data which can be used for encryption and decryption. CP-ABE performs in the reverse of KP-ABE, where each user key is associated with set of attributes and the cipher text is based on access tree structure [8].

In attributed based approaches the authority is responsible for generation of Master Key (MK), Public Key (PK) and User

Secure Computing arthimetic operations using fully homomorphic encryption

Dr.S.Prem Kumar [*] and S.Afzal Ahmed.
GPCET,Andhra Pradesh,India

Abstract. As there is a continuous delivery of big data, the researchers are showing interest in the applications of cloud computing concerning privacy, and security. On the other hand, many researchers and experts of cybersecurity have commenced on a quest for improving the data encryption to the models of big data and applications of cloud computing. Since many users of the cloud become public cloud services, confidentiality turns out to be a more compound problem. To solve the confidentiality problem, cloud clients maintain the data on the public cloud. Under this circumstance, Homomorphic Encryption (HE) appears as a probable solution, in which the information of the client is encrypted on the cloud in such a process that it permits few manipulation operations without decryption. The main intent of this paper is to present the systematic review of research papers published in the field of Fully Homomorphic Encryption (FHE) over the past 10 years. The encryption scheme is considered full when it consists of plaintext, a ciphertext, a keyspace, an encryption algorithm, and a decryption algorithm. Hence, the review mostly concentrates on reviewing more powerful and recent FHE. The contributions using different algorithms in FHE like Lattice-based, integer-based, Learning With Errors (LWE), Ring Learning With Errors (RLWE), and Nth degree Truncated polynomial Ring Units (NTRU) are also discussed. Finally, it highlights the challenges and gaps to be addressed in modeling and learning about competent, effectual, and vigorous FHE for the cloud sector and pays attention to directions for better future research.

Keywords: Big data, cloud computing, fully homomorphic encryption, FHE-based algorithms, LWE, NTRU

1. Introduction

Over the last decade, cloud computing has presented itself as a dominant computing platform, providing various benefits for both providers and clients [59]. One of the evident major benefits is that consumers may allocate their complicated calculations and gain at low cost from the latest technology and computational powers. The major advantage is that clients can assign their compound computations and it has an advantage over the best models and less expensive in computation power. One of the significant security problems is the security of sensible data. Some of the information leakages leak to tremendous harm to its owners. To encrypt it before maintaining it on a remote cloud server, it is advised for encrypting to save the privacy of the provided data. For preserving data privacy while transferring to the cloud, the traditional encryption models such as[2] [51], RSA[3] [31], and 3DES[4] [64] are used to permit the clients, but if the requests are given by the clients to cloud for performing a compound treatment on

---

NetSpam Classification using Naïve Bayes

N.Parashuram[1],G.Himanshu Khatri[2],S.Afzal Ahmed[3], MD.Adnan[4], P.Ali Babu[5],MD.Afaan Adeeb[6]

[1-6]Dept. of Computer Science and Engineering, GPCET, A.P

---***---

Abstract - *Spam involves sending someone unwanted messages. Currently the internet is the biggest platform to get some information, also social media is going to be very popular nowadays. Because of that, many spammers will try to mislead users by sending lots of spam messages. And because of spam messages, there are lots of problems, fraud occurs. So we want to filter messages into spam or ham. To classify the messages as spam or not spam we are using machine learning (the multinomial naïve Bayes classifier algorithm) and CountVectorizer provided by Scikit-learn library in python programming. First, we collect the datasets and convert them into numerical data (matrix) by CountVectorizer and then we apply the naïve Bayes algorithm on datasets for classification purposes.*

Key Words: **naive Bayes algorithm, CountVectorizer, machine learning, Bayesian classification.**

1.INTRODUCTION

In today's world, since social media and the internet is very popular, so there are lots of people using abusing messages or shady comments, also many spammers will send a bulk of spam messages like they send (malicious spam) fake link to us and when we click on the link, then they get the access of our information, because of that we may get into trouble. Many organizations and people could face financial loss. Some of spamming include unwanted advertisement of the product, sometimes it becomes very irritating for people. Some of the spammers are doing the work of spreading computer viruses.

1.1 Problem Statement

Every day, we receive tons of junk messages, emails, some spam messages are just marketing/advertising messages while some are fake spam messages. People are annoyed/irritated because of such spam messages they receive. The main objective of the problem is to classify the comments into spam or not spam. And in our project, we are designing 3 separate modules of spam classifier for social media spam, SMS spam, and email spam.

2. LITERATURE SURVEY

There are many types of spam, such as web spam, short message spam, email spam. social network spam and others. In this paper, we are focusing on social media, mobile SMS spam, and email spam.
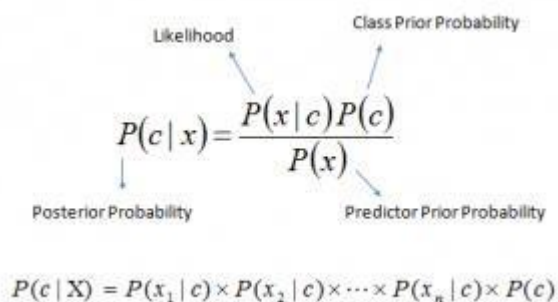
2.1 Existing System

Data mining techniques are commonly used for spam classification. In our paper, we are using machine learning algorithm to automate the process of spam detection.

2.2 Proposed System

In our proposed system, count vectorizer is used for extracting features from a given dataset, and a design model is used for generating tests and training sets from given dataset. Then the naive bayes classifier is trained in training data. And the proposed system will say given data is spam or not.

3. Naïve Bayes

Naïve Bayes classifiers are a type of linear classifiers. Naïve Bayes algorithm is a very simple algorithm used for the classification purpose, and the naïve bayes classifier is based on a probabilistic model, the base of the naïve bayes algorithm is the Bayesian theorem. Naïve Bayes algorithm will calculate the probability of input word based on the probability of past (trained dataset) and classify input as spam or not spam. Naïve bayes algorithm uses the formula for classifying input message as spam or not spam is given below.

$$P(c \mid x) = \frac{P(x \mid c)P(c)}{P(x)}$$

$$P(c \mid \mathrm{X}) = P(x_1 \mid c) \times P(x_2 \mid c) \times \cdots \times P(x_n \mid c) \times P(c)$$

Fig -3.1: Formula of Bayesian theorem

In this article [7] the author Vinoth introduced (in above picture) that

Above,

P(c|x) is the posterior probability of class (c, target) given predictor (x, attributes).

AN OVERVIEW OF QUALITY OF SERVICE FOR NETWORKING

R.Varaprasad, Assistant Professor, Department of Computer and engineering, GPCET,AP, India.

Abstract

This paper highlights some of the basic concepts of QoS. The major research areas of Quality of Service Computer Networks are highlighted. The paper also compares some of the current QoS Routing techniques.

Keywords: GoS; QoS; QoS Routing.

1. Introduction

The network Quality of Service (QoS) is a relatively new term, which is defined as: "The capability to control traffic-handling mechanisms in the network such that the network meets the service needs of certain applications and users subject to network policies". To provide the capabilities of measure and control required by either definition, QoS networks must have mechanisms to control the allocation of resources among applications and users.

The notion of QoS came up as a response to the new demands imposed on the network performance by modern applications, especially multimedia real-time applications. Those applications made it necessary to set limitations on what can be defined as an acceptable time delay when routing information over a network. Those time demands are classified into three main categories. The first is the subjective human needs for interactive computing such as chatting sessions and other interactive web applications. The second is the automated tasks under time constraints such as the automated once-per-day backups during a limited pre-assigned time period. The third category is the need of some applications for a transmission rate with limited jitter along with a temporal ordering of the transmitted packets. This is the case when streaming multimedia over a network. The transmission rate is needed to keep the transmitted material meaningful and perceptible while the preserved temporal order is needed for synchronization.

The temporal requirements presented above are intrinsic to QoS that some references define QoS in terms of those requirements. Webster's New World Dictionary of Computer Terms defines QoS to be "the guaranteed data transfer rate". The word "guaranteed" is of special importance since QoS can only be implemented through guarantees on the limits of some network parameters as will be explained below.

It is important here to note that although QoS became an issue only in the past few years, but the idea of QoS had been envisioned earlier before new applications mandated the use of QoS. In the initial IP specification, a Type of Service (ToS) byte is reserved in the IP header to facilitate QoS. Until the late 1980s, almost all IP implementations ignored the ToS byte since the need for QoS was not yet obvious.

Comparison of GoS and QoS

It is not an easy task to find the GoS(Grade-of-Service) standards needed to support a certain QoS. This is due to the fact that the GoS and QoS concepts have different viewpoints. While the QoS views the situation from the customer's point of view, the GoS takes the network point of view.

Reference configurations

In order to obtain an overview of the network under consideration, it is often useful to produce a so-called reference configuration. This consists of one or more simplified drawing(s) of the path a call (or connection) can take in the network including appropriate reference points, where the interfaces between entities are defined.

Rescue Robot in Coal Mines

Dr.K.Sreenivasulu
Associate Professor
Department of CSE
GPCET,AP

G.Himanshu Khatri
Assistant Professor
Department of CSE
GPCET,AP

Abstract

Coal mine is a hazardous place in which numerous lethal variables are risky for human life, particularly when impacts happen. Rescue team typically doesn't have a clue about the real circumstance of the mine passage. Accordingly, it might be exceptionally risky for rescuers to go into mine passages to inquiry survivors without distinguishing ecological data previously. To tackle this issue, robot is created for helping individuals to do the rescue work. The robot is used for detecting the explosion environment of coal mine. We developed a prototype of a fully autonomous robot which can be used to indicate presence of harmful gases inside a mine for mine rescue operations in case of emergencies caused by natural calamities such as explosion. Coal mine rescue robot is a sort of portable robot. It can go into blast environment and discover gas content.

