International Conference on *"Innovations in Computers Networks, Computational Intelligence and IoT"*

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International conference on

"Innovations in Computers Networks, Computational Intelligence and IoT"

on 25th & 26th June 2021

(ICICCI-21) ***PROCEEDINGS***

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Department of Computer Science and Engineering

Organized

Online "International Conference on Innovations in Computer Networks, Computational Intelligence and IoT" (ICICCI – 21)

on 25th & 26th June 2021

Patron, Program Chair & Editor in Chief

Dr. P. SANTOSH KUMAR PATRA

Principal, SMEC

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ISBN No: 978-81-948781-1-7

Sri. M. LAXMAN REDDY
CHAIRMAN

MESSAGE

I am extremely pleased to know that the Department of Computer Science and Engineering of SMEC is organizing Online **"International Conference on Innovations in Computer Networks, Computational Intelligence and IoT"** (ICICCI – 21) on 25th and 26th of June 2021. I understand that the large number of researchers has submitted their research papers for presentation in the conference and for publication. The response to this conference from all over India and Foreign countries is most encouraging. I am sure all the participants will be benefitted by their interaction with their fellow researchers and engineers which will help for their research work and subsequently to the society at large.

I wish the conference meets its objective and confident that it will be a grand success.

M. Laxman Reddy

M.LAXMANREDDY
Chairman

Sri. G. CHANDRASEKHAR YADAV
EXECUTIVE DIRECTOR

MESSAGE

I am pleased to state that the Department of Computer Science and Engineering of SMEC is organizing Online International Conference on **"International Conference on Innovations in Computer Networks, Computational Intelligence and IoT"** (ICICCI – 21) on 25th and 26th of June 2021. For strengthening the "MAKE IN INDIA" concept many innovations need to be translated into workable product. Concept to commissioning is along route. The academicians can play a major role in bringing out new products through innovations. I am delighted to know that there are large numbers of researchers has submitted the papers on Engineering and Technology streams. I wish all the best to the participants of the conference additional insight to their subjects of interest.

I wish the organizers of the conference to have great success.

G.CHANDRASEKHAR YADAV
Executive Director

Dr. P. SANTOSH KUMAR PATRA
PRINCIPAL

I am delighted to be the Patron & Program Chair for the **"International Conference on Innovations in Computer Networks, Computational Intelligence and IoT"** (ICICCI – 21) organized by the Department of Computer Science and Engineering on 25th and 26th of June 2021. I have strong desire that the conference to unfold new domains of research like Artificial Intelligence, Data Science, Cyber Security and Internet of Things and will boost the knowledge level of many participating budding scholars throughout the world by opening a plethora of future developments in the field of Computer Science and Engineering.

The Conference aims to bring different ideologies under one roof and provide opportunities to exchange ideas, to establish research relations and to find many more global partners for future collaboration. About 300 research papers have been submitted to this conference, this itself is a great achievement and I wish the conference a grand success.

I appreciate the faculties, organizing committee, coordinators and Head of the Department for their continuous untiring contribution in making the conference reality.

(Dr. P. Santosh Kumar Patra)
Principal, SMEC

CONVENER

The world is always poised to move towards new and progressive engineering solutions that results in cleaner, safer and sustainable products for the use of mankind. India too is emerging as a big production center for world class quality. Computer Science and Engineering play a vital role in this endeavor.

The aim of the **"International Conference on Innovations in Computer Networks, Computational Intelligence and IoT"** (ICICCI – 21) being conducted by the Department of Computer Science and Engineering of SMEC, is to create a platform for academicians and researchers to exchange their innovative ideas and interact with researchers of the same field of interest. This will enable to accelerate the work to progress faster to achieve the individuals end goals, which will ultimately benefit the larger society of India.

We, the organizers of the conference are glad to note that more than 300 papers have been received for presentation during the online conference. After scrutiny by specialist 134 papers have been selected, and the authors have been informed to be there at the online platform for presentations. All the registered papers will be published in conference proceedings and all the selected papers will be published in UGC recognized reputed journals.

The editorial Committee and the organizers express their sincere thanks to all the authors who have shown interest and contributed their knowledge in the form of technical papers. We are delighted and happy to state that the conference is moving towards a grand success with the untiring effort of the faculties of Department of Computer Science and Engineering of SMEC and with the blessing of the Principal and Management of SMEC.

Dr. M. NARAYANAN
Professor & HOD
Department of CSE

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Chunk Delivery through Scheduling with Buffer Management Mechanism for Adaptable Live Streaming in Peer-to-Peer Networks

[1]Dr M. Narayanan, [2]Dr T.Poongothai, [3]Dr P.Santosh Kumar Patra
[1,2]Professor, [3]Principal & Professor
[1,2,3] Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad – 500 100, India
E-mail: [1]narayanan_baba@yahoo.com, [2]poongothait@gmail.com, [3]drpskpatra@gmail.com

Abstract - File downloading and streaming are major drawbacks of P2P Video on Demand services. The time it takes to load the server is likely to rise as a result of this. In most cases, data is stored in extremely large files. Networks, on the other hand, are unable to function if computers simultaneously send massive amounts of data over the cable. When a computer transfers a large amount of data, other computers become involved. The server and network become slow after large chunks of information are removed from the network. The two processes are combined in this study to reduce the burden on the servers. The findings are good since the two algorithms are integrated. The NS2 simulator is used in the implementation. The two methods to be employed are the Chunk Delivery with Scheduling with Buffer Management Algorithms and the Chunk Delivery with Buffer Management Algorithms. It's based on the number of chunk requests sent to the same number of response providers. The results reveal that the performance validated the chunk scheduling and buffer management formula's effectiveness.

Keywords: Buffer Management, Chunk Scheduling, Chunks Chunk Delivery, Information Area Unit, VoD

*Corresponding Author
E-mail Address: narayanan_baba@yahoo.com

PAPER ID: ICICCI-21-0001

A Novel Design and Implementation on Women and Child Safety Based on IOT Technology

Sai Sree Reena Reddy L[1], Vinodhini R[2], Rashmi A S[3], S Tanushree[4], Prof. Rajini S[5].
[1,2,3,4] Student, Dept. of Information science Engineering, VVCE, Mysore, India
[5]Professor, Dept. of Information science Engineering, VVCE, Mysore, India

Abstract - Women and child protection is now considered to be a major problem in a globalized society. Women especially face severe immoral and brutish annoyance. It is thus a difficult task for ensuring safety and security of women. There are some mobile applications developed to ensure women security. But one thing to be remembered is that not all the time can adwoman use the mobile so that the application is full time accessible. Hence we need to develop a smart device that can work well without the need of making a phone call or by using mobile phones. The developed device needs to be handy and easy to carry out anytime and anywhere. There are many such devices on sale but they do not provide effectual, powerful and accurate measure and solution. Here, we are presenting a "novel design and implementation on women and child safety based on IOT technology". We will be considering the situation where the women walking will be facing some unethical harassment practices and so she needs to be protected from this situation. The device will be in the form of a button that can be attached to the cloth. This smart device is implemented using different software and hardware modules for capturing the videos, images and tracking the location where the incident is occurring. This gathered information is then forwarded to the neighbouring or to the adjacent police station and to the victim's family. This work is accomplished by using GPS (Global Positioning System) and GSM (Global System for Mobile Communication). The developed smart piece of equipment also has memory cards and microcontrollers where in all these sophisticated and advanced components provide more accuracy and model the device to be more reliable.

Keywords: GPS, GSM, IoT, Victims, Child Protection,

*Corresponding Author
E-mail Address: tanushree.srikantan@gmail.com

PAPER ID: ICICCI-21-0005

Robotic Process Automation Based Service Issue Classifier Bot and Discharge Form Filling Bot

Dattatraya Vilas Bhabal
Department of Master in Computer Application, University of Mumbai, Mumbai-400 022, India
dattatraya.bhabal@spit.ac.in

Abstract - We live in a world where now many organization now putting a step forward to automate their existing process to enhance the growth of the organization. In such scenario many organization are taking use of Robotic Process Automation which is trending now. This type of automation can be categorized into soft automation. This soft automation tools are creating great impact on the sector like IT, Banking and Finance, Supply Chain, Management where the task which are mundane in nature or repetitive can be automate. In this paper we propose two Bots. The First Bot will provide a RPA solution for IT sector domain where the company handles multiple service issues for resolution just like a call center hence we will try to automate the classification of that issue for easy to resolution process. The Bot will take input from the email and categorize as per company requirement process defined and second Bot is design to handle hospital discharge form process. The Second Bot will take the input from excel file where all patient record stored and create a discharge form using the same record. The tool we selected to implement our idea for this is Automation anywhere. The most important parameter for any organization to automate any process is to save time.

