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Proceedings of the

International Conference on
Internet on Things- ICIoT 2019

ICIoT 2019
March 11 - 15 , 2019

Book of Abstracts

Editors:
Dr.C.Malathy
R. Vidhya
M.Revathi

Organized by

**Department of Computer Science & Engineering,
Faculty of Engineering and Technology,
SRM Institute of Science and
Technology, Chennai, India.**

In Association with

IET The Institution of
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Prof. SANDEEP SANCHETI Ph.D (UK), FIETE, FIE(I), MIEEE
Vice Chancellor
&
President - Association of Indian Universities, New Delhi

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MESSAGE

I am happy to note that the Department of Computer Science and Engineering, SRMIST is organizing the International Conference on Internet of Things (ICIOT 2019) from March 11 – 15, 2019.

The current research trends such as Internet of Things (IoT) has evolved due to convergence of multiple technologies, including ubiquitous wireless communication, real time analytics, machine learning, commodity sensors and embedded systems. Pervasive connectivity, smart devices and demand for data testify that IoT will continue to grow by leaps and bounds. Computing power is dropping in price while new sensors are being developed and incorporated into everyday objects, and as people buy into IoT technology, economies of scale lend themselves to the creation of ever more data-centric businesses and applications. Instrumenting and connecting devices have massive potential to deliver a social and economic value. However, there is need for a coordinated effort when rolling out the next generation of self-reporting paradigms.

I am sure that the conference will provide the right platform to establish a network among researchers from various parts of the world and lead to new innovative strategies in the field of Internet of Things. I hope the conference serves as a platform to share knowledge and provide an awesome opportunity to scholars, academicians, industrial experts and students for exchanging their ideas and findings in current research areas to excel in their field of specialization.

I wish the conference a great success and extend my good wishes to all the members associated with it.

Dr. Sandeep Sancheti

VICE CHANCELLOR
SRM Institute of Science and Technology
SRM Nagar, Kattankulathur - 603 203.
Kancheepuram Dist, Tamil Nadu, India.

SRM Nagar, Kattankulathur – 603 203, Kancheepuram District, Tamil Nadu, India. Phone: +91-44-27455765, Fax: 044-27455764, Mobile: +91-9940036001
E-mail: vc@srmuniv.ac.in, URL: www.srmuniv.ac.in

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
FACULTY OF ENGINEERING & TECHNOLOGY
SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
KATTANKULATHUR- 603 203
Ph: 044- 27452270   Ext.:1601, 044-27417820
Email: hod.cse@ktr.srmuniv.ac.in

Message

The Department of Computer Science and Engineering laid stones of success on the essence of academic pursuit and excellence. Excellence in any work can be achieved with utmost dedication, hard work, and perseverance. We, at CSE Department, have made this dictum our motto and our way of life in every single activity in the campus.

Research and development forms the backbone of our curriculum and syllabus for the department of Computer Science and Engineering. The faculty and students are engaged in various path-breaking innovative research activities all throughout the year. Every school of our University organizes conferences and seminars frequently on contemporary and relevant topics in order to facilitate research in the areas of Bio Informatics, digital signal processing, software defined networking, wireless sensor networks, computer networking, Artificial Intelligence and Machine learning, Service oriented architecture, Cyber physical systems, Internet of Things, data mining and data warehousing etc which leads to necessary metamorphosis in the academia.

The School of Computer Science and Engineering, right from its inception, has been active in research and innovation and has setup an ambient academic environment for its students and research scholars. With the commitment of highly qualified and efficient staff, the Department endeavors vigorously to make a mark in the field of research and development. The 2019 International Conference on Internet of Things organized by the Department of Computer Science and Engineering is another venture to provide a platform for academicians – teachers, students, research scholars, and industry personnel – globally to discuss on contemporary trends and innovations in the field of IoT. All the quality papers presented in the conference will be submitted for inclusion in Scopus Indexed Journals.

I wish the conference all the very best and urge all participants to brainstorm on the various thrust areas of the conference. I also wish all of you a happy stay in our campus and look forward to your participation in various events in the campus in the near future.

Dr. B.AMUTHA

Dr. B. AMUTHA,B.E.,M.C.A.,M.E.,Ph.D.,
Professor and Head
Department of CSE, School of Computing
SRM Institute of Science and Technology
SRM Nagar, Kattankulathur - 603 203.
Kancheepuram Dist, Tamil Nadu, India.

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Aviation Delays and Cancellations Using Machine Learning

Abstracts:
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Abstracts

A Survey: Prospects of Internet of Things (IoT) Using Cryptography Based on its Subsequent Challenges

Dhruvi Mewada1,*, Nidhi Dave2,

Prof.Rohan Kumar Prajapati3

Department of Information Technology, Gandhinagar Institute of Technology

Gandhinagar, India

Abstract

In Today's era of information data plays vital role in communication, Security has been a ponderous affair for the professionals in any field. Security is not about only protection of assets but privacy and authority to access in legitimate terms too. Cryptography provides the functionality that protects and secures the data through its encryption algorithms and authentication to its end users. IoT has been most attractive topic/area in recent era. Privacy and security is an inseparable part of this technology. Which could affect in multi fold, so, the paper majorly focuses on four major challenges involving Security, Privacy, Compatibility and Connectivity of IOT and apprehension of IoT with its provided solution of using cryptographic algorithms.

Keywords: - IoT, Data, Security, Privacy, Crypto graphical, Algorithms, Authentication, Encryption, Compatibility, Connectivity.

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Diagnosing abnormality of foetus using Machine Learning Algorithms

Abhijith Ragav, P. Surya, and Shivabhinav. S. G

Abstract:

The primary objective of the paper is to utilise machine learning algorithm for diagnosing sufferance caused to the foetus by parameters such as Fetal Heart Rate (FHR) recordings (section). The significance of this work is to accurately predict the foetus condition at a much earlier stage since it is very important to analyse the issue at the right time to avoid complications. Concluding results from Cardiotocography (CTG), a test which is used widely for estimating fetal distress posed a major challenge. This work benefits the medical community, by detecting the fetal distress conditions at a preliminary stage of 30-35 gestational weeks. The acute state can be classified by a few indications such as decrease in oxygen content due to reduction of haemoglobin count of fetal unit and is usually a complication of labour. The paper deals with the prior prediction of foetal conditions so as to provide early and effective treatment.

Index Terms: Fetal Heart Rate, Cardiotocography, K Nearest neighbours, Support Vector Machine, Radial, Basis Function , Extreme Gradient Boosting

INCREASING ENGAGEMENT OF INDIVIDUALS IN DEMOCRATIC PROCESS BY USING BLOCKCHAIN BASED VOTING SYSTEM

Abstract:

Since the invention of internet as a technology and SNS like Instagram, Twitter, Facebook, Gmail etc. as a service based on it; people have been able to publish their stories, opinions, views, images etc. Sometime the views and posts are of political nature that intends to bring out the difference but it ends up just as an opinion among group of friends without making any difference. We propose a BlockChain based voting solution enabling individuals to bring out the proposal in the chain along with the usual act of voting on them, deciding on the fate of the proposal whether it is accepted or rejected. Equal, secret, Universal, direct suffrage and free election principle will be maintained while. Accessibility, autonomy and privacy of the election will be increased vertically with the help of rules written as smart contract in the chain. Trustless election, transparency, security, auditability, traceability, cost-effectiveness etc. will come as an inbuilt feature of the system as these are the basic feature of BlockChain. Voter identity like age, sex, marital status, name, origin, religion etc. and casted vote secrecy will be preserved with the use of Homomorphic encryption. Instead of choosing traditional representative democracy or too robust and impractical direct democracy, we follow the concept of liquid democracy which bridges the gap that exist in the other two system. With liquid democracy in design nodes will be able to vote directly in the proposal or they can delegate their vote to other node using public key to vote for particular proposal. In the smallest level the voting could be limited to choosing between two candidate and at largest level it could be used to break the territorial political boundary to go cross country to decide on issues of global importance like ozone depletion, global warming, terrorism, nuclear power, environmental issue, wildlife preservation, world heritage site preservation, force migration etc. With liquid democracy the system has power to change the governance from traditional top-down approach to new bottom-up approach where people can have control of the governance which is severely lacking in all forms of governance that exist today. With the use of liquid democracy people can choose the representative which is mostly based on skill level of candidate on particular field who can vote on their behalf. People might be interested in delegating vote due to lack knowledge or simply because they don't have time to go through the details.

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Implementing a Ethereum Smart Contracts with Solidity and Supply Chain Management Tracking on Blockchain

B.Sriman *S. Ganesh Kumar *A.Murugan *B.Muriganantham *Faculty of Engineering and Technology

Department of Computer Science and Engineering *SRM Institute of Science and Technology, Chennai.

Abstract

The critical part that is in the advancement for the different fields are known to be the Internet of Things (IoT). The extent use of the data trusted IoT has been used for the recent years like the use of influence of the increasing the scale and the request. The search that occurs through the data set exchange through the platform for the required and the specialized organization. Moreover, the data

that is exchanged in the centralized that cannot provide the third part mediators trust. The concept of the decentralized solution for the data trusted IoT for the block chain is proposed in this paper. In the verify manner, the individuals in the block chain are able to communicate with the others without the confined intermediary mediators. It is enabled for us to access the distributed ledger and digital, in the block chain. With the use of the IoT sensor device like zigbee we are able to utilize the availability of the public asset for gather the records of the temperature, shipment location tracking, preventing the damages, data immutability and the humidity. The process of tracking the temperature, damage of each and every parcel when its in shipment, location are assured to obtain the guaranteed direction. In the smart contact assess, the data moved are against the distribution of the product attributes, whereas in block chain the data that are transferred from one place to another are fully stored. The distributed decentralized digital ledgers are got through the knowledge by the Ethereum and the Smart contract for the present and the copied transparent, visually designed features and finally auditability.

Keywords- IoT (Internet of things); Blockchain; Smart,

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FAKE NEWS DETECTION USING NLP

Srishti Nigam (srishtinigam_sh@srmuniv.edu.in), Jayesh Bhatia (jayeshbhatia_om@srmuniv.edu.in)

Dr. K. Sreekumar

SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu – 603203

ABSTRACT

Stanford University provided the following definition: "We define fake news to be news articles that are intentionally and verifiably false, and could mislead readers." Fake news and lack of trust in the media are one of the major problems in our society. Lately, social media has changed the definition of news. Many of them use terms offhandedly, dismissing the facts and writing articles biased to their preferred viewpoints. A particular algorithm must be unprejudiced in the political sense and should provide equal balance to authentic news sources on both the sides, since fake news can exist on either sides. In our project, by exploring the techniques of Natural Language Processing, we detect fake or misleading news from non-reputable sources. The model is based on the application of countvectoriser and Term Frequency Inverse Document Frequency (TF-IDF) matrix – that tallies words relative to how frequent they are used in other articles in the database. The articles are down-loaded from a Kaggle repository con-taining both real and fake news in re-gards to the training dataset. While the testing dataset is scraped from various news websites. In addition to Natural Language Processing, we also use the concepts of Python (Pandas and Scikit-learn libraries) and various machine learning algorithms.

Aviation Delays and Cancellations using Machine Learning

Varun Iyer, Department of CSE, SRM Institute of Science & Technology, Chennai

Karan Matalia, Department of CSE, SRM Institute of Science & Technology, Chennai

Dr.K Sreekumar, Department of CSE, SRM Institute of Science & Technology, Chennai

Abstract

Airline Industry is one of the major contributors towards socio-economic utility and forms a vital part of worldwide transportation system. The aviation industry has evolved immensely over the past couple of decades, however flight delays and cancellations are an inevitable part of the industry that hurts passengers along with the airlines and the airport itself. Given flight delays results in economic and environmental impact, therefore, it becomes absolutely essential to improve the air traffic management. In this project we predict flight delays and cancellation including delay due to factors like inclement weather conditions etc. by creating prediction models by leveraging the power of data science and supervised machine learning algorithms.

Keywords — Flight Prediction, air-traffic, management, decision tree, k-nearest, neighbors, linear regression, logistic regression

A Survey of existing approaches for Monitoring Underwater Pipeline System

Shreya Nimmagadda [1], Nishita Baruah[2], Dr. Sreekumar K [3]

ABSTRACT

Underwater pipelines are pivotal for the exchange of goods between countries and mainly influence their import and export business. These pipelines are gaining popularity over on ground pipelines because of less number of disturbances(in form of population and pollution)in the system and easy transportation. Monitoring these pipelines from time to time is necessary to detect cracks and ruptures in order to avoid spillage of the commodity. Several technologies like wireless sensor networks(WSN), linear sensor networks(LSN) etc are used. Wireless sensor network is an assembly of various distributed sensors which are used to transfer and store data. It is mainly used to analyze physical factors like temperature, humidity, sound etc. In underwater pipeline monitoring several methods are in use like using mobile robots, autonomous underwater vehicle(AUV), mobile sensors etc. Here in our study we will mainly be focusing on using AUVs for efficient and faster monitoring of underwater pipelines.

Keywords: Underwater pipeline monitoring, Autonomous Un-derwater Vehicle(AUV), AUV Aided Routing PathProtocol(AA-RP), Wireless Sensor Networks(WSN).

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Aviation Delays and Cancellations using Machine Learning

Varun Iyer[1], Karan Matalia [2], Dr. K.Sreekumar [3]

Department of CSE, SRM Institute of Science &Technology, Chennai

ABSTRACT

Airline Industry is one of the major contributors towards socio-economic utility and forms a vital part of worldwide transportation system. The aviation industry has evolved immensely over the past couple of decades, however flight delays and cancellations are an inevitable part of the industry that hurts passengers along with the airlines and the airport itself. Given flight delays results in economic and environmental impact, therefore, it becomes absolutely essential to improve the air traffic management. In this project we predict flight delays and cancellation including delay due to factors like inclement weather conditions etc.by creating prediction models by leveraging the power of data science and supervised
machine learning algorithms.

Keywords — Flight Prediction, air-traffic management, decision tree, k-nearest neighbors, linear regression, logistic regression

Centralised Traffic Signal Preemption in the Internet of Things Platform

Adarsh Pradyut*[1] Archana H.*[2] B. Amutha*[3]
Department of Computer Science and Engineering,
SRM Institute of Science and Technolog,
SRM Nagar, Chennai, Tamil Nadu, India

ABSTRACT

Rapid growth in the number of vehicles on the road has resulted in increased traffic congestion. Minimizing the trip duration of an Emergency Vehicle (EV) from source to destination has become very critical, potentially saving lives and properties. Some of the factors that have contributed to the time taken for EV to reach the destination are the distance from the source to destination, the speed of the vehicle, number of vehicles in front of EV in its path and congestion at traffic intersections. Although the emergency vehicle has been given priority among other vehicles in the traffic, without the establishment of a proper traffic pre-emption system, an emergency vehicle can still be stuck in traffic due to the time taken to clear traffic at the intersections. Another issue to be considered is the prioritization of multiple emergency vehicles arriving at an intersection. In this paper, literature survey about existing methods used for traffic pre-emption system are discussed.

Index Terms—Emergency Vehicle, GPS, Internet of Things, Traffic Control, Traffic Preemption

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A Study on Improved Prediction System for Coronary Heart Disorder

Mrs. B. Sowmiya[1], Jayant Singh [2],Varun Mahajan [3]

Department of CSE, SRMIST,Chennai, India
sowmiya.b@ktr.srmuniv.ac.in, jayantsingh vi@srmuniv.edu.in,
varunmahajanvi@srmuniv.edu.in

ABSTRACT

The health industry is generating a huge amount of data every day. This huge amount of data generated by the health care industry is not effectively used. Most of this data is in the unstructured format and thus data mining provides various methods and tools to find patterns that are not easily visible. Finding out these hidden patterns would reveal the major factors that are responsible for heart diseases. Every day 1 out of 3 deaths are caused due to disorder related to the heart. There are various risk factors present that cause this disorders like high blood pressure, a prior heart attack, obesity, smoking, alcohol usage, an unhealthy diet etc. The hospitals can make use of efficient decision-making systems thus minimizing the cost of clinical tests that would benefit both patient and hospital. The objective of this paper is to analyze various research work done on heart disease prediction models and classification using various machine learning and data mining techniques.

Index Terms—Coronary Heart Disorder, UCI Repository, Machine Learning, Data mining, Random Forest, kNN, Naïve Bayes, Decision Tree, Backward Elemination

ARIOT-Augmented Reality using Fiducial Markers & Image Recognition For Wireless Triggering of Internet of Things Devices

R. Rajkumar [1], Ashirbad Sahu [2],Karan Samani [3]
CSE, Srm Institute of Science and Technology, Kattankulathur, Chennai
rajkumar03r@gmail.com, rajkumar.ra@ktr.srmuniv.ac.in, ashirbadsahu3@gmail.com,
ashirbadsahu_ma@srmuniv.edu.in, karansamani171197@gmail.com,
karanp_pa@srmuniv.edu.in

ABSTRACT

This paper refers to the simplified yet effective idea under Soft-Computing domain for wireless triggering, switching and regulation of devices remotely in a completely new approach. It involves the simple and convenient application of a mobile camera with or without a HMD (Head Mounting Device) headset which can be used to instantly recognize a trained set of household electronic devices and those under similar categories to switch it on/off or have extensive regulatory controls. It will involve the usage of a multitude of platforms both from the computing and electronics domains to design a feasible working model to be made available at the disposal for a common man targeting convenience of home automation directly from his/her mobile camera. Technologies involved are Augmented Reality, Fiducial Markers, Unity Engine 5.6.1f / 2018.2, Vuforia, image recognition and Matlab programming, Internet of Things (IOT), Android App Development using MIT App Inventor Device triggering and Wireless Sensor Networks. The initial architecture planned involves a sequential flowchart of connections that start from the Light Bulb/Led Bulb/Indicators/Buzzer to be used connected to a switch/relay board using Jumper Wires, Bread Board or Green Dot Soldering Boards. The connections are verified within each connected node using a Multimeter. Once the flow of continuity has been established there is use of a Wi-Fi Module and Shield for near field control and IBM Bluemix-NodeRed, cloud service provider like Amazon Web Services – AWS or Heroku for

control over the cloud. It uses the most convenient microcontroller depending on the number of connected devices (i.e. based on the set of 5 devices to be triggered here a relay module of 5 is being used on the auxiliary board and the connections are bridged using an Arduino Mega), power distribution, triggering, cost estimation and convenience. For testing purpose use of a USB Debugging connected to the System and a LIPO Battery setup/Controlled Mains Setup for remote independent usage. The connections can alternatively also be controlled by a Bluetooth/GSM/XBEE-XCTU module but for practical implementations under the purview of this project only WiFi (NODE MCU – ESP 8266) and Bluetooth module (HCO5) are in use onto which programming is done using Arduino official software module. There needs to be a WiFi router or a mobile hotspot as a 3rd Party device for near field communications within a room or range of interference with stable internet supply. Receiver module of the WiFi is pre-embedded in the Mobile Device as well as the Microcontroller Device. The coding in the electronics and controllers are handled by the Espressif Systems IOT Board instructables, XCTU for handshaking communication if required in case of XBEE (TX)Transmission-(RX)Receiver Handshaking control and Arduino Programmer generic controls (Here its over WiFi or Bluetooth). The Coding of the mobile application is handled by Java 1.8 JDK/SDK, Python, MATLAB, Android Studio, Unity Engine and Vuforia. It aims towards enhancement of applicability in day to day scenarios to a further control of
industrial applications in future scopes of improvement.