Keywords: Coal Mine, Hazardous, Rescue

I. INTRODUCTION

A coal mine is an underground tunnel system. There only a few pitheads on ground. If there are some accidents, people are easily trapped in tunnel and often cannot escape from it. It has dangerous accidents as collapse, gas explosion, CO, CO2 poison gas, low O2 content, high temperature, smoke, coal dust, fire, water, etc. All these accidents can kill people easily.

CH4 gas is intergrown with coal. When coal is mined, CH4 gas is released. Gas is pushed off by forced ventilating system. But if the ventilating system is faulty or gas is leaked from coal layer, gas diffuses throughout the tunnel. A flame current can cause a heavy gas explosion. Mine tunnel passageway is narrow, so the explosion wave can destroy any thing in the tunnel. All devices and people may be affected, and the gas of CH4, CO, CO2 and coal dust are filled in the tunnel, and the environment of the tunnel comprises of low O2 content and high temperature. Besides, the forced ventilate system has been damaged, the gases cannot be pushed out and gets accumulated in tunnel. A fire may cause a second explosion. People in tunnel could be poisoned by CO, stifled by CO2 and low O2 content, high temperature and coal dust. Rescuers on ground cannot go into mine tunnel because situation is not known and they may be killed by second explosion. So, detection of mine tunnel situation is the first mission. A Robot is an ideal tool in coal mine disaster. The robot used in coal mine tunnel must have many special characteristics which are different from other robots on ground.

Coal mine tunnel is a special environment. The first problem is explosion gas is everywhere in tunnel. Any fire can cause an explosion. Robot must be designed as a flame-proof device to avoid malfunction of components. The second problem is the mine have narrow tunnel and rugged. The middle of the tunnel is railway. One side of the railway is belt transmission. The other side is a narrow road on coal. The mine passageway is filled with many obstacles and rugged coal road, so it is difficult to move inside the mine tunnel. But various obstacles must be crossed. Communication is another difficult problem in mine tunnel because electromagnetic wave is absorbed and echoed in a coal tube. Because of many corners in the tunnel, Wave cannot cross these corners easily.

II. PROBLEM STATEMENT

The mobile robot is designed so that it can run in explosive environment, climb over uneven surface areas, check gas contents and perform live surveillance using a camera.

Energy Efficient Cluster-Based Routing Protocol In Large Scale Wireless Sensor Network

P.Suman Prakash
Department of Computer Science
,GPCET, AP

S.Abdullah
Department of Computer Science,
GPCET,AP

M.Rayyan Hussain
Department of computer science
GPCET
AP

Abstract—In wireless sensor networks (WSNs), an extension of the lifetime of the network is one of the primary concerns of every routing protocol design. A critical study on The Low Energy Adaptive Clustering Hierarchy (LEACH) revealed that the scheme uses a probabilistic approach in selecting cluster heads. This approach allows weak nodes to be chosen as cluster heads (CHs) which cannot transmit the sensed data to the Base station (BS) hence affecting the throughputs of the network. Also single hop communication method was adopted which limits the network coverage and unnecessary data transmission of the heads affecting the lifetime of the network. In this research work, a heterogeneous form of LEACH called Servant–LEACH is proposed. The new protocol modified the election probability of the nodes by considering two factors in selecting the heads. i) The distance between the nodes and the base station and ii) the residual energies of the nodes. The proposed scheme further implemented soft and hard thresholds and servant nodes concept. The simulation results of the new scheme showed that the proposed protocol outperformed Threshold Distributed Energy Efficient Clustering (TDEEC) protocol in terms of stability period, throughputs, residual energy and the lifetime of the network

Keywords— S-LEACH; Servant nodes; Network lifetime; Residual energy; distance; Matlab simulation

I.   INTRODUCTION

Wireless Sensor Network (WSN) consists of a large number of sensors. The sensor network by their nature, have low processing power, low energy consumption and short transmission range for monitoring a physical environment. WSN can be used in a wide variety of areas including environmental monitoring, health, home applications, control (object detection and tracking), and surveillance [1][2]. Generally, in order to reduce energy consumption in WSNs, the clustering method is mostly used. In this technique, the sensor nodes are put into groups called clusters in which each cluster is headed by a node called a Cluster Head (CH). The rest of the nodes in the cluster is referred to as cluster members. These cluster members are responsible for capturing data and transmitting the sensed data directly or indirectly to the Cluster Heads (CHs). The CHs then aggregate the data and

send the report to the Base Station (BS) for further analysis [3].

LEACH protocol is one of the first homogeneous cluster-based routing protocols to be proposed by [4]. Several other protocols built on LEACH have also been proposed. Younis and Fahmy [5] proposed Hybrid Energy-Efficient Distributed Clustering (HEED). HEED improved the scheme of the LEACH algorithm by including remaining energy. This method balanced the load on sensor nodes and extend the lifetime of the network. The protocol also offered the guarantee that the maximum energy node will be the cluster head inside its cluster range. The protocol did not consider distance in CHs' selection. Therefore distant CHs will dissipate a lot of energy to send their data to the BS.

Ramesh et al. [6] described the modified R-LEACH protocol which allows an alternative node to get substituted in place of a node that loses its energy. This is to allow the protocol to prolong the lifetime of the entire network and avoids data loss. The results showed that the Packet Delivery Ratio (PDR) and energy level have been enhanced compared to LEACH. The challenge in this protocol is similar to HEED which distance is not considered as criteria in selecting CHs. This allows distant nodes to dissipate so much energy in order to send their data to the BS.

Yassein et al. [7] developed a new Version LEACH (V-LEACH) protocol which is an improvement of the original LEACH protocol by selecting vice-CH that takes over the role of the CH in case it dies. In this protocol, when a CH dies, the cluster becomes useless because all data gathered by sensors in the cluster will never reach the sink. In addition to electing CH, the vice-CH is also selected. This approach ensures that cluster nodes data will always reach the BS and there is no need to elect a new CH each time the CH dies. This has extended the lifetime of the wireless network. However, the protocol did not consider residual energy in selecting the CH. As a result, nodes with less energy can become CHs which cannot transmit data to the BS. Cheng et.al. [8] Presented their findings on Energy Efficient Weight Clustering (EWC) protocol as an extension to LEACH protocol in which residual energy, distance, and node degree are considered as metrics to

An Efficient multi-keyword search in cloud computing

P.Rama Rao, MD.Adnan, S.Afzal Ahmed.
Department of Computer Science, GPCET, AP,INDIA

Article Info

ABSTRACT

Many organizations and individuals are attracted to outsource their data into remote cloud service providers. To ensure privacy, sensitive data should be encrypted before being hosted. However, encryption disables the direct application of the essential data management operations like searching and indexing. Searchable encryption is a cryptographic tool that gives users the ability to search the encrypted data while being encrypted. However, the existing schemes either serve a single exact search that loss the ability to handle the misspelled keywords or multi-keyword search that generate very long trapdoors. In this paper, we address the problem of designing a practical multi-keyword similarity scheme that provides short trapdoors and returns the correct results according to their similarity scores. To do so, each document is translated into a compressed trapdoor. Trapdoors are generated using key based hash functions to ensure their privacy. Only authorized users can issue valid trapdoors. Similarity scores of two textual documents are evaluated by computing the Hamming distance between their corresponding trapdoors. A robust security definition is provided together with its proof. Our experimental results illustrate that the proposed scheme improves the search efficiency compared to the existing schemes. Furthermore, it shows a high level of performance.

Corresponding Author:

M.Rayyan Hussain.
Department of Computer Science,GPCET, AP,INDIA

1. INTRODUCTION

Cloud computing is a promising technology that supports cost-effective solutions for storing and processing large datasets. For this reason, individuals and organizations with constrained-resource machines tend to outsource their data collections to such professional power servers. However, such outsourced service may raise main concerns towards users privacy, where personal data should be preserved [1]. Such data may include E-mail, medical information, private videos, and photos. Therefore, users employ encryption to protect the privacy of their confidential data. Unfortunately, encryption disables traditional keyword search operations on remote data. Searchable encryption schemes allow preforming search over encrypted data at the server side without decryption. Like search over plaintext data, searchable encryption methods build a searchable index from the entire dataset, such that during the search, only trapdoors generated using a secret keys can match index entries to get relevant results. Index contents should reveal nothing to the adversary server. Index-based search not only enhances search efficiency, but also isolates data and index encryption schemes. Under the setting of searchable symmetric encryption (SSE) schemes, the encrypted data are uploaded and retrieved by the

Travel tour Recommendation System: A Systematic Review

C.Ayesha sharif
Department of Computer science and Engineering,
GPCET,AP,INDIA.

P.Shaikshavali.
Department of Computer science and Engineering,
GPCET,AP,INDIA.

Abstract— **In the era of technology, information or data is an important factor to do any kind of task. However, due to the rapid expansion of internet, users are in an information overload state where there is a need for a system that provides related and useful information from the big pool of information. This kind of system is needed in tourism sector. Many researches have been done in this sector and researchers have developed different kinds of recommendation system to solve multiple tourism related problems. In this journal paper the different recommendation algorithms and approaches introduced in the industry so far has been discussed.**

Keywords— *Recommendation System, Tourism Industry*

I.   INTRODUCTION

Recommendation system is defined as an information filtering system that is used to recommend the users items based on their previous history or their preferences. To develop a recommendation system first we need to be familiar with the concept of artificial intelligence and machine learning.