Keywords: Robotic Process Automation (RPA), Automation Anywhere

*Corresponding Author
E-mail Address: dattatraya.bhabal@spit.ac.in

PAPER ID: ICICCI-21-0011

Online Food Ordering and Recommendation System using Machine Learning Technique

Lakshya Saxena[1], Kangana Agarwal[2], Yash Bhasin[3] and Deependra Rastogi[4]
[1,2,3,4] School of Computing Science and Engineering, Galgotias University, Greater Noida

Abstract - This website aims to order food inside the campus of colleges. Order processing system is developed using HTML (Hypertext Markup Language) as front end and SQL (Structured Query Language) at back-end. Planning is done by identifying the problems faced by students & faculties inside the cam-pus. This website allows to quickly and easily manage an online menu and end users will find it easy to choose. Food ordering system reduces manual work. Also the recommendation system using Ma-chine Learning will help the end users to choose from a wide variety of food and cuisines with much ease. This website will help college canteens and students both. There are many functionalities of this website like: To store records, Control orders and services, Billings Order recommendation using Machine Learning. The user requirements are analysed to identify the needs of the end users. Data-base is planned with care to oblige development in future. Easy to use structures have been intended for information section. Why ML? ML will help the system to predict automatically without any human intervention as needed by traditional diagnosis systems.ML can be supervised / unsupervised. But we will be only trying to find a solution using supervised learning. Keywords – Machine Learning, Recommendation The first sentence of the Abstract should follow the word "Abstract." on the same line. The abstract should be clear, descriptive, self-explanatory and no longer than 200 words. It should also be suitable for publication in abstracting services. Do not include references or formulae in the abstract.

Keywords: Automated Food Ordering System, Dynamic Database Management, Machine Learning, Smart Phone

*Corresponding Author
E-mail Address: lakshyasaxena99@gmail.com

PAPER ID: ICICCI-21-0014

Super Market Billing Machine using Web Cam

Dr.K.Srinivas[1], V.Poojitha[2], P.Lavanya[3], R.sindhuja[4], B.Akhila[5]
[1]Assistant Professor, Department of CSE, St. Martin's Engineering College, Hyderabad
[2,3,4,5] UG Student, Department of CSE, St. Martin's Engineering College, Hyderabad

Abstract - Unstaffed retail stores have become increasingly popular in the recent years, influencing everyday buying habits. Around here, automated retail holders play assumes an important role, as they can have significant impact on the clients shopping experience. The standard route, which relies on measuring sensors is unable to determine the client's path. This paper presents a plot for a clever unstaffed retail shop based on Image preparation in python, with the goal of studying the feasibility of doing unstaffed retail shopping. A start to finish arrangement model of unstaffed shop prepared by the strategy is created for SKU recognition and checking , based on the informational index of pictures in various situations that includes various types of stock keeping unit(SKU)with variable sizes and the proposed arrangement in this investigation may achieve precise tallying and acknowledgment on the test information table, demonstrating that the framework can make a good decision over the inadequacy of a traditional automated holder.

Keywords: Stock Keeping Unit (SKU), Image, Recognition, Smart Phone, Pictures

*Corresponding Author
E-mail Address: prodduturilavanya699@gmail.com

PAPER ID: ICICCI-21-0015

Visualizing and Forecasting Trends of COVID-19 using Deep Learning Approach

Mrs. J.Samatha[1], Dr.G.Madhavi[2], Mrs. T.Aruna Jyothi[3]
[1,2,3]Matrusri Engineering College

Abstract - World is facing the most contagious Corona Virus Disease 2019 (COVID-19) as primary health threat where people are quarantined to containment of the virus. As a result, the work associated with man power is stagnated, industries are closed and global economy has come to halt. The rapid rise in the number of COVID-19 incidents has promoted the need for public awareness and effective preventive measures to control the disastrous effects of this epidemic. In the current situation, predicting the trend of COVID-19 is essential to support public health departments for effective prevention and control of this pandemic to save the mankind. This paper presents the visualization and prediction analysis of COVID-19 pandemic using deep learning algorithm Convolution Neural Network (CNN). This approach assists the public to prevent the containment of corona virus at an early stage so as to minimize the fatality rate of this disease.

Keywords: Convolution Neural Network, Deep Learning, Epidemic, Forecasting, Prediction, Visualization

*Corresponding Author
E-mail Address: samathajuluri@gmail.com

PAPER ID: ICICCI-21-0018

Triple Authentication Approach for Accurate Voting System

C. N. V. B. R. Sri Gowrinath[1], S. Durga Devi[2]
[1]Assistant Professor, Department of MCA, CBIT (A), Hyderabad
[2]Assistant Professor, Department of CSE, CBIT (A), Hyderabad

Abstract - The voting process decides a person or team/party to rule an organization, division, state, country, or such others. In democratic countries like India, voting plays a vital role. Voting generally uses manual/semi-automated/automated election mechanisms. As the manual voting process has many drawbacks, most of the countries are transitioning from manual to e-voting. Although technology has been improved a lot from the ancient world, to till date a lot of demerits existed in e-voting using EVM also such as rigging, deleting votes that are even eligible. In addition to the above drawbacks, improper authentication, storage mechanisms, and security are some of the challenges still facing e-voting. A lot of research is conducted to attack the challenges and design a fully automated e-voting system. Many researchers are doing hard work regarding this. Some issues identified with the already existing proposals; hence this paper is trying to provide a way to design an automatic e-voting system using an Automatic Decision System [3]. The current study's main objective is to increase the utilization of vote right through remote voting in which the literacy rate is less.

Keywords: Voting, Elections, Automated Decision System, Democratic, Authentication.

*Corresponding Author
E-mail Address: gowrinath_mca@cbit.ac.in

PAPER ID: ICICCI-21-0021

Optimized C-Medoids Evidential Clustering to Evaluate and Explore Multi Feature Data Stream

E. Soumya[1], G. Sushma[2], Dr. P. Santoshkumar Patra[3]
Assoc. Professor[1], Assistant Professor[2], Principal & Professor
Department of Computer Science and Engineering,
[1,3]St. Martins Engineering College, [2]CVR college of Engineering
[1]esoumyait@smec.ac.in, [2]sushmagudivada05@gmail.com, [3]principal@smec.ac.in

Abstract - In artificial intelligence related applications such as bio-medical, bio-informatics, data clustering is an important and complex task with different situations. Prototype based clustering is the reasonable and simplicity to describe and evaluate data which can be treated as non-vertical representation of relational data. Because of Barycentric space present in prototype clustering, maintain and update the structure of the cluster with different data points is still challenging task for different data points in bio-medical relational data. So that in this paper we propose and introduce A Novel Optimized Evidential C-Medoids (NOEC) which is relates to family o prototype based clustering approach for update and proximity of medical relational data. We use Ant Colony Optimization approach to enable the services of similarity with different features for relational update cluster medical data. Perform our approach on different bio-medical related synthetic data sets. Experimental results of proposed approach give better and efficient results with comparison of different parameters in terms of accuracy and time with processing of medical relational data sets.

Keywords: Data clustering, multiple prototypes, artificial intelligence, and prototype based clustering, c-medoids and ant colony optimization.

*Corresponding Author
E-mail Address: esoumyait@smec.ac.in

PAPER ID: ICICCI-21-0024

Detection and Analysis of Public Bullying on Social Networking Sites

Mr. Narisetty Srinivasa Rao[1],
Panem Naveen[2], Tanneru Vineela[3], Kolusu Vamsi Krishna[4], Tallapareddy Vikram Reddy[5]
[1]Assistant. Professor, [2,3,4,5] UG Students, Dept. of Computer Science and Engineering
[1,2,3,4,5] Lakireddy Bali Reddy College of Engineering (Autonomous), L.B.Reddy Nagar,
Mylavaram, Krishna (Dt.), A.P, India, 521230.

