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CYCLE II



3 : RESEARCH, INNOVATIONS & EXTENSION

3.3 Research Publications and Awards

3.3.1 Number of Research Papers Published Per Teacher in the Journals on UGC care list during the last five years

3.3.1 E-copies of Research Publications during Assessment Period



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List of Paper Publications

A.Y 2022-2023

| S. N O | Name of the Author | Department of the Author | Title of the Paper | Name of the Journal | ISSN number | Year of Publication |
|--------|--|--------------------------|---|--|-------------------------------------|---------------------|
| 1. | B. Sudhir | ECE | Coherent Pixel Correspondence for Image Registration | Journal of Data Acquisition and Processing | 1004-9037 | 2023 |
| 2. | Mrs. G. Haritha Rani, Mrs. A. Josh Mary, Mr.Ch. Gopi | CSE | Utilizing Model-Based Testing at Microsoft | journal of Current Science | 9726-001X | 2023 |
| 3. | Mr. J. Kiran Chandrasekhar, Mr. B. Sudhir, Mr. N. Chandra sekhar | ECE | Performance analysis of two IPv6 dynamic routing protocols: OSPF and EIGRP | International Journal of computer Networks and Wireless Communications | ISSN: 2250-3501 | 2023 |
| 4. | Mr. P. Rama Krishna, Mr. M. Rafath Kumar, Mrs. P. Manasa | CSE | Research Initiatives to Increase Undergraduate Computer Science Retention | journal of Current Science | 9726-001X | 2023 |
| 5. | Mr. B. Sudhir, Mr. J. Kiran Chandrasekhar, Mrs. B. Vijaya | ECE | Implementing Sparse Encryption for Real-Time Multimedia Systems Using Discrete Wavelet Transforms | International journal of basic and applied research | ISSN 2249-3352 (P) 2278-0505 (E) | 2023 |



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|----|-----------------|-------|---|------------------------|-----------|------|
| 6. | P.Sateesh kumar | S & H | Teaching English as a Foreign Language Instructor Cognition and Acquiring Equity in Education in Indian Scenario | GIS Science Journal | 1869-9391 | 2022 |
| 7. | P.Sateesh kumar | S & H | Contemporary Issues Challenges and strategic measures in ELT for engineering students in indian context | Gradiva Review Journal | 0363-8057 | 2022 |

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COHERENT PIXEL CORRESPONDENCE FOR IMAGE REGISTRATION

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Abstract—Estimating a true set of matching corresponding pixels has always been a challenge for image registration. This paper formulates the alignment problem as an estimation problem using expectation-maximization (EM) algorithm. With a given input of set of correspondence points and their distribution function a posterior probabilities of correspondence can be estimated and maximized until convergence. A simple thresholding can then distinguish between the inliers and outliers which can recover the coherent pixel correspondence between the image pairs. The experimental results have shown efficient results for images with rigid motion of translation and rotation.

Keywords—image registration, expectation, maximum-likelihood, point correspondence, coherence

Introduction

Image registration for commercial images has garnered a lot of importance in image processing techniques lately after its immense applications in many field like medical imaging, satellite imaging, image listing etc. while registration techniques differ based on modality of the images captured, a fully automated image registration have always found its own challenges. Image registration has been found to be more challenging especially when the image pairs used for registration have undergone any rigid or non-rigid motions. This paper describes a method for image registration for image pairs whose set of point correspondence is apriori given and have undergone rigid motion of translation and rotation. The point correspondence set of points are chosen such a way that they include most of the true matches between the image pairs. Hence an inlier set and an outlier set can be defined based on validation of the matching points. A strong discriminator which can estimate these set of points are hence desirable to achieve a reliable image registration.

Many estimating techniques have been used in various image processing techniques in the recent past. With the advance of computer vision and machine learning these estimators have become popular among research community in estimating the unknown parameters from a distribution of data points[1][2]. Maximum-likelihood [3][4][5]and least median of squares [6][7][8]are two techniques that are widely and popularly used in any statistical approach. [9]uses ML technique on mutual information in improving the speed of image registration. [10]has proposed a ML technique for joint image registration and fusion by formulating both these image processing problems as estimation problems. The performance in the fusion step is used to evaluate the accuracy of the image registration thereby optimizing both the processes simultaneously.

Utilizing Model-Based Testing at Microsoft

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Associate Professor, Assistant Professor ^{1,2}

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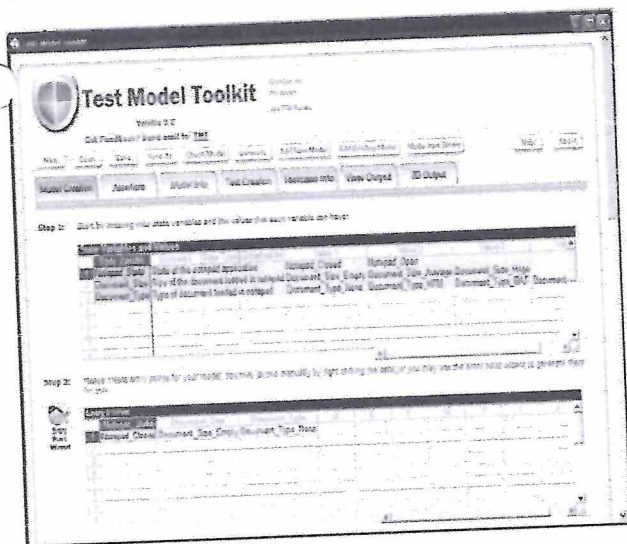
Abstract

Microsoft has been looking into possible ways to improve dependability as part of its Trustworthy Computing [4] project. The model-based testing approach is becoming more and more well-liked. Because a Finite State Machine modeling tool (TMT) is widely used, more flexible and robust modeling is required. Numerous product teams are now investigating the Abstract State Machine Language (Amsel) and the Amsel/T testing system. They are also more efficient at testing live systems to cover more structural code and at identifying problems early in the design and definition stages.

Keywords: formal testing methods, choosing which tests to run, and creating test cases automatically.

Introduction

Most software testing is done via black box testing, which involves observing the program's behaviour from the outside. It wasn't long ago that many testing were conducted by hand. As the software and environment requirements for running Microsoft products have become more complex, the need of having an easier test design and administration has grown. Even though many testers utilise models in their brains or on paper, Model-Based Testing isn't entirely usable due to its lack of automation. The folks working on Internet Explorer devised a method to model things using FSMs. in English




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team and is now really used a lot. A group of product workers saw Abstract State Machine Language (ASML) from the Foundations of Software Engineering (FSE) team at the MSR. This more complicated method has been met with the most enthusiasm by test groups when regular FSMs fail. Indigo is a set of .NET technologies for making and controlling

Performance analysis of two IPv6 dynamic routing protocols: OSPF and EIGRP

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Abstract — There are two types of interior gateway routing protocols: the more complex Enhanced Interior Gateway Routing Protocol (EIGRP) and the more straightforward Interior Gateway Routing Protocol (IGRP). As the name implies, EIGRP is better than IGRP. Consequently, we conjectured that networks with EIGRP enabled will perform better than others. This article describes how to design routing tables using the EIGRP routing strategy, compares EIGRP to OSPF, IGRP, and RIP, and implements the EIGRP dynamic routing protocol in an IPv6 network. The task of updating the routing tables is being carried out via the EIGRP protocol utilizing the DUAL algorithm and metric computations. In conclusion, this article provides several router instructions based on EIGRP routing strategies to achieve the desired outcomes while establishing connections to LAN and WAN interfaces.

Keywords— element, format, style, insert (keywords),

Introduction (HEADING 1)

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Research Initiatives to Increase Undergraduate Computer Science Retention

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ABSTRACT

We have created a curriculum that introduces students to computer graphics, art, and new media research in response to the alarming trend of declining enrollment in Rhode Island's computer science departments and the underrepresentation of women and minorities in these disciplines. This curriculum combines innovative teaching methods, such problem-based learning, with time-tested mentoring strategies. Students must to establish study groups and schedule frequent meetings to talk on the moral and societal ramifications of their studies. Every student is expected to fully engage in a mini-project from beginning to completion, including initiating, planning, creating, and presenting. Gathered and analysed throughout the first two years of the programme, this report includes it all. Classification Systems and Personal Narratives Information Technology Foundational Coursework (K.3.2) in Computer Science Ideas Elucidated These sentences specify computer animation, classroom instruction, and graduate-level study. Group Memberships

1. INTRODUCTION

- Two factors have contributed to the general drop in enrolment in computer science programs at the university level in the US: the number of IT jobs lost as a result of outsourcing and the dot-com crisis has been reported in the media. In the next years, there is expected to be a shortage of information technology (IT) workers, even though the US Department of Commerce [10] predicts a growth in computer science job openings through 2012.
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Implementing Sparse Encryption for Real-Time Multimedia Systems Using Discrete Wavelet Transforms

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Abstract— In wavelet transforms, discrete sampling of the wavelets is known as a discrete wavelet transform (DWT). Its ability to capture both frequency and position information gives it a significant advantage over Fourier transforms in terms of temporal resolution, as is true with other wavelet transforms. In order to meet the needs of the end user, the DWT filter offers a high compression ratio together with high-quality picture reconstruction. Low power consumption, high system throughput, and cheap hardware cost are further desirable attributes. For embedded multimedia systems operating in real time, the intended DWT presents an authentication and encryption method with zero overhead. To include a free parameter into the design, the Discrete Wavelet Transform (DWT) compression block is used in its parameterized formation.