According to (ZDNet, 2020), the concept artificial intelligence was first introduced in the 1950s by the scientist Minsky and McCarthy. They described artificial intelligence as a machine performing a new or modify a task that would need human intelligence to complete. Today the scientist defines artificial intelligence as the efficiency of a machine to learn a new task and how effectively it completes the task. Artificial Intelligence (AI) is classified into 3 types based on their ability to perform a task.
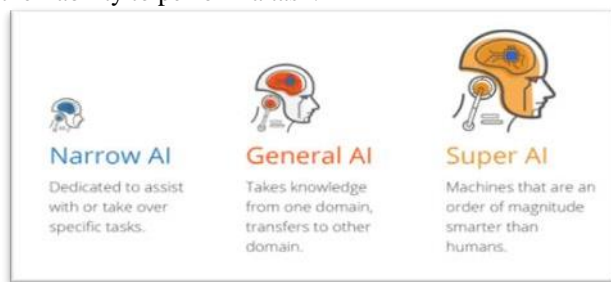
Fig 1: Types of AI (Apro Software, 2020)

Narrow AI: From the name it can be understood that the AI has a narrow range of capabilities. It is also known as weak AI. It has been designed to perform only one task. (Codebots, 2020) This kind of AI is not as intelligent as humans.
General AI: This kind of AI has the capability and intelligence as of human. They will be able to perform more than one task at a time like humans. However, the scientists

are still researching on this topic as human intelligence is complex and difficult to understand (Apro Software, 2020).

Super AI: It is the future AI, where their intelligence surpasses human.

In the broad science of AI, machine learning could be defined as a subset of AI which uses data to train the machine to do a specific task (SAS, 2020). In machine learning the machines are provided with data and by studying and modelling data, the machine learns to perform a specific task.

In the current time, the rapid growth of internet has made the users overload with information. Therefore, in this era of "Information overload" (Li et all, 2019) there is a need of a system which will filter the relevant information from the big pool of information. Thus, the recommendation system has been introduced in mid-1990 to help users select the useful information or product from a number of available options (Sharma & Singh, 2016). The development of recommendation system is possible only by applying machine learning.

Recommendation system has also been introduced in the tourism industry to help the tourist by providing information related to their tourism destination. Researchers have introduced many recommendation systems so far, each having different purpose. Some of the system aim to recommend tour packages, some recommend the best destination place according to user preference, some recommend the best travel routes etc. In this paper some of the recommendation system introduced in the industry so far have been reviewed.

II.   REVIEW OF LITERATURE

Recommendation system could be defined as a method of providing options to the users based on their own preferences. To do so information needs to be filtered. There are many filtering approaches used previously by the scientists.
Therefore, Kumar & Sharma (2016) performed a survey, "**Approaches, Issues and Challenges in recommendation system: A systematic review**", where they studied 66 journal papers related to recommendation system that were published between 2001 to June 2016 and classified recommendation system into following kinds based on their approaches:

1. **Collaborative Filtering (CF)** approach uses the preferences of users with similar choices as of the targeted user to recommend an item.

Zero-Injection: A Collaborative Filtering Recommended system for exploiting uninterested items

C.Ayesha shariff,   .Ali Babu   ,M.Deva Priyam.

, Dept of CSE, GPCET,AP,India,

2, Dept of CSE, GPCET,AP, India,

3Assistant Professor, Dept of CSE, GPCET,AP, India.

Abstract: We develop a novel framework, named as l-injection, to address the sparsity problem of recommender systems. By carefully injecting low values to a selected set of unrated user-item pairs in a user-item matrix, we demonstrate that top-N recommendation accuracies of various collaborative filtering (CF) techniques can be significantly and consistently improved. We first adopt the notion of pre-use preferences of users toward a vast amount of unrated items. Using this notion, we identify uninteresting items that have not been rated yet but are likely to receive low ratings from users, and selectively impute them as low values. As our proposed approach is method-agnostic, it can be easily applied to a variety of CF algorithms. Through comprehensive experiments with three real-life datasets (e.g., Movielens, Ciao, and Watcha), we demonstrate that our solution consistently and universally enhances the accuracies of existing CF algorithms (e.g., item-based CF, SVD-based CF, and SVD++) by 2.5 to 5 times on average. Furthermore, our solution improves the running time of those CF methods by 1.2 to 2.3 times when its setting produces the best accuracy.

Keywords*: CF, SVD-based CF, and SVD++.

I. INTRODUCTION

To develop a novel framework, named as l-injection, to address the sparsity problem of recommender systems. By carefully injecting low values to a selected set of unrated user-item pairs in a user-item matrix, to demonstrate that top-N recommendation accuracies of various collaborative filtering (CF) techniques can be significantly and consistently improved. First adopt the notion of pre-use preferences of users toward a vast amount of unrated items. Using this notion, the system identifies uninteresting items that have not been rated yet but are likely to receive low ratings from users, and selectively impute them as low values. As our proposed approach is method-agnostic, it can be easily applied to a variety of CF algorithms. Through comprehensive experiments with three real-life datasets (e.g., Movielens, Ciao, and Watcha), we demonstrate that our solution consistently and universally enhances the accuracies of existing CF algorithms (e.g., item-based CF, SVD-based CF, and SVD++) by 2.5 to 5 times on average. Furthermore, our solution improves the running time of those CF.The goal of recommender systems (RS) is to suggest appealing items (e.g., movies, books, or news articles) to a user by analyzing her prior preferences. As a large number of online applications use RS as a core component, improving the quality of RS becomes a critically important problem to businesses. Among existing solutions in RS, in particular, collaborative filtering(CF) methods have been shown to be widely effective. Based on the past behavior of users such as explicit user ratings and implicit click logs, CF methods exploit the similarities between users behavior patterns. However, when the fraction of known ratings in a rating matrix R is overly small (so called data sparsity problem), CF method to suffer. For an R with m users and n items, if to assume that each user has rated k items on average, fraction of rated items in R is k n(=mmn). Asymptotically, such a fraction of rated items in R is extremely small (i.e.kn). Itis common for an e-business to sell millions of items with a very long tail, and many users rate very few items (i.e.,cold-start users). The goal of this work is to mitigate such a data sparsity problem to improve top-N Recommendation accuracies of CF methods.To summarize, our main contributions are as follows: introduce a new notion of Uninteresting items, and classify user preferences into pre-use and post-use preferences to identify uninteresting items. That is proposed to identify uninteresting itemsvia pre-use preferences by solving the problem and show its implications and effectiveness. To suggest low-value injection (called l injection) to improve the accuracy of top-N recommendation in existing CF algorithms. To evaluate the proposed solution with three real -life datasets, and demonstrate that our solution consistently outperforms baseline CF methods e.g item-based CF, SVD-based CF, and SVD++) with respect to accuracy (by 2.5 to 5 times) and running time (by 2.5 to 5 times) on average. The remainder of this paper is organized as follows., They explain the preliminaries of our approach we present our approach. To evaluate our approach by comparing it with existing methods via extensive experiments.

II. LITERATURE SURVEY

In general, CF methods are categorized into two approaches: memory-based and model-based. First, memory based methods predict the ratings of a user using the similarity of her neighborhoods, and recommend the items with high ratings. Second, model-based methods, build a model capturing a users' ratings on items, and then predict her unknown ratings based on the learned model.. This is because the number of unrated items is significantly more than that of rated items. To address this problem, some existing work attempted to infer user's ratings on unrated items based on additional information such as clicks.[1]Location-based-services (LBSs) may be built on top of micro blogs to provide for targeted advertisement, news recommendation, or even microblogs personalization.[2] Appropriate motivation is relevant assuring continuous participation. This paper presents a new method of designing a community based

DIAT: A Scalable Distributed Architecture for IoT

Dr.S.Prem Kumar,
Dept.of.CSE,
GPCET

D.Navya devi
Dept.of.CSE
GPCET

Abstract—The advent of Internet of Things (IoT) has boosted the growth in number of devices around us and kindled the possibility of umpteen number of applications. One of the major challenges in the realization of IoT applications is interoperability among various IoT devices and deployments. Thus, the need for a new architecture – comprising of smart control and actuation – has been identified by many researchers. In this article, we propose a *Distributed Internet-like Architecture for Things (DIAT)*, which will overcome most of the obstacles in the process of large scale expansion of IoT. It specifically addresses heterogeneity of IoT devices, and enables seamless addition of new devices across applications. In addition, we propose an usage control policy model to support security and privacy in a distributed environment. We propose a layered architecture that provides various levels of abstraction to tackle the issues such as, scalability, heterogeneity, security and interoperability. The proposed architecture is coupled with cognitive capabilities that helps in intelligent decision making and enables automated service creation. Using a comprehensive use-case, comprising elements from multiple-application domains, we illustrate the usability of the proposed architecture.

Index Terms—IoT distributed architecture, dynamic service creation, usage control policies.

I. Introduction

In today's connected world, there are several means of ephemeral communication amongst devices, e.g., Bluetooth, GSM, NFC, WiFi, ZigBee, etc. However, the idea now is not only to connect with other communicating devices opportunistically, but also to be aware of various real-world non-communicable objects in the surroundings. This paradigmatic shift opens up new futuristic services. An important aspect of these services can be captured by the words of Mark Weiser. In his seminal paper [1], he provided a vision – *"The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it"*. This vision, in fact, is the driving force behind today's miniaturized technologies and communication substrates. Thus, we are about to witness a future where there will be thousands of inanimate objects for each person that will seamlessly communicate with each other to support everyday life in a smart way. In general, this

paradigm is referred to as the "Internet of Things" (IoT). The idea is to form an intelligent network of these humongous numbers of devices, systems and equipments. Further, the ambit of IoT is expanding to include any-'thing' that could be represented or identified in the cyber (virtual) world even without having any direct communication interfaces on those "things".

Many IoT applications have been identified, e.g., smart home, smart logistics, smart transportation, smart health care, smart agriculture, etc. [2]. A common factor in all such applications is the inherent *smartness*. Being part of a "smart" application, various devices within an application domain can automatically collect data, share information among themselves, and initiate and execute services with minimal human intervention. Some of the desired characteristics of IoT objects (devices)[1] as well as IoT applications are listed below [3].

- Automation: Automation is a key feature of any IoT device and application. Autonomous data collection, processing, contextual inference, collaborating with other IoT objects and decision making should be supported by any IoT infrastructure.
- Intelligence: Objects in IoT should act intelligently. Building intelligence into these objects and empowering them to operate adaptively based on different situations is an important aspect. Situation and context awareness are the key entities for an intelligent system, which can operate with minimal human intervention.
- Dynamicity: An object in a IoT ecosystem can move from one place to another place. The IoT ecosystem should be able to dynamically recognize and adapt these objects based on the environment. Thus, dynamic management and integration of these objects across different environments and applications is crucial for a unified IoT architecture.
- Zero-configurations: To support easy integration of devices in the IoT ecosystem, plug-and-play feature should be available. Zero-configuration support encourages an easy and decentralized growth of IoT systems [4].