Abstract - The use of a social networking platforms to abuse a particular person, by sending text is known as Cyberbullying. It can occur through SMS, text messaging. Cyberbullying includes sending, posting, sharing negative content about a particular person. Bullying that occurs in person and cyberbullying that occurs online often coexist. For harassment to be accepted, there must be an obvious power differential between the victim and the perpetrator (or perpetrators), and the abuse must last for a long time. One of these problems is cyberbullying, which can be a significant international issue poignant each people and communities. several makes an attempt are created within the literature to intervene in, prevent, or mitigate cyberbullying but, these makes an attempt a sensible as a result of they accept the victim's interactions. As a result, it is necessary to sight cyberbullying while not the involvement of the victims. With the help of Supervised Learning Classification Algorithms such as Random Forest, Support Vector Machine (SVM), Gaussian Naive Bayes, and Multinomial Naive Bayes, this project aims to detect cyberbullying in tweets. By comparing the performance of four classification algorithms and decide the best one, a training and predicting pipeline is used. In the proposed framework, we created a chat application by using Python with multiple clients and one admin, and we used the machine learning classification algorithm to train the model on a dataset, and we used this model to predict offensive/abuse comments and display warning messages on the chat application.

Keywords: Cyberbullying, Random Forest, Support Vector Machine

*Corresponding Author
E-mail Address: nsr543@gmail.com

PAPER ID: ICICCI-21-0026

Wild Animal Intrusion Detection through Machine Learning and Prediction through IoT Based Zigbee Wireless Sensor Network Techniques

Dr. N. Satheesh,
Professor, Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, Telangana.
nsatheesh1983@gmail.com

Abstract - Coppice reconnaissance plays a vital role in all over the world. Wild animals Intrusion from forest to agricultural land reconnaissance is vital role to inhibit their land from unauthorized admittances through humans and wild animals, by those two intruders circumstance a heavy loss in economically wise and in death loss. Wild animals are very big challenges to the farmers to make a surveillance. The proposed and purpose of this research which was intended with combination of passive infrared (PIR) sensor and ultrasonic signal based on microcontroller as coordination organizer. The senor which is used to detect the manifestation of wild animal objects automatically ultrasonic sound will interfere with hearing. Major work was done with hardware and software designed with transmitter and receiver hardware and software in system with machine learning algorithm for object identification. Our work will detect the objects within the range of 5m to 60m and identified object will automatically tested with dataset images based on the tested result. Each animal has different hearing frequencies, as well as some wild animals, but the hearing frequencies of wild animals are generally at ultrasonic frequencies. The frequency of animal hearing may vary from audio frequency to ultrasonic frequency, so ultrasonic wave radiation testing with varying frequencies is required.

Keywords: PIR, ultrasonic signal, hardware, software, frequency

*Corresponding Author
E-mail Address: nsatheesh1983@gmail.com

PAPER ID: ICICCI-21-0028

Highlighted Depth-of-Field Photography

Yash Kulshrestha[1], Vaibhav Joshi[2], Suheb Khan[3]
[1,2,3] School of Computing Science & Engineering Galgotias University
[1]utkarshkulshrestha2000@gmail.com, [2] joshivaibhav926@gmail.com, [3]skhansdr12@gmail.com

Abstract - We seek to investigate, through the perspective of experiences, how material-discursive relations are developed through the practice of the sele. For this analysis, we tend to take as place to begin pictures printed on Facebook and brought in an exceedingly sq. placed within the town of Salvador, beside the automated alternative text information – understood here as an algorithmic audience. We argue that the practice of sele is an experience of account of oneself related to a multiple another – targeting an audience of entangled subjects and algorithms. In this way, we suggest to understand the sele as an apparatus of material-discursive practices of account of oneself that's shaped within the interaction between completely different digital materiality and relational experiences.

Keywords: Salvador, Facebook, analysis, algorithmic, audience

*Corresponding Author
E-mail Address: utkarshkulshrestha2000@gmail.com

PAPER ID: ICICCI-21-0030

Research Paper on Micro-scale Digital Dairy

Devyani Chaturvedi[1], Avinash Kumar Anand[2], Ankur Pal[3], Vaishali Gupta[4]
Galgotias University Gautam Buddha Nagar, India

Abstract - A dairy food items are our day by day need results of customary life. The dairy items application shows value index of items (eg, milk, curd, spread, paneer, yogurt, and so forth), buy request outline, instalment history, criticism, offers, and indent request. In enslavement of milk a few dairy items, for example, cream, margarine, cheddar, and ghee despite the fact that have been ordered milk into changing sorts of milks. The effect of milk and dairy items are valuable and supportive for all specialists and wholesalers. The specialists are having record to login this application, and to see the request history and instalments detail, due equilibrium, plans, and register a grumbling for any questions and report. The application produces printed receipt just as sends SMS to the Agents immediately. The Milk Management System is an intersection or spot between provincial zone individuals and Dairy Management System. This Project is utilized at little town dairy. The Rural territory individuals cannot fill or send their steers milk straightforwardly to dairy. The Dairy the board have numerous franchisees at all little towns so individuals can give their milk at franchisees and dairy the executives gather the milk from franchisees day by day. Our product milk the executive's framework utilized at that franchisees for keep up part account and oversee stock and create Salary and Reports.

Keywords: Diary Food Product, Employment, Income, problems, Steers milk.

*Corresponding Author
E-mail Address: devyani10feb@gmail.com

PAPER ID: ICICCI-21-0034

Bug Tracking System with Bug Market for Proposal Based Open Collaborative System

Prabin Kumar Baniya[1], Ganesh Yadav[2], Abhishek Bhagat[3], Damodharan D[4]
[1,2,3] Student, School of Computer Science and Engineering,
[4]Assistant Professor, School of Computer Science and Engineering,
[1,2,3,4] Galgotias University, Greater Noida, India

Abstract - Bugs and defect have been in existence since software development has started. Each time an application is made, it is obvious that some bugs or defects can be encountered. This is where, Bug Tracking System comes into effect. A Bug Tracking System is a utility software which helps to track, monitor and manage the bugs reported or generated in the system [2]. This tool allows us to report, approve and assign bugs fixing task to the user with the help of tickets. Tickets will carry detailed information about what the bug is, what impact it may have on the system and how quickly the bug has to be fixed. Based on the ticket status, Bug Tracking activity takes place. Whereas, collaboration is also one of the major features of Bug Tracking System. Generally, internal team collaborate with each other and fix the bug. Meanwhile, if the team is small or led by single handed, there may be a case to ask for public collaborators. Bug Market will help the public collaborators to find various bug listed by various team and individuals. Anyone who is willing to collaborate will send a proposal to the project maintainers and based on shortlisting of proposals, suitable developer can be invited to collaborate with the internal team and fix the bug. Therefore, this type of open public collaboration via Bug Market will make Bug Tracking System more engaging and effective to track, manage and fix the bug.

Keywords: Bug Tracking System, Tickets, Track, Monitor, Manage

*Corresponding Author
E-mail Address: gy5942843@gmail.com

PAPER ID: ICICCI-21-0038

Detecting Fake News, Disinformation and Deep fakes using Distributed Ledger Technologies and Blockchain

G. Sai Charan[1], G. Akhil[2], M. Mouneeswar[3], R. Anurag Reddy[4], Dr. B. Rajalingam[5]
[1,2,3,4] UG Scholar, [5]Associate Professor
[1,2,3,4,5] Department of Computer Science and Engineering,
[1,2,3,4,5] St. Martin's Engineering College, Dulapally, Kompally, Secunderabad, Telangana 500 100, India
saicharan.gattepalli@gmail.com[1], akhilganji947@gmail.com[2], medepallymouneeswar@gmail.com[3], anuragreddy1970@gmail.com[4], rajalingam35@gmail.com[5]

Abstract - The rise of pervasive deep fakes, misinformation, disinformation, and post-truth, often known as fake news, raises questions about the Internet's and social media's role in modern democratic countries. Digital deception has not only an individual or societal cost, but it can also result in large economic losses or national security problems because to its rapid and global dissemination. Blockchain and other distributed ledger technologies (DLTs) ensure data provenance and traceability by building a peer-to-peer secure platform for storing and transferring information and giving a visible, immutable, and verifiable record of transactions. This study attempts to investigate the capabilities of distributed ledger technologies (DLTs) to prevent digital deception by defining the most prominent features and outlining the key problems they face. Furthermore, some recommendations are made to advise future studies on topics that must be addressed to increase cyber-threat resistance on today's online media.