RL Agents in Simulations

Zubin Datta Choudhary[1], Mathews Kunnil Mathew [2], R. I. Minu [3]
1,2 UG Student,3 Associate professor.
Department of Computer Science andTechnology,
SRM Institute of Science and Technology, Chennai, TN, India.

ABSTRACT

Reinforcement Learning (RL) in general has come a long way and implementing the algorithms have always proven to be a time, memory and power consuming process even for a simple and light environment. The limitation of RL would be the fact that the agents may not always be directly used in an

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Handwritten Text to Editable Text Document

Ankur Garg [1], Payal Deora [2], D.Malathi [3]
Department of CSE,SRMIST,Chennai,603203,India
ankurgarg.0496@gmail.com,payal.deora1997@gmail.com, malathi.d@ktr.srmuniv.ac.in

ABSTRACT

One of the major problem faced by every organization is management of old records of handwritten text that are likely to be subjected to further deterioration in the future. These old records are difficult to manage because of the sheer volume they exist in. This issue can be rectified if there existed a softcopy of those records but the Analysis of Handwritten text has been one of the major challenge in the field of image processing because of various writing styles, background lighting and text orientation. All the existing technique have failed when the letters in a text cannot be segmented properly. In our project, the text will be segmented and then segmented letters will be analysed and classified into appropriate class using a neural network .With the aid of Natural Language processing, we can analyse the context of a misclassified word and predict its occurrence in reference to the context. With a proper blend of image processing, Natural language processing and Convolutional Neural Network, we will recognize the text with a high degree of accuracy.

Keywords: SVM, RNN, Shear Transformation, Gaussian filter, Skeleton coding, Otsu Thresholding, Concavity, HMM, Lexicon

TIME-DEPENDENT ROUTING PROBLEMS

Dr.V.Dhanakoti, Rajeshwari Sivasubramanian and A.M.Rahul Rajan
Department of Computer Science and Engineering
Valliammai Engineering College, Kancheepuram,
koti555@gmail.com

ABSTRACT

Time-relying routing has led to the mapping of the "optimal" paths in a graphical representation. In the plotted graph the curve of the traversal time varies over a particular planning horizon. Over the past few years a number of advancements in the growth of technology have resulted in a heightened interest in this field. A number of researches are survey and an exhaustive analysis is presented on travel time modelling and its practical usage methods. To be specific the classification are orderly done in point to point and multiple- point problems. A more detailed sorting out is done with respect to the change and aspect of data available.

Keywords : Routing Algorithm, Travel Time Modeling, Multi Point Problems.

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Image Colorization using CNNs

S Vishnuvardhan1, Ankit Pasayat1, and Dr. R.I. Minu2
1, B.Tech Student, 2.Associate Professor
Department of Computer Science,
SRM Institute of Science andTechnology, Chennai, TN, India.

ABSTRACT

Colorization of grayscale images is a classical problem in image manipulation and computer science. In the past, colourization was a tedious and expensive task due to the manual nature of the process. In recent years, advancements in machine learning techniques and computing power has helped us to automate this process with the help of neural networks. The problem can be briefly summarized as follows: the proposed system should be able to colorize any arbitrary grayscale image satisfactorily. The term 'satisfactorily' here means that the resultant colorized image should not be easily distinguishable from an original image by a human observer. The amount of images that are used for training and testing should be comparable to mainstream solutions by major companies. The system should be platform-independent,cloud hostable or embeddable as a service or web application. We have decided to use L, alpha and beta channels in our CNN architecture as opposed to UVand saturation. After discussion, we believe that this would allow for greater accuracy and detail in the output images. Our project potentially has immense applications in image/painting restoration and CNN architecture development.

Patient Monitoring System using an IoT Enabled Device
Shraddha Padhiari 1, Rajkumar D 2
1.II BCA, 2. Assistant Professor (O.G),
Department of Computer Application, SRMIST, Ramapuram, Chennai

ABSTRACT
The Internet of Things (IoT) is the network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment. The IoT has numerous applications in healthcare from remote monitoring to smart sensors along with integration of medical devices. IoT applications in healthcare boost
engagement of patients with doctors by increasing the time of interaction between them resulting in satisfaction of treatment given. The IoT techniques have yielded great results in identifying the heart diseases by transforming the feelings of patients into data needed for analysis with the help of an monitoring system. The data acquisition is done by the monitoring system and several computing methods are employed to generate the data needed for analysis and the data is transformed to an decision making system which transmits the information needed for further medical attention.

Keywords: IoT, Heart disease monitoring system, NodeMCU, Blynk.

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IMPROVED INTRUSION DETECTION SYSTEM WITH OPTIMIZATION ENABLED DEEP NEURAL NETWORKS

Shijoe Jose [1,] D.Malathi [2],Dorathi Jayaseeli [3]

1,2,3Department of Computer Science and Engineering,
SRM Institute of Science and Technology, Kattankulathur, Chennai, India.
shijoe8@gmail.com,malathi.d@ktr.srmuniv.ac.in,dorathijayaseeli.jd@ktr.srmuniv.ac.in

ABSTRACT

Cyber crimes are prevailing at the extreme in the today's technical world as the massive usage of the internet is on the peak among the world users, raising the security and privacy concerns. Thus, the paper concentrates on the intrusion detection mechanism in the networks, which is performed using the optimization-based deep belief neural networks (DBN). The input data is classified using the deep belief neural network classifier and the complexity associated with the classification is relieved through the feature selection strategy for which the Bhattacharya distance is employed. The training of the deep belief neural network is performed using Levenberg–Marquardt (LM) algorithm and Bird Swarm Algorithm (BSA), which is decided based on the minimal mean square error. The intrusion detection affords the security and privacy to the data. The analysis of the methods is presented using the KDD cup dataset and the comparative analysis is performed based on the accuracy, sensitivity, and specificity. The accuracy, sensitivity, and specificity of the BSA-DBN approach of intrusion detection is found to be 96.45%, 94.07%, and 96%, respectively.

Keywords: Intrusion detection, Optimization, neural networks, network Attacks, Mean Square error

SMART RECOMMENDATION SYSTEM FOR RURAL AGRICULTURAL DEALERS AND FARMERS USING IOT

Vaishnavi Moorthy[1], R.Deepa [2],Mohammad Mubashir[3], Akshay Samrat[4], RevathiVenkataraman[5]
1Assistant Professor, Dept. of Computer Science Engineering
2Research scholar, Dept. of Computer Science Engineering
3,4 Student, Dept. of Computer Science Engineering,
5Professor, Dept. of Computer Science Engineering,
SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu, India

ABSTRACT

Technology is playing a very important role in getting numerous benefits in different fields. Usage of Sensor network in agriculture and farming is not new. But because of different conditions like weather, soil, water and land, diverse models, analysis methods and solutions are required on which different communities of researchers are working and proposing several solutions. Other problem is due to emergence of big e commerce giants the local dealers are facing a lot of competition. Since the introduction of two great technologies i.e. Cloud computing and Internet of Things have proven to be game-changing in the field of agriculture. Combining different technologies and to apply them in a direction of a definite area has always been a challenging task. The combination of emerging technologies including IoT and Cloud computing with sensor network can be applied on agriculture domain to make the agriculture smarter. In this project, a platform for smart agriculture is implemented and utilization of various cutting edge innovations towards the agriculture domain is featured. In the proposed system different type of sensors will be used to collect data. On the basis of this data, recommendations will be given to the local dealers to sell their products to the farmers in the area. An interface will also be provided for the farmers to locate their nearest dealers and the best deals for them. Expert suggestions on the basis of soil condition and moisture content will be provided to them.

Key Words: Cloud computing, IoT, Sensors, Smart Agriculture

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Order Picking: A Survey of Methods and Problems

Sankalp Sinha1· Mayank Kumar Nagda2 E. Poovammal 3*

ABSTRACT

Order picking is the single most expensive activity in warehouse management. Without tackling order picking successfully and efficiently it is almost impossible for any business to have a sustainable supply chain. Business around the world understand this and hence a lot of academic and research effort have gone into making the process of order picking as efficient as possible. Over the years many solutions have been devised and implemented. This paper presents a literary survey of the most used solutions and examines their salient limitations and problems faced during real world implementation.

Keywords: Order Picking · Inventory Management System · Warehouse Management · Logistics Management

LPWAN Technologies for Wide-Ranging Agriculture-IoT Deployment – ABrief Survey

R.GNANASELVAM[1], M.S.VASANTHI[2],1 RESEARCH SCHOLAR, 2 ASSOCIATE PROFESSOR, ECE,TCE,SRMIST

ABSTRACT

Low-Power Wide Area Network technologies are heavily suggested as the implicit networks for Internet of Things (IoT) applications. Low Power Wide Area Networks (LPWAN) is garnering a lot of awareness primarily because of their ability to offer cheap connectivity to the low-power devices distributed over very large areas. Compared with other work in the field, this paper focuses on the need for alliance among different LPWA technologies such as LoRa, Sigfox, Random Phase Multiple Access (RPMA), LTE-M and NB-IoT and recommends the appropriate LPWA solutions for a broad range of agriculture IoT applications. The current research efforts to investigate and improve the operation of LPWA networks are also compared and classified to enable researchers to quickly get up to speed on the current status of this technology. Conclusively, challenges facing LPWA are identified and directions for future research are recommended.

Keywords—Internet of Things, LPWAN, LoRa, Sigfox, RPMA, LTE-M, NB-IoT.

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Early detection, diagnosis and treatment of Autism using Mobile Application Platform

Pradeep Sudhakaran, C.Malathy, Ankit Khanna
Department of CSE, SRM Institute of Science and Technology, Chennai – 603203. India
pradeep.su@ktr.srmuniv.ac.in,malathy.c@ktr.srmuniv.ac.in,ankitkhanna9779@gmail.com

ABSTRACT

Autism Spectrum Disorder (ASD) is among the major developmental disorders in terms of neurodevelopment brain functions. The three symptoms that an autistic patient shows are: social development, communication problem and odd social behavior. Proposed paper presents the design and development of an application intended for the detection and diagnosis of autism in children at the early stage. The application is of tremendous help in detection, diagnosis and monitoring the health and treatment of patient. This work presents an architectural solution that enables the operability between an autistic child and the doctor to contribute in the treatment. The solution is implemented by developing an android mobile application. The survey results showed that the application made a positive treatment contribution to a person with ASD. Also the monitoring system was improvised with tracking.

Keywords— autism; learning; schedules; games; monitoring;mobile application

A SURVEY ON PLAGIARISM DETECTION TECHNIQUES

Aditya Shankar Narayanan , Anjana Vishwanath ,
SRM Institute of Science and Technology,Kattankulathur, Kanchipuram,
Tamil Nadu – 603203
aditya28mar@gmail.com, anjanavishi@gmail.com

ABSTRACT

Plagiarism is a major act of academic dishonesty; hence the detection of plagiarism is very essential. Therefore, Plagiarism Detection is a thriving area of research in Natural Language Processing that involves the identification of misappropriated segments of text and the retrieval of the source of the original text. This paper surveys the types of plagiarism and tasks involved in the detection of plagiarism, and analyses the existing algorithms and methods used in the Plagiarism Detection Framework. The techniques explored in this paper are: Word2vec, Monte Carlo ANN, Candidate Retrieval and Text Alignment, PV-DM and PV-DBOW, Rabin-Karp Algorithm, IR-based plagiarism detection, LSI, and Joint Word Embedding. This survey concludes that Deep Learning Based Plagiarism Detection methods show a higher accuracy than others. The survey also concludes that the existing methods (excluding LSI), lack the ability to effectively perform Cross-Language Plagiarism Detection

Index Terms: Plagiarism, Plagiarism Detection, Cross-Language Plagiarism Detection, Deep Learning Framework.

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Review on Business Intelligence Tools

Mudit Kejriwal [1], Dr S. Thenmalar [2]
Department of Computer Science and Engineering
SRM Institute of Science and Technology, Chennai, India
muditkejriwal_prahalad@srmuniv.edu.in, thenmalar.s@ktr.srmuniv.ac.in

ABSTRACT

The augmenting number of SMEs (small and medium-sized enterprises) has resulted in a multitude of naïve businessmen. Adding to that, there is a lack of realization of the scale to which their business data can help them grow. Consequently, the SMEs store data in an unstructured and unorganized fashion, which can hardly be employed for business analytics and discovering trends and frequent patterns. The goal is to have an interface to get feed the data in a structured manner so as to track down trends and other overlooked aspects of an enterprise such as return on capital, KPIs (key performance indicators), break-even point etc. to suggest business actions to those SMEs to increase their profits and thereby helping them grow their business.

The BI (business intelligence) tools currently in the market are targeted for large enterprises and require a significant amount of investments on infrastructure. Moreover, the current tools are cumbersome for the SMEs to install and operate. Any SME needs nothing more than a simple ETL (extract-transform-load) implementation along with supporting dashboards and analytics to make the BI tool easy to use and on-the-go. The relevance of this paper is to assist SMEs to identify convenient ways to set up BI for their businesses so as to understand the aspects of profitability and help them to judge how well a business is being run and how well the business can perform in the near future.

Keywords— business intelligence, dashboards, key performance indicators, Small and medium-sized enterprises

A survey of existing approaches for sign language recognition system

N.Kaushik [1], Vaidya Rahul [2], K.Senthil Kumar [3]

ABSTRACT

Sign language is a form of communication for the deaf and dumb community with the rest of the world. But most of the people do not know or understand the sign language of these people which makes it very difficult for them to communicate with the rest of the world. The sign language recognition can have different level of success when it is based on different image processing techniques. There are a large number of sign languages which differ according to regions like the Indian Sign Language, Taiwanese Sign Language etc. The sign language can be represented as text by making use of Convolutional Neural Networks, Support Vector machines and other methods.

Keywords: sign language, communication, Convolutional Neural Network, computer vision, Support Vector Machines

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Hybrid Recommendations: A Qualitative Study of Present Recommendation Systems

Bhavuk Saxena 1 , Himanshu Kumawat 2, Sasikala E
Department of Computer Science Engineering
SRM Institute of Science & Technology, Chennai, Tamil Nadu, India
bhavuk.saxena@gmail.com,kumawathimanshu44@gmail.com,sasikalasr@gmail.com

ABSTRACT

Recommender Systems (RS) have the aim to resolve the need of processing vast amounts of data available on the systems and presenting the users with the selective items that are relevant to them. This task is preformed based on understanding the likes and reviews of the user for example per item, per category etc. This paper summarizes the various issues present related to the RSs that should be fixed to make a RS relevant to use, and really helpful to the user.This paper also discusses a hybrid approach to the RS making use of two already existing technologies together, namely CF and CBF, thus fetching relevant items for a user, thereby increasing the customer satisfaction.

Keywords—Recommendation System (RS), Collaborative Filtering (CF), Content-Based Filtering (CBF), Hybrid Filtering (HF), Preference Matrix (PM), Latent Semantic Indexing (LSI), Singular Value Decomposition (SVD).

Survey on Hardware Detection Techniques

Mrs G K Sandhia 1, Nandini Banerjee 2 , AP, Student, SRMIST, KTR

ABSTRACT

Hardware Trojan (HT) is a malevolent alteration of the circuitry of an integrated circuit. These are harmful to the security of the systems which are built on such malicious integrated circuits. Owing to the globalization trend of the IC industry, companies often outsource the design and fabrication of ICs to third-party vendors. The consequence of this globalization trend is the possible existence of unlawful stealthy-inserted Hardware Trojans which has raised a great security concern, and demands identification and detection of vulnerable HTs possible in different components of machine such as

memory/cache system. The several types of intentional modification of the circuits result in the outcome of adversarial effects on the computer architecture. In this paper we discuss the various problems that are faced when detecting such Trojans and the solutions that have been created in order to counter such obstacles as well as their convenience. The methods that have been surveyed are applied at different stages of production of the ICs. The techniques used together with their limitations have also been surveyed.

Keywords – Hardware Trojans, Integrated Circuits, Security.

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Data Deduplication using Hashing Algorithm

AkashKumarNandi 1,SurabhiSethi 2, Mr.ArulPrakash 3

ABSTRACT

These days, cloud storage services are widely used, due to which the volume of data on the cloud is very large. Only one unique copy for each duplicate file uploaded in the cloud and the owners are activated to that one file whenever they want access. In order to avoid data redundancy and to efficiently use of cloud storage, data de- duplication is used which removes the storage of redundant data. The objective of this project is to increase confidentiality and security of the data owner and the data. The system uses user end encryption so that data is not compromised by the cloud services. An effective comparison using hash value of different files through hashing algorithm helps in faster and secure comparison to allow data deduplication.

Performance Analysis of Millimeter Wave Radar for Connected Vehicles

Dr. P. Vijayakumar 1, Akhil Krishnan Nair 2, Kshema Maria George 3, H. V. Sai Prithvi 4
Associate Professor, Dept. of ECE,SRM Institute of Science and Technology
vijayofsrm@gmail.com, kshemageorge13@gmail.com, nairakhil24071997@gmail.com,
sai.prithvi18@gmail.com

ABSTRACT

The project is proposed to find an efficient algorithmic implementation for radar signal processing. Radar is an important aspect of Advanced Driver Assistance Systems (ADAS), which constitute an intermediate stage in the development of self-driving vehicles. Fast signal processing is essential for radar which are used in the connected vehicles to compute distances of objects near it. Various Environmental and physical parameter analysis is necessary for an efficient implementation of the radar signal processing algorithm which is the main objective of this paper. Vehicles moves with a high speed so the computation should be very fast in order to prevent collisions and to ensure safety. Keywords-Radar, FMCW, MUSIC algorithm

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Enhanced Smart Home Automation With Sensors Using IOT

Pradeep Sudhakaran, C Malathy, Ajay Kumar Gangwar, Vatsal Jain
Department of CSE, SRM Institute of Science and Technology, Chennai – 603203. India
pradeep.su@ktr.srmuniv.ac.in, malathy.c@ktr.srmuniv.ac.in, ajaykumar_ha@srmuniv.edu.in, vatsaljain_rajkumarjain@srmuniv.edu.in

ABSTRACT

Smart home creates the environment that maximizes the quality of life beside the efficient use of energy resources and provides the energy management systems (EMS). Looking at the global energy crisis, home automation should be made common worldwide as an essential component in reducing energy and using renewable energy. One of the basic problems in home automation is the cost it requires to get operated. Thereby reducing the cost of automation is an important concern in the world. In this research paper, a low-cost home automation system based on Arduino microcontroller has been introduced that works with Modbus protocol. A Bluetooth module has been interfaced with Arduino, thus weeding out the use of personal computers (PCs). The whole system has been tested observed to run successfully and perform the desired operations like switching functionalities, position control of Servomotor, speed control of D.C motor and light intensity control (Via Voltage Regulation). A smartphone application is designed in the proposed setup which enables the users to control up to 20 devices including various electrical home appliances and sensors via Bluetooth technology. Nowadays, most of conventional home automation systems are designed for special purposes while proposed system is a general-purpose home automation system which can easily be operated in a present home. The recommended system exhibits more features than the conventional home automation systems with the inclusion of an ultrasonic sensor for water level detection and soil moisture sensor for automatic plant irrigation system. This paper also describes the hardware and software architecture of system, future work and scope. The proposed model of home automation system is implemented and examined on hardware and it gave the exact and expected results.

URL Phishing Analysis by Random forest & Support Vector Machine

Bharat Motwani, Akhil Bajpai, Ms. P.Mahalakshmi
Department of CSE
SRM Institute of Science and Technology, Chennai

ABSTRACT

Increasing the number of cyber-crimes and frauds it has become the need of hour to seriously consider the threat and makes some solid security arrangement against it. The paper analyses E-mails as benign, spam or malicious as malicious links are hook to attach malicious URL as a lure to catch the users. Malicious URL are the most common tool used in breaking identity and attacking either the system database or some financial frauds. The paper discussed about the rigorous URL testing on various attributes using Random forest algorithm for such

detection and SVM to consider even the extreme cases thus providing the system user with high level security from such counterfeited URL.