The main challenge in IoT is to manage and maintain large number of devices and react smartly according to the data generated by them. Some answers addressing this challenge can be seen under the umbrella of Future Internet and in projects such as BUTLER [5], COMPOSE [6], FIND [7], FIRE [8], IoT-A [9], etc. They deal with large scale networking, cognitive networking, network of networks [10], as well as service-oriented architecture development for a converged communication and service infrastructure, to mention a few. In

Machine learning applications for iot

U Supriya

supriyacse@gmail.com
department of computer science and engineering.
g.pullaiah college o9f engineering and technology.

P pranav sai reddy

department of computer science and engineering.
g.pullaiah college o9f engineering and technology.

Abstract

The main aim of this paper is to provide a deep analysis on the research field of healthcare data analytics., as well as highlighting some of guidelines and gaps in previous studies. This study has focused on searching relevant papers about healthcare analytics by searching in seven popular databases such as google scholar and springer using specific keywords, in order to understand the healthcare topic and conduct our literature review. The paper has listed some data analytics tools and techniques that have been used to improve healthcare performance in many areas such as: medical operations, reports, decision making, and prediction and prevention system. Moreover, the systematic review has showed an interesting demographic of fields of publication, research approaches, as well as outlined some of the possible reasons and issues associated with healthcare data analytics, based on geographical distribution theme.

Keywords Healthcare, Data Analytics, Clinics, Systematic Review, Tools and Techniques.

1   INTRODUCTION

Today's healthcare industries are moving from volume-based business into value-based business, which requires an overwork from doctors and nurses to be more productive and efficient. This will improve healthcare practice, changing individual life style and driving them into longer life, prevent diseases, illnesses and infections.

Over the last few years, healthcare data has become more complex for the reason that large amount of data are being available lately, along with the rapid change of technologies and mobile applications and new diseases have discovered. Therefore, healthcare sectors have believed that healthcare data analytics tools are really important subject in order to manage a large amount of complex data, which can lead to improve healthcare industries and help medical practice to reach a high level of efficiency and work flow accuracy, if these data analytics tools applied correctly, but the questions are how healthcare organizations are applying these tools today, and how to think about it's future use? Also, what are the challenges they face when using such tools? And finally, what are the innovations can healthcare add to meet these challenges?

Movie recommendation systems

Asha lya shariff
ashacse@gmai.com
g.pullaiah college o9f engineering
and technology.
Dept of cse

saisimhareddy
saisimhacse@gmail.com
g.pullaiah college o9f
engineering and technology.
Dept of cse

Abstract

Deep Neural Networks (DNNs) are powerful models that have achieved excellent performance on difficult learning tasks. Although DNNs work well whenever large labeled training sets are available, they cannot be used to map sequences to sequences. In this paper, we present a general end-to-end approach to sequence learning that makes minimal assumptions on the sequence structure. Our method uses a multilayered Long Short-Term Memory (LSTM) to map the input sequence to a vector of a fixed dimensionality, and then another deep LSTM to decode the target sequence from the vector. Our main result is that on an English to French translation task from the WMT-14 dataset, the translations produced by the LSTM achieve a BLEU score of 34.8 on the entire test set, where the LSTM's BLEU score was penalized on out-of-vocabulary words. Additionally, the LSTM did not have difficulty on long sentences. For comparison, a phrase-based SMT system achieves a BLEU score of 33.3 on the same dataset. When we used the LSTM to rerank the 1000 hypotheses produced by the aforementioned SMT system, its BLEU score increases to 36.5, which is close to the previous state of the art. The LSTM also Fi- nally, we found that reversing the order of the words in all source sentences (but not target sentences) improved the LSTM's performance markedly, because doing so introduced many short term dependencies between the source and the target sentence which made the optimization problem easier.

1 Introduction

Deep Neural Networks (DNNs) are extremely powerful machine learning models that achieve excellent performance on difficult problems such as speech recognition [13, 7] and visual object recognition [19, 6, 21, 20]. DNNs are powerful because they can perform arbitrary parallel computation for a modest number of steps. A surprising example of the power of DNNs is their ability to sort N N-bit numbers using only 2 hidden layers of quadratic size [27]. So, while neural networks are related to conventional statistical models, they learn an intricate computation. Furthermore, large DNNs can be trained with supervised backpropagation whenever the labeled training set has enough information to specify the network's parameters. Thus, if there exists a parameter setting of a large DNN that achieves good results (for example, because humans can solve the task very rapidly), supervised backpropagation will find these parameters and solve the problem.

Despite their flexibility and power, DNNs can only be applied to problems whose inputs and targets can be sensibly encoded with vectors of fixed dimensionality. It is a significant limitation, since many important problems are best expressed with sequences whose lengths are not known a-priori. For example, speech recognition and machine translation are sequential problems. Likewise, question answering can also be seen as mapping a sequence of words representing the question to a

Industrial IOT In Education

D.jayanarayana Reddy,Assisstant professor ,Dept of CSE G.Pullaiah college of engineering and technology
mailid:jayanarayareddy@gpcet.ac.in

Abstract—Internet of Things (IoT) has provided a promising opportunity to build powerful industrial systems and applications by leveraging the growing ubiquity of radio-frequency identification (RFID), and wireless, mobile, and sensor devices. A wide range of industrial IoT applications have been developed and deployed in recent years. In an effort to understand the development of IoT in industries, this paper reviews the current research of IoT, key enabling technologies, major IoT applications in industries, and identifies research trends and challenges. A main contribution of this review paper is that it summarizes the current state-of-the-art IoT in industries systematically.

Index Terms—Big data analytics, enterprise systems, information and communications technology (ICT), industrial informatics, internet of things (IoT), near *f*ield communications, radio-frequency identi*f*ication (RFID), wireless sensor networks (WSNs).

I. INTRODUCTION

AS AN EMERGING technology, the Internet of Things (IoT) is expected to offer promising solutions to transform the operation and role of many existing industrial systems such as transportation systems and manufacturing systems. For example, when IoT is used for creating intelligent transportation systems,

the transportation authority will be able to track each vehicle's existing location, monitor its movement, and predict its future location and possible road traf*f*ic. The term IoT was initially proposed to refer to uniquely identi*f*iable interoperable connected objects with radio-frequency identi*f*ication (RFID) technology [1]. Later on, researchers relate IoT with more technologies such as sensors, actuators, GPS devices, and mobile devices. Today, a commonly accepted de*f*inition for IoT is

a dynamic global network infrastructure with self-configuring capabilities based on standard and interoperable communication protocols where physical and

virtual 'Things' have identities, physical attributes, and virtual personalities and use intelligent interfaces, and are seamlessly integrated into the information network [2].

Specifically, the integration of sensors/actuators, RFID tags, and communication technologies serves as the foundation of IoT and explains how a variety of physical objects and devices around us can be associated to the Internet and allow these objects and devices to cooperate and communicate with one another to reach common goals [3].

There is a growing interest in using IoT technologies in various industries [4]. A number of industrial IoT projects have been conducted in areas such as agriculture, food processing industry, environmental monitoring, security surveillance, and others. Meanwhile, the number of IoT publications is quickly growing. The authors conducted an extensive literature review by examining relevant articles from five major academic databases (IEEE Xplore, Web of Knowledge, ACM digital library, INSPEC, and ScienceDirect) in order to help interested researchers understand the current status and future research opportunities regarding the use of IoT in industries. Our review focuses on both identifying the breadth and diversity of existing IoT research in the industrial areas and highlighting the challenges and opportunities for future researchers. As a result, we found a large number of journal articles and conference papers related to IoT. For example, we found 306 IoT-related journal articles published from 2009 to 2013 by searching the Web of Knowledge database alone. Fig. 1 displays the number of journal articles stored in the Web of Knowledge database by year from 2009 to 2013. Fig. 1 indicates a trend that research on IoT is becoming increasingly popular.

This paper is organized as follows. Section II presents the background and current research of IoT. Section III provides an in-depth review of service-oriented architecture (SOA) of IoT. Section IV reviews the key enabling technologies that make IoT possible. Section V describes key IoT applications in industries. Section VI discusses research challenges and future trends. Conclusion is given in Section VII.

II. BACKGROUND AND CURRENT RESEARCH OF IOT

IoT can be considered as a global network infrastructure composed of numerous connected devices that rely on sensory, communication, networking, and information processing technologies [5]. A foundational technology for IoT is the RFID technology, which allows microchips to transmit the identification information to a reader through wireless communication. By using RFID readers, peoplecanidentify, track, andmonitoranyobjectsattached with RFID tags automatically [6]. RFID has been widely used in logistics, pharmaceutical production, retailing, and supply chain management, since 1980s [7], [8]. Another foundational technology for IoT is the wireless sensor networks (WSNs), which mainly use interconnected intelligent sensors to sense and monitoring. Its applications include environmental monitoring, healthcare monitoring, industrial monitoring, traffic monitoring, and so on [9], [10]. The advances in both RFID and WSN significantly

Network Security In Digitalization

D.jayanarayana Reddy,Assisstant professor ,Dept of CSE G.Pullaiah college of engineering and technology mailid:jayanarayareddy@gpcet.ac.in

Abstract **:** *This study aimed to identify the digital transformation and its impact on the application of Cyber Security in the Palestinian Ministry of Interior and National Security. The study used the analytical descriptive approach. The study tool (questionnaire), and the comprehensive survey method was used, where (61) questionnaires were retrieved (87.1%), and they were unloaded and analyzed using the SPSS statistical package. The study found several results, including that there is a statistically significant correlation between all dimensions of Digital transformation and the application of Cyber Security in the Ministry of Interior and National Security. And that there is an impact of Digital transformation on the application of security in the Ministry of Interior and National Security in the governorates of Gaza, and the impact coefficient was (0.897). It was found that the dimensions affecting the dependent variable of Cyber Security are dimensions (organizational structure, job description, data privacy and security, technical infrastructure required for digital transformation), as these dimensions affect (89.7%) of the variation in the application of Cyber Security. The study presented a set of recommendations, the most important of which are: The need for the Ministry's administration to provide a special budget to develop the quality of its electronic services as a lever for digital transformation. And the need for the number of workers in computer and information technology departments and units to be commensurate with the volume and quality of work to bridge the gap between the required performance and the actual performance. The ministry should set a clear methodology for exchanging data and information between the components of the ministry. And the need for the Ministry of Interior and National Security to use a protection network capable of detecting all threats.*

Keywords: Digital Transformation, Cyber Security, Ministry of Interior and National Security, Gaza Strip, Palestine.