Keywords: Distributed Ledger Technologies (DLTs), Fake News, Blockchain, Global Dissemination and peer-to-peer (P2P) network

*Corresponding Author
E-mail Address: saicharan.gattepalli@gmail.com

PAPER ID: ICICCI-21-0039

Study on Ancient Marathi Script Improvement using Digital Image Processing Techniques

Bapu Chendage[1], Rajivkumar Mente[2]
[1, 2] Department of Computer Applications,
[1,2] School of Computational Sciences, PunyashlokAhilyadevi Holkar Solapur University, Solapur
bdchendage@sus.ac.in[1], rsmente@sus.ac.in[2]

Abstract - Ancient Marathi scripts are used as an important source of getting information about ancient Maharashtra. Collecting information from ancient scripts is a big challenge for the archaeologist. This research aims at ancient Marathi script improvement. The aim is to create a system that takes the degraded script and produce human-readable text. Images are collected by using a digital camera and downloaded from internet and stored in the image database. Ancient scripts are playing a very important role to collect information about the culture, language, and history of ancient time. The focus of research is on only Inscription scripts. This work is beneficial for research scholar in archaeology, epigraphists and other people who are interested in such research. This research includes various methods for the improvement of inscriptions for better visualization.

Keywords: Inscriptions, Marathi Script, Optical Character Recognition (OCR), Archaeology, Epigraphist SVM, KNN, PNN.

*Corresponding Author
E-mail Address: bdchendage@sus.ac.in

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Hybrid Recommendation System using Context Aware-Neural Collaborative Filtering

Vijayalakshmi.V[1]
[1]Assistant Professor, Department of Computer Science and Engineering,
Sri ManakulaVinayagar Engineering College
vvijayalakshmi@smvec.ac.in[1]
K. Panimalar[2]
[2,3] Research Scholar, Department of Computer Science and Engineering,
[2]Pondicherry Engineering College, Puducherry,
panimalar2688@pec.edu[2]
Sakthivel.J[3]
[3]Hindustan institute of Science and Technology, Chennai
sakthivelt100@gmail.com[3]

Abstract - In recent years, online based learning has created a global impact in the field of education. E-Learning uses internet and computer to easily access vast learning resources. In a wide range, it efficiently delivers consistent content to all the target audience. Yet not all learners who take advantage of this have same level of interest and ability to capture the knowledge. Though it is panacea to explore different topics in the education field, this has also potential pitfalls when the apprentices are not aware of the path to choose in their respective field. Hence the recommended system comes to the limelight. The Recommender systems recommend diverse content to different learners depending on their interests or preferences. In this paper, we propose a hybrid model incorporating Context aware filtering and Neural Collaborative Filtering called Context Aware-Neural Collaborative Filtering (CA-NCF) to recommend desirable resources to the target audience. This proposed method considers context information of learners as beginner, intermediate and master. The result of CA-NCF is compared with User based collaborative filtering (UBCF) and Item based collaborative filtering (IBCF). The performance measure like recall, ROC curve and precision of the proposed model illustrates quality and decision-making process.

Keywords: Recommender systems, E-Learning, Context Aware Filtering, Neural Collaborative Filtering, Education

*Corresponding Author
E-mail Address: vvijayalakshmi@smvec.ac.in

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Cartoon of an Image Using OpenCV Python

Terala Ramya[1], K.Bhavyasri[2], S.Alekhya[3], Ch.SaiPriya[4], P.R.K.Ayyappa[5],
Dr. P. Santosh Kumar Patra[6], Dr. M. Narayanan[7]
[1,2,3,4] UG Scholar, Assistant Professor[5], Principal & Professor[6], Professor & Head[7]
Department of Computer Science and Engineering,
St. Martin's Engineering College, Near Forest Academy, Dulapally, Kompally, Secunderabad 500 100, India.
Email : ramyaterala31@gmail.com[1],bhavyasrikandula@gmail.com[2],
alekhya.s031@gmail.com[3],challagullasaipriya@gmail.com[4], ayyappar4@gmail.com[5],
drpskpatra@gmail.com[6],narayanan_baba@yahoo.com[7].

Abstract - This paper proposes the method that makes an input target image into exaggerated cartoon-like images by using reference images. To deform a target image, we extract feature points from a target image and define the feature point model on reference images. And then, we apply feature based warping method to this deformation to get a deformed image. For our result to be felt more cartoonish, we additionally apply the luminance quantization method and the edge enhancement method to the deformed target image. At this time, we control intensities of the target image deformation, the luminance quantization and the edge enhancement for the capability that is able to create various results.

Keywords: AMM searching, warping, cv2 module, image, exaggerated cartoon

*Corresponding Author
E-mail Address: ramyaterala31@gmail.com

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Predicting stock trends through technical analysis and classification of K- Nearest Neighbours

N. Santosh Goud[1], M. Sai Kumar[2], M. Sai Chand [3] K.Sujith[4], P.R.K.Ayyappa[5],
Dr. P. Santosh Kumar Patra[6], Dr. M.Narayanan[7]
[1,2,3,4] UG Scholar, Assistant Professor[5], Principal & Professor[6], Professor & Head[7]
Department of Computer Science and Engineering,
St. Martin's Engineering College, Near Forest Academy, Dulapally, Kompally, Secunderabad 500 100, India.
Email: ramyaterala31@gmail.com[1],bhavyasrikandula@gmail.com[2],
alekhya.s031@gmail.com[3],challagullasaipriya@gmail.com[4], ayyappar4@gmail.com[5],
drpskpatra@gmail.com[6],narayanan_baba@yahoo.com[7]

Abstract- This paper was written to present the advantages of Prediction in stock market is an interesting and challenging research topic in machine learning. A large research has been conducted for prediction in stock market by using different machine learning classifiers. This research paper presents a detail study on data of London, New York, and Karachi stock exchange markets to predict the future trend in these stock exchange markets. In this study, we have applied machine learning classifiers before and after applying principle component analysis (PCA) and reported errors and accuracy of the algorithms before and after applying PCA. The performance of the selected algorithms has been compared using accuracy measure over the selected datasets.

***Keywords*:** K-Nearest Neighbor(KNN), Machine Learning, Naïve Bayes classifier, Stock Market Prediction, Support Vector Machine (SVM)

*Corresponding Author
E-mail Address: santoshnainwar9505@gmail.com

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Ludo Game Development using Android and Live Conversation using Cloud

Ayush Misra[1], Bharatendu Pariha[2], Md Shadan Rahi[3]
[1,2,3] School of Computing Science and Engineering,
Galgotias University Greater Noida, Uttar Pradesh, India

Abstract—The development of the Android game app continues to be one of the best places where existing programmers seem to be very active. So in this project we are going to do a gamming app like Ludo which if any winner wins a cash prize. This app is perfect for the passing time of student and family members. Android platform is the second-best platform for mobile apps and is undoubtedly the best eco gaming apps than iOS. 3D figures make your games more realistic and comfortable; so in this book, you will find that we are slowly entering the building using the first experimental game called Drone Grid. In addition, this book provides an in-depth study of the code that will be modular and relevant in helping you build your games using advanced techniques. Android is the second-best apps and apparently the hottest eco apps than iOS. Using the experimental game which is called Drone Grid. In addition, this book offers a deep study of easy-to-use codes and programs which helps user to create their own games using advanced vertex and split pieces. Drone Grid is a game case study similar to the Geometry Wars game series that is best-selling and used to utilize the gravity grid with colourful graphics and particles. After reading the book you will have the sufficient knowledge to build your first 3D Android game app for smartphones and tablets and many more devices which runs Android OS. You can also be able to publish and sell your Android app in popular Android app stores like Google Play Store or UC browser. In our project, we will be dealing with ludo app development and then video sharing carried with live conversation.