Keywords— The discrete wavelet transform, multimedia encryption, and parameterization!

I. INTRODUCTION (*Heading 1*)

Several next-generation multimedia compression and transmission standards use the Discrete Wavelet Transform (DWT), which has facilitated research in image and video coding. A more effective implementation of the DWT has been developed in response to its growing significance in image and multimedia compression applications. You can see some of the limitations of the DWT filter's design in Figure 1. If it wants to meet the needs of its users, it has to have a good compression ratio and be able to rebuild images accurately. Low power consumption, high system throughput, and cheap hardware cost are further desirable attributes. When it comes to real-time multimedia systems, the suggested DWT design is perfect for those demanding top-notch security.

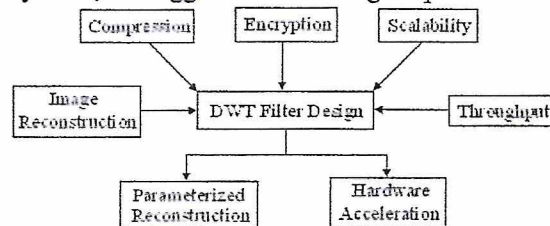


Fig. 1. DWT Filter Design Constraints

With its redesigned DWT filter, we can achieve great compression, flawless picture reconstruction, and compliance with security requirements.

Large amounts of computing power are needed by the currently used common encryption methods like AES and RSA. There is a very big delay for AES real-time applications since hardware implementations of AES are generally pipelined. Computationally intensive operations include video compression and data encryption. Figure 2(a) shows a plan that limits a DWT's bespoke hardware design to one with minimal hardware utilization and power consumption. A setup like this also makes it hard to efficiently send out video feeds that may grow in size. To get around these limitations, we need a system that can combine compression and encryption into a single operation without introducing heavy computing burdens. Figure 2(b) illustrates this idea. The compression engine incorporates a lightweight encryption block.

Teaching English as a Foreign Language: Instructor Cognition and Acquiring Equity in Education in Indian Scenario

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ABSTRACT

The process of achieving educational fairness involves teachers who teach English as a foreign language (EFL). Academic achievement of pupils is impacted by teacher cognition, which has a significant impact on teaching practice. Few research have looked closely at EFL instructors' cognition and practice, despite the fact that their position as equity agents has been acknowledged. Furthermore, no review studies have given the goal of illuminating the connections between EFL instructors' behaviors and cognition in the context of educational fairness enough attention. In order to provide a new perspective and generate new insights into this research field, the current study highlights the interaction between equity-oriented cognition and practice among EFL teachers and identifies both experiential and contextual factors that may have an impact throughout the teaching process in the context of Indian Scenario. Finally, the topic of actualizing education as a way of achieving equality is also covered, along with some practical consequences and directions for educators, academics, policymakers, and social justice activists.

Keywords : Educational Fairness, English, Foreign Language, Cognition

1.0 Introduction

Sustainable Development Goal 4 (SDG 4) calls for educational parity, which has long been seen as "an key aspect in enriching the quality of education" [1]. Many non-English-speaking nations have made learning English as a foreign language (EFL) a requirement, and it is seen as a necessary ability for global competence[2]. Therefore, EFL instruction is strongly tied to educational equality and exerts a substantial impact on the process of reducing educational and social inequities globally in the context of moving toward equitable education. By providing equal chances for all learners [3] and meeting the educational requirements of varied student groups [4], equity in EFL teaching may be achieved. However, inequities in EFL teaching persist, manifesting primarily in teachers' control over the class without providing students with equal opportunities to participate in the teaching process [5-6], as well as a failure to understand learners' needs by merely adopting a one-size-fits-all approach regardless of learners identity

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CONTEMPORARY ISSUES CHALLENGES AND STRATEGIC MEASURES IN ENGLISH LANGUAGE TEACHING FOR ENGINEERING STUDENTS IN INDIAN CONTEXT

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ABSTRACT

India presents several unique difficulties for English teaching. But obstacles are neither insurmountable nor annoying. Teaching without difficulties is boring and ineffective. Teachers are motivated to do action research by challenges. Action research findings can be used to overcome obstacles. The difficulties include the status of English in India, materials production and consumption, teaching methods, blending, testing, and evaluation, ongoing professional development and training, learner motivation, different socioeconomic and linguistic backgrounds of students, the medium of instruction in schools, backgrounds of different school boards, the amount of exposure to English, the influence of L1, and inadequately trained English teachers in schools. Important English language education stakeholders generally have a tendency to play the blame game neatly without anybody taking responsibility for the students' poor performance in developing communicative competency. The present study aims at identifying the various contemporary issues, challenges and their mitigative measures in teaching and learning English language for engineering students as well as educators in India.

Keywords: English Teaching, Difficulties, Competency, Issues, Measures

1.0 Introduction

All other learning is built on the study of language. Humanity is defined through language. Speaking and using language are both essential components of being human. The means of communication are words. In a heterogeneous and multilingual country like India, English functions as a connecting language and a linguistic intermediary on a worldwide scale. Even after seven decades after the last British colonists departed India, it still has a certain prestige in our nation. However, no other language has emerged to take the place of English as a means of communication or as the official language. It has been increasingly popular as a language for business, economic development, and social mobility over time. Teaching English language to the students from schooling has become a demand from the parents now a days in India. Further, it is clear that for the past thirty years or more, English has become incredibly popular in India, especially among students. It continues to surprise people that the rate of craziness is rising as corporate company and industry flourish in the age of scientific and technical advancements. Undoubtedly, a sizable number of private English Language Teaching Institutes, posing as Spoken English Institutes, have been founded with the sole purpose of stealing the hard-earned



List of Paper Publications

A.Y 2021-2022

| S. N O | Name of the Author | Department of the Author | Title of the Paper | Name of the Journal | ISSN number | Year of Publication |
|--------|--|--------------------------|---|---|------------------------------|---------------------|
| 1. | . K.S.N.V. Jyotsna Devi | CSE | Machine Learning algorithms for systematic review: reducing workload and reducing human screening error | GIS Science Journal | 1869-9391 | 2021 |
| 2. | Dr. D. Naga Purnima B.N. Pallapa Raju | S & H | Turning Delays: A Mathematical Model from Swarm Robotics | International Journal of Mathematical Modeling Simulation and Applications (ijmmsa) | 0973-8355 | 2021 |
| 3. | Dr. R. Rambabu G. Swarna Latha Dr. D. Naga Purnima | CSE | Cyber Security System from mobile devices using Artificial Intelligence | IJFANS International Journal of Food and Nutritional Sciences | 2319-1775(P) 2320-7876(O) | 2021 |
| 4. | Dr. R. Rambabu | CSE | Detection of Traffic Congestion from Surveillance Videos using Machine Learning Techniques | IoT in Social, Mobile, Analytics and Cloud | 978-1-6654-6941-8 | 2022 |
| 5. | Dr. R. Rambabu Dr. D. Naga Purnima G. Swarna Latha | CSE | Remote Experimentations of Artificial Intelligence in Education | IJFANS International Journal of Food and Nutritional Sciences | 2319-1775(P) 2320-7876(O) | 2022 |



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| 6. | Ch.Suresh kumar P.Durga Srinivas T.Prasanth Jaya Kumar | EEE | Half duplex cooperative relay channel Gaussian compression | “International Journal Of Applied Science Engineering And Management” | 2454-9940 | 2022 |
| 7. | P.Murali Krishna | MECH | Self Balancing Robot controlled by Bluetooth Module | International journal of pure and applied science and technology | 2229-6107 | 2022 |
| 8. | B.Vijaya T.Gangadhar Rao N.Chandra sekhar | ECE | Background Noise Elimination from Heart Rate and Electocardiogram Data using the undecimated wavelet transform | International Journal of Modern Electronics and Communication Engineering (IJMECE) | 2321 | 2022 |
| 9. | P.Manasa Dr. R. Rambabu K. Jyothi | CSE | How Technology as altered the operation of smart warehouses and how warehouse management is done | Journal of Current Science | 9726-001X | 2022 |
| 10. | N.Chandra sekhar T.Gangadhar Rao J.Kiran Chandrasekhar | ECE | A CVNS-Based low power 64 bit adder:Design and Implementation | International Journal of basic and applied research | 2249-3352(P) 2278-0505(E) | 2022 |
| 11 | Mr. P S S K Sarma, Dr. R. Rambabu, Mr. Ch. Gopi | CSE | How Students Participate in Dicussions in a Facebook Group | International journal of basic and applied research | P 2249-3352 E 2278-0505 | 2022 |


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Machine learning algorithms for systematic review: reducing workload and reducing human screening error

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Abstract

Background: Here, we outline a method of applying existing machine learning (ML) approaches to aid citation screening in an on-going broad and shallow systematic review of preclinical animal studies. The aim is to achieve a high-performing algorithm comparable to human screening that can reduce human resources required for carrying out this step of a systematic review.

Methods: We applied ML approaches to a broad systematic review of animal models of depression at the citation screening stage. We tested two independently developed ML approaches which used different classification models and feature sets. We recorded the performance of the ML approaches on an unseen validation set of papers using sensitivity, specificity and accuracy. We aimed to achieve 95% sensitivity and to maximize specificity. The classification model providing the most accurate predictions was applied to the remaining unseen records in the dataset and will be used in the next stage of the preclinical biomedical sciences systematic review. We used a cross-validation technique to assign ML inclusion likelihood scores to the human screened records, to identify potential errors made during the human screening process (error analysis).