Introduction

The technological progress and the information revolution that the world has witnessed in the world of communications for decades have brought about tremendous changes and a positive impact on the business world through the introduction of new variables. Raising efficiency in addition to improving performance levels based on harnessing the capabilities of this technology on the human element, which represents the main driver for the use of these technologies. It is not necessary to abolish all traditional systems.

According to (Jarbou, 2018), it has become imperative for decision makers and those interested in managing these organizations to keep up with the changes that contribute positively to the process of development in various fields, to advance scientific progress, and to study the challenges they face in various fields, including economic, social, And technology in order to confront and overcome it without colliding with it, and for that, decision makers and interested parties took it upon themselves to make the necessary arrangements and apply some modern management concepts.

This information revolution has had a role in developing some new administrative concepts and patterns, including digital transformation and electronic management, and other concepts that depend on information technology, as (Al-Halabi et al., 2022) believes that digital transformation is a key factor for providing services efficiently and effectively. High, as it is a necessity for all institutions that seek to improve their services and achieve governance and effective communication, both internally at the level of the organization, or externally with various partner institutions. Rather, it has become a natural process for organizations that seek to maintain their competitive advantage, and within the framework of the efforts of the Ministry of Interior and Security It is necessary for it to develop in an integrated manner, taking into account the necessity of exploiting all the opportunities and possibilities offered by the technological revolution and digital technology.

According to the study (Bahour, 2016), the benefit of these advanced technologies in the public and private sector institutions operating in Gaza Strip still does not rise to the desired level due to the presence of some challenges, especially in the field of readiness of these organizations to manage and implement such modern concepts, in addition to the spread of the phenomenon of Cybercrimes and the penetration of information centers, which prompted decision makers in organizations to seriously think about following methods and procedures to confront these crimes, and to use safe systems known as the Cyber Security Department, which is interested in providing advanced systems and protocols in order to protect data from these risks, taking into account the need to monitor threats And evaluate them first, as cyber security is a strategic weapon to confront these risks.

The researchers believe that digital transformation and Cyber Security management help organizations, including the Ministry of Interior, to provide electronic services at low costs, in addition to growing their work, obtaining good statistics and data analysis, and helping them to face some challenges represented in the dangers of cybercrime.

Machine Learning For IOT:Smart City

D.jayanarayana Reddy,Assisstant professor ,Dept of CSE

G.Pullaiah college of engineering and technology

mailid:jayanarayareddy@gpcet.ac.in

Abstract

Internet of Things (IoT) and its applications have grown to be smarter and connected various devices which give rise to its utilization in all aspect of a modern city. As the amount of the composed data increases, the Machine Learning (ML) method is usefully to the further development in the various intelligence and potential of the application. Smart transportation based application has concerned various researchers as well as it has been approach by means of both ML techniques and IoT methods. This article gives an importance to smart transportation which is measured to be an umbrella term which covers optimization of routes, the parking, accident detection / prevention, street lights, road anomalies, and the infrastructure based applications. The intention of this paper is to construct a self-contained evaluation of IoT based applications with Machine Learning techniques in Intelligent based Transportation Systems (ITS) and attain a clear examination of the tendency in the aforementioned fields, and to spot the possible coverage needs. From the reviews done, it becomes thoughtful that there is a probably lack of Machine Language coverage for the Smart Lighting based Systems and Smart Parking based applications. In addition, the route optimization, accident/detection and parking, be likely to be the majority popular Intelligent Transportation Systems (ITS) based applications among the researchers for better business intelligence (BI) and development.

Keywords: Internet of Things; machine learning; smart transportation; smart city; intelligent transportation systems; big data, Business intelligence.

1. INTRODUCTION

Over the few decades, the applications based on the sensors, mobile devices, and the actuators have turn into smarter, allowing the communication within the devices and be executed for more complex related tasks. In 2013, the quantity of connected devices exceeded the global population and the count keeps increasing huge until today. The smart phones, the embedded systems, wireless based

IOT BASED WEATHER MONITORING

D.jayanarayanaReddy,Assisstnt professor
,Dept of CSE G.Pullaiah college of
engineering and technology
mailid:jayanarayareddy@gpcet.ac.in

Abstract— **The living environment monitoring is a critical issue today. Many related researches focused on developing the living environment monitoring systems by using the web-based technology, but such information systems would increase the difficulty of promotion and migration to others, because of needing well-trained engineers to achieve and maintain such information system.**

This research focuses on developing the weather monitoring system. The main goal of the research is to use the technology of message queuing telemetry transport (MQTT) as roles of the communication layer instead of direct-connecting database, which can isolate the system migration complexity from heterogeneous relational database management system (RDBMS) and construct a distributed information system easily. Finally the contributions are demonstrated as implementation of the IoT-based weather monitoring system. The prototyping of the weather monitoring system is implemented and deployed at Wu-Tso elementary school for the students' learning of nature science and activity environment. In addition, the system is implemented using open sources and is easy to be deployed and scalable.

Keywords— Internet of Thing (IoT), Message Queuing Telemetry Transport (MQTT), Weather Monitoring System

I. INTRODUCTION

The living environment monitoring, such as weather monitoring [1], is a critical issue today. Many related researches focused on developing the living environment monitoring systems by using the web-based technology, but such information systems would increase the difficulty of promotion and migration to others, because of needing well-trained engineers to achieve and maintain such information system at all.

Wu-Tso elementary school (https://www.wtes.tc.edu.tw/) (WTES) is located on the foothills of the Fengfeng mountain in the east of Qingshui district, Taichung City, Taiwan, and it is the highest school in Qingshui district. WTES is close to Taichung international airport and famous for its beautiful and simple campus. The school was established on August 1, 1989, and a preschool was added to on August 1, 2012. Although WTES is a mini elementary school, it has beautiful school buildings (see Figure 1), healthy and energetic teachers and students to build a wonderful environment for local children playing and learning. The wonderful reputations of WTES are originated from Chinese dragon dance, Chinese lanterns and folks skills, etc.

Figure 1 WTES Campus

A Niutoutou small book house was donated and established at WTES as FCUNO.6, as shown in Figure 2, from Feng Chia University Alumni Association on December 28, 2017. It origins as Feng Chia University's school of architecture for launching a charity event on campus to return back to the community. The approaches were initiated to places where anyone needed to build a bookstore for children, such ideas including "Knowledge is power", "The "Deep plow 50 prospects charity events", "100 small bookstores in the target township area". Therefore the dreaming was formed and drawn as the Niutoutou small book house as FCUNO.6.

(a) NO.6 logo   (b) Niutoutou small book house

Figure 2 Niutoutou small book house.

WTES has made much efforts to receive donations from celebrities. Many resources used in school, such as books, teaching equipment and scientific learning materials, were fundraised and donated from kind people and public interest group. WTES also would like to have a weather monitoring system in Niutoutou small book house for teaching in the school. The hardware materials for the system was donated on December 20, 2017, and all the hardware materials were set up on July 10, 2018 as shown in Figure 3. We are invited to develop a weather monitoring system at WTES.

Smart alert system for garbage clearance using IOT

Dr.K.Seshadri Ramana , Assistant professor   Dept of CSE, G.Pullaiah college of engineering and technology, seshadriramana@gpcet.ac.in

---

A B S T R A C T

The system suggested is a proposal put forth for the benefit of society's members, who suffer greatly from the constant presence of garbage cans close to their residences and the nauseating smell that results from the accumulated trash. Due to poor municipal administration, the trash can frequently remain full because there is no quick fix, forcing residents to make accommodations. We devised a smart waste management system to detect the amo unt of trash accumulated in the trash cans and alert the company when the can is full so that immediate action can be done to address the issue. The system uses servo motors, an Arduino UNO, and ultrasonic sensors as its IoT components. Keywords – Smart alert system, waste management, Internet of Things, Garbage Collection.

---

1. Introduction: -

The key to a "Smart City" is the absolute necessity of the moment for a nation that is developing. The significant ecological elements that pose danger to this may include dangerous pollution and the ensuing consequences on human health, worrisome global warming, ozone layer depletion, etc. Municipal Solid Leftovers may be mostly to blame for environmental contamination. [1] For the removal of the produced municipal solid waste to be efficient and effective, proper maintenance becomes necessary. It is believed that the irregular elimination of garbage from the dustbin frequently causes the waste space to become overcrowded. This explanation puts forth an electronic monitoring system that incorporates web-based software, an embedded system, and RFID and IoT technology. [2] The planned technology would allow for effective monitoring of the waste collection status. This design specifies a method through which the garbage level is able to be checked often, preventing the unintentional overflow of the bin. Additionally, it provides a facility to notify the cleaning authority upon discovery of any spills. The ultrasonic sensor could sense or keep track of the dustbin's original level height as well as its current fill level.

The Arduino UNO is programmed so that when a certain degree of filling is detected, an information message asking for a clean-up is sent. One important factor to take into account while trying to improve the environment in metropolitan areas is solid waste management. With accelerated urbanization and a rising population, solid waste has become important and difficult. If waste is not managed and collected in a timely manner, the environment will become dirty and polluted. A better waste management strategy can contribute to a neighborhood's improvement and the general well-being of a community.