***Keywords*:** ludo game strategy, android app, cloud app for ludo Live Streaming; Inter-Overlay Optimization; Distributed Approach

*Corresponding Author
E-mail Address: ayushmisra02@gmail.com

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Diabetic Retinopathy Detection with Stages using Siamese Neural Network

Paul T Sheeba[1], SelvaRaxanaPrathibaM[2], Roshini[3]
[1]Assistant Professor, [2,3]Student
[1,2,3] Department of Information Technology, Kings Engineering College,
sheebajames8082@gmail.com[1], prabha181999@gmail.com[2], roshinipriya1917@gmail.com[3]

Abstract- Diabetic retinopathy (DR) is a condition that affects when sugar levels are too high, causing vision loss. Since the harmed surface of the eye is microscopic around this point, it is difficult to locate it, which adds time, computation cost, and diminishes efficiency. A unique Siamese Neural Network supervised learning technique has been adopted in this work to diagnose the DR at an initial stage with less diagnosing load and high efficiency. In this colored retina fundus images are taken as input and the images are pre-processed to remove the noises using a Gaussian filter. Then the features are extracted and the diseases are classified using Siamese Neural Network. Here, by using the Siamese neural network model architecture is trained with a one-shot learning technique. This work aims to detect abnormal fundus present in the retina images caused due to DR which are screened by ophthalmologists. The level of the disease has been classified based on Proliferative Diabetic Retinopathy (PDR) and non-Proliferative Diabetic Retinopathy (NPDR) disease as normal, mild, moderate severe. The proposed SNN attains an accuracy of 99.8%, Precision 99%, recall 89%, F-measure 85%, which is higher than the existing methods such as SVM, respectively.

***Keywords*:** Siamese Neural Network, Proliferative Diabetic Retinopathy (PDR), non-Proliferative Diabetic Retinopathy (NPDR), Gaussian filter.

*Corresponding Author
E-mail Address: sheebajames8082@gmail.com

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Missing Child Identification System using Deep Learning and Multiclass SVM

R.Sreehariprya[1], Nishika Divya Lewis[2], G.Rahul[3], S.Sreeja Reddy[4], S.Swetha[5],
[1,2,3,4] UG Scholar, [5]Assistant Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India

Abstract- Every year, many children are reported missing in India. A large number of children remain unidentified in missing child cases. This paper describes a novel application of deep learning methodology for identifying the reported missing child from photos of a large number of children available, using face recognition. The public can upload photographs of suspicious children to a common portal, along with landmarks and comments. The photo will be automatically compared to the missing child's registered photos in the repository. The input child image is classified, and the photo with the best match is chosen from a database of missing children. Using the facial image uploaded by the public, a deep learning model is trained to correctly identify the missing child from the missing child image database. For face recognition, the Convolutional Neural Network (CNN), a highly effective deep learning technique for image-based applications, is used. A pre-trained CNN model VGG-Face deep architecture is used to extract face descriptors from images. In contrast to traditional deep learning applications, our algorithm only employs a convolution network as a high-level feature extractor, with child recognition handled by a trained SVM classifier. Using the best performing CNN model for face recognition, VGG-Face, and properly training it results in a deep learning model that is insensitive to noise, illumination, contrast, occlusion, image pose, and child age, and it outperforms previous methods in face recognition-based missing child identification. The classification performance of the child identification system is 99.41%. It was tested on 43 children.

***Keywords*:** Missing child identification, face recognition, deep learning, CNN, VGG-Face, Multi class SVM.

*Corresponding Author
E-mail Address: priyasrinivas532@gmail.com

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COVID-19 Outbreak Analysis and Prediction in India

Harshita Nukala[1], Sahithi Velaga[2], MeghanasaiMyneni[3], Vineesha Bezavada[4], K.Srinivas[5]
[1,2,3,4,5] Department of Computer Science and Engineering,
Velagapudi Ramakrishna Siddhartha Engineering College, Kanuru, Vijayawada

Abstract- COVID-19 outbreak was first reported in Wuhan, China and has spread all over the world. World Health Organization (WHO) declared COVID-19 as a Public Health Emergency on 30 January 2020. By seeing history can observe such outbreaks occurs for every decade. Many efforts are kept to improve health systems but our health systems are unable to handle this pandemic situation. India's population is 136 crore in that above two crore of the population in India are effected in this pandemic. The major issue is unable to predict the future cases, so this code is implemented in such a way that it will predict the future accurate cases. In the modern era, due to the complications in the techniques and methodology the collection, visualization and examination of information related to outbreak is becoming complex day by day. To overcome all these limitations, in this project a method is proposed for "COVID-19 outbreak analysis and prediction in India". It includes two phases. First phase is Analysis phase and second phase is predicting the outbreak of COVID-19. In the first phase analysis takes place on the confirmed cases, deaths, recovery rates upto April month and it will be plotted in Google map where by pointing on a particular region it will show the cases in that region on a particular date. The second phase is to predict the outbreak of COVID-19 by using the existing data. It is helpful to know the number of confirmed cases, deaths, recovery cases in the future. Also for each and every state of India how the cases are going to rise is also predicted by using FBprophet.

***Keywords*:** COVID-19, World Health Organization (WHO), Outbreak Analysis, FBprophet

*Corresponding Author
E-mail Address: nukalaharshitha@gmail.com

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Attendance System using Cloud Computing

Anjali Kumari[1], Zaira Nezam Siddique[2], J.AngelinBlessy[3]

Abstract -The point of this paper is to answer the Implementation and programmed going to style Mobile Cloud Computing fundamentally based Registration Framework. A Prototype for recognition understudy enlistment Using Phone Gap and jQuery versatile, going to is set up Framework. The versatile application, in any case, is intended to help Students check the points of interest of their inclusion, similar to the Number of conditions overlooked.

***Keywords*:** Cloud Computing, Mobile Cloud Computing, bunch activity Registration System, Identification Technologies.

*Corresponding Author
E-mail Address: zairasiddique@gmail.com

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A Framework for Finding Leaked Data Using DLD

Dr. B. Rajalingam[1], Dr. R.Santhoshkumar[2], Dr. P. Santosh Kumar Patra[3], N.Nithiyanandam[4]
[1,2,4] Associate Professor, [3]Principal
[1,2,3] Department of Computer Science and Engineering, St. Martin's Engineering College
[4]Department of Computer Science and Engineering, BIST, BIHER
rajalingam35@gmail.com[1], santhoshkumar.aucse@gmail.com[2], nnithi81@gmail.com[4]

Abstract- Today the present world mostly depends on exchange of information i.e. transfer of data from one person to another person which is also known as distributaries system. Data leakage is a budding security threat to organizations, particularly when data leakage is carried out by trusted agents. A data distributor has given sensitive data about their work or business to one or more authorized person. The data sent by the distributor must be secured, confidential and must not be reproduced as the data shared with the trusted third parties are confidential and highly important. The idea of our project is to find guilty agent who leaked the sensitive or confidential data which was produced by the company. In this project we are implementing the system for detection of leaked data and possibly the agent who is responsible for leakage of data. The distributor must access the leaked data came from one or more agents. In some occasions the data distributed by the distributor are copied by different agents who cause a huge damage to the institute and this process of losing the data is known as data leakage. This project deals with protecting the data from being out sourcing by giving a special inscription to the sensitive data so that it cannot be reproduced. The evaluation results show that our method can support accurate detection with very small number of false alarms under various data-leak scenarios.