Keywords: Random Forest, SVM, URL, KDD, Anomaly Detection, Clustering, Classification, Regression.

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Cloud Threat Detection: Big Data Based Security Analytics Approach

Krishnavandan Padhye 1, Shreya Dwivedi 2 , S. Sharanya 3
Department of CSE
SRM Institute of Science and Technology,. Chennai

ABSTRACT

A virtualized infrastructure consists of virtual machines (VMs) that rely upon the software-defined multi-instance resources of the hosting hardware. The virtual machine monitor, sustains, regulates and manages the software-defined multi-instance architecture. The ability to perform on-demand resource scaling has led to the widespread deployment of virtualized infrastructures as an important provisioning to cloud computing services. This has made virtualized infrastructures become an attractive target for cyber attackers to launch attacks for illegal access. This paper analyses the threats posed by cyber criminals and the development of threat detection methods over time this gives us insight on what are the current requirements of security researchers to make the system more efficient and accurate to detect threats in real time. The paper also discusses about leveraging technologies like big data and machine learning which can handle huge amount unstructured data and are designed to run on a distributed network.

Keywords—Big Data, Cloud Threats, Security Analysis, Machine learning, Map Reduce, Graph Based Event Correlation, Cloud infrastructure, Random Forest

The rise of deep learning in radiology: an overview of recent research

P. Saranya 1, Deya Chatterjee 2

ABSTRACT

This is a consolidated look at the applications of various deep learning techniques in the field of radiology. For the past few years, deep learning has pervaded every field and the deep learning revolution has opened up new frontiers in artificial intelligence. From healthcare to art or from education to business - it has been applied successfully in a range of different domains to attain State-of-the-art, often reporting near human-level performance. Hence, in the field of radiology too, especially for image interpretation Tasks, deep learning techniques are being increasingly used in recent times to optimize the medical workflow and to achieve better patient care and efficient medical surveillance. Convolutional neural networks (CNNs) are mostly dominant in the case of image interpretation applications in radiology, because of their unprecedented success in image-related applications in other domains such as computer vision. However, other deep learning techniques like recurrent neural networks (RNNs) and generative adversarial networks (GANs) are also being used in recent research for various image-related tasks in radiology like classification, segmentation and detection. In this paper, the imaging modalities associated with this field and the application of different deep learning techniques to

these have been discussed at length. Moreover, deep learning can also be applied to radiology use cases other than image interpretation, such as patient scheduling or the processing of free-text radiology reports to improve healthcare surveillance. Finally, in this study, the practical challenges as well as the future research directions of this domain have been discussed. Some challenges include dearth of annotated data, the fear of AI unseating radiologist professionals, legal and ethical issues, black box behaviour of neural networks and adversarial fooling of deep learning algorithms by reverse engineering. To counter some of these problems, a few trends in applying deep learning to radiology in the future may include improved visualisation techniques, integration of the entire workflow for practical usability, unsupervised methods of deep learning like auto-encoders and improving research on GANs in radiology. This study may prove useful for researchers applying deep learning to various radiology use cases by providing a detailed overview of the state-of-the-art research in the field.

Index Terms—Deep learning, radiology.

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Survey of VANET(v2v) security challenges and it's possible solutions.

Aaryesh Kumar 1, Nimish Pathak 2, Dr. C . Vijayakumaran 3
Dept. of Computer Science engineering
SRM institute of science and technology, Chennai , India

ABSTRACT

Vehicle-to-vehicle communication (V2V) is the wireless transmission of data between motor vehicles. By relaying the information about location and speed data between vehicles is via an ad hoc network is the primary aim of V2V communication. This communication takes place over an adhoc mesh.V2V communication is thought to have more impact than the current automotive original equipment manufacturer (OEM) embedded systems for adaptive cruise control, rear parking sonar and backup camera because V2V technology enables an ubiquitous 360-degree awareness of surrounding threats. With the further advancement of the v2v communication many security flaws were found. The best way to analyze these flaws would be through a bi-directionally coupled simulation environment made of OMNET/SUMO, ns2 /SUMO, etc. Many possible attacks like botnet, GHOST, congestion etc. are being used to exploit the system every day, which can be simulated and studied in the simulated environment. In the starting we discuss about the general VANET characteristics, in the second part we discuss about all the existing flaws with which the system can be attacked, in the third part we discuss about the possible solutions for it and in the last we discuss about some problems for which there is no proper solution yet.

Keywords: VANET, v2v communication, security issues, OBU, RSU, WAN, DDos, MiM, Dos

BIDRECTIONAL VOICE BASED COMMUNICATION USING MEMS FOR DEAF AND DUMB

Arun prasath.g1, Dr.R.Annie uthra2
Computer Science & Engineering SRM Institute of science and Technology, kattankulathur.
garunprasath95@gmail.com

Abstract

In this world we have more than 5 million deaf peoples. In the day to day life of a human it is very important to understand things which is expressed by others. Like a language without the hearing capacity the world is mute without speaking complete world is dump, but still hearing is one of the way to understand the peoples are saying and like hearing speaking is also very important to express our thoughts so there is a need to platform to make the deaf and dumb peoples communicate with the normal world. Developing sign language application for deaf people is very important, For that we need to use the advanced technology and the understanding of deaf and dump peoples sign language, normal peoples cannot understand the sign language so our platform should convert the sign language to normal voice based data so that the normal person can understand the sing language like their own language .The main focus of this work is to create a vision based system to identify sign Language gestures from the video sequences. Since we are developing the application to computer it should have two way communication so that one can act as input and output node .but the input method is different like voice and sign language.in the deaf and dump communication one node is for deaf and another node is for normal person. In our project 46 Different gestures have been considered Keywords— gesture.

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Quality Detection System for Bananas

Samyuktha Madhusudhan Thumala ,   Mahalakshmi G, Swathi S, R Uma
Dept. of Computer Science and Engg Sri Sai Ram Engineering College
smthumala@gmail.com, mahalakshmignanamoorthi@gmail.com, swathisridar.cluny@gmail.com, uma.cse@sairam.edu.in

ABSTRACT:

The issue of food being artificially processed to serve the market's need is not new. Especially, in a developing country like India, with the low ratio of number of good to bad bananas being sold and constant market competition to make profit, vendors resort to selling artificially ripened bananas. This calls for a system that differentiates between a modified and un-modified banana. Distinguishing a good and bad fruit with mere eyesight is a tough task, even for experts. Our system detects the quality of the fruit through hyper-spectral imaging. The IoT technology serves as a bridge between the information created and analysed. Analysis is done using Machine learning.

Keywords— Internet of Things (IoT), Banana Quality, Machine Learning, Hyper-Spectral Imaging

Unsupervised Blind Quality Estimation of NSS Images and Repair of Low Quality Images

Gopika S,   Dr. D Malathi

Computer Science & Engineering SRM Institute of science and Technology, kattankulathur.
gopikas@kristujayanti.com, gopikas@kristujayanti.com

ABSTRACT

Present world works with digital images and digital content in each and every day in life. But the consideration behind it in the area of quality of the content is currently less and is increasingly becoming popular. Our work is mainly in the area of tossing light towards the Blind or No reference quality analysis of Natural Scene Statistics(NSS) images and to the possible extent repairing it after judging its quality. The study, experiment and analysis of the result is carried out with the help of distortion aware and opinion unaware NSS images collected from LIVE dataset and the results have shown achievement in the direction of proper quality estimation and correction of noisy images.

Keywords—Natural Scene Statistics;opinion unaware; denoising; MSCN coefficents; opponent color space;

Road Accidents Analysis – A Survey

Disha Jain, Aditya Magarde

Computer Science & Engineering SRM Institute of science and Technology, kattankulathur.

ABSTRACT

In India, road injuries are one of the top four causes of death and health loss among persons of age group 15-49 years. Road accidents also lead to economic loss to the country. The aim of this survey is to investigate the factors leading to road accidents and hence analyse the various algorithms to predict the severity of an accident. Key words: road accident, factors causing accident, data mining techniques, severity.

Analysis of the Effectiveness of Twitter as a source of Actionable Information during Natural Disasters

Aashish Sairam P and Aravindsrinivas Krishnamoorthy

Abstract

The forces of nature have been hard to control since time immemorial. Floods, Earthquakes and Hurricanes are amongst the many furies of nature which have resulted in the loss of numerous lives and immeasurable monetary damage. First responders and NGOs who attempt to initiate rescue efforts are stalled due to the delay in acquiring information. The exponential growth of the micro blogging and social media website Twitter over the past few years has resulted in it being a source for crowd sourced information in the wake of any event, including disasters. Recent events of Flooding in India such as the Chennai Floods of 2015 and the Kerala Floods of 2018 had a massive number of tweets being published during the wake of the disaster. In this paper we aim to understand the work done in previous studies on the feasibility of using Twitter as a source of Information in the case of disasters and the extent to which this information can be used. We will be broadly investigating the level of subclassification which can be achieved through the use of various algorithms such as Random Forests, K - Nearest Neighbors (KNN) , Decision Trees amongst others. We will also be inspecting the feasibility of using Geo Tagged Tweets and Searching for tweets based on keywords and hashtags in those tweets.

KEYWORDS:

Twitter, Disasters, Crisis Response, Floods, Machine Learning, Natural Language Processing, Tweets, Information Extraction

Curriculum based Question Answering System: A Survey Report

Mr. M Senthilraja, Snehal Maheshwari, Ruchir Verma

Computer Science & Engineering SRM Institute of science and Technology, kattankulathur

senthilraja.ma@ktr.srmuniv.ac.in, snehalmaheshwari_mu@srmuniv.edu.in, ruchirverma_ra@srmuniv.edu.in

ABSTRACT

In a school curriculum, knowledge can be provided through various methods but the most important form of e-paper are document files. They contain information in form of unstructured data such as raw text, tables, figures etc. Every year a large amount of paper is invested in printing out guide/reference books to provide solutions along with some possible extra questions for the school students to practice out before the exam. A lot of natural resource goes in for the production of such books which can be reduced by producing a generalized structure for answering the questions electronically and reduce the usage of paper. The objective of this paper is to study various technologies and advancement made in the field of Natural Language Processing and analyze them to understand the various approaches taken to create a question answering system. From this analysis, we draw out conclusions and propose a way which can be useful in such system.

Index Terms-- Question-Answering System, Natural Language Processing, Artificial Intelligence, Closed-Domain, IBM Watson, Wikipedia, SQuaD, n-gram, Recurrent Neural Network.

Automated Stress relief using Artificial intelligence and Auricular Acupuncture

Kaustub Gupta and Akash Pal

ABSTRACT

Stress is one of the major concerns in today's occupied world. Not everyone can make time to work out in order to improve their mental and physical health. Thus, stress is an immense issue and results in prolonged health related problems such as cardiovascular diseases, obesity and many more. Thus, detection of stress at a prompt stage can result in improved performance and health. In our paper we discuss, the work done related to stress detection which includes effective measures comprising physiological and psychological factors, and propose a model which can be used as an automated stress relief using the machine learning algorithms and auricular acupuncture. The current methods in dealing with stress involves the use of suggestive text, psychological treatments, etc. Thus automating it can be of greater use. The model includes the constant detection of stress using a smart watch which is connected to an auricular device. The smart watch is used for measuring the physiological factors such as heart rate, galvanic skin response, blood oxygen level, etc. The data gathered is processed using a machine learning algorithm which helps in classifying the participants stress level. After detection, we can provide a signal if necessary to our auricular device which send a high voltage low current signal to the pressure point present in the peripheral region of our ear, thus helping in stress reduction

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Developing Improved Perception for Reinforcement Learning Agents in Complex Environments

Sankalp Sanand, D. Malathi

ABSTRACT

In this project, the plan was to develop a method of perception for reinforcement learning agents which may allow them to operate within seemingly complex environments. In a recent paper, one such architecture of perception was proposed called the World Models. This method constitutes of three components namely, Vision(V), Memory(M), and Controller(C) models. The V model uses a variational autoencoder made from of CNNs to create a compressed representation of the environment. The M model uses mixture density networks made from RNNs in order to give the whole architecture the ability to learn from its previous states. The C model uses evolutionary strategies to control the agents actions according to the representation it receives from the previous two models. This whole architecture has already been implemented on two relatively simpler gaming environments, CarRacing and DoomTakeCover, both by the creators of the World Models. Implementing this in a more complex environment and observing the results obtained is the objective of this project.

An Efficient Methodologies For Data Integrity In Cloud Storage

L. Jambulingam , Dr. T.V. Ananthan , Dr. Sumathy Eswaran , Dr. P.S. Rajakumar

Department of Computer Science and Engineering, Dr.M.G.R. Educational and Research Institute University Maduravoyal, Chennai,

jambulingam.logababu@gmail.com, tvananthan@drmgrdu.ac.in, sumathyeswaran@drmgrdu.ac.in, rajakumar.subramanian@drmgrdu.ac.in

ABSTRACT

Majority of the organization uses cloud for storage purpose in order to reduce the cost as well as maintenance. Due to increasing threat from internal and external sources, there would be possibility of corruption in the cloud storage files. Thus the storage must to be monitored periodically for integrity checking. Since most of the Data Owners have limited resources thus the responsibility of integrity checking goes to the Third Party Auditors (TPA). In this paper, we have proposed 2 methodologies of Integrity Checking in Cloud Storage (1) Enhanced Dynamic Hash Tree – n Versions (EDHT-n), which has best performance in term of time and space complexity compared to the existing methods. (2) Hybrid Enhanced Dynamic Hash Tree (HEDHT), which is best suited for very huge number of files in a directory

Keywords: Third Party Auditor (TPA), Hybrid Enhanced Dynamic Hash Tree, Enhanced Dynamic Hash Tree, Meta Data, Meta Data Server (MDS). Cloud Service Provider (CSP), Business Continuity Planning (BCP), Service Discovery

A SURVEY OF EXISTING APPROACHES FOR WATER PUMP STATUS PREDICTION

Karthik Prasad K, Jayakrishna Bachu, Dr. E.Poovammal

Computer Science & Engineering SRM Institute of science and Technology, kattankulathur

karthikprasad887@gmail.com, bachujaya1997@gmail.com, poovammal.e@ktr.srmuniv.ac.in

Abstract

Water Distribution Systems play an important role in shaping the quality of life of the public. However, we must realize that these systems are aging and have been deteriorated to the point that their service capabilities are now a matter of concern. Due to this fact there has been a growing awareness to improve the conditions of the water distribution system. The objective of the proposed system is to integrate the approaches followed by

other systems to predict the functioning of a water pump by considering the various diverse factors that influence the water pump functioning such as water quality, source of the water, pressure on the system, age of the system, population density, various environmental factors, etc., and come up with a system that can predict the same with maximum efficiency.

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A REVIEW ON ENERGY EFFICIENT ROUTING PROTOCOLS IN WSN

Selvi M, Joe Prathap P M

Sathyabama Institute of Science and Technology, India; Department of Information Technology, RMD Engineering College, India

1selmanju2005@gmail.com

Abstract

Currently wireless Senor Networks has attention of researchers everywhere the globe due to trending applications and tremendous edges to the society. A balanced trade-off is needed in energy dissipation, accuracy and latency in information transmission in wireless sensing element network. In these networks, sensors square measure battery operated. So, these networks square measure energy unnatural. So as to scale back the energy consumption and extend the period of the network, analysis is needed to plot the improved routing protocol. This paper provides the review on numerous cluster protocols devised in recent years.

Key Words: CH, SN, WSNs, DEEC, TORA, OLEACH, OQoS,TESDA,REDA

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Sarcasm Detection Model for Text Using Naive Bayes Classifier

Thamilthaen S and Subalalitha C.N

Computer Science & Engineering SRM Institute of science and Technology, Kattankulathur

thamil0802@gmail.com, subalalitha@gmail.com

ABSTRACT

Sarcasm means expressing views that could hurt someone's emotions and criticize in a humorous manner. Sarcasm text identification is an important task in Natural Language Processing (NLP) applications like sentimental analysis. The paper proposes a novel approach using Bayesian classifier that identifies the sarcasm automatically from a given text. Sarcasm detection has been done for languages like English, Spanish and

Mexican. Existing methods have used cue words, use of expressions to classify sarcastic and nonsarcastic texts. The proposed approach uses Naive Bayes classifier and makes use of bi-grams to detect positive and negative sentiments to detect sarcasm. A data set of 42836 tweets has been used to train the classifier. The proposed approach gives an accuracy of 81%

Keywords:

Sarcasm Detection, Text Processing, Machine Learning, Twitter, Training dataset, Testing dataset, Sentiment Analysis, Natural Language Processing (NLP).

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FACE RECOGNITION BASED DOOR UNLOCKING SYSTEM USING RASPBERRY PI

Vijayalakshmi.M, Thulluri Krishna Vamsi, Kanchana Charan Sai

Computer Science & Engineering SRM Institute of science and Technology, kattankulathur

vijayalakshmi.ma@srmuniv.ac.in, thullurikrishna_tl@srmuniv.edu.in, charankanchana@gmail.com

ABSTRACT

Today we are facing security issues in the cities and towns. So we have to resolve by using updated technology. In this project we are using Face recognition module to capture human images and to compare with stored data base images. If it matches with authorized user, the system allows to rotate motor for unlocking the door. Security is a major threat to institution that is why there is a need of several specially trained personal to attain the desired security conditions in the country. The need for facial recognition system that is fast and accurate is continuously increasing which can detect intruders and restricts them from restricted or high-security areas in real time and help in minimizing human error. Face recognition is one of the most Secured System than biometric pattern recognition technique which is used in a large spectrum of applications. The time and accuracy factor is considered about the major problem which specifies the performance of automatic face recognition in real time environments. Various solutions have been proposed using multicore systems. By considering present challenge, this will provides the complete architectural design and proposes an analysis for a real time face recognition system with LBPH Algorithm implementations of real time face. Finally, this paper concludes for the advanced implementations achieved by integrating embedded system models against the convention implementation.

KEYWORDS—Face recognition; Local Binary Pattern Histograms; Principal Component Analysis.

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A SURVEY OF APPROACHES FOR VEHICLE TRAFFIC ANALYSIS

Rajesh Babu. C, Anirudh. G ,Naveen Venkatesh

Computer Science & Engineering SRM Institute of science and Technology, kattankulathur

rajeshbabu.c@ktr.srmuniv.ac.in, g.anirudh15@gmail.com, naveenrock293@gmail.com

ABSTRACT

The ever-increasing traffic congestion especially in the urban area calls for better traffic surveillance and analysis sytems to be deployed. Vehicle traffic data accumulated over a period of time can be used to find traffic patterns and gain useful insights which can be used for improving the traffic management. Existing techniques for traffic analysis include magnet based loop detectors embedded inside the road, infra-red sensors on the side provide limited vehicle counting and traffic surveillance. Also, the sensors are prone to physical damage over a period of time, which reduces their functionality and accuracy. The existing techniques perform a reliable job during the daylight conditions but falls short in the low light due to illumination change which drastically reduces the accuracy. The vision and video based deep learning techniques use object segmentation and several holistic approaches to arrive at the objective. Empirical evaluation on public-scale confirm that these methods can achieve a high real-time performance and accuracy while providing insightful data for further analysis. We analyze the most commonly used algorithms for vehicle traffic analysis

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DECENTRALIZED DISTRIBUTED DATA STORAGE

Vijayalakshmi M , Hemang Thakur, Aritra Chattopadhayay

CSE Department, SRM Institute of Science & Technology, kattankulathur

vijayalakshmi.ma@ktr.srmuniv.ac.in, Hemangthakur_di@srmuniv.edu.in, 3aritrachattopadhyay_ac@srmuniv.ac.in

Abstract

Distributed Decentralized Data Storage is a peer-to-peer cloud storage network project implementing client-side encryption, would allow users to transfer and share data without reliance on a third-party storage provider. The removal of central controls would mitigate most traditional data failures and outages, as well as significantly increase security, privacy, and data control. Peer-to-peer networks are generally unfeasible for production storage systems, as data availability is a function of popularity, rather than utility. We propose a solution in the form of a challenge-response verification system using the Interplanetary File System (IPFS) protocol. In this way we can periodically check data integrity. We further propose a model for addressing access and performance concerns with a set of independent or federated nodes.