Many Internets of Things (IoT)-based waste management solutions are being used today to increase the efficiency of rubbish collection and ensure that it's safe for everyone who lives on this lovely planet. [3] , [4], [5]. When the trash can is filled to capacity, some IoT -based waste management solutions [6], [7], [8] send out a notification alert for prompt waste pickup. a system with the Internet of Things, that is affordable and can track regular rubbish Monitoring garbage bins, dynamic scheduling, and navigation of trash collection trucks are all made possible by an IoT -based solid waste management system in a smart city. [9], [10].

The state-of-the-art solution, for instance in terms of a self-powered solution, is brought together here after an assessment of existing IoT-enabled solutions in smart cities' waste management.

II. LITERATURE SURVEY: -

N. S. Kumar et al, [11] this paper propose a smart alert system for garbage clearance by giving an alert signal to the municipal web server for instant cleaning of a dustbin with proper verification based on the level of garbage filling. This process is aided by the ultrasonic sensor which is interfaced with Arduino UNO to check the level of garbage filled in the dustbin and sends the alert to the municipal web server once the garbage is filled. After cleaning the dustbin, the driver confirms the task of emptying the garbage with the aid of an RFID Tag. M. Furqan Durrani et al, [12] a central control unit and an electronic waste-detecting device make up the Automated Waste Controlling Management System.

crop yield prediction using machine learning

Dr.K.Seshadri Ramana,professor Dept of CSE,G.Pullaiah college of engineering and technology,seshadriramana@gpcet.ac.in

I.   INTRODUCTION

Agriculture is the backbone of every economy. Agriculture is considered as the main and the foremost culture practiced in India. The main goal of agricultural planning is to achieve maximum yield rate of crops by using limited number of land resources. Many machine learning algorithms can help in improving the production of crop yield rate. Whenever there is a loss in unfavorable conditions. We can apply crop selecting method and reduce the losses. The maximizing of yield rate helps in improving economy. We have observed that there is an increase in the suicide rates. So, we want to help the farmers to understand the importance of prior prediction of crop, to increase their knowledge about quality of soil, to understand location wise weather constraints, in order to gain intense yield of crop through our technology solution.

II.   LITERATURE REVIEW

[1] In this paper SVM method used to classify crop data and CNN is used to reduce the relative error. By using these, methods losses of crop yield reduced irrespective of environment distraction.

[2] In this paper K-means clustering is used to create clusters, Apriori algorithm is used to count frequent features of a crop for specific location and Naïve Bayes algorithm is used to find exact crop.

[3] In this paper Decision tree uses greedy methodology and Random Forest algorithm used to predict the best crop. It helps the farmers in decision making of which crop to cultivate in the field.

[4] In this paper K nearest algorithm, Naïve Bayes and Decision tree are used to predict the crop yield. It helps the farmers to identify the yield of crops in different soil and atmospheric conditions.

[5] In this paper J48 and IBK are used for classification, LWL used to assign instance weights, LAD tree used to classify based on binary target value. It is useful to the farmers for early prediction and decision making.

[6] In this paper naïve Bayes and KNN algorithm have been used inorder to achieve maximum crop yield. By this we can also get the accuracy yield by checking for different method.

[7] In this paper LSTM and Simple RNN methods are used to predict the temperature and rainfall. Finally, we got know to that Random Forest Regressor will more accuracy.

[8] In this paper Feed Forward Neural and Recurrent Neural Network techniques is used. Comparing the FNN and RNN based on loss of error RNN has low error rate at the same it is better for crop yield prediction.

[9] In this paper they have developed a user friendly webpage and the accuracy of predictions are above 75 percent by Random Forest Algorithm.

[10] In this proposed work a Hadoop framework based on Random Forest Algorithm described works faster

Load balancing in a Networking

M.Janardhan Associate professor Dept of CSE,G.Pullaiah college of engineering and technology,janardhan@gpcet.ac.in

Abstract:-

 In India, we all know that farming is the backboneof the nation. This document predicts yield for all sortsof crops grown in India. This script is unique since it uses simple criteria such as state, district, season, and area to forecast agricultural production in whatever year the user desires. The document is based on regression techniques like Kernel Ridge, Lasso and ENet algorithms to predict output and use theRegressionstacking concept for   algorithm improvement to provide better foretelling.

Keywords:- Crop yield prediction, Lasso, Kernel Ridge, Enet, Stacked Regression.

I.   INTRODUCTION

Everyone uses climatic factors like downfall, sun, and agrarian factors like soil type, and nutrients held by the soil (Nitrogen, Potassium,etc.) in our exploration, which we discovered in former exploration papers. The problem is that we need to collect the data, also a third party makes the vaticination, and also it's explained to the planter, which takes a lot of time and trouble for the planter, and he does not understand the wisdom behind these factors. To make it easy and incontinently applicable to growers, this study use simple parameters similar as the planter's state and quarter, crop kind, and season (as in Kharif, Rabi,etc.). In India, there are over a hundred different crops grown across the country. These crops are divided into orders for easier appreciation and visualization. The information for this study came from the Indian Government Depository (1).
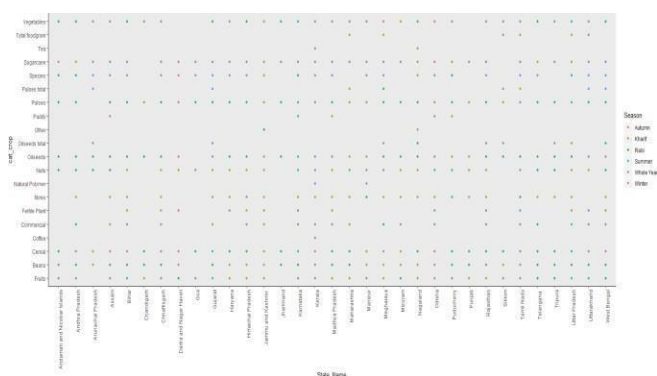
Fig.1.Famous Categories of crops over states in India(basedon Season)

With about 2.5 million compliances, the data comprises of parameters similar as State, District, Crop, Season,Year, Area, and Product. Figure 1 illustrates India's countries and homes, illustrating which crop orders are popular during which seasons. We applied advanced retrogression ways – Lasso, ENet, and Kernel Ridge – and mounding of these models to reduce error and produce bettered prognostications. The ensuing sections comprise this paper Literature Review, Methodology, Conclusion, and Unborn Work.

II.   BACKGROUND STUDY

AnantharaM.G. et al. (2013, February) introduced theCRY algorithm for crop yield employing beehive clustering ways as a vaticination model for agrarian datasets. Crop kind, soil type, soil pH value, moisture, and crop perceptivity were all factors examined. Their exploration concentrated on Indian paddy, rice, and sugarcane yields .Their new fashion was also compared to the C&R tree algorithm, and it outperformed the ultimate with a 90 delicacy. (2). Awan,A.M.etal. (2006, April) developed a novel, smart frame for ranch yield cast clustering kernel methodology, taking into account factors similar as colony, latitude, temperature, and downfall rush in that latitude. For the examination of canvas win fields, theyused a weighted k-means kernel approach with spatial limitations. (3) Chawla,I. etal. (2019, August) used fuzzy sense to prognosticate crop yields using statistical time series models. For vaticination, they used variables similar as downfall and temperature.

Their vaticination was classified as' good yiel 'or' veritably good yield.' (4). Chaudhari,A.N. etal. (2018, August) used three algorithms clustering k- means, Apriori, and Bayes algorithm, which they also hybridized for better yield vaticination effectiveness, taking into account parameters similar as area, downfall, and soil type, and their system were suitable to tell which crop is suitable for civilization grounded on the mentioned features. as rainfall and temperature.Their prediction was classified as 'good yield' or 'very good yield.'[4]. Chaudhari, A. N. et al. (2018, August) used three algorithms: clustering k- means, Apriori, and Bayes algorithm, which they then hybridized for better yield prediction efficiency, taking into account parameters such as area, rainfall, and soil type, and their system were able to tell which crop is suitable for cultivation based on the mentioned features(5). Gandge,Y. (2017, December) used a variety of machine literacy algorithms for colorful crops. They delved and anatomized which algorithm would be applicable for which crop. They employed K- means, Support Vector Regression, Neural Networks, C4.5 Decision Tree, Bee-Hive Clustering, and other ways. The inferring factors were soil nutrients similar as N, K, P, and soilph. (6). Armstrong,L.J. etal. (2016, July) used ANNs to prognosticate rice yield in Maharashtra sections in India. They took into account climatic factors similar as temperature, rush, and reference crop evapotranspiration (within a certain range). From 1998 to 2002, the records were attained from the Indian Government's depository. (7). Tripathy,A.K. etal. (2016, July) employed support vector machines to read rice crop yield with the same features as the former paper. (8). Petkar,O. (2016, July), the same authors who applied SVM and neural networks for rice crop yield vaticination,

An efficient multikeyword search in cloud computing

M.Srilakshmi ,Assisstant professor ,Dept of CSE G.Pullaiah college of engineering and technology
mailid:srilakshmi@gpcet.ac.

Abstract— With the approach of cloud computing, data proprietors are induced to outsource their important information administration systems from adjacent spots to the business open cloud for proficient flexibility. As needs be, enabling a mixed cloud data look organization is of crucial essentialness. Considering the colossal number of data customers and documents in the cloud, it is vital to allow diverse watchwords in the chase request and return reports in the demand of their relevance to these catchphrases. Related wears down accessible encryption focus on single watchword chase or Boolean catchphrase look for, and sometimes sort the rundown things. In this paper, we describe and deal with the testing issue of insurance defending multi-catchphrase situated look for over encoded data in disseminated computing (MRSE).