***Keywords*:** Distributed Ledger Technologies (DLTs), Internet service provider and control Data Leakage

*Corresponding Author
E-mail Address: rajalingam35@gmail.com

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A Framework for finding Leaked Data using DLD

Dr. R.Santhoshkumar[1], Dr. B. Rajalingam[2], Dr. P. Santosh Kumar Patra[3], N.Nithiyanandam[4]
[1,2,4] Associate Professor, [3]Principal
[1,2,3] Department of Computer Science and Engineering, St. Martin's Engineering College
[4]Department of Computer Science and Engineering, BIST, BIHER
santhoshkumar.aucse@gmail.com[1], rajalingam35@gmail.com[2], principal@smec.ac.in[3] , nnithi81@gmail.com[4]

Abstract -Association rule mining and frequent item set mining are two popular and widely studied data analysis techniques for a range of applications. In this paper, we focus on privacy-preserving mining on vertically partitioned databases. In such a scenario, data owners wish to learn the association rules or frequent item set from a collective data set and disclose as little information about their (sensitive) raw data as possible to other data owners and third parties. To ensure data privacy, we design an efficient homomorphic encryption scheme and a secure comparison scheme. We then propose a cloud-aided frequent item set mining solution, which is used to build an association rule mining solution. Our solutions are designed for outsourced databases that allow multiple data owners to efficiently share their data securely without compromising on data privacy. Our solutions leak less information about the raw data than most existing solutions. In comparison to the only known solution achieving a similar privacy level as our proposed solutions, the performance of our proposed solutions is three to five orders of magnitude higher. Based on our experiment findings using different parameters and data sets, we demonstrate that the run time in each of our solutions is only one order higher than that in the best non-privacy-preserving data mining algorithms. Since both data and computing work are outsourced to the cloud servers, the resource consumption at the data owner end is very low.

***Keywords*:** Association rule mining, frequent item set mining and privacy-preserving data mining.

*Corresponding Author
E-mail Address: santhoshkumar.aucse@gmail.com

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Literature Survey on Phishing Detection Techniques

S. Swetha,
Assistant Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College

Abstract- This article conducts a literature review on the detection of phishing attacks. Phishing attacks target system vulnerabilities caused by the human aspect. Many cyber assaults are spread through techniques that exploit end-user flaws, making end-users the weakest link in the security chain. The primary goal of this attack is to steal sensitive information from users such as passwords, usernames, credit card information, and many other details. Phishing attacks can occur on a variety of platforms, including the online payment sector, webmail and financial institutions, file hosting or cloud storage, and many others. This paper presents a comprehensive survey of phishing detection techniques. The purpose of this paper is to survey several of the recently projected phishing mitigation techniques. A high-level summary of assorted classes of phishing mitigation techniques, like detection, offensive defense, correction, and bar, is additionally provided, that we tend to believe is crucial in presenting wherever the phishing detection techniques slot in the mitigation method.

***Keywords*:** Phishing attack, Detection techniques, Machine learning, Cloud Storage, Phishing detection techniques, Artificial intelligence.

*Corresponding Author
E-mail Address: sswethacse@smec.ac.in

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Survey on Initial Recognition of Alzheimer's Ailment using Different Types of Neural Network Architecture

Dr. Govinda Rajulu.G[1], Dr. Kalvikkarasi.S [2], Dr. Santosh Kumar Patra [3]
[1]Professor in CSE Department, St. Martin"s Engineering College
[2]Professor in ECE Department, Podhagai College of Engineering and Technology
[3] Principal, St. Martin"s Engineering College

Abstract: Alzheimer's disease (AD) is an irreversible, progressive neurological brain disorder which abolishes brain cells producing an individual to mislay their memory, mental functions and ability to continue daily activities. Diagnostic symptoms are experienced by patients usually at later stages after irreversible neural damage occurs. Detection of AD is challenging because sometimes the signs that distinguish AD MRI data, can be found in MRI data of normal healthy brains of older people. Even though this disease is not completely curable, earlier detection can support for suitable treatment and to avoid permanent damage to mind tissues. Age and genetics are the greatest risk factors for this disease.

This paper assessments the latest reports on AD detection based on different types of Neural Network Architectures.

***Keywords*:** Alzheimer's disease (AD), Convolutional Neural Network (CNN), Magnetic resonance imaging (MRI).

*Corresponding Author
E-mail Address: drgovindacse@smec.ac.in

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Perception mining for response analysis management system

G. Suprabath Reddy[1] , B. Ajay[2] , E. Mahendra[3] ,M.A. Faisal[4] , G. Venu Babu[5]
[1,2,3,4] UG Scholar, [5]Assistant Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India

Abstract - Academic industries used to collect feedback from the students on the main aspects of course such as preparations, contents, delivery methods, punctual, skills, appreciation, and learning experience. The feedback is collected in terms of both qualitative and quantitative scores. Recent approaches for feedback mining use manual methods and it focus mostly on the quantitative comments. So the evaluation cannot be made through deeper analysis. In this paper, we develop a student feedback mining system (SFMS) which applies text analytics and sentiment analysis approach to provide instructors a quantified and deeper analysis of the qualitative feedback from students that will improve the students learning experience. We have collected feedback from the students and then text processing is done to clean the data. Features or topics are extracted from the pre-processed document. Feedback comments about each topic are collected and made as a cluster. Classify the comments using sentiment classifier and apply the visualization techniques to represent the views of students.

***Keywords*:** Clustering, Sentiment analysis, Students Feedback, Text processing, Topic extraction.

*Corresponding Author
E-mail Address: g.suprabathreddy@gmail.com

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Agri Seva App: Platform for Farmers, Agriculture, Farming Information and Services Providing App

Shubham Agarwal[1], Koushik Bhargava[2], Akash Singh Rawat[3], Suraj Sharma[4], Dr. N. Satheesh[5]
[1,2,3,4] UG Scholar, [5] Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500 100, India

Abstract- A research work was undertaken under rural India agricultural development with an initiative and intention of providing easily accessible informational resources, services and to heighten awareness, Agri Seva App is a platform for farmers and for any other people working in agri and farming sector, it has various features through which it aim to provide agricultural information and services using technology, the main aim of the research is to facilitate the farmers by educating them by using a web-app or a mobile- app or a kiosk machine that will provide them information on farming, right usage of related commodities, suitable weather and climatic conditions and other services like, real-time pricing, expert consultation, and agri store.

***Keywords*:** Agri information and services, Agri Store, AI voice assistant, climate and crop suitability analysis, Rural development.

*Corresponding Author
E-mail Address: agarwal717@gmail.com

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Credit Card Fraud Detection Using Random Forest and Cart Algorithm

Madhuri A[1], Mounika G[2], Satyanarayana M[3], Pranavi K[4], Mruthyunjayam A[5].
[1,2,3,4] Student, [5]AssistantProfessor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract - The project is mainly focused on credit card fraud detection in real world. A phenomenal growth in the number of credit card transactions has recently led to a considerable rise in fraudulent activities. The purpose is to obtain goods without paying, or toob tainun authorized funds from an account. Implementation of efficient fraud detection systems has become imperative for all credit card issuing banks to minimize their losses. With the proposed scheme, using random forest algorithm the accuracy of detecting the fraud can be improved. Classification process of random forest algorithm to analyze dataset and user current dataset. Finally optimize the accuracy of the result data.

***Keywords*:** Credit Card, Fraud Detection, Minimal Transactions, Random Forest.

*Corresponding Author
E-mail Address: jai.allakondacse@smec.ac.in

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Stock Market Trend Prediction using K-Nearest Neighbour (KNN) Algorithm

Sri Priya D[1], Maneesha S[2], Premika G[3], Sri Priya B[4], Asst Prof. Krishna D[5].
[1,2,3,4] Student, [5]Assistant Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract- This project work examines a hybrid model which combines a K-Nearest Neighbour (KNN) approach with a probabilistic method for the prediction of stock price trends. The KNN algorithm is a simple, easy-to-implement Machine learning supervised algorithm with a low computational cost. There's no need to build a model, tune several parameters, or make additional assumptions. The KNN algorithm assume that similar things are near to each other. It is also necessary to construct enhanced model that integrates KNN with a probabilistic method which utilizes both centric and non-centric data points. The embedded probabilistic method is derived from Bayes' theorem. Bayes' theorem allows you to update predicted probabilities of an event by incorporating new information. It is often employed in finance in updating risk evaluation.