Keywords – Decentralized, peer-to-peer, IPFS, client-side encryption, cloud storage

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Securing IoT: Popular Attacks on IoT Layers, Security Requirements and Considerations

E.Sandhya, Dr.Annapurani Panaiyappan.K

Department of IT Sree Vidyanikethan Engineering College, Tirupati ; Department of CSE SRMIST-Kattankulathur

ethala_sandhya@yahoo.co.in, annapoorani.k@ktr.srmuniv.ac.in

ABSTRACT

The interconnection of collaborative devices through internet as an interactive medium is the basis for IoT. The advent of IoT makes our lives smarter and better. At the flipside Since IoT is still emerging technology and due to constrained environment; it is prone to several attacks, especially Distributed Denial of Service (DDoS) attack tops in list. We present a taxonomy that covers all possible categories of attacks that occur in IoT. The paper exposes popular attacks layer wise in IoT reference model. Also, the paper covers security requirements and measures to tackle the threats in IoT environment.

Key Words: IoT, IoT security requirements, DDoS, Attacks taxonomy

Sentiment Analysis Using Support Vector Machine

Sindhu Chandra Sekharan, Vadivu G

sindhucmaa@gmail.com, vadivu.g@ktr.srmuniv.ac.in

ABSTRACT

Emerging trends in technology and evolution of web communication has not only given space for magnificent amount of data, but also serves as a platform where additional useful information is generated in the form of feedback. It becomes necessary to analyze such suggestions, views or opinions for a better decision making. Opinion mining is a Natural Language Processing (NLP) task that identifies the user's views or opinions explained in the form of positive, negative or neutral comments and quotes underlying the text. The objective of this work is to identify the polarity of the given user reviews. To achieve this objective, a number of steps like preprocessing, feature selection using SentiWordNet, vector creation and classification using SVM are followed.

Keywords—Opinion Mining, SentiWordNet, Sentiment Classification, Sentiment Analysis

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Automatic Tracking Systems for Attendance Monitoring

S. Prabakaran, Subhashree Navaneethan, Shruti Ramesh Babu

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

prabakaran.s@ktr.srmuniv.ac.in, subhashree_navaneethan@srmuniv.edu.in, shrutirameshbabumallavolu_mallavolu@srmuniv.edu.in

ABSTRACT

In present education system, attendance serves an important and significant part in deciding the productivity, performance, and morale of students. The conventional method requires every pupil to manually sign an attendance sheet at the beginning of each lecture; which is highly time consuming and subject to various kinds of errors. This paper presents various methods that have been implemented in the recent years using

technologies such as face recognition, biometric analysis, fingerprint and iris recognition, etc. to overcome the above problem.

Index Terms – Face recognition, RFID, Internet of Things, Fingerprint sensing, Iris Recognition, Attendance Monitoring

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Online Book Recommendation System Using Collaborative Filtering (with Jaccard Similarity)

Avi Rana, K.Deeba

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India
avijrana@gmail, deeba.k@ktr.srmuniv.ac.in

ABSTRACT

Recommender systems (RS) provide suggestions to a buyer to purchase an item that he or she might prefer or gives predictions on how much the consumer might prefer each item. They direct buyers towards those items which can meet their needs by cutting through a large database. Today many e-commerce applications use RS but the challenges they face is to filter, set a priority and deliver relevant material. Collaborative Filtering (CF) is based on ratings given by humans who judge items not only based on their content but also its quality or taste, which is difficult for a computer process to judge. But CF suffers from issues such as scalability, sparsity and cold start. To overcome these issues this paper proposes a recommender system that will use CF technique with Jaccard Similarity, to achieve better performance.Jaccard Similarity for itembased recommendation calculates the likenessby taking the number of persons who have rated both books in the numerator and the number of persons who have rated either of the two books in the denominator.

Keywords: Similarity index, filtering techniques, recommender system, Jaccard similarity

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A Survey On Vehicle Theft Detection System Based On Nordic Radio Frequency

S.Nagadevi, K.V.N.Anilkumar, Gokaraju.KumarRaja

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

NAGADEVI.S@ktr.srmuniv.ac.in, katanagaanilkumar_rao@srmuniv.edu.in, kumar.gokaraju@gmail.com

Abstract

The amount of vehicles grows a rapidly, vehicle theft has become a shared concern for all citizens. However, present antitheft systems lack the tracking and monitoring function. The vehicle anti-theft tracking system based on Internet of things is designed in this article, which can able to track the stolen vehicle by using RFID and alerts the Police by the location using IOT. The traffic sections are formed in a secure network by using NRF which gathers the information of the stolen vehicle andpasses to the other traffic section. Hence this method helps us to find the stolen vehicle location accurately.

KEY WORDS :IOT RFID NRF

PREDICTION OF AREA CLIMATE AND AIR POLLUTANTS USING DEEP LEARNING

M. Rajasekaran, Kalidindi devandra shanmukh varma, Yenuganti hari pranay Krishna teja

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

Rajasekaran.m@ktr.srmuniv.ac.in, shanmukhvarmadevendra@gmail.com, haripranay9@gmail.com

ABSTRACT

This paper proposes a straightforward Wireless Sensor Network (WSN)- based air quality observing framework (WSN-AQMS) for modern and urban zones. The proposed structure includes a lot of gas sensors (ozone, CO, and NO2) that are conveyed on stacks and foundation of a Zigbee WSN and a central server to support both short-term real-time incident management and a long-term strategic planning. This engineering would utilize open-equipment openprogramming gas detecting proficient bits made by Libelium. These bits utilize the ZigBee correspondence convention and give an ongoing ease observing framework using minimal effort, low information rate, and low power remote correspondence innovation. The proposed checking framework can be exchanged to or shared by different applications. We likewise present a basic however proficient bunching convention named from now on " Clustering Protocol for Air Sensor arrange" (CPAS) for the proposed WSN-AQMS structure. CPAS proves to be efficient in terms of network energy consumption, network lifetime, and the rate at which data is communicated.

KEYWORDS-wsn-aqms,cpas.

ENVIRONMENTAL ANALYSIS BASED ON CAUSES OF DEATH: A SURVEY

M. Uma Devi , Nikhil Agrawal, Vishwanand Vyas

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

umadevi.as2006@gmail.com, nikhil.13agrawal@gmail.com, vishwanand46vyas@gmail.com

ABSTRACT

Every environment has different factors based on which we can analyze the factors such as medical concerns, resource allocations, mortality factors and various others. Information is collected from the analysis of Causes of Death. This helps in analysis of death caused by lack of vaccination, environmental factors, and natural causes. By categorizing the data on the basis of age we can determine the major causes of death in a particular age group which in turn helps hospitals and doctors to prepare accordingly. It will help hospital and healthcare organisations to make better health care decisions and public policy makers to make better policies. A widely used method in the studies of healthcare is statistical method. Though these method are very useful in public health and clinical research policy making, these methods are not capable of finding relation among health condition on their own. Thus we aim to cope with the above challenge by giving input from different datasets and then producing an output which can give more accurate results and better understanding of the situation of the area.

Keywords- Data Mining, Bit Term Topic Model, Feature Selection, Classification & Regression Tree(C&RT), Coherence Score

Survey On Existing Load Balancing Algorithms In Cloud Computing

Nagadevi.S, Uma Maheswara Reddy.P, Rama Krishna Reddy.V

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

nagadevi.s@ktr.srmuniv.ac.in, umamaheswara_pamm@srmuniv.edu.in, ramvenna369@gmail.com

Abstract

Load balancing is one of the critical components for efficient operations in the cloud computing environment. In recent years all over the world many clients are demanding the various services at rapid rate. Many algorithms are being designed to carry out the client's request towards the cloud services. Accordingly the cloud computing platform will configure its servers and these servers may be present or physically in the computing environment. Hence, selecting the virtual machines or servers has to be scheduled properly by using an appropriate load balancing approach. Keywords - Load balancing, Cloud Computing, Virtual machine, CloudAnalyst.

A SURVEY ONPROTECTING LOCATION PRIVACY FOR TASK ALLOCATION IN AD HOC MOBILE CLOUD COMPUTING

S.Nagadevi, A.Umamaheswara Reddy, A.Abhishek Reddy

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

nagadevi.s@ktr.srmuniv.ac.in, maheswara_a@srmuniv.edu.in, anchuriabhishek_srinivasa@srmuniv.edu.in

ABSTRACT

Mobile cloud computing is emerging cloud computing paradigm that integrates cloud computing and mobile computing to enable many useful mobile applications. With the shortcoming of long network delay and long time traditional mobile cloud computing can't meet the need of delay sensitive and augmented reality mobile edge computing has emerged and provided away to solve the problem during the movement of the user if any optimal data centre is detected the virtual machine migrates from the current data centre to the optimal one we analyze several problems inhibiting the adoption of MAC and review corresponding solutions by devising a taxonomy it is important to none this virtual machine migration increases cost while enhancing the user experience how to balance cost and benefits is what we need to focus on the core issue of the migration strategy is whether when and where to migrate it is paper we propose an edge computing migration strategy based on multiple attributes decision making to deal with the issue further more we demonstrate the effectiveness of the migration strategy by simulation.

BOT KITCHEN USING IOT

Pranav kapur, Shaifali Phogat

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

Pranavkapur_pa@srmuniv.edu.in, Shaifaliphogat_pa@srmuniv.edu.in

ABSTRACT

Now a days everyone is concerned with how to make life easier and IOT is one such field which makes peoples life easy and less hectic. Kitchen is an integral part ofza hum ans life. People go to the kitchen on a regular routine to make food for themselves, making food is a tedious job and managing it is more of a headache. So our aim is to reduce the risks as well as reduce the headache ofzmanaging th e kitchen by introducing BOT KITCHEN , which in itself will be efficient enough to make cooking food easier. The a pplication ofzthis product is that it would sense ifzthe gas in the cylinder is about to get over and will immediately inform the person responsible. It will automatically do the booking as well. It will also have a controlled atmospheric en vironment using HVAC control system. Another major application ofzthis project is to manage kitchen inventory using RFID.

Secure Online Voting System Using Blockchain

Abhishek Kantariya, Sarthak Singh, R.Jeya

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India
abhikantariya.ak@gmail.com, manusingh20598@gmail.com, jeya.r@ktr.srmuniv.ac.in

Abstract

It has always been a difficult task for the election commission to conduct elections in our country. Huge amount have been spent on this to make sure that the elections are riot free. The aim is for creation of a voting system by providing a cost effective solution to the government along with ensuring security and integrity of the votes and providing great convenience to voters. This system is developed to ensure that all eligible voters having a Universal Identification Number of their country (For Example the Aadhar Card) is allowed to cast their respective vote. The person who cast more than one vote during the election is not allowed to be participated in the process. To keep the maintenance of authenticity, any unique identification of the voters could be used to cast their vote. The online voting web application could be deployed with three phases - the voter registration, online vote capturing and the instant online counting and result declaration. A Password provided to voter during registration acts as an authentication mechanism which enables the voters to securely cast their vote along with their captured biometric identification. The blockchain system is the system on which the actual voting takes place by use of public ledger. The citizen's vote is sent to the one of the nodes on the system depending on the load on each node. The node then attach the transaction to the blockchain depending on the smart contracts build for the system. The smart contracts are the rules that the nodes follow to not only to verify user but also add the vote in the system. Each node uses the smart contract to verify the vote. The voting application created using blockchain is a decentralized application which makes it impossible to change the vote casted by voter.

VEHICLE TRAFFIC ANALYSIS USING YOLO

Rajesh Babu , Anirudh , Naveen Venkatesh
Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India
rajeshbabu.c@ktr.srmuniv.ac.in, g.anirudh15@gmail.com, naveenrock293@gmail.com

ABSTRACT

Traffic density specifically in the crowded urban areas is at an all-time high. It require highly accurate and fast traffic analysis systems for capturing data to produce insights and for surveillance purposes. The data of vehicle traffic collected over a time period can be used to find traffic density patterns and procure insights which can be used for improving the traffic management. Existing hardware-based techniques for traffic analysis include magnet based loop detectors embedded inside the road provide useful data, but also has a significant downside: physical damage over a period of time, which reduces their functionality and accuracy. Even most of the software based techniques perform well to an extent, however they can only detect moving vehicles. To solve this issue, in this paper, we propose to use a convolutional neural networks (CNN) based algorithm known as You Only Look Once (YOLO). More specifically, we create an end-to-end traffic analysis system which can

take video input, process the video using YOLO algorithm and produce the output report using which insightful analysis can be obtained. We obtain the data from a surveillance camera to evaluate this model.

Keywords: yolo; Convolutional neural network; deep learning; video-based system; traffic analysis;

ABUSIVE CONTENT DETECTION USING DEEP LEARNING

Mr.xR.xSrinivasan, Ankita Kumari, Ashwin K Ashok

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

srinivasan.r@ktr.srmuniv.ac.in, ankitakumari_as@srmuniv.ac.in, ashwink_kg@srmuniv.ac.in

Abstract

Advancing technology has provided users with platforms to freely express themselves, but with every blessing there comes a curse. In past years, the use of abusive content in online content generated by the user has created a lot of issues for society. Hence, the detection of abusive content is increasingly gaining importance. This paper presents a basic model, which can be helpful for detecting such abusive content in comments, pictures, and GIFs. This model is a result of the fusion of concepts of Deep Learning for image processing and natural language processing which can be used for image description generation and hence allow for abusive content filtering with respect to an image. The training image helps to train our model to generate sentences closest to the target description. Finally, our model uses LSTM to detect if this caption generated, is abusive or notabusive. This model is performing with the accuracy of 86.7%.

Keywords --- Natural Language Processing, Long Short Term Memory Network, Convolutional Neural Network, Deep Learning, Abusive Content

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A LITERATURE REVIEW ON DIFFERENT TYPES OF MACHINE LEARNING METHODS IN WEB USAGE MINING

Meera Alphy and Ajay Sharma

Department of Computer Science and Engineering SRM University, Haryana, India

meeraalphy.urumbath@gmail.com, ajaypulast@reffimail.com

Abstract

The increase in the web usage in last two decades, tremendously enhance the research field to tackle the challenges faced by online user and browsing patterns to help the user by analysing the user clickstream from log file. This review gives leverage convenient web elements suitable in the web usage mining and concentrate on mining the web usage on the latest years (2014-2019). The classification of different algorithm on the common characteristics of its function and its learning mechanism is the highlight of this survey paper. World wide web systems become core competency of online transactions, online corporate existence which is prevalent to day to day life in the building and easy to access knowledge or products. Data mining is digging the useful data from the large set of data and using different methods like artificial intelligence, machine learning and statistics from the database systems. Web mining is the application of data mining techniques to unearth motif from the World Wide Web.

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Application of Data mining in Analysis and detection of Parkinson's Disease

Omini Rathore, Mrs. P. Akilandeswari, Namrata Yadav

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

omini1997@gmail.com, akilandeswari.p@ktr.srmuniv.ac.in, yadavny28@gmail.com

Abstract

Parkinson's disease (PD) is a neurodegenerative disorder which often affects patients' movements. Some of the most common symptoms of Parkinson's disease are tremors, rigidity, akinesia, walking disability, and postural instability. The primary motor symptoms are collectively called "parkinsonism". This paper provides a brief description of the existing techniques used in detecting Parkinson's Disease with the help of various data mining algorithms such as Multiple Instance Learning (MIL), K-means clustering, Decision Tree Classification, Moving Average Algorithm etc., their accuracies and drawbacks and also gives an outline of the proposed system. Since all of the existing models consider a single symptom for detecting Parkinson's, the proposed approach aims at building an analytical model with two different symptoms i.e. speech and finger tapping keystroke, so as to increase the accuracy and find the co-relation between these symptoms.

Keywords – Parkinson's disease, data mining, SVM, Logistic regression.

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ANALYSIS AND PREDICTION OF WORKLOADS IN CLOUD ENVIRONMENT

P. Akilandeswari, Medha Manoj Panikkasseri and H. Srimathi

Department of Computer Science and Engineering SRM Institute of Science and Technology, Kattankulathur, Chennai, India

akilandeswari.p@ktr.srmuniv.ac.in, medhamanoj_ma@srmuniv.edu.in, srimathi.h@ktr.srmuniv.ac.in

Abstract

Cloud computing technologies over the years have helped meet the changing needs for resources and computing capabilities of different organizations globally. By migration of workloads to cloud platform, (public, private or hybrid) there have been significant increase in Data Analytics applications to gain valuable insights from data. The rising amounts of workload have led to the necessity of predicting the optimal choice of platform for performing analytics in cloud to achieve better results. The increases in popularity of containers have made them an efficient choice for computing and prediction over traditional Virtual machines. This paper tries to analyse the different workloads and the types of model to predict them with the prospect of running workloads in a containerised environment.

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SMART CITY: TRAFFIC MANAGEMENT SYSTEM USING SMART SENSOR NETWORK

Suparth Jain, Abhishek Kumar, A.Meena Priyadharshini,
suparthjain_su@srmuniv.edu.in, abhishekkumar_ra@srmuniv.edu.in,
meenapriyadarsini.a@ktr.srmuniv.ac.in

ABSTRACT

By 2050, 70% of the world population is estimated to migrate toward the city, covering just 2% of the earth's surface.This leads to many issues, and traffic congestion is one among them. To continue to serve and improve the life of the growing population, it is mandatory to develop an advanced medium to avoid risks which are likely to occur as a result of overcrowded traffic. Our motive is to develop an autonomous vehicle to free human drivers and thus increasing their safety. The Self-driving autonomous vehicles have intensely become one of the great discovery in the field of technology. Different technologies like deep learning, AI, etc. are merged with each other and with the smart sensors to develop this self-driven autonomous vehicle.Computer Vision and Deep Learning techniques are applied to build an automotive related algorithm. This project uses Computer Vision Techniques to identify lane lines on a road and also able to identify 40+ different traffic signals. In this project, we will explore the smart city concept and propose a strategy development model that will mitigate the traffic concern issues by implementing traffic management solutions using smart sensors network in a smart city context.

Index Terms—Smart City, Traffic Management System, Smart Sensor network

AUTOMATED FACE RECOGNITION FOR ATTENDANCE SYSTEM

Dr. A. Pandian, Md Afrid Hussain, J Prapul Kumar

Srm Institute of Science and Technology, Kattankulathur, Chennai

pandian.a@srmuniv.ac.in, afrid.hussain@gmail.com,prapul6023@gmail.com

ABSTRACT

The attendance maintaining system is difficult process if it is done manually. The smart and automated attendance system for managing the attendance can be implemented using the various ways of biometrics. Face recognition is one of them.By using this system, the issue of fake attendance and proxies can be solved. In the previous face recognition based attendance system, there were some

disadvantages like intensity of light problem and head pose problem. Therefore to overcome these issues,various techniques like face detection using skin color segmentation model or computer vision model, face alignment using surf, feature extraction using HOG and Gabor feature models are used. The major steps in this system are detecting the whole student's faces and recognizing them. After these, the comparison of detected faces can be done by crosschecking with the database of student's faces by using KNN classifier. This smart system will be an effective way to maintain the attendance and records of students.