Results: ML approaches reached 98.7% sensitivity based on learning from a training set of 5749 records, with an inclusion prevalence of 13.2%. The highest level of specificity reached was 86%. Performance was assessed on an independent validation dataset. Human errors in the training and validation sets were successfully identified using the assigned inclusion likelihood from the ML model to highlight discrepancies. Training the ML algorithm on the corrected dataset improved the specificity of the algorithm without compromising sensitivity. Error analysis correction leads to a 3% improvement in sensitivity and specificity, which increases precision and accuracy of the ML algorithm.

Conclusions: This work has confirmed the performance and application of ML algorithms for screening in systematic reviews of preclinical animal studies. It has highlighted the novel use of ML algorithms to identify human error. This needs to be confirmed in other reviews with different inclusion prevalence levels, but represents a promising approach to integrating human decisions and automation in systematic review methodology.

Keywords: Machine learning, Systematic review, Analysis of human error, Citation screening, Automation tools

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Turning Delays: A Mathematical Model from Swarm Robotics

Dr. D.N. Purnima, B. N. Pallapa Raju

ABSTRACT: By examining how turning delays impact the actions of differential wheeled robot groups, we demonstrate that their collective behavior may be characterized by a transport equation using an appropriately integrated delay. Our mathematical approach was confirmed by numerical simulations and testing using E-Puck robots. We compared our updated model to the experimental mean time when we tested robots' target area finding abilities in an unfamiliar environment. Substituting the transport equation with delay for the original one will provide a more accurate estimate of the normal trip time to your destination.

Keywords: The acceleration procedure, the transportation equation (with swarm robots), and the postponement

1 Introduction

Management and control of distributed autonomous agents has been the subject of much theoretical study in situations where long-distance communication is not feasible (Reif and Wang, 1999). In order to complete group-level tasks, such as reconnoitering an area of interest while gathering data or maintaining formations, algorithms have been designed to respond on signal presence or absence (Desai et al., 2001). In this article, we examine a robotic system that draws inspiration from flagellated bacteria for its search strategies.

Many flagellated bacteria, including *Escherichia coli* (*E. coli*), use a run-and-tumble search strategy when they need to find something (Berg, 1983). For a cell to advance

steadily in a bundle, its flagella motors must spin counterclockwise; when the motors of at least one flagellum spin clockwise, the bundle breaks apart and the cell "tumbles" (Kim et al., 2003). In the aftermath of a fall, a cell's orientation is changed in a way that is almost at random for the subsequent run, with a little bias towards the direction of the prior run (Berg and Brown, 1972). The random walk is fair when there are no signal gradients; it runs for roughly 1 second and tumbles for around 0.1 seconds. While this is happening, the cell's mobility is positively (negatively) affected by an external signal gradient, and hence, there is a bias in the random walk (Berg, 1975; Koshland, 1980). When animals in a swarm work together to ward off danger, they exhibit similar behavior (Couzin et al., 2002).

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CYBER SECURITY SYSTEM FOR MOBILE DEVICES USING ARTIFICIAL INTELLIGENCE

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ABSTRACT: The fast rise in smartphone usage has coincided with an upsurge in malicious attacks targeting Android mobile devices. Android systems provide several significant methods, such as banking apps; as a result, malware that takes advantage of security flaws in systems targets them. Throughout the last ten years, the cyber threat has increased dramatically. The skills of cybercriminals have advanced significantly. The networks were not sufficiently protected by the security regulators in place against the growing number of highly adept cybercriminals. High levels of innovation and automation have resulted from the most recent developments in Artificial Intelligence (AI) techniques. Even while AI approaches have many benefits, they might also be used maliciously. Modern Artificial Intelligence (AI)-assisted approaches are being used by the most recent generation of cyber threats to undertake multi-level, powerful, and possibly deadly attacks. Different issues arise while trying to defend against new and developing threats with current cyber defense technologies. Therefore, an artificial intelligence-based cyber-threat protection system for Android-powered mobile devices is provided in this study.

KEYWORDS: Artificial Intelligence (AI), Machine Learning (ML), Deep Learning (DL), Cybercriminals

I. INTRODUCTION

In present time, admiration for Android-operated cellular devices has allured the attention of malware developers, and this particular task is increasing quickly [1]. With the rapid development of technologies, the utilisation of smart phones with the latest specifications

In general, security is built into Android systems, with sandboxing techniques and authorization systems programmed to reduce the threat of Android applications. The former is implemented by utilising the Linux environment to run Android applications, which enables the user to grant permissions to install any applications. Anyhow, while updating or upgrading cellular applications, security and privacy parameters like time permission, background location, memory, etc. are modified, this gives a time frame for malware attacks. Customers could exploit Android vulnerabilities during application development because Google Play Store didn't detect malicious attacks until applications were published. Artificial intelligence is accelerating both economic and social development. It has also become one of the key technologies of digitalization, creating both opportunities and risks [2]. The majority of malware development focuses on cellular devices, which hackers hack and turn into bots. That enables hackers to approach affected devices with another associated device and create botnets. Botnets were utilised to implement various malicious attacks like distributed denial-of-service (DDoS), spam forwarding, stealing information, etc. Malicious botnet attacks were implemented by modern methods (e.g., multi-stage payload or self-defense),

Detection of Traffic Congestion from Surveillance Videos using Machine Learning Techniques

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Abstract – Smart Cities applications, automated traffic control and management is the most trending research area. With the improving needs of developed towns and cities traffic congestion, now a days this the traffic congestion control and its applications has large needed facing problem in the increased population cities. Peeled eye camera photos and videos can be watched efficiently to detect traffic congestions in most of the areas in the grown populated cities. The earlier researchers had observed more on traffic signal controls through photos executed by using different algorithms of machine learning. There is existing research available on traffic signal controls through image processing and various machine learning methods. The image features are extracted and interpreted for the same. Deep learning algorithm, convolutional neural network (CNN) is proposed for effective detection of traffic congestion. There were existing works available in traffic detection using machine learning and deep learning approaches. Machine learning, Nowadays, traffic surveillance systems collect a lot of videos or images and store them for the live monitoring purposes. Deep learning techniques are used sparingly in traffic surveillance and control systems. Various images with various weather conditions are collected and are used as training dataset. Advantages of deep learning have been exploited in many applications, which use computer vision and image analysis. One of such applications is traffic monitoring, in which large amounts of video or images are processed for effective learning. The traffic surveillance can only monitor, which cannot detect the traffic on particular time.

KeyWords: Machine learning, deep learning, Convolution Neural Networks (CNN) Traffic prediction, and multi-class classification.

I. INTRODUCTION

Existing techniques used video detection and other hardware equipment for detecting the traffic. Thus, the cost of implementation and maintenance of traditional systems were high. Video transmission and traffic computation cost is high in the traditional systems. Improvements to the deep learning process have appeared in a variety of real-world applications, including traffic monitoring. Deep learning models make image analysis and traffic detection simple. Traffic monitoring can be done with the help of spatiotemporal data. With this monitoring system, the area of traffic congestion can be seen automatically. Traditional surveillance systems are tedious as it requires huge man

power and frame wise monitoring in all the surveillance cameras are required. (Frame by frame monitoring in all surveillance cameras are required). Thus, the objective of our proposed system is to develop an intelligent surveillance system, which can automatically categorize the traffic congestion as

1. High traffic,
2. Less traffic,
3. Fire accident
4. Accident.

The proposed system is considered as multi class classification and this can be achieved by Convolutional Neural Networks (CNN). , the detection of fire accidents and normal traffic accidents can be detected , in this work it takes all 4 classified images into one dataset after that it can classify these 4 types of images filtered to prepare a Trained dataset.

The image features are extracted and interpreted for the same by using CNN model and it is proposed for effective detection of traffic congestion. There were existing works available in traffic detection using machine learning and deep learning approaches. Machine learning, Nowadays, traffic surveillance systems collect a lot of videos or images and store them for the live monitoring purposes. Deep learning techniques are used sparingly in traffic surveillance and control systems. Various images with various weather conditions are collected and are used as training dataset. Advantages of deep learning have been exploited in many applications, which use computer vision and image analysis. One of such applications is traffic monitoring, in which large amounts of video or images are processed for effective learning. The traffic surveillance can only monitor, which cannot detect the traffic on particular time.

Normal surveillance of traffic is handled manually, which requires huge manpower to handle. It also lacks efficiency. It is a highly complex system to monitor manually and identify traffic. Moreover, human error may occur, as it is not possible to watch all cameras under surveillance. Thus, the effective monitoring of large-scale surveillance systems with an automated monitoring for traffic congestion is needed for the intelligent transport system (ITS)

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REMOTE EXPERIMENTATIONS OF ARTIFICIAL INTELLIGENCE IN EDUCATION

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ABSTRACT:

Research on the application of visual artificial intelligence (AI) in education has advanced significantly in recent years. should take advantage of the opportunity to gather a lot of data in many settings and circumstances. However, gathering this kind of data requires a lot of work and time. In addition, creating and evaluating visual AI algorithms for multisensory models are costly and sometimes hazardous real-world procedures. To solve both of these problems, a 3D environment simulator that offers variable setup of multimodal sensors and produces photo-realistic simulations using a view synthesis module. To produce realistic images, we incorporate innovative depth refinement, adaptive view selection, and layered rendering into our view synthesis module. It demonstrates the various benefits that PreSim offers: Three key features it offers are: (i) a photo-realistic 3D environment that makes it easy to integrate multisensory models in the virtual world and allows them to perceive and navigate scenes; (ii) an internal view synthesis module that makes it possible to translate simulation-tested algorithms to physical platforms without domain adaptation; and (iii) the capacity to generate large amounts of data for vision-based applications, like object pose and depth estimation. Thus, students can profit from virtual classrooms by adopting.