***Keywords*:** K-Nearest Neighbor (KNN), Machine Learning, Bayes theorem, Stock Market Prediction

*Corresponding Author
E-mail Address: dkrishnacse@smec.ac.in

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Big Mart Sales using Machine Learning with Data Analysis

Navya Rani R[1], Bhavani Ch[2], Krishna Sri G[3], Krishna Teja[4], Krishna D[5].
[1,2,3,4] Student, [5]AssistantProfessor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract - Nowadays shopping malls and Big Marts keep the track of their sales data of each and every individual item for predicting future demand of the customer and update the inventory management as well. These data stores basically contain a large number of customer data and individual item attributes in a data warehouse. Further, anomalies and frequent patterns are detected by mining the data store from the data warehouse. The resultant data can be used for predicting future sales volume with the help of different machine learning techniques for the retailers like Big Mart. In this paper, we propose a predictive model using Xgboost technique for predicting the sales of a company like Big Mart and found that the model produces better performance as compared to existing models. A comparative analysis of the model with others in terms performance metrics is also explained in details.

***Keywords*:** Machine Learning, Sales Forecasting, Random Forest, Regression, Xgboost.

*Corresponding Author
E-mail Address: dkrishnacse@smec.ac.in

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Music Artist Recognition using Deep Learning

Dr G.JawaherlalNehru[1], Dr S.Jothilakshmi[2], Dr M. Narayanan[3].
Associate Professor[1,2], Professor & Head[3],
[1,3]Department of Computer Science and Engineering,
[1,3] St. Martin's Engineering College, Secunderabad, India
[2]Department of Computer Science and Engineering, Annamalai University, India

Abstract - Music artist (i.e., singer) recognition is a challenging task in Music Information Retrieval (MIR). The presence of different musical instruments, the diversity of music genres and singing techniques make the retrieval of artist-relevant information from a song difficult. Many authors tried to address this problem by using complex features or hybrid systems. The proposed MAR system has been designed to classify ten artist classes. The dataset has been collected from the Midwood data. Support Vector Machine (SVM) and Artificial Neural Network (ANN) with spectral features are used for classification. We could achieve a 77 % accuracy using MFCC features on a 10 class's artist recognition task using ANN.

***Keywords*:** Music Artist Recognition, Mel Frequency Cepstral Coefficients (MFCC), Support Vector Machine (SVM), Artificial Neural Network (ANN).

*Corresponding Author
E-mail Address: hodcse@smec.ac.in

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Block Chain for Secure EHRs Sharing of Mobile Cloud based E-Health Systems

Suraj Reddy A[1], Chakravarthi Reddy E[2], Niharika B[3], Nandini P[4], Swetha S[5].
[1,2,3,4] Student, [5]Assistant Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract - The main objective of this paper is securely stored and maintain patient records (EHR) in health care. Health care can be a data-intensive domain where an oversized quantity of data is formed, which is accessed on daily basis. Block chain technology is employed to safe guard the health care data hosted in the cloud. The block contains the medical data and the time stamp. Cloud computing will connect different healthcare providers. It allows the health care provider to access the patient's details more securely from anywhere. It preserves data from attackers. The data is encrypted before posting to the cloud. The health care provider must decrypt the data before download.

***Keywords*:** AES Algorithm, Block chain, Cloud Computing, EHRs, HealthCare Provider.

*Corresponding Author
E-mail Address: s.swetha@gmail.com

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Artificial Intelligence Marketing: Chatbot

Shiva Jyothi A,
Assistant Professor, Dept. of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract- Artificial Intelligence is a tool that enables marketers to create highly personalized customer experieces, increases organization's responsiveness and solve customers' problems. In this paper, the chat bot is analysed as an artificial intelligence tool in marketing, its today's application, as well as its future potential in the above-mentioned field. A survey of respondents' behaviours, habits, and expectations when using different communication channels was conducted, with particular emphasis on chatbots, their advantages and disadvantages in relation too their communication channels, in total sum of 60 survey respondents. The results showed that the greatest advantage of using chatbots in the marketing service was when providing simple, fast obtained information, but also showed respondents' fear of chat bots giving them the wrong information. Organizations should consider using chatbots, especially if challenges in communication with customers are reality, but also if they intend to keep up with the growing number of consumers' lifestyle.

Keywords: chatbot, chatbots, artificial intelligence, marketing, bigdata.

*Corresponding Author
E-mail Address: shivajyothi9492@gmail.com

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Human Computer Interaction System: Computer Cursor Movement using Human Eyeball Movement

ManishGoud Ch[1], ShaikImran[2], ShaikShadullah[3], Pradeep Y[4], Dr R. Santhosh Kumar[5].
[1,2,3,4] Student, [5]Associate Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract - People require an artificial locomotion device such as a virtual keyboard for a variety of reasons. Because of a sickness, the number of persons who need to move around with the assistance of some article. Furthermore, incorporating a controlling system into it allows them to walk without the assistance of another person, which is really beneficial. The concept of eye controls is extremely beneficial to not only the future of natural input, but also the handicapped and crippled. The image of eye movement is captured by the camera. First, determine the position of the eye's pupil Centre. Then, depending on the pupil position, a separate command set for the virtual keyboard is generated. The signals are routed through the motor driver, which connects to the virtual keyboard. To enable the virtual keyboard to go forward, left, right, and stop, the motor driver will regulate both speed and direction.

***Keywords*:** Human Computer Interaction, Virtual Keyboard, Cursor Movement, controlling system, handicapped and crippled

*Corresponding Author
E-mail Address: drsatheeshcse@smec.ac.in

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Identifying and Safeguarding Women against Violence in India using Support Vector Classifier on Twitter Data

Deeksha Reddy C[1],Sai Prasanna Ch[2], Shreya T[3], Meghana Reddy V[4], Uppula Nagaiah[5].
[1,2,3,4] Student, [5]Assistant Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract - In terms of women's security, we are living in the worst time our society has ever seen. Women experience a lot of harassment, starting from stalking, passing vulgar comments, and leading to sexual assault. The main motive of the project is to analyse women safety using social networking messages and by applying machine learning algorithms on it. Now-a-days almost all people are using social networking sites to express their feelings and if any women feel unsafe in any area then she will express negative words in her post/tweets/messages and by analysing those messages we can detect which area is more unsafe for women. In this paper we focus on how social media is used to promote the safety of women in India. Tweets consist of text messages, audio data, video data, images, smiley expressions and hash-tags. The content being shared can be used to educate people to raise their voice if any abusive language or any harassment is done against women.

***Keywords*:** Hash tag, Safety, Sentimental Analysis, Sexual Harassment, Women.

*Corresponding Author
E-mail Address: unagaiahcse@smec.ac.in

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E-Assessment using Image Processing in Exams

Hemanth Aditya. B[1], NageswariA[2], Madhurima.k[3], Naveen chatla[4], Govinda RajuP[5.]
[1,2,3,4] Student, [5]Assistant Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract - This paper features a software system which supports (primarily in higher education) paper based examination and makes it easier, more comfortable and speed up the whole process while making keeping every single positive attribute of it but also reducing the number of negative aspects. The approach significantly differ from the ones used in the previous 10+ years which were implemented in a such a way that they could not reproduced and replace the traditional based paper examination model. The heart of the article relies on the most important element of the software which is the image processing flow. The way of conducting testing the knowledge of a person using Multiple Choice Questions (MCQ) has been increased gradually. In education industries (like schools and colleges) it more common now days having test using multiple choice questions. Even in conducting interviews it is used. Current day scenario is either using OMR technology to correct the test or manually. In real time it is quite difficult to have OMR at all the time and manually it is highly taking the time to correct and it may give you the error. We address this issue, in our proposed system we using digital image processing technique to correct the answer using multiple choice questions in python. We are here using Open Source Computer Vision Library (Open CV) to process and correct the answer. Python is the best language to implement this concept with the available Open CV library. In this system we also implement in the Django environment.