Keywords: Face Detection, Face Alignment, Feature Extraction, Face Recognition.

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Dynamic Task Dispatching and Execution Technique for adapting Dag to Cloud

Nidhi Chaubey, Mrs.P.Akilandeswari, Shimimol Joseph

Computer Science and Engineering Department, SRM Institute of Science and Technology

nidhich30@gmail.com,akilandeswari.p@ktr.srmuniv.ac.in, sjanna97@gmail.com

ABSTRACT

There are often hundreds of tasks associated with large-scale scientific workflows that may require many computation resources in order to improve response time. Clouds, clusters, grids are a few distributed computing systems which are frequently used to deal with such workflow applications. In order to make task execution efficient many task scheduling algorithms has been developed. This paper focuses on achieving QoS(Quality of service) by considering the time-stamp order of tasks since the order of the operations which are being carried out is critical to avoid reprocessing of task. Reprocessing of task can be avoided by using DAG (Directed Acyclic Graph). DAG identifies the interdependencies among the tasks. Hence execution of Independentxtasks takes place simultaneously using multiplex virtualxmachinesxfirst and dependentxtasks are executed once the preceding tasks are completed This improves the accuracy of output as it ensures that a task is executed only after the execution of all its preceding tasks on which it is dependent making the system more reliable.

Keywords—Cloud Computing, FCFS, Round Robin, Priority based, DAG,RNN,QoS.

Prevention of DDoS TCP Flood Attack using Virtual Layer at Server

A. Jeyasekar, Prasanna V Balaji, Beniel Dennyson

Dept. of CSE, SRM Institute of Science and Technology, Chennai

ABSTRACT

Because of exponential growth of the users using Internet applications, providing services to them is prominent requirement of internet. The node providing service to them is to be available

anytime and anywhere. But the denial-of-service attacker attempts to exhaust the victim's resources such as bandwidth, processing capacity, storage etc by sending huge unwanted traffic to victim node. By doing so, the attacker makes the victim node to prevent the legitimate nodes from accessing the resources or degrade the services provided by victim node. Hence the network/servers become greater risk. A distributed denial-of-service attack is a large scale attack which launches the many DoS attacks directly or indirectly in the distributed manner. The DDoS attack takes large number of compromised nodes in a network to flood the victim nodes simultaneously from multiple places. This kind of attacks is unpredictable and leads to deadly consequences. Therefore in this paper, we explore the scope of the DDoS TCP Flood attack and the possible ways of prevention of the attacks. We propose a prevention mechanism against the DDoS TCP Flood attack that uses a threshold based attack detection and prevention mechanism. The proposed mechanism is set on a virtual machine of a victim node ie server so that the service requests generated by the attackers are not allowed to the server. The experimental results show that the proposed mechanism performs well as compared with other mechanisms.

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A Survey on Outcome based Learning Management Systems

Naveen Venkatesh K, Rajesh Babu C
Computer Science and Engineering, SRM IST
naveenrock293@gmail.com,rajeshbabu.c@ktr.srmuniv.ac.in

ABSTRACT

Teaching learning process have enabled the engineering educators to follow the best practices in learning for the learners using learning tools. Teaching-learning process in higher education sector has been experiencing path-breaking changes in the recent past due to the emergence of new technologies/ methodologies for knowledge sharing and skill development. Many engineering educational institutions in India have initiated and started Teaching-Learning Centers. The prime focus is to create the awareness and expose the facilitators towards various Active and Collaborative learning techniques. In order to enhance the quality of education in higher education institutes in India, it is essential for the teaching fraternity to learn the nuances of the art, philosophy and science of teaching learning using learning tools and technologies. In this digital era of globalization, there are many learning management and measuring tools are available. But there are very few learning managements systems(LMS) that supports in class learning with instructor led learning models. To name a few blackboard and its cost effective system. However, there are many open source LMS available such as: Moodle, ATutor, Claroline, Maharaj, Sakai, IIias, Dokeos, but the support systems for in class instructor led learning model support is very less. To overcome the issue, eCurricula - an in-class activity based model for that supports Active Collaborative learning tool is designed and released in GNU/GPL license. In this paper, comparison and survey of 12 LMS are discussed along with their features, drawbacks, advantages and benefits.

Index Terms- LMS, Learning Management System, education, outcome based, in-class activity

Driver's Drowsiness Detection Based on Behavioural Changes Using ResNet

A. Jeyasekar, Vivek Ravi Iyengar

Department of CSE, SRMIST, Chennai.

ajeyasekar@yahoo.com,vivek.iyengar@outlook.com

ABSTRACT

Recently there has been growing interest in intelligent transportation system because the road accidents become biggest problems of mankind and the casualties of accident also increases rapidly every year. The casualties are very often witnessed in heavy and light motor vehicles. Moreover the accidents occur mainly due to carelessness and drowsy feeling of the driver. Intelligent transportation systems use deep learning mechanism to detect drowsiness of the driver and alert the same to driver. It results in reduction of accidents. The driver's behaviour during drowsiness is detected by three types of approaches. One approach deploys the sensors in steering wheel and accelerator of the vehicle and analyzes the signal sent by the sensors to detect the drowsiness. Second approach focuses on measuring the heart rate, pulse rate and brain signals etc to predict the drowsiness. Third approach uses the facial expression of the driver such as blinking rate of eye, eye closure and yawning etc. The cause for the most of the road accidents is driver's drowsiness. Therefore in this paper, the behavioural changes of driver is accounted to detect the drowsiness of the driver. Eye movement and yawning are two behavioural changes of driver is considered in this paper. There are many CNN based deep learning architectures such AlexNet, VGGNet, ResNet. In this paper, we propose the drowsiness detection using ResNet because this method works on the principle of passing the output to the next la. The performance of proposed mechanism detects the drowsiness of the driver better than AlexNet and VGGNet.

Keywords— Drowsiness Detection, Convolutional Neural Networks, Activation Functions, Microsoft Resnet

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A survey of road extraction methods from remote sensing images

Samyuktha Sridhar, Dorathi Jayaseeli J.D, Malathi D
Department of CSE, SRMIST, Chennai
pragyasaxena_dr@srmuniv.edu.in ,samyukthasridhar_rama@srmuniv.edu.in
dorathijayaseeli.jd@ktr.srmuniv.ac.in,malathi.d@ktr.srmuniv.ac.in

ABSTRACT

Extraction of roads from satellite images is one of the trending research fields. It has a ubiquitous role in the field of city planning, urban traffic management, GIS data updates etc. With the burgeoning growth in the use of GIS systems, the requisition of accurate extraction of information from high-resolution and aerial imageries is in high demand. However, detecting roads from satellite images can be challenging as they may appear to be visually similar to buildings and railways. This paper reviews and analyses various existing general approaches and algorithms, such as SVM, ANN, mathematical morphologies etc, for extraction of roads from satellite images. We have analyzed the performance of various algorithms and compared the accuracy of road detection with respect to the method's completeness, correctness and quality. In this paper we propose an approach to extract roads from satellite using Density-Based Spatial Clustering of Applications with Noise(DBSCAN) algorithm which has the advantage of being completely automated and can avoid the over and under-segmentation problem.

Keywords: Road extraction, road detection, region-based detection, pixel-based detection

Prediction of Air Quality Index

Uddhav Shishodia, Aditya Kumar, Aswathy K Cherian
Department of computer science and Engineering SRM Institute of Science and Technology Chennai, India

adi0859@gmail.com, shishodia.uddhav@gmail.com, aswathy.c@ktr.srmuniv.ac.in

ABSTRACT

The Cities in the modern world are growing rapidly but they also suffer an array of environmental issues that are directly impacting the human health. The objective is to implement a system of air quality prediction that determines the degree of environmental pollution in the common households. The data of the AQI will be analyzed with a data mining algorithm. These results will help in the prevention of use of such pollutants and also the human health can be saved with the same. Keywords— Data Mining algorithms.

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STOCK MARKET ANALYTICS: STATISTICAL AND MACHINE LEARNING TECHNIQUES

J. Prathipa, Rohan Shah, S. Akshay
SRM Institute Of Science and Technology,
prathipa.j@ktr.srmuniv.ac.in, Rohanshah_deepakshah@srmuniv.edu.in, sakshay_km@srmuniv.edu.in

ABSTRACT

Stock Prices tend to be erratic in behavior. They can be very volatile in nature, making it hard to predict. Thus, making an accurate analysis is beyond casual means. One method we use is to study historic data and learn patterns of uptrend and down- trend. Standard deviation is calculated on stock prices within a duration of quarter or a year under the close to close measure method. Many other statistical methods have been reviewed and analyzed. In this Project the efficiency of machine learning techniques including Random Forest (RF), Gradient Boosting (GB), Linear Support Vector Machines(SVM), and Naive Bayes (NB) are proposed to be implemented and analyzed. This project aims to identify the most efficient Machine Learning Algorithm for consistent stock market analysis.

Descriptive Analysis of Socio-Economic Trends in India

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Mrs. S. S. Saranya, Sharmin Kantharia,Atharva Hajare
SRM Institute Of Science and Technology,
saranya.ss@ktr.srmuniv.ac.in,sharminkantharia26@gmail.com,atharva.hajare@gmail.com

ABSTRACT

Census is a process carried out to by countries all over the world. It is carried out after a fixed interval. The purpose of a census is to collect information related to housing, population, healthcare, education etc. A census is used to find out how the demographics have changed over a period of time. In many developing countries such as India, census data is taken into consideration in policy evaluation and formation. In India, a complete census has been carried every ten years since 1881. The last census was carried out in 2011. The census collected data points such as age, sex ratio, disability status, highest educational level attained, religion, ownership status of house etc. With the advent and integration of data mining and big data analytics in everyday life, we can now work on such elaborate data and apply these methods to get a better understanding
of the demographics of the country. The application of data mining algorithms on the census data for India along with certain additional datasets, we will be able to gain better insight for the development of the country.

Keywords— Socio-Economic, Census Data Mining, Education, Disability, Housing

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SURVEY PAPER FOR HANDWRITTEN HINDI DIGIT RECOGNITION

Kush Daga,Venkatesh Pillay,Mrs. J.D. Dorathi Jayaseeli
SRM Institute Of Science and Technology,
kushdaga_sa@srmuniv.edu.in,venkateshpillay_pr@srmuniv.edu.in,
dorathijayaseeli.jd@ktr.srmuniv.ac.in

ABSTRACT

Digit recognition is one among prominent fields in Machine learning. Handwritten recognition of the digit/numerals is a crucial subset of pattern recognition and has become an important topic for research due to its various applications like bank cheques processing, postal service, billing systems, ayurvedic system, etc. This paper presents a review on recognition of Hindi numerals by presenting an offline recognition model. The proposed model involves accession and interpretation of handwritten digits by converting it into a machine-readable format. Due to large variations in the size and shapes of the digit, it is difficult for any system to recognize handwritten digits correctly. As all individuals have different styles of writing, a single digit can be made in different styles and sizes which is hard to read (especially by scribblers) and it becomes a complex task to interpret the handwritten digits up to maximum accuracy. In this offline Hindi digit recognition system, an image of the handwritten digit will be given as input and its corresponding English numeral will be displayed. This model consists of neural network approaches like Convolutional Neural Networks (CNN) and methods like pre-processing, feature extraction, classification, etc.

Time Series Analysis for Predicting Earthquakes using ARIMA Model

Abhinav Sharma,Mayank Sisodia,J.D.Dorathi Jayaseeli
SRM Institute of Science &Technology,Kattankulathur,India

ABSTRACT

Earthquakes that have occurred worldwide have caused severe damage not only to human, human structure but have led to flash floods, landslides, fires, tsunamis and deformation of ground surfaces. Time series analysis for prediction of earthquake can help to save a lot of lives. Time series is a set of observation conducted and recorded at different point of times. Information is always represented with respect to time as one of its variable. In this paper we have proposed to predict earthquakes by analyzing previous year data. The data we use will be of last five decades. We will predict the number of earthquake having magnitude greater than 7 magnitude on Richter scale which will happen in future.

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DDoS detection and avoidance using Trust as a metric in AI

Sai Raj T, Rohin Selva, Jothikumar C ,Vaishnavi Moorthy , Revathi Venkataraman
SRM Institute of Science &Technology,Kattankulathur,India

ABSTRACT

DOS/DDOS attacks are major threats that exhaust the computing and memory resources of the server using multiple attackers. This leads to unavailability of the online service or web application to the client causing financial loss and degrading the brand name. In order to avoid the loss,we propose a system in which the server response only to the requests sent by the trusted clients to prevent DDOS. DDOS is detected by the enormous traffic towards the target server. On detecting the possibility of a DDOS attack, the system adapts itself to avoid DDOS packets by filtering out trusted packets using artificial intelligence algorithm and digital signature from the incoming traffic. Thus, allowing the trusted clients to receive service from the server by avoiding DOS/DDOS attack.

MARK42: THE SECURED PERSONAL ASSISTANT USING BIOMETRIC TRAITS

Gayathri.M ,Siddharth Singh, Dushyant Singh ,Dr.Malathy.C
Department of CSE, SRMIST
gayathri.ma@ktr.srmuniv.ac.in,siddharthsingh_ra@srmuniv.edu.in

ABSTRACT

Ongoing advances in Artificial Intelligence and Machine Learning have made a domain for creating clever individual aide bots verified with biometric characteristics. Mark42 is an endeavour to utilize Artificial Intelligence with picture acknowledgment for making it verified and play out the errands as requested by the Human. The venture is completely founded on computerized reasoning, machine learning and biometric attributes like facial acknowledgment incorporated OpenCV. The innovation AIML is utilized for example coordinating of discourse, picture acknowledgment for facial acknowledgment. It means to incorporate with IOT (Internet of Things) and Machine Learning to make it further developed in the field of innovation. Digitization conveys new potential outcomes to facilitate our day by day life exercises by methods for assistive innovation. Google assistant, Alexa, cortana use machine learning, common language preparing and different incitation components to detect and impact nature. In any case, SPA investigation seems, by all accounts, to be amazingly divided among totally extraordinary orders, for example, software engineering, human-PC communication and data frameworks, which prompts 'rehashing the wheel methodologies and hence obstruct advance and reasonable clarity. In this paper, we will in general build up an integrative writing audit to make a strong reason for future examination of mechanization. We have known 5 viable standards and 3 examination spaces that appear to be encouraging for future investigation, especially inside the information frameworks field. Hence we contribute by giving a merged, coordinated view on earlier research and establish the framework for a SPA grouping plan for mechanization.

Keywords - Artificial Intelligence, Voice Recognition, Personal Assistant, AIML, Biometrics.

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Moving vehicle Detection and Classification-A Survey

Muaaz Syed Ali, Neeharika Vangavaragu, Dr. Amutha B

Department of CSE, SRMIST
muaazmaxali@gmail.com , neeharikavangavaragu@gmail.com ,amutha.b@ktr.srmuniv.ac.in

ABSTRACT

Detection and recognition of moving vehicles play a vital role in Intelligent Transport Systems(ITS) such as tracking vehicles and analyzing pre-crash and post-crash scenarios. It also has many varied applications in the future. The process encapsulates capturing the real-time movement of vehicles, preprocessing data to extract essential information, feature extraction which is achieved with the help of image processing. Furthermore, the process also includes training a classifier to accurately

detect and categorize the captured vehicles using previously available dataset. Through this paper, we carefully survey existing methodologies and further compare them to evaluate the most efficient solution.

Keywords- Vehicle Detection, Convolutional Neural Network, Make and Model Recognition

REMOVAL OF CLOUD COVER AND NOISE FROM SATELLITE IMAGES USING DARK CHANNEL PRIOR AND GUIDED FILTERS

Sowmya Bajpai, Varun Nangia
Department of CSE, SRMIST
sowmyabajpai_pee@srmuniv.edu.in,varunnangia_ni@srmuniv.edu.in

ABSTRACT

The advancement in modern science there has been a considerable advancement seen in technology. In today's era, it is essential to be able to capture good quality images as the application of the same lies in various fields. There has been considerable work done to improve the quality of the satellite images taken but limitations persist. The main reason for these limitations is the ambivalence in algorithms and the inaccuracy in the methods to measure the system. The cameras and the other digital equipment are also responsible for adding the deformities in the image. The images that are clicked suffer from defects due to motion that leads to blur, fog, haze and other factors. The noise in the image are very difficult to completely remove from the image. Here, we will emphasis on the images collected by the satellites by cameras or remote sensors. We will work on the Dark Channel Prior method to defog and remove the noise from the image. The images will then be fused to produce a final image to apply the afore mentioned algorithm upon. DCP is used as the it is one algorithm that was successful in removing both the cloud cover and the noise from the image. Moreover, the comparison of the output from the DCP method, done by qualitative and quantitative comparison with other algorithms resulted in an enhanced version of the images. The application of Guided filters is done to the enhance the quality of the obtained image post dark channel prior. It is a wavelet-based method to obtain a sharp and clear image. We will make use of MATLAB to help us in the approach. The main objective of this is that the satellite images suffer distortions and we need to retrieve the original image so that we can perform operations on it like, segmentation. Our estimations predict that this method will be at a competitive level with the other existing approaches.

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A Survey on Public Safety System inside ATM Centers

Ravi Shankar Kumavat, S Iniyan, P Mangalraj, S Srinivasan
Department of CSE, SRMIST
ravishankar_ku@srmuniv.edu.in ,iniyan.s@ktr.srmuniv.ac.in ,mangal86@gmail.com,
srinivasan.r@ktr.srmuniv.ac.in

ABSTRACT

Automated Teller Machine (ATM) offers great convenience to people in performing financial transactions, such as cash withdrawals, deposits, transfer funds or obtaining account information at any time and without any human intervention. It was first used in 1939 and now there are more than 3 million ATM machines all over the world, thus the security of ATM centers should be considered as an important aspect. Several issues are associated with the security concern of an ATM center, even though it's under surveillance still some of the criminal activities has been associated with the security

of the ATM centers. Even several encryption techniques to ensure secrecy of transactions and other sensitive data also in some cases banks have installed biometric identification such as fingerprint, iris, palm vein patterns etc. This paper aims to summarize the techniques and work done in ATM surveillance using audio and video analysis and Machine learning techniques such as abnormal Human Behavior Recognition(AbHBR), Fall detection, Ambient Assistive Living(AAL), suspicious sound detection etc to enhance safety at ATM sites.

IndexTerms—Surveillance, Video captioning, ATM, Intrusion detection, public safety, audio classification

SURVEY ON IMAGE BASED PRODUCT RECOMMENDATION SYSTEM FOR E-COMMERCE DOMAIN

Abhishek Rajvanshi, Gaurav Oli , Harini Murugan
Department of Computer Science and Engineering
SRM Institute of Science and Technology
abhishekrajvanshi34@gmail.com, gauravoli1997@gmail.com ,harini.officialmail@gmail.com

ABSTRACT

In today's world most of the E-commerce recommendation systems are still using strategies like knowledge base recommendation and use key word matching as their search strategy to find the most likely product that consumers would like to buy. This is inefficient in a way that the description of products can be different from the seller's side to the buyer's side. In this paper, we present a smart search engine for online shopping which uses images as its input, and tries to understand the information about products from these images. We will introduce the rank based filtration of the recommended products. The ranking will be based on the positive and negative reviews of the previous customers, age groups and gender and by comparing the specifications and description of the similar products.