KEYWORDS: Simulation and Animation, Sensor Fusion, RGB-D Perception, Remote Experimentation, 3D virtual worlds

I. INTRODUCTION

Deep network-based data-driven approaches have shown remarkable performance in recent years for computer vision problems including 6D object pose estimation and depth estimation [1]. A lot

of data is required for these data-driven techniques to train and evaluate their models. But gathering and classifying data is a laborious and time-consuming task. The simulated environment is starting to show promise as a solution to these issues since it can supply a large amount of annotated data for a variety of AI activities.

A major current focus of environment simulators is to reproduce high-quality free-viewpoint rendering of real scenes. There are a number of open source simulators [2] to achieve this goal by parameter settings of scene details, including geometry, texture, lighting and 3D modeling of static objects. However, parameter setting is time-consuming and labor-intensive. Even with precise modeling and suitable parameter settings, the simulated world still lacks richness and diversity of the real world. This disadvantage may result in the failure of transferring algorithms that are developed and tested in simulation to physical platforms for many vision-based tasks, such as object recognition, obstacle avoidance, and visual navigation. This problem is known as the reality gap: the discrepancy between synthetic and real data.

To address this issue, game engines which allow photorealistic rendering have been leveraged to build virtual environments.

Half-duplex cooperative relay channel Gaussian compression

Mr. Ch. Suresh Kumar, Mr. P. Durga Srinivas Mr. T. Prasanth Jaya Kumar

Abstract

Utilizing the CS theory and its strong connection to low-density parity-check codes, we provide compressive transmission—a method that uses CS as the channel code and amplitude modulation to transmit multi-level CS random projections directly. This piece concentrates on the compressive cooperation inside a relay channel. Our research focuses on four decode-and-forward (DF) methods—code diversity, receiver diversity, sequential decoding, and concatenated decoding—in a three-terminal half-duplex Gaussian relay channel, and we measure the potential rates for each. To compare the four strategies, we use numerical calculation and virtual experimentation. Additionally, we examine and contrast compressive cooperation with an alternative source channel coding scheme for sparse source transmission. Transmission efficiency and channel adaptation are two areas where collaborative compression shows great potential.

Introduction

"Compressive sensing" (CS) [1,2] is a relatively recent field of study that aims to recover sparse signals with a small number of randomly chosen linear projections. Recently, it has been shown that CS and LDPC codes, a well-known kind of channel coding, are closely associated. [3,4]. When the measurement matrix in CS is employed as the parity-check matrix of an LDPC code, the CS reconstruction approach provided by Baron et al. [5] is virtually identical to Lucy's LDPC decoding algorithm [6]. Given the similarities between CS codes and LDPC codes, we suggest and study compressive transmission, which uses CS codes as channel codes and applies amplitude modulation directly to transmit multi-level CS random projections. Because of its capabilities in both source compression and channel protection, CS may be seen as a hybrid code that combines the two. When sending sparse or compressible

data, traditional systems use source coding to compress it first, and then channel coding to protect it over the lossy channel. Compared to the conventional method, compressive transmission offers a number of clear advantages. Thanks to its use of random projections to provide measurements unrelated to the compressible patterns, CS streamlines operations at the transmitter end. Thin signal-gathering devices, such as sensor nodes and single-pixel cameras, may benefit from this [7]. It also makes things last longer. It just takes a little error of one bit to corrupt compressed data. The conventional approach could fail to decode a full coding block or even a data sequence if the channel code isn't strong enough to protect data in an unexpectedly degraded channel. Conversely, since CS random projections operate directly on source bits, errors in individual bits do not impact the overall data quality.

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SELF BALANCING ROBOT CONTROLLED BY BLUETOOTH MODULE

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ABSTRACT

To make a robot that can balance on two wheels. There will be only one axle connecting the two wheels, and a platform will be mounted on that. There will be another platform above it. The platform will not remain stable by itself. The functioning of the device is to balance the platform using distance sensors as Gyroscope sensor (Gyro MPU6050) and to maintain it horizontal. Firstly to just balance the robot on its two wheels, if the platform inclines, then the microcontroller (in this case, an Arduino Nano) will send signals to motors such that motors will move forward or backward depending on the inclination direction and extent. Balance of the robot was achieved by using a Proportional-Integral Derivative (PID) controller with inputs from a gyroscope and accelerometer. Stepper motors were used to maneuver the robot. A two wheeled self-balancing robot builds upon the inverted pendulum principle, if F is the force applied, ϕ is the angle from the equilibrium. When a tilt from the equilibrium occurs the motors will generate a torque that drives the wheels in the same direction as the tilt. The wheels will move the same distance as the centre of gravity in order to maintain balance. In order to achieve forward movement, the angle set point will be increased, changing the equilibrium point. A self-balancing robot is creating a robot that is a replica of a human body. Traditional robots consisted of four wheels, were easily stabilized, and were comparatively bigger in size. A traditional robot uses four wheels and four motors for movement, while a self-balancing robot uses only two wheels and motors for movement. A very famous application of the self-balancing robot is the Segway. Segway has been readily available on the market since 2011 and is also termed a "human transporter". It is used mostly to cover shorter distances.

Keywords: Robot, Gyroscope sensor, Arduino Nano, Blue Tooth Module.

INTRODUCTION

Self-balancing robots are a topic of curiosity amongst students, robotics addicts, and hobbyists around the world. The fascinating aspect is the fact that it is a naturally unstable system. The project presents an attempt on

developing an autonomous self-balancing robot. A key element in maintaining the robot in the upright position is estimation of the tilt angle. For this, the Kalman Filter has been implemented and tested to fuse data from a gyroscope and an accelerometer.

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Background Noise Elimination from Heart Rate and Electrocardiogram Data Using the Undecimated Wavelet Transform

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Abstract - The study done to remove noise from heart rhythm and ECG readings is described in this article. The goal is to acquire signals with clarity and dependability so that a professional can subsequently interpret them. The Undecimated Wavelet Transform (UWT) is the foundation of this work[1]. The Wavelet filter D6 (Daubechies) was used in order to obtain a better identification of the collected signal, mainly because its scaling function is closely connected to the ECG's form and fits the application's restrictions extremely well [2].

The processed signals were acquired using an amplifying board of bioelectrical signals (front-end board) and a NI PCI-6221 data acquisition board with a sampling frequency of 200 Hz. The ECG signals are obtained through the implant of electrodes connected to a channel of the frontend board. The cardiac rhythm is then obtained using an optic dactilar sensor connected to an independent channel of the ECG signal. The amplifying board was designed and developed for researching purposes on the telemedicine and signal processing area. The application to denoise the ECG signal was developed by Lab View® and is capable of graphically showing the data before and after it's processed.

Keywords: reduction of background noise, wavelet transform, electrocardiogram.

INTRODUCTION

We can eliminate the noise from the ECG data that would otherwise skew the results by filtering them. These pollution sources can be categorized into the following types: Electrode noise caused by contact and line interference. The electrical connection between the board and the electrodes. Regardless of the cause, the noise significantly taints the ECG signal, making analysis difficult. WHILE GETTING AN ECG SIGNAL MAY BE EASY, IT'S MUCH

HARDER TO GET A RELIABLE ECG SIGNAL THAT A PHYSICIAN CAN USE FOR CLINIC ANALYSIS. This explains the importance of signal processing tasks including manipulation and filtering. IDENTIFYING VARIOUS ARRHYTHMIAS (INCLUDING TACHYCARDIA, BRADYCARDIA, AND VARIATIONS IN HEART RATE) AND OTHER MYOCARDIAL ABNORMALITIES IS MADE EASY WITH THE USE OF THE PQRST COMPLEX.

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How technology has altered the operation of smart warehouses and how warehouse management is done

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ABSTRACT

This article's main focus is on how technology has changed warehouse management. Here, we define "smart warehouses" and discuss some possible uses for them in the commercial world. We did our best to show in this article how automated warehouses ensure that every warehouse on Earth is ecologically responsible. By doing this, the supply chain becomes more sustainable and experiences a decrease in costs, waste, and time.

Keywords—Robotics, smart facilities, technological progress, and inventory management

1. INTRODUCTION

2. In the 1800s, railroad transportation of goods across long distances became more and more common. Train companies occasionally have a lot of control over how these goods are transported and stored. Everything at the railroad station has to be done by hand, even lifting. In the late 1990s, trolleys made moving movable things easier. Erroneous distribution of unlabeled merchandise is possible. Inventory tracking is difficult since each stack of goods lacks variation, even when they are heaped to heights of 12 feet. It's clear that stores from the past weren't like those from now. A great deal of paperwork and manual labour were prerequisites to building management prior to the turn of the century. Automated warehouse management is a result of modern concepts and technology. Modern warehouse management focuses on regulating the storage and retrieval of goods. In order to monitor the incoming and outgoing shipments, many businesses are increasingly using warehouse management software. Warehouse management systems used to be far more complex and required extensive training to use. Operations and maintenance are now the primary emphasis of the simplified systems. In comparison to its predecessor, the new warehouse management system streamlines operations, reduces costs, and enhances user prior knowledge. Warehouse management software now incorporates the rest of the business's technology to improve visibility, responsiveness, shipping timings, and overall speed. Thirdly, modern technology could be capable of handling mundane office jobs, making them more valuable and freeing up resources for new applications. Because the company and its products are expanding at such a rapid pace, warehouse management will need to improve. Stay tuned to our blog for more details on the evolution of warehouse management and the impact of new technology on this industry.