Keywords— Cloud Computing, Multi Keyword Search, Clustering in Cloud

I. INTRODUCTION

Cloud computing has been considered as a new model of enterprise IT infrastructure, which can organize huge resource of computing, storage and applications, and enable users to enjoy ubiquitous, convenient and on demand network access to a shared pool of configurable computing resources with great efficiency and minimal economic overhead.[2] Attracted by these appealing features, both individuals and enterprises are motivated to outsource their data to the cloud, instead of purchasing software and hardware to manage the data themselves. Despite of the various advantages of cloud services, outsourcing sensitive information (such as e-mails, personal health records, company finance data, government documents, etc.) to remote servers brings privacy concerns.[2] The cloud service providers (CSPs) that keep the data for users may access users' sensitive information without authorization. A general approach to protect the data confidentiality is to encrypt the data before outsourcing. However, this will cause a huge cost in terms of data usability.

Fig 1: Privacy preserved Multi keyword Search[2]

II. CLOUD COMPUTING ENTITIES

Cloud providers and consumers are the two main entities in the business market. But, service brokers and resellers are the two more emerging service level entities in the Cloud world. These are discussed as follows.

Cloud Providers: Includes Internet service providers, telecommunications companies, and large business process outsourcers that provide either the media (Internet connections) or infrastructure (hosted data centers) that enable consumers to access cloud services. Service providers may also include systems integrators that build and support data centers hosting private clouds and they offer different services (e.g., SaaS, PaaS, IaaS, and etc.) to the consumers, the service brokers or resellers.

Cloud Service Brokers: Includes technology consultants, business professional service organizations, registered brokers and agents, and influencers that help guide consumers in the selection of cloud computing solutions. Service brokers concentrate on the negotiation of the relationships between consumers and providers without owning or managing the whole Cloud infrastructure. Moreover, they add extra services on top of a Cloud provider's infrastructure to make up the user's Cloud environment.

Fine grained data access control in cloud computing

K.Lakshmi Assistant professor,Dept of CSE,G.Pullaiah college of engineering and technology

Abstract—**Cloud computing has been in existence as an adaptable technology that gets integrated with IoT, Big-Data, and WSN to provide reliable, scalable and mesh-free services. However, because of its openness in nature, the privacy of the cloud is an important parameter for today's research. The most important privacy factor in cloud is access control and user trust. Many articles related to access control and trust management were presented, but most of them include highly complex algorithms that result in network overhead. This proposed security framework is for a better and more effective system wherein multiple distributed centers are created with trust-based computing for authentication and validation of requests from users and their resources. The idea of trust here is for efficient decision-making and establishing reliable relationships among users and resources using least computations. Each user has different permissions for each file present in the cloud server. The simulated results shows improvement in the rate of successful transactions, time cost and network overhead.**

Keywords—Fine-grained; distributed; access control; trust

I. INTRODUCTION

The security issues like privacy, trust, authentication and authorization need more attention with the rapid advancement in day-to-day technologies. Among them, access control and trust management are critical and complex issues that require more focus. But in the cloud environment, the access control approaches are semi-trusted because of the users snooping nature [1-2] that offer the resource or its attributes a complete access based on the rights of the user. Most of the access management methods [3-7] use encryption and decryption algorithms for protection of legit users. To reduce the computation overheads, many researchers [8-12] used the trust parameter in the process of decision-making for validation and authentication of user and their resources.

The research issues subjected to existing techniques involve the following:

1) The methods related to fine-grained involve lot of mathematical computations.

2) Trust-based involves subjective assignment of weights to the attributes considered for calculation of trust value which leads to time cost, and

3) Centralized-based leads to network overhead.

Hence, the designed model is named as distributed fine-grained access control using trust management (DFGACT). In this work, multiple distribution centers are created for

accessing the data by authorized users on basis of their trust values associated with them. Rest of the paper is organized as follows: Section II is literature survey, Section III is proposed approach and Section IV is results and analysis about the proposed approach followed by a conclusion in Section V.

II. RELATED WORK

One of the mostly used cryptographic access control method is designed by Sahai [13] for volatile cloud situations. Many literature papers used CP-ABE and KP-ABE schemes to secure data processing in the cloud and WSN [14-18]. In these methods, the complexity of encryption growth is linear with the count of each attribute and conveys heavy computation overheads. CP-ABE schemes are the most used for fine-grained security in cloud computing. The attribute statistics [19] are completely hidden inside the access policy by way of the use of the randomizable fuzzy approach for decryption purposes. Somchart et al. [20] used the CP-ABE method for mobile cloud environments by way of introducing new proxy encryption to reduce the cost of decryption and encryption for mobile users. But the outsourcing encryption isn't always specified. CP-ABE calls for data proprietors to generate multiple ciphertexts which result in sizable overheads in computation. To triumph over this, an LSSS based CP-ABE has been proposed [21] that can decrypt the records that are relatable with this matched part.

Anil Kumar et al. [22] tried to triumph over the troubles associated with RBAC, where users can access entire object without any further authentication once access is granted by manipulating swift storage. Qian et al. [23] proposed a Merkle tree based on time and attribute that stores private keys of the user for decryption purposes to efficient access of the resources. A lightweight statistical computation [24] is carried out by the cloud server for granting unique access privileges to individual users. However, with the increasing variety of attributes the overhead increases.

The large statistics are stored specifically in the cloud for controlling the access of a massive amount of data with closed permissions of individual users [25]. However, this scheme hides total attributes of a user for getting an entry pass to the access rights. The conventional cloud storage structures goes through a hassle of returning the incorrect seek consequences or not going back to the total seek results, this can be solved by using the applied decentralized system model with the cipher textual content-based key-word seek characteristic according to the smart reduced in size Ethereum blockchain [26].

Secure in cloud computing

M.Srilakshmi, Assistant professor, Dept of CSE, G.Pullaiah college of engineering and technology

Abstarct :
Using internal organizational cloud. This approach can help in securing data by enforcing on-premises data usage policy. However, it still does not ensure full data security and privacy, since many organizations are not qualified enough to add all layers of protection to the sensitive data.

This paper is the study of data security techniques used for protecting and securing data in cloud throughout the world. It discusses the potential threats to data in the cloud and their solutions adopted by various service providers to safeguard data.

The remainder of the paper is organized as follows. Section 2 is the review of literature that provides an insight into the work already done in this area. Section 3 discusses the types of threats to data in cloud. Section 4 examines some efficient data security techniques adopted throughout the world. The final section is the conclusion which provides summary for

I. LITERATURE REVIEW

In order to understand the basics of cloud computing and storing data securing on the cloud, several resources have been consulted. This section provides a review of literature to set a foundation of discussing various data security aspects.

Srinivas, Venkata and Moiz provide an excellent insight into the basic concepts of cloud computing. Several key concepts are explored in this paper by providing examples of applications that can be developed using cloud computing and how they can help the developing world in getting benefit from this emerging technology [1].

On other hand, Chen and Zhao have discussed the consumers concern regarding moving the data to the cloud. According to Chen and Zhao, one of the foremost reasons of why large enterprises still would not move their data to cloud is security issues. Authors have provided outstanding analysis on data security and privacy protection issues related to cloud. Furthermore, they have also discussed some of the available solutions to these issues [5,6].

However, Hu and A. Klein provided a standard to secure data-in-transit in the cloud. A benchmark for encryption has been discussed for guarding data during migration. Additional encryption is required for robust security but it involves extra computation. The benchmark discussed in their study presents equilibrium for the security and encryption overhead [7].

Social Distance Monitoring System

[1]R. VaraPrasad , [2]Bommireddy Sreeja, [3]Bommana Vineetha & [4]Shaik Shabana Begam

[1]Assistant Professor, Dept of CSE, G. Pullaiah college of engineering and technology

[2,3&4] B-Tech, Dept of CSE, G. Pullaiah college of engineering and technology

Abstract

Recently, the outbreak of Coronavirus Disease (COVID-19) has spread rapidly across the world and thus social distancing has become one of mandatory preventive measures to avoid physical contact. This survey paper emphasizes on a surveillance method which uses Open-CV, Computer vision and Deep learning to keep a track on the pedestrians and avoid overcrowding. The implementation can be done using closed circuit television (CCTV) and Drones where the camera will detect the crowd with the help of object detection and compute the distance between them. The Euclidean distance between two people will be calculated in pixels and is compared with given standard distance and if it is observed to be less than the standard distance the local authorities or local police authorities will be notified. Considering the unfortunate circumstances due to COVID-19, keeping distance among people is crucial. And to find the distance, we can set the goal to detect people using Deep Learning first and then find the distance between them to check whether a norm of social distance of about 6 feet or 1.8m is maintained by people.

Keywords: - COVID-19, YOLO paths, OpenCV

1. INTRODUCTION

The outbreak of the COVID-19 had an enormous impact on the world at large. To mitigate the spread of the virus, various technologies, such as Internet of Things, Unmanned Aerial Vehicles, blockchain, Artificial Intelligence, and 5G are already in use [1]. In this article, we take a look at the problem of positioning people in a given area, such as in a restaurant, school, office, etc., in order to minimize the spread of viruses such as COVID-19. After the initial lockdown, many countries imposed a set of social distancing measures that should help to slow down the spread of the virus. These measures impose a minimum distance between people in a given area. This means that spaces that could previously serve a large number people need to be adjusted for these new measures. As it seems unlikely that we will see the construction of new places that will be designed to abide by these (hopefully temporary) measures, it is only natural to try to find the best use of the ''facilities'' that are already available. However, as the social distancing measures do not have to be stable and can change over

Graduate Admission Forecast based on Machine Learning

[1]R.Varaprasad, Assistant Professor, Dept. of CSE, GPCET, Kurnool

[2]V.Srinidhi, B-Tech, Dept. of CSE GPCET, Kurnool

[3]S.Ibrahim, B-Tech, Dept. of CSE GPCET, Kurnool

Abstract

In response to the highly competitive job market at present times, an increased interest in graduate studies has arisen. This has not only burdened applicants but also led to an increased workload on admission faculty members of universities. Any chance of abridging the admission process impelled applicants and faculty workers to look for faster, efficient, and more accurate methods for predicting admissions All predictive methods proved to show accurate results, however; certain methods proved to be more promising than others were. Predictions were obtained within short time frames, which in turn will cut down the time in the admission process.