Index Terms—Recommendation, image, hybrid algorithm, ecommerce, image recognition

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EFFICIENT SMART GARBAGE COLLECTION

Aaditya Narayana Mishra, R.Naresh, P.Kirubanantham
Department of Computer Science and Engineering,
SRM Institute of Science and Technology
aadityamishra.n@gmail.com,naresh.r@ktr.srmuniv.ac.in,kirubanantham.p@ktr.srmuniv.ac.in

ABSTRACT:

Smart garbage collection is a way of garbage collection that aims to optimise waste collection and ultimately reduces fuel consumption. When the bins are placed at a particular position a smartphone is required to detect its particular latitude and longitude only once. This reduces the cost of the overall system as GPS will not be required then. There a number of sensors inside the bin that will shoot sonar waves to know how much stuff is inside the bin. Also, the temperature sensors will measure the temperature inside the garbage bin. Data collected from the sensors are sent over a cellular network for analysis and displayed on Ubidots web platform for customers. Ubidots is a cloud service to sense and control hardware in real time. A list of containers to be collected can then be sent to drivers to plan an effective route. There will also be real time monitoring of the civic body's garbage

vehicles using RFID. The vehicle owner has to flash his RFID card so that who and when and at what time the garbage bin was emptied will be known.
Keywords: GPS, RFID, Garbage, Ubidots

CUSTOM NAMED ENTITY RECOGNITION FROM CORPUS DATA USING CONDITIONAL RANDOM FIELD

M Eliazer , Parvathy S , Akshara Santharam , Biswas Sreya Monobikash
Dept. of Computer Science Engineering, SRM Institute of Science and Technology,
eliazer.m@ktr.srmuniv.ac.in, psp2397@gmail.com , vaidehisantharam@gmail.com ,
sreyabiswasxyz12@gmail.com

ABSTRACT:

Finance is a growing field which is concerned with the allocation of assets and liabilities over space and time. In any wealth management organization, several advice set documents are used where financial statements and client data are recorded. Therefore the identification and recognition of custom named entities using Natural Language Processing could help the clients to understand and find relevant information from the extracted data. We aim to define a model that will identify and extract custom entities from the documents.

Keywords :- Named Entity Recognition, Advice set documents, Custom Entities, Domain Specific Entities, Conditional Random Field

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BY USING BRAIN COMPUTER INTERFACE , DETECTING DROWZINESS OF A DRIVER USING A SINGLE EEG CHANNEL

Saravanan S, Govindarajan S, Varun Thota, Sri Sai Anirudh Khandavilli
Dept. of Computer Science Engineering, SRM Institute of Science and Technology,
saravanan.sa@ktr.srmuniv.ac.in ,govindaraj.n@ktr.srmuniv.ac.in, thotavarun_th@srmuniv.edu.in,
khandavillisri_kh@srmuniv.edu.in

ABSTRACT:
Languor is turning into an extreme issue if there should be an occurrence of traffic accident.Normally, Sleeping can be recognized from a few variables like eyeblink level, yawning ,holding power on haggle on.But all these estimating procedures will check just the physical exercises of the human. At times , individuals will rationally lay down with eyes open for a couple of moments. This will make exceptionally enormous mishaps in driving. In this way, in our proposed venture work we are examining the psychological exercises of mind utilizing EEG signals dependent on Brain-Computer Interface (BCI) technology.The key work of the task is breaking down the cerebrum signals. Human cerebrum comprises of a large number of interconnected neurons. This neuron example will change as per the human contemplations. At each example arrangement remarkable electric mind flag

will frame. On the off chance that an individual is rationally laying down with eyes open, at that point the consideration level cerebrum flag will get changed than the typical condition. This venture work utilizes a mind wave sensor which can gather EEG based cerebrum signs of various recurrence and plentifulness and it will change over these signs into bundles and transmit through Bluetooth medium in to the dimension splitter segment to check the consideration level. Level splitter area (LSS) investigate the dimension and gives the lazy driving alarm and keeps the vehicle to be in self controlled capacity until stir state . This can spare a great deal of lives in street transportation.Our proposed framework is to give the alarm for the drivers and furthermore we will discover the separation between the two vehicles

HUMAN EMOTION RECOGNITION FROM EEG SENSORS USING VOICE CHIP MODULE

Saravanan S, Govindarajan S, Pavan Kumar Kvd, Jaswanth Kongara
SRM Institute of Science and Technology,
saravanan.sa@ktr.srmuniv.ac.in ,govindaraj.n@ktr.srmuniv.ac.in
,kambhampativenkata_ka@srmuniv.edu.in ,kongarajaswanth123@gmail.com

ABSTRACT

Emotion Recognition is becoming more and more interesting topic nowadays. Many papers are published on facial and Behaviour emotions. In this paper, we develop a method to facilitate emotion recognition with electroencephalographic (EEG) signals. EEG's are systems that can provide conventional channels of communication and control between human brain and physical devices by translating different patterns of brain activity into analogue values in real time. The main objective of our project is to develop a voice that can assist the people.

Key words: EEG Sensor, Emotion recognition, Voice chip module.

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FAKE NEWS DETECTION USING SENTENCE SIMILARITY AND SENTIMENT ANALYSIS

SRM Institute of Science and Technology
N.Amrit Raj, Smriti Rao, M. Eliazer
smritirao97@gmail.com,iyeramritraj8@gmail.com,eliazer.m@ktr.srmuniv.ac.in
ABSTRACT

Today, with the growing rate of data generation and circulation, the issue of "FAKE NEWS" has also arisen. While not so common about just 4 years back, the spread of fake news has only burgeoned on

not just the social media platforms, but even otherwise. To curb its negative impact on the society, proper detection and classification of news as true or hoax needs to be done. Several approaches have already been implemented in this direction. We present a novel method aiming to work upon improving one of the major factors that affects any data mining model: accuracy. In this project, we perform fake news detection by generating data sets containing the latest updated news dynamically, relevant to the news headline that needs to be tested. The detection is performed by using POS tagging, Sentiment analysis and sentence similarity matching for relatedness. The model is made interactive by providing a website where any user can enter a seemingly dubious news headline and obtain information about its relevance with just one click. This paper discusses the various existing approaches to detect fake news and proposes a simple idea that is unique from the present models.

Key words- TF-IDF, POS tagging, SVM classifier, n-gram, Naïve Baye's classifier, sentiment analysis, sentence similarity

MACHINE TRANSLATION: SANKRIT TO ENGLISH

Nikhil Ramesh, Shreya Khanna, Briskilal J

SRM Institute of Science and Technology
nikhilpbr97@gmail.com ,shreyakhanna06@gmail.com,briskilal.j@ktr.srmuniv.ac.in

ABSTRACT

Translation is the key for communication among countries on a global scale. Machine translation is the process of translating the source language to the target language performed by a computer. Machine translation can be performed by applying a variety of techniques or approaches each of which has its own set of benefits and disadvantages. This paper proposes to perform machine translation from Sanskrit to English. The development of the machine translation system for Sanskrit, being an ancient language is a challenging task. Sanskrit is one of the oldest languages in the world and is now not widely in use, yet a large number of ancient texts are written in the language and hence a translation system will prove to be crucial in their translation and understanding. This paper proposes to incorporate the Paninian framework into a neural machine translation system
Index Terms—Machine translation, Paninan Framework, Neu- ral machine translation

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HEART DISEASE PREDICTION USING MACHINE LEARNING
A.K.S.C. Bhaskar, Ms. J. Briskilal
SRM Institute of Science and Technology
kumarbhaskar2009@gmail.com,briskilal.j@gmail.com
ABSTRACT

There are many deadly diseases present in the large population of the people in the world, Heart diseases are few of them. When considering death rates and a large number of people who suffer from heart diseases, it is known how important early diagnosis of all these diseases. Heart diseases are the

major cause of death according to the World Health Organization (WHO). A traditional way of diagnosis is not sufficient for such an illness. Developing a medical diagnosis model based on machine learning for prediction of disease provides a more accurate diagnosis than the traditional way. By predicting the disease in an earlier stage reduces the cost of treatment and it also plays a crucial role in the treatment. This prediction system's application is to take the input of the patient's data and heartbeat sound recordings and predict the diseases.

Keywords—Machine learning, Heart disease, Heart Sounds, machine learning algorithms, Heart disease prediction.

A Survey on E-Commerce Support using Chatbot

Neeraj Singh Kushwah, Ayush, Mrs. J. Prathipa
SRM Institute of Science and Technology
neeraj96singh@gmail.com ,ayush804@gmail.com ,prathipa.j@ktr.srmuniv.ac.in

ABSTRACT

The issue of consumer loyalty and experience is extremely central in any Business, for example, E-Commerce Industry. E-commerce provides a unique way which allows business globally. In well-developed economic countries, the consumer pattern has also changed because of the E-Commerce industries. E-commerce requires the interaction of both customer and retailer for a successful business. This paper provides information about various e-commerce Chatbot and techniques which simplify interaction between customers and seller. Chatbot enables the client to determine their inquiry with no additional exertion and presents another path for the client to collaborate with the framework. A Chatbot helps the user in a way such that it can ask their queries as they would ask a normal agent. A Chatbot provides a medium through which customer can ask queries and commercial Industry can answer all queries and can provide support by using Chatbot services. This will help us in reducing the time for customer support and helps to enhance business profit. Machine Learning, Natural Language Processing and Deep learning techniques are used to build Chatbot. Analysis of several Chatbot and techniques is presented in a comprehensive manner.

Keywords-- Chatbot, E-commerce, Machine Learning, Natural Language Processing, Deep learning.

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An exploratory study of address geocoding techniques with a focus on solutioning for the Indian Address Problem

Harshit Gupta, Vineeth Raj, Dr. T. Manoranjitham T

SRM Institute of Science and Technology

harshitgupta_ra@srmuniv.edu.in ,rvineeth_rr@srmuniv.edu.in,manoranjitham.t@ktr.srmuniv.ac.in

ABSTRACT

Accurate geocoding of natural language addresses is essential to any industry dealing with logistics services, like the postal service, e-commerce, etc., and there are ongoing research efforts in address geocoding by on demand service providers. However, currently, existing methods assume the existence of a standard addressing scheme which can be deconstructed and identified.To build automated, scalable and self-learning systems that are capable of analyzing information contained in natural language addresses the systems need, along with user input, verification, and updating of learning models. This does not work well in places which do not have a standard addressing scheme or where addresses can not be determined with the help of these addressing schemes due to the massive increase in population density and urbanization of countries. A number of techniques have been proposed by various authors to provide a solution for address geocoding of natural language addresses that have varying accuracy. There have also been proposed solutions as dynamic models that grow to accommodate changing landscapes.We also discuss relevant issues with these systems such as data collection, evaluation metrics and bench-marking to find accurate location. After going through these proposed solutions and current implementations, we conclude by studying the applicability of these solutions for Indian addresses, their limitations and provide possible directions for future work.

Survey On Automated Image Captioning

Ghritachi Mahajani, Kartik Subodh, and Anand Mehta

ghritachi.mahajani@gmail.com, kartiksubodh@gmail.com, anand.me@ktr.srmuniv.ac.in

ABSTRACT

Image Captioning is a novel idea that aims to bridge the gap between computer vision and natural language processing. The task of creating textual description of images not only involves the detection of various elements in the image but also undertakes the semantic coherence between these components and further describes it using natural language sentences that are human comprehensible. This survey paper entails the various methods that were proposed to take up the challenge of image captioning. The diversity of the approaches mentioned range from statistical based approaches to learning models, with inclusion of state-of-the-art methods and papers. The paper also includes the description of benchmark datasets, as well as the error metrics that are used to assess such models. Finally, we discuss further directions that the idea of image captioning can be expanded or researched upon.

Index Terms—Image Captioning

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Instant Message Classification Survey

Srinivas Shashank Mulugu, Harshaa Vardhan, Saad Yunus Sait
SRM Institute of Science & Technology
mulugushashank3@gmail.com ,harshaavardhan23@gmail.com,saad.y@ktr.srmuniv.ac.in

ABSTRACT

Instant Messaging has become an integral part of everyday life, with a plethora of information exchange between users. With an ever-increasing volume of messages that a person exchanges, there is a need for understanding how the instant messaging services work and the way in which users interact and use such services. We will be investigating the interactions and usage trends among users of such services, the classification processes employed and give an overview of the implementation processes. Keywords- message classification, instant messaging survey, whatsapp.

Prediction of Cardiovascular Diseases using Hybrid Machine Learning
Dr. A. Pandian , NK Vamsi, BMSSS Aditya
apandiansrm@gmail.com,bmsssaditya_bsrinivasarao@srmuniv.edu.in,nkvamsi20@gmail.com

ABSTRACT

As people are becoming more health conscious, preventive health care is gaining importance over diagnostic health care. The goal of future medicine is to provide personalized medical care rather than a general one. Text classification on high dimensional training data sets like spam filtration, sentimental analysis and classifying articles can be achieved using Naive Bayes Algorithm. The Algorithm is both fast and efficient. These algorithms would help the medical scientists to gain insight into higher dimensional data, thereby helping them to predict cardiac arrests even before it occurs. This would enhance medical care and reduce costs for patients. This paper highlights on the application of Naive Bayes and Random forest approach.
Index Terms : Machine Learning, Random Forest Algorithm,Naive Bayes Algorithm

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A SURVEY ON MACHINE LEARNING TECHNIQUES IN NEURAL REPRESENTATION OF SKETCH DRAWINGS

Dr C Vijaykumaran , Prakhar Dixit, and V R Abhinav
vijayakumaran.c@ktr.srmuniv.ac.in,prakhhar1997@gmail.com,abhinav2131@gmail.com

ABSTRACT

Humans have used drawing to depict the ocular world since earliest times. Even on the present, sketching is possibly the only rendering technique readily available to all humans. Sketch-rnn, a recurrent neural network (RNN) capable to draw stroke-based drawings of common objects. The model is trained on a data set of human-drawn images showing various different classes. It outlines a Structure for conditional and unconditional sketch generation, and show new fast training methods for generating similar drawings in a vector format.
Index Terms—Recurrent Neural Network, GANS, Variational Autoencoders, Generative Models, Deep Learning, AutoRegressive Models

Football Game Prediction And Transfer Market Analysis

Raj U, Mayank Abhay Gharpure, Eliazer M
choudharuraj@gmail.com mayankgharpure.mag@gmail.com eliazer.m@ktr.srmuniv.ac.in

ABSTRACT

Football is a sport played by more than 100 countries in the world, apart from the matches that take place on the international level majority of the matches takes place on the club level. The results of a football match depend on a lot of factors, the quality of players playing, the offensive capabilities of a team and the defensive capabilities of the team to name a few. Because the result of the match can depend on numerous factors, predicting the winner of a game is a herculean task. The success of a football club largely depends on how efficiently they are able to buy and sell their players. In the recent years, the football transfer market has inflated exponentially, teams like Real Madrid were able to secure the services of Toni Kroos for a mere 25 million euros meanwhile PSG had to pay 220 million euros to get the services of Neymar. Since the price of a player can depend on a lot of factors, predicting the value of a player is a challenging problem.

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A Survey on Gesture Recognition using Data Mining on Binary Image Contours

Saransh Agarwal, Mayuri Rani, Mahalakshmi Pushparaja,
saransh808@gmail.com ,mayuri1401@gmail.com ,mahalakshmi.p@ktr.srmuniv.ac.in

ABSTRACT

Human Hand Gestures are the part of our daily interactions, these gestures are also used by mute in the form sign language. Although it helps mute people to interact with each other and certain people who know their language, problem arise when these mute people interact with other normal people. Since Normal people can't understand or have no knowledge of the mute's language. In this paper, the idea is to bridge the gap between mute people and people who don't understand their sign language. In this paper, we survey on the existing systems and further arrive at a solution to solve the above problems. The system is trained with thousands of raw images as gestures and recognize them into certain categories. Data-set will be created for each gesture that are in the form of binary image contour. The label generated after passing the data-set through the classifier will be used to recognize the exact gestures.
INDEX TERMS Image Processing, Machine learning, Data Mining

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Review Of Clinical Decision Support Systems Implementation

Gitanjali. K, Dr. S. Thenmalar
gitanjalik_akanakaraj@srmuniv.edu.in thenmalar.s@ktr.srmuniv.ac.in

ABSTRACT

Clinical decision support system (CDSS) is a software, that provides intelligently filtered patient specific clinical guidelines, triggered as computerized alerts and reminders to the physicians. The CDS alerts can be designed as rules using various health information technology codes and computerized guidelines. Doctors can use these alerts to better manage and more accurately diagnose and treat their patients effectively. Numerous models and techniques have been used to enhance CDS systems, and the aim of this paper is to discuss these techniques and models used by them.
Index Terms—Clinical Decision Support Systems, Clinical Decision Support Alerts, FHIR

Disease Detection with Irrigation in Smart Agriculture Using IOT

P Venkatapathiraju, V Purushotham, R Jebakumar
Department of Computer Science and Engineering
SRM Institute of Science and Technology, Kattankulathur
vpurushotham_vh@srmuniv.edu.in venkatapathiraju_pi@srmuniv.edu.in rrjeba@gmail.com

Abstract:

In agriculture we are facing few problems like water level problems and diseases that occur to crops. New generation farmers are unaware of these diseases as a result they get a great loss for their crops. The agricultural products can be prediction system for the growth and production amount of crop by gathering environmental information like temperature sensor. Disease analysis is the identifying of any diseases or parasites that are attacking the crop by using latest technology as everyone has minimum computer knowledge nowadays. With this advantage we can use smart agriculture method here. To overcome this problem disease analysis technique is very useful because we can manage our crop by sitting in front of our laptop as it will capture photo of affected area or leaf and recognise the

disease then it will send notification for us on particular disease and it will recommend what we have to use to cure that diseases.

Key Words: Internet of Things, Disease Analysis, Image processing, Smart Agriculture.

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NEW DIRECTION IN AD IMAPACT MEASUREMENT USING FACIAL ANALYSIS

M.Rajasekaran , Abhay Natrajan

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
Rajasekaran.m@ktr.srmuniv.ac.in ,abhaynatrajan_vittal@srmuniv.edu.in

Abstract-Advertisements are mostly video based for a more dynamic experience for the customer. Ads are more common on mobile devices than on laptops or desktops since mobile devices tend to me more portable and more commonly used to make purchases via apps. The results we wish to achieve is to compute the ad's impact on the existing customer base by knowing basic information such as age, financial background and geo-location. Such basic information is obtained to overcome privacy concerns. FACS (Facial Coding System) is used to map a facial expression to 44 different action units (AU) each corresponding to a different type of facial muscle movement and their association with each other making up an action unit. Ad impact both objectively and subjectively This is possible due to advances in technology like OpenCV, Analytics, AI & Deep Learning. We use CNN image classifier on the basis of three parameters (Frame, segment, transition based) alongside Support Vector Machine, another method using two channel CNN. CK+ and MMI databases are used as reference and measure the accuracy.
Keywords – FACS, Action Units, Convolutional neural network, SVM, Emotions, Market

FUSION BASED BRAIN TUMOR DETECTION USING SVM AND K MEANS CLUSTERING

Shwetha Panampilly and Syed Asif Abbas
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract

Medical image fusion plays a vital role in medical field to diagnose brain tumors which can be classified as benign and malignant.It is a process of integrating multiple images of the same patient into a single fused image to reduce uncertainity and minimize redudancy while extracting all useful information from the source images. The SVM is used to fuse two MRI images with different vision. The fused image will be more

informative than the source images. The text and wavelet features are extracted from the fused image. The SVM classifier classifies brain tumors based on trained and tested features. The proposed method achieved 80.48% sensitivity, 99.9% specificity and 99.69% accuracy. Experimental results obtained from fusion process prove that the use of the proposed image fusion approach shows better performance while compared with conventional fusion methodologies.