2. SMARTWAREHOUSES

3. There was a time when the warehouse was just a big structure with a row of shelves within. Workers do not need extensive knowledge of technology to operate the forklifts, the most complex piece of equipment in most warehouses.
4. The Smart Warehouse links many technologies and allows for various forms of automation. Warehouse productivity and efficiency are both enhanced by these technology, which reduce the need for human labor while



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A CVNS-Based Low-Power 64-Bit Adder: Design and Implementation

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Abstract— This project showcases the creation of a 64-bit mixed-signal adder that is based on the CVNS. Four 16-bit Radix-2 CVNS adders are cascaded to produce the 64-bit adder. The system's interconnections were reduced using Truncated Summation of the CVNS digits, leading to a decrease in design complexity, power consumption, and hardware costs. For use in media signal processing, this adder can execute one 64-bit, two 32-bit, and four 16-bit adds as needed. The CVNS adder is well-suited for use in multimedia applications due to its small size and low power consumption. Because of truncation summation, this system employs an algorithm for digital systems that reduces the amount of links needed. The 64-Bit CVNS adder that was synthesized using Cadence RTL Encounter has a core area of 3995 μm^2 , a power consumption of around 98.55 fW, and a timing slack of 7ps. It is an abstract.

Index Terms— A 64-bit adder, mixed-signal adder, media signal processing, analog digits, continuous valued number system (CVNS), and computer mathematics.

Introduction Many different kinds of digital systems rely on the Adders in some way. One of the most important arithmetic functions for modern digital systems, fast addition has a significant influence on digital systems' overall performance. It is still difficult to add quickly while consuming little room and power, even though several adder structures, such serial and parallel structures, can perform addition. Modern central processing units (CPUs) employ adders for calculating the physical address and for all arithmetic operations. When a fully functional central processing unit (CPU) is unnecessary, adders are used in a variety of digital systems, including telecommunications systems. A wide variety of adders are known. Though ripple adders are more compact, the design calculation is painfully sluggish. Compared to ripple or carry-skip adders, carry-select adders are much faster, but they are also significantly bigger and use a lot more power. The proliferation of mobile phones, digital cameras, and other video devices has put multimedia signal processing in the spotlight [1]. For these kinds of applications, effective signal processing units need reconfigurable adders that can handle data of different lengths without increasing design complexity excessively. As a general rule, an efficient adder design may add one 64-bit, two 32-bit, four 16-bit, and eight 8-bit operations [2], which is crucial for the creation of reconfigurable systems. Implementation costs, measured in terms of worst-case latency and power consumption, tend to rise when introducing reconfigurability to an adder [3]. New to computer mathematics is the CVNS representation, which stands for continuous valued number system. The development of efficient and high-performance arithmetic units, like as adders, has made good use of this continuous number system with non-integer digits.

I.

II. CONTINUOUS VALUED NUMBER SYSTEM

CVNS [4] stands for "Continuous Valued Number System". CVNS is a novel continuous (analog) digit representation and arithmetic system. This number system performs arithmetic operations by applying digit-level modular reduction operation on continuous real values. Some of the important and known features of the CVNS are given. These are the general arithmetic features of the CVNS, and do not consider actual system design issues of arithmetic units based on this number system. These features can be obtained by the mathematical expressions for a feasible design of a reconfigurable adder.

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How Students Participate in Discussions in a Facebook Group

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Abstract

This study focuses on how students employ communication strategies (CS) in Facebook groups to augment their restricted language repertoire and enhance their online conversational abilities. Using a purposive sample technique, twenty-eight individuals were selected from a public university communication course. Ten students were selected at random to take part in the study in order to do a comprehensive investigation of the occurrences inside the instance. Information was gathered through threaded OLD, interviews, reflecting journals, and retrospective sessions. The theme analysis demonstrates the variety of CS strategies that students used to finish the challenge. Direct, interactive, digital media, and paralinguistic techniques were some of these tactics.

Keywords:

Facebook groups, language learners, and strategies for effective communication 1.

Introduction

Due to language barriers, interpersonal connections can be especially difficult for second-language learners. Learning word choice is crucial for second language learners because it gives them more freedom to express themselves in spoken communication. Some students could try to make up for their lack of TL understanding by making their speech more emphasised. Nonetheless, some people can discover that using a different mode of expression enables them to accomplish their communication goals. This type of deliberate activity is commonly referred to as communication strategies (CS). Numerous different kinds of remote interactions are now feasible thanks to computers, mobile phones, and other electronic communication devices. The usage of Internet 2.0 sites by young people has skyrocketed in the last few years, notably Twitter. Because they allow for so many different kinds of communication between students, faculty, and staff, these technologies have become more important to today's college students. Both Nakatsuka (2009) and Lockyer and Patterson (2008) point out that, despite initial resistance and scepticism, some language teachers have begun to investigate and use social networking strategies to enhance their instruction and the language acquisition of their students. Few details regarding how ESL students use Facebook groups to incorporate computer science into an old language (OLD) are known, despite the growing body of literature on Facebook's educational uses (Bozzetto More 2012, Mellor&Hadid 2012, Selwyn 2009). Especially in Malaysian schools, there is a dearth of research on how pupils utilise digital CS. Research on the use of CS is very important since it is the method that students use to make up for and overcome their language deficit and achieve their

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List of Paper Publications

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| 2. | Dr. R. Rambabu Dr. D. Naga Purnima G. Swarna Latha | CSE | Disease Detection using Machine learning in human beings | IJFANS International Journal of Food and Nutritional Sciences | Print 2319-1775 Online 2320-7876 | 2021 |
| 3. | P.D. Srinivas Ch. Suresh Kumar T. Prasanth Jaya Kumar | EEE | Stator Winding load Elevation Control in Self-Excited Induction Generators | International Journal of Applied Science Engineering and management | 2454-9940 | 2021 |
| 4. | Dr. R. Rambabu K. Jyothi A.Josh Mary | CSE | Analytics, Modeling, and data Visualization | International Journal of basic and applied research | 2249-3352(P) 2278-0505(E) | 2021 |


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Interaction between the machines themselves

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Abstract

The problem of machine-to-machine (M2M) transmission has gained significant attention in recent times because to the fast progress of wireless technology and the enormous potential market for Internet of Things devices. It's the most innovative technological advancement of the twenty-first century, and it's also given colleges and corporations a fighting chance. Machine-to-machine (M2M) connections are becoming more and more common, opening up new possibilities for autonomous operations and merging the virtual and physical worlds. It may increase the efficiency of traditional procedures, which would encourage their broad application in wired and wireless systems that include integrated sensors and actuators. This article discusses a number of core machine-to-machine (M2M) communications topics, along with associated technology and difficulties. A few of these On top of that, we have laid out a thorough taxonomy for classifying M2M devices based on the characteristics of their networks and patterns of interaction. We also looked at finished home networking projects to learn more about how these technologies were put into practice. In addition to illuminating the obstacles faced by present-day M2M systems, this study offers new perspectives on the best way forward for research in this area.

Keywords: Machine-to-machine communication, network and communication pattern

Introduction

A procedure of connecting two or more computerised systems that does not include a human being is called "machine-to-machine communications" (or "M2M communication"). We are mostly unharmed in the newly formed language of "human-to-machine communications and machine-to-machine communications" that has evolved from human-to-human interactions in recent years. M2M, in a broader sense, describes a system of interconnected computing devices that may detect or get data from other systems of devices; this system may include sensor networks, mobile appliances, and other capillary devices. Sending the detected or received data farther, via a sequence of hops, in the direction of its eventual target achieves the end-to-end connection in the wifi network. There are a wide variety of potential uses for machine-to-machine (M2M) communication, such as in environmental monitoring, civil and public safety, supply chain management, the smart grid, healthcare, building automation, the military, agriculture, and home networks [1, 9]. "New business groupings and prospects" are formed as a consequence of using these applications. When compared to conventional networks, M2M exhibits significantly distinct behaviour and characteristics [1-3]. Because there are a great number of nodes in an M2M network, which may be anything in our environment, such as machines or gadgets. To achieve effective communications amongst a large variety of devices, it is necessary to keep both the equipment price and the connection cost low. The most difficult part is finding ways to reduce power use, as most equipment run on batteries. Overall, each machine experiences a low enough traffic level to be accommodated if it receives data from another device or external sensations (such as from scanners or mobile communication devices). While it is possible to establish machine-to-machine (M2M) communication

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DISEASE DETECTION USING MACHINE LEARNING IN HUMAN BEINGS

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ABSTRACT: Timely and precise evaluation of any health-related issue is crucial for both sickness prevention and treatment. When dealing with a significant issue, the conventional diagnostic approach might not be the most effective. A more accurate diagnosis than the traditional approach may be possible with the development of a medical diagnosis system based on Machine Learning (ML) algorithms for the prediction of any disease. We have used many ML algorithms in the creation of a disease prediction system. Over 230 illnesses were included in the dataset that was processed. The diagnosis system provides an output representing the possible disease that a person may have based on their age, gender, and symptoms. Out of all the methods, the weighted hybrid (Support Vector Machine and Decision Tree) algorithm produced the best results in terms of accuracy and sensitivity.