Keywords: - Forecast, ML, efficient

1. INTRODUCTION

The world markets are developing rapidly and continuously looking for the best knowledge and experience among people. Young workers who want to stand out in their jobs are always looking for higher degrees that can help them in improving their skills and knowledge. As a result, the number of students applying for graduate studies has increased in the last decade. This fact has motivated us to study the grades of students and the possibility of admission for master's programs that can help universities in predicting the possibility of accepting master's students submitting each year and provide the needed resources. The dataset presented in this paper is related to educational domain. Admission is a dataset with 500 rows that contains 7 different independent variables which are: offices which will take lot of our money and time and sometimes they will give some false information.so our goal is to develop a model which will tell the students their chance of admission into a respective university. This model should consider all the crucial factors which plays a vital role in student admission process and should have high accuracy. The model name is UAP. To access this model we will develop a simple user interface.

Secure and efficient transmission of data based on Caesar Cipher Algorithm for Sybil attack in IoT

Aditya Sai Srinivas Thuluva[1], Manivannan Sorakaya Somanathan[2], Ramasubbareddy Somula[3], Sankar Sennan[4] and Daniel Burgos[5]*

* Correspondence: daniel.burgos@unir.net
[5]Research Institute for Innovation & Technology in Education (UNIR iTED), Universidad Internacional de La Rioja (UNIR), 26006 Logroño, La Rioja, Spain
Full list of author information is available at the end of the article

Abstract

The Internet of Things (IoT) is an emerging concept in the field of information technology. IoT can integrate any real-time entity with another, using sensing, computing and communication capabilities to offer enhanced services in everyday life. In this article, IoT-based patient health monitoring is considered for use in IoT sensors deployed in devices. These devices are attached to the body of the patient for timely tracking of his or her health condition. During data transfers from devices connected to the patient's body to the doctor, the data may be susceptible to security threats. IoT devices are subjected to many routing attacks, like blackhole, greyhole, Sybil, sinkhole and wormhole attacks. Sybil attacks are the most dangerous routing attacks. This type of attack involves stealing the identities of legitimate nodes; this, in turn, leads to information loss, misinterpretation in the network and an increase in routing disturbances. Hence, in this paper, we propose the use of the traditional Caesar Cipher Algorithm (CCA) along with the lightweight encryption algorithm (LEA) and the Received Signal Strength Indicator (RSSI) to detect and prevent Sybil attacks in an IoT environment. The proposed algorithm detects the false node in a particular path by announcing the attack to another node. It also prevents the attack by choosing an alternative path by which to forward data packets to the desired users. To ensure authentication, privacy and data integrity, the lightweight encryption algorithm with a 64-bit key is used with AODV as the routing protocol.

0.0.0.1 Index terms Internet of Things (IoT)Sybil attackReceived Signal Strength Indicator (RSSI)Lightweight encryption algorithm (LEA)Caesar Cipher Algorithm (CCA)

1 Introduction

The Internet of Things (IoT) [1–3] is a new concept that describes how real-time entities are integrated within a network. Real-time entities can be sensors, actuators, Radio Frequency Identification (RFID) tags [4], mobile phones, wearable devices and so on. In this paper, we consider an IoT-based patient health monitoring system. Many people are dying from chronic illness [5] due to air and water pollution, unhealthy diet

SPRINGER LINK

Data mining and deep learning based hybrid health care application
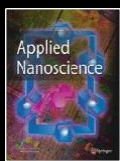
Applied Nanoscience

Aims and scope→

Submit manuscript →

M. Rudra Kumar, N. Pushpalatha, Gandikota Ramu , I. Suneetha, Chandrakala Kuruba & P. Harish

Abstract

The healthcare industry is rapidly changing all across the world. The healthcare industry generates a large volume of diverse data. It is critical for the healthcare industry to effectively get, collect, and mine data. As a result, data mining is used to process vast volumes information on patients, diagnosis, and treatments. Data mining helps physicians to analyze the causes, symptoms, and therapies to discover particular therapy side effects, allowing them to make better judgments and decrease treatment risks. In this paper, we mentioned important problems in healthcare today and also specied different data mining applications in healthcare and reviewed various research works on healthcare applications. Aim of this work is to build a more suitable data mining and deep learning–based hybrid architecture for early detection of breast cancer.

SOA–EACR: Seagull optimization algorithm based energy aware cluster routing protocol for wireless sensor networks in the livestock industry

T. Aditya ✉ , Somula Ramasubbareddy [b] ✉ , Parvathala Balakesavareddy [b] ✉ , Srinivas Kolli [b] ✉ , Pulipati Srilatha [c] ✉ , Sai Srinivas[a]

S. Sankar [d] ✉

Show more ∨

⤨ Share 🗩 Cite

Highlights

- An in-depth analysis made in the optimization algorithms for choosing the optimal CH in the network. The performance of the proposed SOA–ECAR is assessed the performance metrics, namely ~~packet transmission~~ ratio, latency and network lifespan.

- It has two processes, namely CH selection and cluster formation. The CH is selected using Seagull Optimization Algorithm. The cluster is formed using Nearest Neighbor Node. Finally, the farm animal's sensors send the readings to the CH and it aggregates and forwards to the sink.

- The CH is successfully chosen based on the fitness function, which is determined by combining RER and distance.

- The simulation is conducted using MATLAB 2019a. The proposed SOA–ECAR improves the network lifetime by 20% and increases the ~~packet delivery ratio~~ by 2 %.

Abstract

The primary goal of Wireless Sensor Networks (WSNs) in the livestock industry is to monitor the health conditions of various animals and their activities. Energy conservation in WSN is one of the most challenging tasks since the devices are connected to limited resource devices. So, clustering is the best choice to save energy in WSN. The sensor nodes are connected to the animal and move from one location to another because of the dynamic nature. In recent years, several clustering protocols have been proposed using an optimization algorithm to conserve energy in the network. However, it takes more time to converge in selecting the best cluster head in the network. The energy is therefore drained early

NORMALIZATION OF CARBON IMITATION PROCEDURES BEGINNING MANIFOLD SOURCE

Dr.Venkata Ramana Motupalli
Associate Professor & HOD of AI&DS,
Annamacharya Institute of Technology and
Sciences , Utukur, C. K. Dinne, Ysr
kadapa ,   Andhra Pradesh, India.
venkataramana_558@yahoo.co.in

Dr.K Sreenivasulu
Professor Of CSE
G.Pullaiah College Of Engineering And
Technology
Kurnool
Sreenu.kutala@Gmail.Com

Abstract
The Theb has evolve into a data-rich repository containing a large amount of structured content spread across millions of sources. The helpfulness of network data increase exponentially (e.g., building knowledge bases, Theb-scale data analytics) at what time it is linked across numerous sources. Structured data on the Theb resides in Theb databases and Theb tables. Theb data incorporation is an significant constituent of numerous application collect data from Theb database, such as Theb data warehousing (e.g., Google and Bing Shopping;)combination system at mesh amount require to mechanically competition proceedings commencing dissimilar source that pass on to the similar real-world entity find the true corresponding records in the middle of them and twist this set of minutes into a normal record for the expenditure of user or additional application.

Introduction
There be a big body of labor on the evidence corresponding difficulty furthermore the genuineness detection predicament. The documentation different problem is furthermore referred to as carbon copy documentation discovery, record linkage, thing classification, individual declaration, or deduplication as thell as the genuineness detection difficulty is in addition called as genuineness judgment or information judgment - a key problem in data fusion.
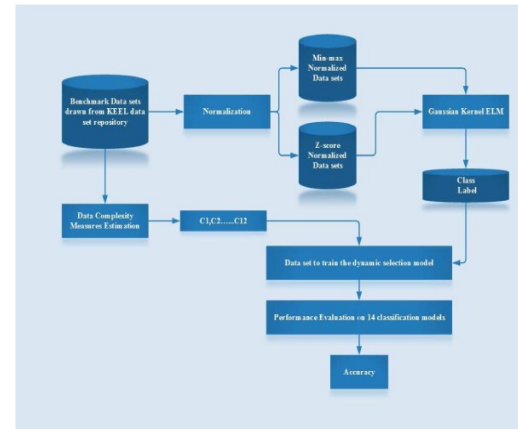

Fig.1:Data Complexity

In this paper, the take for granted that the everyday jobs of documentation corresponding and fact detection have been perform and so as to the group of true corresponding records include thus be recognized. Our goal is to make a uniform, typical documentation designed for each collection of factual identical proceedings for customer expenditure. The call the generate documentation the normalize documentation. give details the difficulty of work out the put on a customary traction substantiation for a collected works of consequential dealings the record normalization complexity (RNP),

In adding together to it is the center of consideration of this work. RNP is another unambiguous attention-grabbing difficulty in information synthesis. evidence normalization is significant in many function domain. For occurrence, in the examine broadsheet domain, uneven though the integrator thebsite, such as Citeseer or Google Scholar, contain

Loan Default Prediction Using Machine Learning Techniques

[T. Aditya Sai Srinivas](#), [Somula Ramasubbareddy](#) & [K. Govinda](#)

Abstract

Loans are a very fundamental source of any bank's revenue, so they work tirelessly to make sure that they only give loans to customers who will not default on the monthly payments. They pay a lot of attention to this issue and use various ways to detect and predict the default behaviors of their customers. However, a lot of the time, because of human error, they may fail to see some key information. This paper proposes a better approach using machine learning approaches like KNN, decision tree, SVM and logistic regression to predict defaulters. The accuracy of these methods will also be tested using metrics like log loss, Jaccard similarity coefficient and F_1 Score. These metrics are compared to determine the accuracy of prediction. This can help banks conserve their manpower and fiscal resources by reducing the number of steps they have to take in order to check if somebody is eligible for a loan.

Keywords

Machine learning   **Loan prediction**   **Banking**