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Movie Success Prediction

Kshitij Gupta, Shubham Bajpayee, A.Meena Priyadharsini
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
Kshitijigupta_ramesh@srmuniv.edu.in,shubhambajpayee_pr@srmuniv.edu.in,meenapriyadharsini.a@ktr.srmuniv.ac.in

Abstract:

The film business is a billion-dollar business, and extensive measure of data identified with motion pictures is accessible over the web. In this system we are analyzing the dataset for predicting the success of the movies. For doing this the analysis of the dataset is done in which the chronicled information of every segment, for example, actor, actress, director, music that impacts the achievement or disappointment of a motion picture is given weight age and after that dependent on different parameters we are predicting whether the movie will be a flop, average or superhit. Certain algorithms are used that can help to predict whether the movies will be a flop, average, or superhit. In this model we focus on the attribute selection for predicting success of the movies. A comparative analysis is to be performed so as to find the accurate results among the algorithms used. Few parameters that are important for predicting success of a movie are gross, genres, release date, star powers of actors, actress, directors, and budget etc. In the dataset there are 28 parameters. The task is to find out most relevant parameters. This will be achieved by Feature selection method as shown in figure 1. Feature selection method is present in "sklearn" library of python. Feature selection method includes Naïve Bayes, Decision trees, information gain, gain ratio. Generating heatmap to visualize success of movie in different regions. A GUI interface will be created which user will enter the name of the movie and based on the parameters and historical data, predicted results will be displayed.

Key terms Decision Tree, Neural Networks, Naïve Bayes, support vector regression (SVR), Sentimental Analysis, Metacritic, IMDB.

SECURE REMOTE HEALTHCARE SOLUTION INTEGRATING INTERNET OF THINGS WITH BLOCKCHAIN

Dhiren Mathur , Manan Wason2, A. Meena Priyadharsini
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract

According to a recent study by WHO titled "The Health Workforce in India" (June 2016), India has less than 1 doctor per 1000 citizens. This number causes grave concern over the state of healthcare

in our country. Despite the Government's effort to provide universal healthcare to all citizens, the truth remains that there is a dearth of certified medical professionals in the country. With over 60% of the ever growing population staying in rural areas, advanced medical care seldom reaches the poor population. To overcome this bottleneck we have proposed an Internet Of Things (IoT) based device that can bridge this gap in healthcare by making access to doctors a reality. Data can be collected through Smart Sensors based devices operated by technicians who need not have a medical certification. These devices will operate as Body Sensor networks (BSN) This data can be accessed by a Doctor remotely through a web-app and they can suggest further treatment based on it. To secure this data, we will implement a simple Blockchain based solution. Blockchain is an append-only decentralized distributed ledger technology, it uses a Proof of Work algorithm along with consensus to add data to the chain and maintain integrity. It makes validating authenticity of the data a lot easier and successful attack by malicious party more difficult.

Keywords-- Internet Of Things, Body Sensor Networks, Blockchain, Consensus, Proof-Of-Work, Decentralised.

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Identification of Plant Disease using GIS and AMICA (Robot)

Ayaz Ahmed, Sanket Sinha, Ms. S. Priya

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
ayaz.ahmeds30@gmail.com, sanketsinha1811@gmail.com, priya.sn@ktr.srmuniv.ac.in

ABSTRACT

Pest attack and sicknesses in plants cause generation and financial misfortunes just as decrease in both quality and amount of horticultural yield. It's smarter to identify the sicknesses as right off the bat leaf well being and malady discovery can encourage the control of infections through appropriate administration systems. Recognizing ailment from the photos of the plant is one of the intriguing examination domains in PC and cultivation field. This paper shows an investigation of different image processing and picture gathering strategies utilizing machine-learning techniques and AMICA robot used in the conspicuous verification of plant illness reliant on pictures of disease sullied plants. This paper presents survey of various methodology just as furthermore minimalistically discusses basic thoughts of picture setting up what's more, machine acknowledging associated with plant sickness recognizable proof and course of action. We have also examined various research paper on disease detection in plants.

Keywords—image processing, machine learning, disease detection.

A Survey on Box-Office Opening Weekend Prediction using Twitter Data

Apratim Tripathi ,Akhil Jha ,Prof. A.M.J. Muthukumaran

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract

We live in times where about 1,986 feature films are produced annually and this amounts to the box office being worth $41.7 billion, making the film industries one of the biggest markets in the world. In out paper we are only concerned with films produced in the United States of America, which produces nearly 600 movies annually. We aim to find out the "buzz" around the movies and therefore predict the opening weekend for each movie. The opening weekend ticket sales depend upon the buzz the movie has generated since the announcement, trailers, TV spots and various other factors. Now, the impact of these trailers, TV spots, interviews on the general audience can be seen in terms of twitter reactions. This buzz in fact may be negative leading to a lower opening weekend. The buzz of the movie is the number of people talking about the movie. More the number of people talking about the movie, greater is the buzz surrounding the movie. To calculate the number of people talking about the movie we take twitter data into account. Now, people could be talking positively about the movie or negatively about the movie and we can use sentimental analysis algorithms to predict that. Finally based on these factors we try to form a model with best fits our data in order to make future predictions possible.

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HEART DISEASE PREDICTION

Ankit Sharma, Arinjay Arora

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract: Acute Myocardial infarction (AMI), also known as heart attack, is one among the deadliest of cardiovascular diseases. AMI occurs when circulation or blood flow to heart vessels in interrupted, causing irreparable damage to heart muscles or their death. Mostly heart attacks occur when hard substance called plague builds up over time in the coronary arteries. Big Data analytics, known for its valuable use in controlling, contrasting and managing of large datasets can be applied with much success for the prediction, prevention, management and treatment of cardiovascular disease. Currently, data mining can help health care insurance organizations to detect hypocrites and misuse, health care institutions to make decisions of customer relationship management, providers to identify effective treatments and best practices and patients now receive enhanced and more economical health care services. This paper presents survey of existing techniques:

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Open World Chatbot using Neural Networks

Sherwin K Philip, Hussain Poonawala, Anita R

Ankit Sharma, Arinjay Arora

Department of Computer Science Engineering and Technology,

SRM Institute of Science and Technology, Chennai, Pin – 603203
sherwinkphilip@gmail.com, hussain.poonawala163@gmail.com, anitarajsrm@gmail.com

Abstract:

Conversational Modelling is one of the foremost fields in natural language processing in the present day. This can be attributed to the availability of better hardware and competent software. The processing capacity available has grown exponentially in the last decade. This has contributed to the creation of better chatbots through the years. The effort required to build a model of this kind requires a lot of effort. The lack of open source chatbots that can be readily incorporated into specific fields is a concern. Parallel technologies have open-source alternatives for various possibilities. It is important for the field to have similar resources so that future efforts can be directed towards better performance and mechanisms. This paper will analyze the possibility of creating open-domain response generators of open-world nature. A successful model of this kind will help in further development of chatbots with specialized features and better responses.

Keywords—chatbot, natural language processing, human, context, neural networks, Seq2seq

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Emotion Analysis by facial image processing using CNN under semi supervised learning

Mr. U.M Prakash, Mr Pratyush, Mr Pranshu Dixit
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
prakash.mr@ktr.srmuniv.ac.in, pratyush_sh@srmuniv.edu.in,, pranshudixit007@gmail.com

Abstract

Convolutional neural network (CNN or ConvNet) is one of the most popular and utilized techniques for image processing .They make use of a variation of multilayer perceptron which are designed in such a way so as to reduce pre-processing. They are substantially more efficient when compared to other such algorithms. This is mainly because the network learns to filter images that were hard-coded in other algorithms. This independence from human efforts for feature design is a major advantage over other conventional methods. In the context of machine vision, image recognition is the capability of the software to identify people, places, objects, actions and writing in images.Upon using our algorithm to train the model using our data set of around 600 images, we get an accuracy of 85.23%.Other methods for modelling can also be used for this problem set.

Keywords:- Filter, kernel size, convolving, activation map, feature map, stride, max pool, activation function, reception field, epoch cycles.

Review On Decentralised Application Using Block Chain

Anukool Srivastava, Shubham Verma

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
anukoolsriv@gmail.com, shubham96verma@gmail.com

Abstract:

Elections are the prime attribute in the fate of a country. Current Election Systems are a Client-Server Model based on a Centralised Database. The problem resides with a Central Authority where data could be changed or manipulated by the administrator without the knowledge of other. The survey proposed is on decentralised systems implemented using Ethereum Blockchain which enables full distribution of data along with security. A comparison between centralised and decentralised systems are used to draw out the advantage of using Blockchain as the distributed system. Migrating the code and data on a blockchain ensures the proper security of the system and any changes that need to be done in it should require a Transaction which will be reflected to each node connected to the blockchain.

Keywords — blockchain; security; e-voting; database.

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A Novel Approach for Predicting Customer's Next Purchase Using Automated Feature Extraction

Alexis Paul, Nitin Mathew, Malathy C
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
alexispaul_no@srmuniv.edu.in, nitinmathew_ma@srmuniv.edu.in ,malathy.c@ktr.srmuniv.ac.in

Abstract

Machine Learning and Data Science have revolutionized the software industry. It has given a reason behind each business decision that we make today. Now we can rely on computers to do certain tasks even better than humans, which is where we thought of doing this research. We know how the E-Commerce industry is growing faster each passing day. The accuracy delivered by the recommendation system plays a very crucial role in determining the growth and sales of a company. It is not only the accuracy but also how much time does it take to determine the relevant features to train the machine learning model on and also the time taken to perform classification on unseen data. In this paper, we aim to address both the problems of generating relevant features for training the machine learning model in an automated way and also deliver good prediction accuracy.

Medical Sentiment Analysis Using Social Media

Spandan Das , Aditya Sharma , Madhavan P
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

ABSTRACT

With the increase in the popularity of Internet, many people have created social forums to share and obtain information about medical issues concerning them or their loved ones. These forums contain experiences of people who have dealt with or are dealing with health related problems and may present some insight regarding medicines, diagnosis and treatment or interact with people with similar conditions on the forums. Observing social media forums has excited medical natural language processing analysts to uncover various cathartic anomalies. In this paper, we present a benchmark setup to analyze the sentiment with respect to people's medical conditions considering the information, especially the information available on social medical forums. To pursue this, we requested the data from IIT Patna, who in turn collected the data from the website 'patient.info'. The focus is given on the identification of multiple forms of medical sentiments which can be assessed from people's medical condition and medication.
Index terms— Medical Forums, Medical Sentiment, Natural Language Processing, LSTM, Global Max-Pooling.

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A Survey on Power Cut Reporting and Analysis using Data Mining

Mohit Kumar, Yashraj Shrivastava, Mahalakshmi Pushparaja
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract:

To realize the idea of Digital India, we aim to bring all the electricity consumers of India on an online platform where their concerns can be heard and proper action can be taken as soon as possible. In recent years a number of new procedures with that aim to digitize the consumer platform in the domain of electricity have come up. The purpose of survey paper is to survey a number of promising techniques and technologies. Our problem statement aims to solve the power cut reporting issue for household users without any bias of region and consumption capacity to provide an analysis and monitoring of power cuts, and in our paper we aim to find the most sound approaches and latest technologies available to achieve it. Keywords: Power cut, android, global positioning system, data mining, cloud

INTERACTIVE AIRPORT

Pramit Ranjan Kole, Dr.S.Ramamoorth, Rohit Kumar Srivastava
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
pramitranjan_rr@srmuniv.edu.in, ramamoorthy.s@ktr.srmuniv.ac.in, rohitkumar_rk@srmuniv.edu.in

Abstract

Airport Traffic Management is a very important and necessary part of all the airports all across the world.The Project mainly aims at performing Big Data Analytics of the of the datasets.In this project, after performing Big Data Analytics of the datasets, suggestions can be given to specific airports about the number of people coming to the particular airport at a particular date.After this analytics, based on the predictions , the airports can do queue management at the boarding pass counters and then an android app can be used for emergency boarding pass generation of passengers which will allow them to board flights successfully.Previously also, many surveys or papers have been published regarding the Airline Traffic Management but they have never provided suggestions/predictions like above.Our model will try to implement this and come up with effective solutions and predictions, which will help the Airport Authorities.

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DISEASES PREDICTION SYSTEM USING MACHINE LEARNING AND HAND GESTURE

Mr.G.Manojkumar, ,Divyansh Agrawa, Chantati Deepkiran
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract:

Analysis of various symptoms and finally diagnosing the possible disease is an important issue nowadays. Apart from this , we have tried to solve the problems of physically challenged persons by accepting gestures which could be used for feature detection , extraction and finally matching with the clusters made.The image classification is supposed to be done using convolution neural networks. And the diseases prediction process is based on the well known machine learning algorithm such as DecisionTree, Naive Bayes and Random Forest and by using these algorithm diseases can be predicted more accurately even they have mostly the same symptoms and is also helps to get symptoms from disabled persons using Hand Gesture.

Index Term: Gesture recognition,Image Processing, Naive Bayes technique

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An Approach to Secure Software Defined Network Against Botnet Attack

Sreevidhya Ravindran , Vaishnavi Moorthy , Revathi Venkataraman
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
sreevidhyaravindran@srmuniv.edu.in, vaishnavi.m@ktr.srmuniv.ac.in, revathi.n@ktr.srmuniv.ac.in

Abstract

The traditional hierarchical networking models, although still in use by many networks of today, are inflexible and unable to manage the huge networking infrastructure. This has led to shifting to a more flexible, dynamic and virtualized network infrastructure called Software Defined Network. SDN being a dynamic network manages the traffic flow efficiently due to its OpenFlow controllers. Although SDN is the most conventional model used today, some of its drawbacks have caused disruption on a large scale. Security is one such drawback, which is of major concern in recent times. There have been multiple researches and attempts to address this issue with an aim to permanently eliminate the threat, but with the rapid technological development, an equivalent powerful trust computing protocol is required to be implemented in order to overcome it. This paper focuses on a Botnet Distributed Denial Of Service (DDOS) attack that takes place in the control plane of the Software Defined Network. This malicious attack has proved to be the most dangerous threat of the web. From flooding a website to bringing down the entire server, this 'zombie' network has created haphazard among reputed businesses. An attempt is made to implement a powerful secured technology that can tackle the botnet attack, protect the networks and minimize their vulnerability to such threats that can eventually bring down the ratio of cybercrime in today's world.

Index Terms–Software Defined Networking, OpenFlow, Leaf-spine, Botnet, command and control, Distributed Denial of Service (DDOS).

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A survey on machine learning algorithms for the blood donation supply chain

Subramanian Mahadevan, Kartikeya Tripathi, S Poornima and M.Pushpalatha
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
smahadevan_ms@srmuniv.edu.in, kartikeyatripathi_sa@srmuniv.edu.in poornima.se@ktr.srmuniv.ac.in, pushpalatha.m@ktr.srmuniv.ac.in

Abstract—With the proliferation of big data, the need for intelligent and automated systems has risen. This need is probably felt the most in the field of health care, especially in the area of blood transfusion, since they require supplies at the earliest. Currently, transfusion services are heavily manual in nature, which is not ideal. The rising demand for blood and the decline in donation rates has put a lot of strain on the blood donation supply chain. Hence, creating intelligent systems that can make decisions and

improve communication across the supply chain is of great importance. In this paper, we are going to give a general summary of the various machine learning techniques which have been applied to this domain and compare their advantages and disadvantages.

Word Vector Representations to build an Emojifier using LSTM

Siddharth Bansal, A. M. J. Muthu Kumaran
Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
siddharthbansal48@gmail.com,muthu.a@ktr.srmuniv.ac.in

Abstract:

The paper implements word vectors that allows us to implement a model which inputs a sentence and find the most appropriate emoji to be used with the sentence. This experiment uses word vector concept in Deep Learning domain of Computer science. By using word vectors our algorithm would be able to generalize and associate words in the test set to the same emoji even if those words don't even appear in the training set. This allows us to build an accurate classifier mapping from sentences to emojis, even using a small training set.This experiment incorporates an LSTM in Keras which gives more sophistication to this experiment and also takes word ordering into account. LSTM has been under a lot of analysis after it was introduced by Sepp Hochreiter and Jurgen Schmidhuber in their paper in the year 1994 [5]. The study towards their uses and advantages over any other frameworks are being carried out. I have performed an experiment to show the effects of LSTM in a long range in time

Index Terms—sentiment Analysis, Neural Network, word vector, LSTM

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Dynamic Request Handling Algorithm for City-Scale Cab Ridesharing

Prachi Angra, Nikhil Laddha, Ms.K.M.UMA MAHESWARI

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
prachiangra@gmail.com, mailtonik.123@gmail.com, umamaheshwari.km@ktr.srmuniv.ac.in

Abstract--- Ridesharing is a challenging problem in the urban computing paradigm, which uses sensors to generate a wealth of benefits and thus is an important branch in ubiquitous computing. We propose to develop a cab sharing system which is more efficient and considers more than one factor to find the result. We are building an experimental platform using the GPS trajectories generated by over 7,200 taxis over a period of three months. Traditionally, ridesharing is done by mainly considering the user's ridesharing requests and giving the best result. In the current system, the best result is considered as the nearest available cab. The only factor being considered is shortest distance between the rider and the cab. Accepting that ride is always not the optimal choice to make as it may cost more due to hike of price or it may take longer than the other cabs. We here present a scalable model in which the riders will get an option to select from a list of available cabs. In this model, the users will get a choice of nearest available cabs. With the nearby cabs availability, the acceptance rate is also considered and shown beside the result. So instead of getting the best result the rider gets a list of available cabs nearby and rider gets to select the required cab according to the need. As for some riders time may

be a more important factor than money. We present a dynamic model which takes into account that there might be already existing passengers in the cab. Other than the statistical factors, co-passengers' behavioural factors are also considered in the proposed model. The co-passengers get an option to accept or reject the new rider with the distance shown as it might cost them more time. If there are more riders in the cab then the price will be cut down for every passenger accordingly. It is a win-win as this way the driver can earn more and the riders can save more.

Keywords: Incremental Search, Behavioural Analysis, eta(Estimated Time of Arrival)

IOT BASED ONLINE TRAFFIC CONGESTION MONITORING AND MANAGEMENT SYSTEM

Soham Mukherjee, Dasari Vamsi Krishna, Dr.j.Kalaivani,

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
kalaivani.j@ktr.srmuniv.ac.in

Abstract: Unprecedented contemplations have been drawn for Internet of Things (IoTs) over the span of the latest ten years, in academic fields just as in industry zones. IoTs involve unavoidable things in standard everyday presence, e.g., PDAs, PCs, tablets, TVs and vehicles. The most engaging typical for IoTs is to shape a heterogeneous framework structure by consolidating all inclusive framework. With the improvement of distinguishing, figuring and frameworks organization gadgets similarly as progressions, lion's share of data are of speedy advancement in immense scale urban locales, including consistent traffic information, vehicular adaptability information and social associations. As a key piece of IoTs, Internet of Vehicle (IoV) has transformed into another examination field for the improvement of mechanical applications in sharp urban networks, e.g., traffic the officials and road prosperity. A huge amount of countries have focused on the establishment of IoV structures, e.g., ERTICO-ITS in Europe. In industry, generally speaking automakers have made demonstrating ground systems subject to Vehicle-to-Vehicle (V2V) exchanges, for instance, Volvo, BMW and Toyota. Since the extending advancement of vehicles has caused air tainting and traffic stops up out on the town reliably, it is had the directly to think about capable traffic the load up plts by taking propitious exercises to supervise road traffic, with the inspiration driving achieving green transportations and relieving sorts of traffic issues Numerous inspects and undertakings have been coordinated to deal with this issue by diminishing the response time of traffic the administrators server, a vast segment of which rely upon the bound together data the load up, i.e., a united server is accountable for data planning. Nevertheless, the created information by vehicles is constantly of neighborhood relevance, i.e., the data recognized by vehicles have their own lifetime and beat spatial degrees. For instance, the information about a clogged street may be generous for 30 minutes, and can simply draw contemplations of vehicles that are moving towards the zone where the vehicle flood occurs. Thusly, the structure of decentralized traffic the board systems is upheld. To grow such a structure.