KEYWORDS: Machine Learning (ML), Disease Prediction, Symptoms

I. INTRODUCTION

Medicine and healthcare are some of the most crucial parts of the economy and human life. There is a tremendous amount of change in the world we are living in now and the world that existed a few weeks back. Everything has turned gruesome and divergent. In this situation, where everything has turned virtual, the doctors and nurses are putting up maximum efforts to save people's lives even if they have to danger their own [1]. There are also some remote villages which lack medical facilities. Virtual doctors are board-certified doctors who choose to practice online via video and phone

appointments but this is not possible in the case of emergency. Machines are always considered better than humans as, without any human error, they can perform tasks more efficiently and with a consistent level of accuracy. A disease predictor can be called a virtual doctor, which can predict the disease of any patient without any human error [2].

Also, in conditions like COVID-19 and EBOLA, a disease predictor can be a blessing as it can identify a human's disease without any physical contact. Some models of virtual doctors do exist, but they do not comprise the required level of accuracy as all the parameters required are not being considered. The primary goal was to develop numerous models to define which one of them provides the most accurate predictions[3]. While ML projects vary in scale and complexity, their general structure is the same. Several rule-based techniques were drawn from machine learning to recall the development and deployment of the predictive model. Several models were initiated by using various Machine Learning (ML) algorithms that collected raw data and then bifurcated it according to gender, age group, and symptoms. The data-set was then processed in several ML models like Fine, Medium and Coarse Decision trees, Gaussian Naive Bayes, Kernel Naive Bayes, Fine, Medium and Coarse KNN, Weighted KNN, Subspace KNN, and RUSBoosted trees. According to ML models, the accuracy varied. While



Stator Winding Load Elevation Control in Self-Excited Induction Generators

Mr. P. Durga Srinivas, Mr. Ch. Suresh Kumar, Mr. T. Prasanth Jaya Kumar

Abstract

When the electrical demand is maintained at a consistent level by an Electronic demand Controller (ELC), a Self-Excited Induction Generator (SEIG) powered by a fixed-speed low-head hydroturbine may generate stable voltage and frequency. To manage frequency and regulate voltage in the Conventional-ELC (C-ELC), a chopper with a dump load is frequently employed in combination with consumer loads. Chopper action may put a lot of strain on the stator windings and excitation capacitors in a C-ELC system since the dump load is briefly connected to the winding during each chopping cycle and then disconnected. This stress may be reduced by introducing a new ELC topology. The major dump load now has two parts, as opposed to one as in the C-ELC. If some of the dump load is linked in parallel with the consumer loads, the stator windings and excitation capacitors will be put under less stress, and the SEIG will see less variation in the overall load. The proposed design may work with unbalanced consumer loads if applied per phase using bidirectional power switches. Simulations with unbalanced three-phase loads (with the use of bidirectional switches per phase) have shown that the proposed architecture can regulate voltage from no-load to full-load. Furthermore, the Total Harmonic Distortion (THD) investigation for output (stator) current shows a 9% enhancement when compared to the most current results in the literature.

Keywords: Insulated-Gate Bipolar Transistors (IGBTs), choppers, and exit capacitors are all part of microhydro.

Introduction

A significant portion of the world's population relies on traditional biomass for their everyday energy requirements, such as cooking, heating, and lighting, and a quarter of that population does not have access to electricity [1]. Particularly in developing countries, a high reliance on traditional biomass sources like wood may shorten the average lifespan due to the effects of several health problems [1]. A paradigm shift toward the use of alternative and renewable energy was driven by this motivation, together with growing environmental awareness, increasing electrical energy demand, decreasing supplies of

conventional fuels, and technical breakthroughs in power electronics. Renewable energy sources including wind, pico-hydro, and micro-hydro turbines are ideal for remote areas without easy access to large-scale electrical generating services on the grid since they are stable and easy to install. Separate from the main electrical grid, these power plants are known as stand-alone power generating units. Ideal candidates for the squirrel cage self-excited induction generator (SEIG) [2-4] are standalone generating units with a power rating of less than 20kW driven by a constant speed uncontrolled turbine. The first account of the self-excitation phenomenon was provided by Besant and Potter [5] in a local bank of capacitors across the output terminals of an induction generator.

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Analytics, modeling, and data visualization

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Abstract

The primary problem of data scalability is information complexity. In order to solve large data issues and achieve data unification, diverse data sets are essential. All of these recommendations are crucial, but because big-scale databases require enormous amounts of computing and storage, they are challenging to monitor and evaluate. In the information era, when data is expanding exponentially, digital extraction poses a significant challenge because of the human brain's limited ability. Based on earlier research, this study discusses and analyzes heterogeneous distributed storage, offers data visualisation, and examines the issues associated with these technologies. Furthermore, a comparison is made between the outcomes of the examined research, and the profound change in the field of big data presentation brought about by virtual reality.

Keywords: Big data, multidisciplinary, display, distribute data value

Introduction

This is the Big Data age, when data analytics and visualisation are becoming more and more popular due to the increasing amount of data created by various technologies, such as computers, social media, and mobile platforms. The requirement for massive amounts of data processing and storage capacity makes presenting and comprehending large-scale databases necessary and challenging. Science Daily claims that the rate at which data is being generated has increased dramatically in recent years. In fact, 90% of the world's technology has been invented in the past two years alone. The only way to handle this on-slide deluge of data is to drastically alter our data processing philosophies, methodologies, and techniques, and to place much more focus on the subject. A new phrase, Big Data, has emerged in the last few years to characterise the effective identification of this data rush and the distribution of cutting-edge technology solutions that can handle the enormous amount of data produced. The fact is that the phrase "Big Data" has grown in popularity since its introduction in 2011, according to a Google Trends analysis. Given the wide range of viewpoints and approaches to managing massive data sets, the term "big data" could mean different things to different people. The term "Big Data" refers to sets of information that are technologically insurmountable when processed using conventional database management tools (D.). From a purely technical standpoint, marketers are less concerned about the internal and decision-making challenges posed by large volumes of data. Also included are data sets that are too large for the user's current hardware and software setup to adequately acquire, manage, and analyse in a fair amount of time. Lastly, Big Data should be seen by the user as an array of complex, intriguing, and novel computer technologies that augment preexisting ones. Nowadays, the Internet is only one of many sources that provide vast amounts of data. Others include traffic sensors, satellite imagery, voice communication, banking, the stock market, and online communities. We go over the three Vs of big data: velocity, volume, and speed. We also look at data processing architectures like connection database servers, which can manage a lot of relationship records but aren't very flexible when it

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List of Paper Publications

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|--------|---|--------------------------|--|--|-------------|---------------------|
| 1. | T.Gangadhara Rao B. Vijaya R.Srinivas | ECE | Design of embedded system with hybrid Power estimate based on models | The International journal of modern electronics and communication engineering (IJMECE) | 2321 | 2020 |
| 2. | Dr. R. Rambabu P.S.S.K. Sarma | CSE | A Brief synopsis of Cloud Computing Features and Services | International Journal of basic and applied research | 2249-3352 | 2020 |


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Design of embedded systems with hybrid power estimate based on models

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Abstract

System-on-chip (SoC) power management is becoming more and more important as technology moves toward tighter integrated circuit architectures and faster performance. Power estimation now forms an essential element of the design process and calls for approaches at the electronic system level (ESL). The main goal of designing such specialized machinery is to increase the ratio of precision to speed. In this study, we propose a consumption prediction technique that may be applied early in system design by including consumption needs into cosimulation. This ground-breaking technique may be used with both solo power estimators and annotated power models to predict the energy consumption of white-box and black-box IPs. We performed system-level CABA (cycle accurate bit accurate) SystemC simulations to obtain the most accurate power estimates. We use a model driven engineering (MDE) method to automatically construct the simulated structures, which include standalone power estimators, making our strategy both quick and user-friendly. It is feasible to estimate consumption of the same architecture using both annotated power models and standalone power estimators simultaneously.

Introduction

While advancements in system-on-a-chip (SoC) integration have led to better computer performance, a major problem now is power loss. So, when exploring space for design, it is essential to consider power consumption. Reaching target time-to-market requires striking a compromise between power consumption and performance as early as possible in the design process. We want estimating methodologies that provide abstraction and automation in order to solve the power challenge without compromising design efficiency. Due to the extensive evaluation of the simulated system-on-chip (SoC) using low-level energy estimation techniques, the design time for complicated systems is substantially increased. Such

approaches may have some accuracy, but they are much too sluggish to be practical. Consequently, we need novel theoretical approaches to outcome prediction. The cycle-accurate bit-accurate (CABA) level gives a more accurate description of a system than the register transfer level (RTL) [1]. It enables quicker simulation speeds compared to RTL. When transitioning from RTL to CABA, the processor side of the system is often shielded from the hardware implementation details, but the behavior at the clock cycle level is maintained. If components can communicate with one another via a binary system, then the term "bit-accurate" describes them well.

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A Brief Synopsis of Cloud Computing's Features and Services

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Abstract

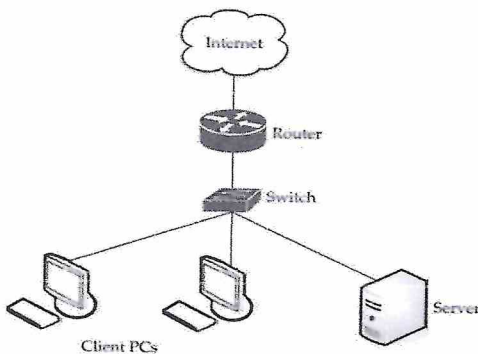
This research indicates that cloud computing offers cost-effective, flexible, and adaptive ways to deliver services that may be advantageous to individuals as well as enterprises. This article, which aims to illustrate the many uses, features, and services of cloud computing, offers several examples of cloud services provided by major players in the market, such as Amazon, Google, and Microsoft. We have also discussed the benefits of cloud computing service models.

Key words

A few examples of important phrases are cloud computing, virtualization, data recovery, electronic government, and service provider.

I. INTRODUCTION

The term "cloud computing," or just "the cloud," describes the method of processing and storing data and applications on distant servers as opposed to a person's local workstation. In that sense, the cloud is analogous to the Internet. Usually, we employ a graphical depiction of the Figure, which depicts the internet as a cloud.



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List of Paper Publications

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| S. N O | Name of the Author | Department of the Author | Title of the Paper | Name of the Journal | ISSN number | Year of Publication |
|--------|--|--------------------------|--|--|---------------------|---------------------|
| 1. | Dr. R. Rambabu | Professor & HOD CSE | A Novel Approach in Clustering Algorithm to Evaluate the Performance of Regression Analysis | 8th International Advance Computing Conference (IACC) | 978-1-5386-6678 | 2018 |
| 2. | Dr. R. Rambabu | Professor & HOD CSE | Modified Hierarchical Clustering algorithms to Evaluate the Similarities of Growth Factor IR inhibitors by Using Regression Analysis | 4th International Conference on Computing Communication and Automation | 978-1-5386-69472018 | 2018 |
| 3. | Dr. R. Rambabu | Professor & HOD CSE | An Method for classifying data with several dimensions | International journal of pure and applied science and technology | 2229-6107 | 2018 |
| 4. | G. Swarna Latha Dr. R. Rambabu Ch. Gopi | CSE | Using Logical models to Categorize Personal Hygiene Discussions Online | International journal of pure and applied science and technology | 2229-6107 | 2019 |
| 5. | Dr. R. Rambabu P.S.S.K. Sarma A. Josh Mary | CSE | Evaluation of effectiveness of creating mobile apps across a variety of platforms | International journal of pure and applied science and technology | 2229-6107 | 2019 |
| 6. | K.S.N.V. Jyotsna Devi | CSE | Predicting Early Reviewers for Effective Product Marketing in E-commerce Website Using Aggregate Ranking Algorithm | International Journal of Science Research and Innovation Engineering(IJSRIE) | IJSRIE010101 | 2019 |


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A Novel Approach in Clustering Algorithm to Evaluate the Performance of Regression Analysis

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Abstract— This paper, introduced a new methodology to raise the metric of a journal's impact. This method is depending on finding clusters from SC Imago database and creates datasets utilizing a modified k-means clustering algorithm. Farther, developing of linear regression analysis on these datasets is perplexed by seeing index values are dependent variables and citation parameters as independent variables result in assessing contributing factors to increase bibliometric index of any journal. next step, cluster quality metrics enforced to evaluate the perfectness of fit of the cluster such as homogeneity score, completeness score, V measure, accommodated rand score and silhouette coefficient. The output of modified k-means algorithm on a dataset of 1445 journals resulted in 3 clusters (k=3). Each cluster data clustered depending on the title.

The regression analysis states that the publisher who desires to enhance his journal bibliometric indexes should deliberate the advice conferred, in this work, bring large number of paper submissions to their journal especially. Almost four indices which are of main importance in the publisher industry having been used this. The analysis ensure in strong advantage as the testing of output produced including regression parameters clarified with the identification of outliers by the inclusion of relative error calculation. Accordingly, seeing the suggestive features with increase or decrease in TD3, TC3, CD3, CD2 and RD values, the publisher would profit from raising their respective bibliometric index.

Keywords— Modified K Means Clustering Algorithm, Regression Analysis, Cluster, SCImago, Bibliometric Index

1. INTRODUCTION

The principal instigate trailing the work is dependent on publishing papers in scientific journals. All authors prepare research and publish his/her research in various journals. These journals are kept by publishers and process papers having scientific credit, these are finally receives published. A paper having scope in one journal is not chosen, in place of a restricted down scope or a wide scientific area is opted for publication. These days, most of the journals publish papers of scientific priority; which have nearly equal aims and scope of the journal. In this one, the author allows into a dilemma to publish his piece of

work in order to showcase it to the research community. Furthermore, publishing all scientific papers in one single journal is not suggestible and it is stimulate the publisher, but not the scientific community. Hence, authors determine to choose some other journals which are equal scope to his work. In this perspective, if we see at the journals having equal scope, for suppose, subject arca being 'data mining, the set of journals which are publishes in this subject are around 77 journals, as per SC Imago journal ranking search. Now, the problem gets enlarge after looking at the numbers in the SC Imago result. This is called the data having citation parameters, h-index, journal ranking etc...

II. PREVIOUS WORK

Wei introduced an efficient algorithm to calculate new cluster centres for every iterative point for K-means clustering. In this algorithm, it is depended on the minimization evaluation of the problem and a novel iterative method. The cluster centers calculated using these techniques is searched to be very near to the desired cluster centers, for iterative clustering algorithms. The experimental results using the proposed algorithm with a group of randomly constructed data sets are very promising. But it constructed results are not optimal [1][2].

Shaffeq introduced new method for both the cases i.e. for identified number of clusters in advance similarly unidentified number of clusters. The author has the comfort either to fix the number of clusters or input the minimal number of clusters needed. In the older case it works similar as K-means algorithm. In the further case the algorithm calculates the new cluster centers by increase the cluster counter by one in each looping until it obey the validity of cluster performance. It is displays that how the modified k-mean algorithm will raise the quality of clusters differed to the K-means algorithm. It assigns the data point to their appropriate class or cluster most efficiently [3].

Vaishali and Patel addressed two features of k-Means; send number of centroids in apriori and they don't grip noise. They also introduced an overview of cluster analysis, clustering algorithms, pre-processing and minimization techniques in modified k-Means to develop the efficiency of the modified k-Means clustering algorithm [4].

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Modified Hierarchical Clustering algorithms to Evaluate the Similarities of Growth Factor IR Inhibitors by Using Regression Analysis

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Abstract—In the bioinformatics area it expose an amazing development at the crossroads of biology, medicine, information science, and computer science. The pictures neatly explain that nowadays in this field research is as reproductive in the data mining research. However, maximum bioinformatics research handles with the tasks of identification and classification, tree or network induction from data. Clustering techniques are mostly employed in the sector of information technology, medicine as well as bioinformatics.

In this paper, the modified hierarchical clustering algorithms are introduced and applied to orthologous IGF-IR protein sequences and it can produce orthologous clusters of sequences and phylogenetic trees are formed Compared to existing hierarchical algorithms these new algorithms are very efficient, it takes less time to execute and clustering accuracy is also better.

Another contribution is acceptable attempt has been made on understanding the role of IGF-1R. The outcome enabled research in extended further to delineate the dependency of Physio-chemical properties, on the activity of inhibitors, and to study the multivariate regression analysis on a set of 87 IGF-1R inhibitors are dependent variables and some of independent variables resulted in F-test: 8.812, r value: 0.794 and r^2 value of 0.631, respectively. The data set was introduced for the presence of outliers by calculating the leverages and standard residuals and finally 6 compounds were eliminated. A new regression model was attempted 76 compounds training set and 5 compound validation set. A Regression plot is obtained and justifies the predictive ability of the regression model. Finally, the designing or screening compounds libraries for new analogues should enhance the inhibitory activity against IGF-1R.

Keywords:- Modified Hierarchical Clustering Algorithms, IGF-1R Protein Sequence, Insulin, Regression Analysis.p

I. INTRODUCTION

The insulin-like growth factor (IGF) system in everywhere and perform a role in all lace of the body. Insulin-like growth factor 1 (IGF-1) receptor be a part of the bigger class of tyrosine kinase receptors is erect on the surface of human cells. IGF1R is mobilize by a hormone called insulin-like growth factor 1 (IGF-1) and by equivalent hormone called IGF-2. IGF system is important in embryonic and post-natal development as well as normal adult physiology. IGF system plays major role in diabetes and cancer. It has a major character in tumour genesis

mature to its crisis in apoptosis, monogenesis, cell transfer, multidrug resistance. The biological functionalities of IGFs are arbitrated by cell surface receivers and harmonize by complex communications with merging proteins [1].

The problem identified here in IGF system is inhibiting IGF1R activity would lead to decreased progression of cancer. Owing to the importance of IGF1R in various cancers, IGF system and IGF1R inhibition motivated to take up computer-aided analysis. Hence, hierarchical clustering algorithms such as single linkage, complete and average linkage algorithms along with Wards method was implemented to evaluate the relationship among IGF1R homologs. Further, a regression analysis was attempted to delineate the dependency of descriptors towards biological activity of imidazole inhibitors. Imidazoles have been selected for the study because of their properties to behave as ligands and binding with receptors [2].

II. REGRESSION ANALYSIS

Regression analysis is a statistical approach for assessment the conjunction among variables. It consists many techniques for modelling, enlacing various variables, when the focus is on the conjunction between a dependent variable and one or more independent variables [3].