Index Terms —Internet of Vehicle, offloading, fog computing, traffic management, real-time processing

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PREDICTION OF CARDIAC ARRHYTHMIA USING RECURRENT NEURAL NETWORKS GATED RECURRENT UNITS WITH CAUSAL DIAGRAM

U.M. Prakash, Anagha Chakravarthi, Gargi Singh Shekhawat

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

prakash.mr@ktr.srmuniv.ac.in, anaghachakravarthi_ravindraraju@srmuniv.edu.in
,gargisingh_di@srmuniv.edu.in

Abstract - Cardiac Arrhythmia is a medical condition in which irregularity in heart beats is observed. Aim of this paper is to detect arrhythmia. A popular technique is used namely Recurrent neural networks (RNN) in which a comparatively newer technique is used i.e. Gated recurrent units. This is again implemented with the observations from causality diagram. Keywords— Cardiac Arrhythmia, Prediction, Recurrent neural networks (RNN), Long short-term memory, Gated recurrent units, causality.

Emotion Based Music Player

Nitish Chhabra, Ritik Jain, VIDHYA J V

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
nitish0704@gmail.com, ritikjain2661@gmail.com, vidhyachandran8890@gmail.com

Abstract—Music assumes a vital job in human's day by day life and in the cutting edge trend-setting innovations. The investigation of music and emotions proposes that there is a mental connection between a man's emotional state and the kind of music they tune in to. Ordinarily, the client needs to confront the assignment of physically perusing through the playlist of melodies to choose. Here we are proposing a proficient and precise model that would create a playlist dependent on the current emotional state and conduct of the client. The reason for this undertaking is to comprehend and break down different facial redesign algorithms for an emotion recognition framework. Facial expression is a noticeable stance underneath the skin of the face. They are the method for correspondence in humans which pass on numerous things non-verbally. Numerous algorithms have been executed on various static and non-static conditions. Static conditions incorporate static and uniform foundation, indistinguishable postures, comparable enlightenment, and nonpartisan frontal face. Non-static conditions incorporate position, fractional impediment introduction; changing helping conditions and facial hair which make recognition process an intricate issue. Every one of these components impact confronts recognition process. The paper focuses vigorously towards machine learning and information mining, where distinctive systems are utilized to decide the emotion of the client and examines the ramifications of utilizing every strategy. Utilizing the decided emotion, the last music library of the client is dealt with.

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A System for Detecting Humidity and Soil Texture of Crop Yield

M.Rajasekaran, Singadi Rajesh Kumar,Sakthivel B

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
Rajasekaran.m@ktr.srmuniv.ac.in, rajeshkumarraje9@gmail.com,sakthivelbalakrishnan@gmail.com

Abstract Crop production is likely to decrease in the future due to global warming we know that water plays an essential role in irrigation. Capturing and storing water requires adequate rainfall which lacks in the current environment. Sufficient water is required for the growing of crops in the summer season or else the yield of the crop is reduced to a greater extinct. The farmer invests most of the time in water management in the farm

through continuous monitoring for better crop productivity with efficient utilizing of all the resources with adequate pricing. The system is to reduce time investment in water management and use more time in determining action towards crops by increasing the productions and measure the humidity level accordingly the motor turns off or turns on based on the requirement of water that is needed for the crops. The system does not require the involvement of humans it automatically waters itself by intimating to the owner via notification and watering level changes according to the prominent factors that affect the crop yield.

Keywords: Agriculture monitoring, Irrigation, Temperature sensor, Arduino Board, Raspberry Pi3

Maximizing Crop Yield Using Deep Learning

Shuchismit Jha, Nithyakalyani A.

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract India is an agricultural country. More than 60 percent of our workforce works in agricultural business. This demand for growth in agricultural field will increase as the population of country increases.For the past several years , we have been using statistical and crop simulation strategies to predict and analyse the crop growth pattern. But these methods have not been very effective and promising. India's crop production relies largely on climatic factors such as rainfall, temperature, soil , precipitation, humidity. Thus it paves way for using machine learning algorithms to accurately predict and further maximize crop yield by comparing the parameters. This paper also presents a dimensionality reduction technique that will allow to train LSTM network and automatically learn useful features when the labelled data set is scarce. This when combined with the remote sensing data will further strengthen the results. This paper presents ways to accurately predict crop yield of kharif and rabi crops using deep learning.

Keywords - Convolutional Neural Networks , Deep Learning , Remote Sensing, Long Short Term Memory , Artificial Neural Networks

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Implementation of Dynamic Artificial Intelligence in Game Development

Rohit Nair.S, Manav Varma, Yamini.R

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
rohitnair_sa@srmuniv.edu.in, me.manavvarma@gmail.com, yamini.r@ktr.srmuniv.ac.in

Abstract-The aim of this paper is to create an adaptive Artificial Intelligence implemented within our own video game which learns from players and uniquely adapts its playstyle in order to counter the playstyle of the current player in real time. This is done by creating a basic AI using the AI packages that come with Unreal Engine, which is what is being used to implement this technique. This AI is then trained with many different possible

moves in the game represented within a tree.The end goal is to have the AI learn the moves that the user is using most frequently or most effectively and begin countering it more and more effectively as the level rises. This is done by training the AI to various movesets and giving it a sizeable sample space in order to understand and predict as required.

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SURVEY ON DIFFERENT WORKS DONE USING HAND GESTURE RECOGNITION

Mr.G.Manojkumar , SARIKA P

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract - In this paper we look into detection of hand gesture and tracking. First we discuss about the previous works done using hand gestures, and then we analyze the basic principles regarding it. Hand gestures are an interesting interaction insight in a variety of computer applications. Likewise few devices are included here for acknowledgment, for example, HMM, ANN, Particle Filtering and Condensation Calculation and some more .Then we look into the other approaches used for gesture recognition like glove-based approaches, depth-based approaches, visionbased approaches, colored marker approaches and also described about fingertip location utilizing convex hull.

Keywords : Hand Posture ,Classifier, Feature Extraction, HMM, Computer Vision, Open-CV,CNN.

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A Recent survey on human behavior detection using smartphone sensors

Aswathy K. Cherian, Kartik Jonnavithula, and Daanvir Singh

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract:

Smart-phones nowadays have various inbuilt sensors which include the gyroscope, accelerometer, and magnetometer. This sensor data can be used to detect the current action of the human-like sitting, walking, running, walking upstairs, walking downstairs, laying and standing. Each of the three sensors gives 3 values each - values along the x, y, and z-axes - making a total of 9 values. These values are collected at 100hz, along with GPS data. The data collected over a second can be used as the raw data from which 48 values are extracted - that will later be used as inputs for the machine learning algorithm. At first, the algorithm learns from the previously collected outputs by applying supervised learning. After the algorithm is trained and is detecting user activity with a good accuracy, an app can be used to detect if the user is sitting, standing, laying etc. while the user has the smart-phone in his/her hand. This app can be designed to optimize phone usability while driving - like enabling hands-free mode or diverting calls. Here They mainly focus on human motion detection on smartphone motion sensors.

KEYWORDS Neural Network, Random Forest, Convolutional NN, Support Vector Machines.

Forecasting Share Prices Using Soft Computing Techniques

G. Vignesh, Ashwathy K. Cherian

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

gvignesh_ng@srmuniv.edu.in, aswathy.c@ktr.srmuniv.ac.in

Abstract

For a long time, there has been the trend of trading of shares. Brokerage firms and dealers buy/sell stocks for clients and companies. Their work is based on knowing how the share price of the company will react in the market. Market/ share price predictions are useful as the investor/broker can attempt to predict the output in order to maximize his dividends or minimize his losses. Using data mining techniques, an attempt is made to estimate a prediction model to help forecast share prices. R and Python will be the tools used to sort, segregate and process the data, and techniques/algorithms such as Genetic Algorithm, ARIMA, Artificial Neural Networks, Linear Regression etc. will be used to forecast results of data. Along with the model data, external factors affecting share prices will also be taken into account. For each of the applied algorithms, their results will be compared and the difference in output with the real time values will be observed and recorded.

Key Words - data mining, genetic algorithms, ARIMA, Artificial Neural Networks, linear regression

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Direction Mapping For Dim-Sighted People

Anshul Agrawal , Vaibhav Dwivedi and Brindha R

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract

The smart walking stick helps blind people to perform navigation and to do their work easily and comfortably. In normal stick, the detection of the obstacle is not done and normal stick is not efficient for visually impaired persons. Because the blind person does not know what type of things or what type of the objects come in front of him or her. The person cannot recognize what is the size of that object and how far is he/she from the object. It is difficult for blind person to move here and there. In smart walking stick, the object is detected with the help of a camera and also it measures the distance between objects by using ultrasonic sensor. If any obstacle comes in front of blind person, he/she can know about the obstacle by hearing the sound generated by the head phone. In this GPS module will also be attached which will enable a person to reach nearby destination with a shorter path. We will try to implement this using Raspberry Pi and using different algorithm that are NEO-6M(NMEA) and OPENCV for better output precision.

Key Words- Raspberry Pi ,Ultrasonic Sensor,GPS Module,Walking Stick

Design of Smart Mirror Based on Raspberry Pi

Rachit Sharma, Deepanshu Tiwari

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract:

Intelligent systems are not only used on mobile phones and tablet computers, but also more and more intelligent products are coming into being. At present, 3D mirrors and hair salon smart mirrors are expensive, and are limited to use in public places. In this paper, an intelligent mirror based on raspberry pi is designed for the home of Internet of things. The intelligent mirror is made of raspberry pi as the host controller, and STM32F030C8T6 microcontroller as the core control chip. In working condition, the system by raspberry pi is connected to the network through WIFI, and obtain information about the weather forecast from the API network interface specified dressing index, time, date and other information, and then through the information displayed on the plasma display. The user can interact with the mobile phone through the APP mirror, SYN6288 mirror through speech synthesis module make sounds, such as asking the mirror the weather, news, time, the mirror can automatically obtain the corresponding information network and broadcast. The designed intelligent mirror has the advantages of small size, simple operation, low cost, and is suitable for families, and has broad application prospects.

Keywords- Raspberry pi; STM32; intelligent mirror; Linux

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SURVEY ON DYNAMIC ATTACK-RESILIENT ROUTING IN SOFTWARE DEFINED NETWORKING

Revathi M, Venkatesh Naidu, and Sanjay Deva Rao

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

Abstract— The size of associated devices in the advanced correspondence system and its heterogeneous nature has made verifying the system all the more difficult. In any case,with the appearance of Software Defined Networking (SDN), the algorithmic unpredictability is taken care of at an incorporated control plane and the system components perform just information sending dependent on control plane choices. This empowers specialists to structure creative security conventions at the control plane to powerfully safeguard against assaults. In this paper, we propose a dynamic Attack- Resilient Routing (ARR) approach and build up an improvement plan for divided multi way steering thinking about dependability and burden for SDNempowered systems. Inspite of the fact that eradication encoding has been very much concentrated for versatile information stockpiling, it is once in a while referenced with regards to arrange steering attributable to its unpredictability, repetition and trouble of fulfilling viable directing limitations. In this work, we progressively decide the ideal course for deletion encoded parts of the information, as far as assault versatility, under the imperative on reasonable encoding excess. Since the ARR calculation is computationally restrictive for bigger systems, we build up a heuristic answer for a similar utilizing a multi way tree. The proposed calculation powerfully courses the information sections along a lot of dependable and delicately stacked ways to accomplish multi way assorted variety and in this way improve information accessibility at the goal even within the sight of assaults. We exhibit the viability of our proposed methodology as far as weighted way unwavering quality, flexibility and blocking execution through reenactments.

Automatic audio summarization using Natural Language Processing

Udit Chauhan, Tarun Tiwari, R. Anita

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
chauhan.udit444@gmail.com, tarun.twr0075@gmail.com, anita.r@ktr.srmuniv.ac.in

Abstract--Audio summarization is a very important application of Natural Language Processing(NLP). Whenever there is a conversation happening it involves various types of discussions. Important information always gets lost between such jumbled conversations. Consequently it becomes extremely essential to extract those important key points for future reference. In this paper we aim to implement the automation of the process. The relevant information resulting from the conversation is extracted with the help of Natural Language Processing techniques by making use of text summarization approaches such as Abstractive text summarization and Extractive text summarization.

Index Terms--Audio Summarization, Natural Language Processing, Automatic Text summarization, Extractive Text summarization, Abstractive Text summarization

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ENRON CORPUS FRAUD DETECTION

Lucky Mohanty, Kirtika Thakur, Dr. G. Manju

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
luckymohanty_su@srmuniv.edu.in, kirtikathakur_ra@srmuniv.edu.in, manju.g@ktr.srmuniv.ac.in

Abstract:

The main motive behind this work is to identify the person of interest based on the email data from the Enron corpus which is made public for research. Fraud detection is done using artificial neural network (ANN) with adam optimizer and RELU activation functions which is a machine learning approach. With advancements in the field of Artificial Intelligence the fraud detection can done effectively in python environment. This work achieves greater accuracy in terms of precision, recall and F1 score.

Keywords—Enron corpus, Artificial Neural network, adam optimizer, RELU activation function.

NEXLLO: NEXT-GEN INTELLIGENT ASSISTANT

Shubham Dhingra, Devashish Khandelwal

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203

shubham_om@srmuniv.edu.in, devashishkhandelwal_ms@srmuniv.edu.in

Abstract:

The rise of Personal assistant and Natural Language Processing gives a clear idea of what people want. Nexllo is an intelligent personal assistant created for all web browsers. Nexllo can set reminders, recognize natural voice without the requirement for keyboard input, and answer questions using information from the Internet and provides exact search results from the Microsoft database. It has major application in Home Automation. It can perform the tasks based on user's voice commands. It integrates very easily with IOT components and can perform tasks based on it. Apart from Home Automation it has an embedded algorithm which can store the data and sync it with every device signed in. It can translate any word, phrase, sentence or even any paragraph to 8 Indian Languages and 2 Foreign Languages. It can get the weather updates at your location by creating geo coordinates from IP address from current location. It also shows exact address on the Map if user doesn't give

the full information. It add to-do list and save it to cloud database in realtime that synchronize across all of the connected devices.

Index Terms— Personal assistant, Smart City, Natural Language Processing, Virtual Assistance, Web Application. Cloud database

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GENERATION OF REPORT FROM MULTIPLE REVIEWS

S. Iniyan, Sudhanshu Arora, Animesh Kumar

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
iniyan.s@ktr.srmuniv.ac.in, arora.sudhamshu13@srmuniv.edu.in,

animeshkmr54@srmuniv.edu.in

Abstract

There has been a rapid growth of e-commerce over the past few years. Since the products can't be touched, felt or verified on the spot while buying online, every customer relies on other customers' reviews and ratings to verify that what they are buying is genuine. The problem is this is that popular products many times have more than ten thousand reviews. No one has the time or the patience to go through all the reviews. So, our aim is to use the techniques of Information Retrieval and Natural Language Processing to extract the most talked about and the most relevant features according to the user reviews and determine the sentiment for each feature for multiple products of any domain. We have explained the full methodology of our product.

Keywords- E-Commerce, Crawler, POS Tagging, Associative Mining, Opinion Extraction, Information Retrieval, NLP, Tokenization, Lemmatization.

Cloud Security Enhancement by Client-side Data Partitioning and Encryption

Debanjan Deb, Aviral Verma, J.V. Vidhya

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
debanjan.deb97@gmail.com, aviralverma97@outlook.in, vidhya.j@ktr.srmuniv.ac.in

Abstract

Cloud Computing is a technology that has seen a spurious growth recently and is being deployed for personal as well as business purposes. Cloud computing is defined as the delivery of computing services – namely servers, storage, databases, networking, software, analytics and intelligence over the Internet to offer faster innovation, flexible resources and economies of scale. With the feature becoming increasingly integral to various services provided across the inter-connected digital world, it is imperative that its susceptibility be assessed and security made impenetrable to protect the sensitive information Cloud servers store. Cloud security has been vulnerable to threats and in several cases has led to Data Loss, Information Hacking and Denial of

Services. These incidents have given rise to widespread concern regarding the data security that these Cloud Services employ. However, security models and security tools are being continually enhanced. This project aims to implement a Security Enhancement mechanism that gives the client-side greater control over data security and access, by encryption and partitioning, hence narrowing down the vulnerability.

Index terms: - Cloud Security, Diffie-Hellman Key Exchange, AES Encryption Standard, Multiple Blocks Cloud Storage.

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Interactive real-time monitoring of data and safety components for a solar vehicle.

Ritwick Verma, Siddhartha Khanna, Jeyachandran Vidhya

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
verma1997@gmail.com, siddharthakhanna19@gmail.com, vidhya.j@ktr.srmuniv.ac.in

Abstract

Data acquisition model for a solar electric vehicle requires an intricate network of sensors monitoring every nook and cranny in order to ensure smooth working and detect potential threats that might occur when the vehicle gets to the road. This introduces many complexities such as developing a system that effectively and efficiently acquires data from sensors all over the vehicle and using these observations in multiple disciplines. We are going to implement a system that reads information from various microcontrollers parallelly in order to display vital stats to the driver and place various safety thresholds like cutting off the main power supply to the motors when the battery temperatures exceed normal working conditions or in case of voltage surge that might potentially harm the sensitive components. All of these operations should work without obstructing the user experience for the driver and maintain proper vehicle integrity.

Keywords - solar electric vehicle, sensor network, data acquisition, embedded systems, park assist

A Survey on Farm Productivity Prediction using IOT

Pradeep Sudhakaran, C Malathy, Ranjan Himanshu Ravi, Pranshu Sharma

Department of Computer Science Engineering and Technology,
SRM Institute of Science and Technology, Chennai, Pin – 603203
pradeep.su@ktr.srmuniv.ac.in, malathy.c@ktr.srmuniv.ac.in, ranjanhimanshu_ra@srmuniv.edu.in

Abstract

The data collected from Google data sets of about 3977 is reduced and various algorithms are used such Decision tree classifier and random forest classifier is used. This dataset is divided into training and test data of 80 and 20 percent respectively. The soil type is found as one of the alkali, sandy, chalky, clay unpredictable changes in factors like rainfall and soil moisture lead to a great loss to farmers. These risks can be reduced when suitable approaches are employed on data related to soil type, temperature, max temp, min temp, humidity crop type And rainfall patterns. Crop and Weather forecasting can be predicted by deriving useful insights from these

agricultural data. This paper presents a survey on the various algorithms used for weather, crop yield and productivity. The other challenge that our farmers face is land losing their productivity. Which crop should be planted based on the climate prediction and considering the strength of the soil keeping in mind the external factors like water availability and risk of crop to be destroyed due to pests. The efficiency of 99 percent is achieved by using random forest as machine learning tool. This is maximized performance.

Keywords: Farming, Internet of Things, Weather, Sensor and productivity.

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