A. Conversion of dependent variable to its respective log values

In regression analysis, it is necessary in the biological information and the both reliable and concise to implement a understandable model. It is mandatory to be fulfilled that any outputting regression equation returns that constructed only as important mathematically as the data drive to its improvement.

This is also valuable to construct a set of molecules that will harvest a range of values in terms of biological functionalities. Ideally, the bigger the range (>2 log units) in exercise, the simplest it is to produce a identified model. This type of query is maximum sparing in values of problems of calculations. A confined range in biological process is low sparing in terms of reliability of data [4].

Biological information are mostly designate on a mathematical scale an account of the narrow connection between reaction and log consumable in the middle portion



An method for classifying data with several dimensions

Dr. R. Rambabu, Mr. P S S K Sarma, Mrs. A. Josh Mary

Abstract

There is an unprecedented need for massively parallel machine learning due to the growth of large data and high-dimensional streaming data. Hardware deployment, rapid processing speed, dimensionality and volume scaling, learning from streaming data, and automated dimension reduction on high-dimensional data sets are all requirements for this machine learning. Large-scale machine learning problems of this nature are well suited for neural networks. This paper presents a fresh approach to large-scale high-dimensional data handling. This web-based method might manage enormous volumes of big data that are offline and in motion at the same time. Despite using a lot of Kohonen nets, we only retain a tiny portion of each net's neurons (or nodes) after training and delete all of the nets thereafter. We utilize Kohonen nets to choose features and build ensemble classifiers from individual Kohonen neurons. Using Kohonen net-based hardware that is optimized for enormous parallelism, the strategy should be simple to implement. This is where the computer lab's initial results were shown.

Keywords: high-dimensional data, online learning, Kohonen networks, feature selection

1 Introduction

2 The introduction of enormous and real-time data sets has led to considerable changes in the field of machine learning. Modern machine learning systems also face a number of other difficulties, including the requirement to incorporate new technologies, automate machine learning with little human involvement, and learn rapidly from large datasets. Artificial neural

network-based classical algorithms are expected to play a significant role in the current revolutions because to their numerous advantages, especially when it comes to addressing the problems presented by massive data. Neural net methods have the ability to handle very large datasets concurrently since many of them rely on live, incremental learning.

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Using Logical Models to Categorize Personal Hygiene Discussions Online

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Abstract

The goal of this study is to develop a logistic mathematical model for the purpose of locating online grooming incidents. A plethora of variables underscore the vital nature of our work, such as the explosive growth of social media, the cyberepidemic of sexual assault, and the general proliferation of cybercrime. Impacts on a child's body are complicated and vary. In 2009 and 2010, the UK's Home Office's Serious Organised Crime Directorate received the most complaints about suspected online conduct, including grooming, related to child exploitation and online protection. Our analysis of more than 160 scripted online interactions allows us to pinpoint the elements of a grooming discourse.

1. Introduction

Our main goal is to create a mathematical model that can identify scripts for online conversations that involve grooming chats. According to the Cambridge Online Dictionary 1.1, "grooming discussion" is defined as "the illegal practice of befriending a child, usually online, with the purpose of encouraging the youngster to participate in sexually exploitative conduct." This artwork was inspired by a number of things. One is the remarkable rise in the number of people utilizing the Internet globally in recent years. As an example, consider the fact that 67% of American houses with children also have internet connection; for children ages 12 to 17, this percentage jumps to 84%, and for those ages 18 to 24, it reaches 97%. With the growth of social media and websites, as well

our third point is that there is an increase in cybercrime, including online grooming. Fourth, there might be psychological, behavioral, emotional, and legal repercussions for sexually abusing kids. After compiling complaints from 2009 and 2010, the Child Exploitation and Online Protection Service (CEOP)

discovered that the most often reported suspected Internet behavior was online grooming. Inappropriate sexual approaches and encouraging young people to engage in sexual behavior are examples of internet grooming. The Child Exploitation and Online Protection Centre (CEOP) was founded by the UK's Home Office's Serious Organised Crime Agency (SoCA) to research the prevalence of sexual crimes against children, both online and offline, and to provide guidance on the creation of safeguards. CEOP's observations indicate that the offenders most likely possess a thorough understanding of IT and the advantages and disadvantages of the legal system. Anyone, for good or ill, may do anything with the aid of the Internet. As a result, it could be simpler for sexual offenders to adopt false identities and avoid detection. Researching potential victims is made easier for sexual predators by online databases. Even though sexual offenders typically exploit unanticipated circumstances, they nonetheless need to put in some time and effort to arrange their crimes.

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Evaluation of the effectiveness of creating mobile apps across a variety of platforms

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Abstract:

Developers find it difficult to determine which platform to prioritize because each mobile operating system has its own standards, programming languages, and distribution methods. Nevertheless, several web-based applications have been reported to suffer significant performance drops when using these technologies; in response, web-based multiplatform development tools follow the "create once, deploy everywhere" principle and can be distributed across multiple platforms. This article presents the results of a study that looked at the effectiveness of mobile web applications powered by Android that were created with the PhoneGap framework. We also provide the results of an experiment that measured execution time to define the performance over

Keywords: Task Duration; Performance; PhoneGap; Android; Mobile

Introduction

Advances in mobile systems have made it possible for portable terminals to transform from basic communicators to potent computing instruments. Modern mobile phones are so efficient, so accessible, and so powerful that they can achieve things that were before unthinkable. effectiveness, as well as other options [1]. The foundation of smartphones has always been robust operating systems that resemble a PC-like modular program structure and make it simple for consumers to install and uninstall apps. Every device has a different operating system (OS), and each OS has its own set of standards, languages, tools, and channels for downloading and purchasing apps. Programmers are faced with a dilemma since each platform has several customers. Software developers may need to incorporate a larger user base into their business plans

as theyThe utilization of multiplatform development tools that follow the "create once, deploy everywhere" philosophy is one efficient method to address this problem. These tools include Sencha Touch, Appellatory, PhoneGap, and others. These assets leverage cross-platform technologies like HTML, CSS, and JavaScript to control the functionality of the mobile device using a suite of application programming interfaces (APIs). API. In studies that predict a good increase of web browser use as execution environment, mobile target-agnostic development has been taken into consideration [2, 3, 4, 5]. Development-focused surveys and case studies have demonstrated that tools still have constraints that prevent them from offering a comprehensive cross-platform solution, even if mobile apps may be easily generated for many platforms [6, 7, 8]. The main issues are the differences.

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Predicting Early Reviewers for Effective Product Marketing in E-commerce Website Using Aggregate Ranking Algorithm

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Abstract : Online business is the least demanding method for shopping. In online business, clients can purchase the items by survey the inputs or audits of different clients who are utilized the items before. In view of those sentiments the item can get rank. Be that as it may, the client needs to peruse a great deal of surveys for a specific item so as to get the best item. It was the time taking procedure. In this paper I should propose a framework that I can legitimately gather the audits of the items from on the web and by contrasting those surveys I can get the best item dependent on the great feelings given by before clients of that item.

Keywords- Sentiments, Legitimately, Contrasting, Dependent.

I. INTRODUCTION

Online business, at the end of the day it will be called as E-Commerce or Electronic business. In Online business, every one of the exchanges will be done however web as it were. Clients can without much of a stretch get the ideal items. The administrations, installments, and direction for the use of the item will totally be done by utilizing electronic advances. The online business is the same as the normal business, But the main contrast between is in E-business every one of the exchanges is finished by electronic innovation as it were. In online we can get every one of the administrations like banking, motion picture tickets, inn booking, air tickets, E-booking, exchanging, etc. In online we can get any kind of item. There are a few sites for Online business model Amazon, Flipkart, Paytm, Snapdeal, and so on. Every site is having various kinds of item assortments. For instance, Amazon site is one of the best site in E-business, initially, it began an online book shop with a wide assortment of books later it turned into a store for every one of the items. Presently, Amazon will sell in excess of 200 million items in USA under 35 classifications. In apparel it has 5 million things in Electronics it is having in excess of 24 million items. Today in India the normal clearance of items just from the amazon is around 18 million products[2]. For such web based advertising, gigantic quantities of surveys are given by the clients for the items they bought from the webpage. In view of those surveys different clients can ready to realize what is the great item. Such a client remarks are having a high information on the item. Each buyer needs the great quality item for them, so they must go with the audits posted by others. These audits are especially significant for both the customer and the organizations. As the buyer can ready to know the nature of the item, though the firm can ready to get the input of the item. So the firm can refresh the item as indicated by the shopper's prerequisite and they can get improve in web based showcasing, advancement of item and in keeping up the association with the customer.

For the most part, for a specific item n number of clients can give n audits. For instance, let us take an IPHONE, the audits of various clients are appeared in the figure 1. A few clients state some quality is the best in that telephone and a few says the other quality is the best. In the above figure the greater part of the clients gave that the ease of use is great and the life of the battery for an iPhone is great and numerous others gave the image quality and the sky is the limit from there. In any case by these surveys the customer can ready to comprehend what are highlights and great characteristics of the iPhone and he can without much of a stretch take the choice in buying the items by giving more consideration on the significant highlights. Though the organizations came to know in which angles they have to think to build the rating of the item.

In view of the perceptions of the surveys, in this paper I proposed a framework that depends on the audits given by the client. Propose the positioning system dependent on the significant parts of the items, by utilizing the