***Keywords*:** E-Assessment, Computer-Based Assessment, Computer-Assisted Assessment, Computer-Aided Assessment, Image Processing

*Corresponding Author
E-mail Address: govindarajumtech@gmail.com

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Smart Contract Based Access Control for Health Care Data

Chitra M[1], Gudala Saidatta[2], Odnam Chakradhar[3], Vutukotu Sandhya[4], Manu Hajari[5].
[1,2,3,4] Student, [5]Assistant Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract - Healthcare was the sector with the highest profits and information boom. With so many electronic health records, the need for the hour was security. There was an urge to use the block chain technology to make this critical information more secure. Research has therefore come up with a blockchain technology solution in medical care that not only prevents information from being abused, but also guarantees that data leakage is prevented. In this paper, we analyze the data storage and sharing scheme for decentralized storage systems and implement hybrid-consensus mechanism. This research will promote the provision of better healthcare facilities and cost optimization for all stakeholders involved in the medical system.

Keywords: Blockchain, Security, Health record, Smart contract, Data sharing

*Corresponding Author
E-mail Address: hmanucse@smec.ac.in

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Advanced Self-Assessment of Global Pandemics like COVID-19 for Healthy Race using Machine Learning

Nishna Nayana Reddy Nimmala[1], Nuchu Anurudh Yadav[2], Parvatam Pavan Kumar[3], Shikakolli Sandeep[4], Dr. G. Govinda Rajulu[5].
[1,2,3,4] Student, [5]Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract - A huge amount of false content regarding this dangerous virus is shared online. In this project we use machine learning to quantify COVID-19 content, which is falsely appearing, online, which leads to establishment of health guidance, particularly about vaccinations. We found that the anti-vax community is developing a less focused debate around COVID-19 than its counterpart, the pro-vaccination community. However, the anti-vax community exhibits a broader range of topics related to COVID-19, and hence the information can appeal to a broader cross-section of individuals seeking COVID-19 guidance online, for example individuals wary of a mandatory fast-tracked COVID-19 vaccine or those seeking alternative remedies. Hence the anti-vax community looks better positioned to attract fresh support going forward when compared to pro-vax community. The popularity of anti-vax community leads widespread lack of adoption of a COVID-19 vaccine, which means the world falls short of providing herd immunity, leaving countries open to future COVID-19 resurgences. We provide a mechanistic model that interprets these results and could help in assessing the likely efficacy of intervention strategies. Our approach is scalable and hence tackles the urgent problem facing social media platforms of having to analyse huge volumes of online health misinformation.

***Keywords*:** COVID-19: social computing: machine learning: mechanistic model: topic modelling: Pandemics

*Corresponding Author
E-mail Address: drgovindacse@smec.ac.in

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Measuring of Average Fuel Consumption in Heavy Vehicles using Machine Learning Algorithms

Yukthi G[1], S J N V L SaiShravani[2], Rohan Reddy[3], Aila Tanay Reddy[4], Dr. R Santhoshkumar[5].
[1,2,3,4] Student, [5]Associate Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract -This research suggests a data summarising strategy based on distance rather than the typical time span for constructing personalised machine learning models for fuel economy. This strategy is integrated with seven variables obtained from vehicle speed and road grade to build a highly predictive neural network model for average fuel consumption in large vehicles. The proposed model may be readily constructed and deployed for each individual vehicle in a fleet to maximise fuel usage. The predictors of the model are averaged over a range of distance window sizes. For routes involving both city and highway duty cycle segments, the results show that a 1 km window can predict fuel consumption with a 0.91 coefficient of determination and a mean absolute peak-to-peak percent error of less than 4% for routes with a 0.91 coefficient of determination and a mean absolute peak-to-peak percent error of less than 4%.

Keywords: Vehicle modelling, neural networks, average fuel consumption, data summarization, fleet management

*Corresponding Author
E-mail Address: drsanthoshkumarcse@smec.ac.in

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Suspicious Activity Detection

A. Hima Varsha[1], K. Vinay Kumar[2], S. Akhila[3], T. Sai Vardhan[4], Dr. N. Satheesh[5].
[1,2,3,4] Student, [5]Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India

Abstract: With the increasing in the number of anti-social activities that have been taking place, security has been given utmost importance lately. Many Organizations have installed CCTVs for constant Monitoring of people and their interactions. For a developed Country with a population of 64 million, every person is captured by a camera 30 times a day. A lot of video data generated and stored for a certain time duration. A 704x576 resolution image recorded at 25fps will generate roughly 20GB per day. Constant Monitoring of data by humans to judge if the events are abnormal is near impossible task as requires a workforce and their constant attention. This creates a need to automate the same. Also, there is need to show in which frame and which part of it contain the unusual activity which aid the faster judgment of the unusual activity being abnormal. This paper consists of six abnormal activities such as abandoned object detection, theft detection, fall detection, accidents and illegal parking detection on road, violence activity detection, and fire detection. In general, we have discussed all the steps those have been followed to recognize the human activity from the surveillance videos in the literature, Such as foreground object extraction, object detection based on tracking or non-tracking methods, feature extraction, classification; activity analysis and recognition. The objective of this paper is to provide the literature review of six different suspicious activity recognition systems with its general framework to the researchers of this field.

Keywords: Abandoned object detection, Theft detection, fall detection accidents, illegal parking detection on road, violence activity detection, fire detection

*Corresponding Author
E-Mail: varshahv15@gmail.com

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A Survey on Classification and Implementation of Data Mining Concepts in R Programming

Md Zaheda Parveen[1],
Assistant Professor ,
St. Martins Engineering College Kompally

Abstract- Data Mining is a process of extracting and working on unstructured data. There are different unstructured data on which we apply the Classification techniques. It involves analyzing data patterns in large batches of data using one or more software. R is a programming language for the purpose of statistical computations and data analysis. The R language is widely used by the data miners and statisticians on high dimensional pattern extraction. R is freely available under the GNU General Public Licenses and the source code is written in FORTAN, C and R. R Studio is a good interface for R Programming is employed extensively for generating reports supported many current trends models like random forest, support vector machine,C4.5, K-Means, APRIORI, EM, Page, Rank, ADABOOST, KNN, NAÏVEBAYES, CART. R extremely stands unique for massive quantity of inherent statistical formulae and algorithms. This present survey focuses on existing classification algorithms using data mining techniques, Comparison table, Applications that is widely used in R programming.

Keywords: k-means, Apriori, EM, Rank, AdaBoost, KNN, NaïveBayes.

*Corresponding Author
E-mail Address: mdzahedacse@smec.ac.in

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Cloud Computing-Based Forensic Analysis for Collaborative Network Security Management System

Mrs. Sucheta.H,
Assisstant Profressor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Dulapally, Kompally, Secunderabad, 500100, India.

Abstract- Internet security problems remain a major challenge with many security concerns such as Internet worms, spam, and phishing attacks. Botnets, well-organized distributed network attacks, consist of a large number of bots that generate huge volumes of spam or launch Distributed Denial of Service (DDoS) attacks on victim hosts. New emerging botnet attacks degrade the status of Internet security further. To address these problems, a practical collaborative network security management system is proposed with an effective collaborative Unified Threat Management (UTM) and traffic probers. A distributed security overlay network with a centralized security center leverages a peer-to-peer communication protocol used in the UTMs collaborative module and connects them virtually to exchange network events and security rules. Security functions for the UTM are retrofitted to share security rules. In this paper, we propose a design and implementation of a cloud-based security center for network security forensic analysis. We propose using cloud storage to keep collected traffic data and then processing it with cloud computing platforms to find the malicious attacks. As a practical example, phishing attack forensic analysis is presented and the required computing and storage resources are evaluated based on real trace data. The cloudbased security center can instruct each collaborative UTM and prober to collect events and raw traffic, send them back for deep analysis, and generate new security rules. These new security rules are enforced by collaborative UTM and the feedback events of such rules are returned to the security center. By this type of close-loop control, the collaborative network security management system can identify and address new distributed attacks more quickly and effectively.

Keywords **-** Antibotnet; anti-phishing; Hadoop file system; eucalyptus; amazon web service.

*Corresponding Author
E-mail Address: sucheta.basavaraddi@gmail.com

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Tumbling the Threat of Customer Relocation by using Big data Clustering Algorithm

C.Yosepu [1], N.Krishna Vardhan [2], K.Ganapathi Babu [3]
[1,2,3] Department of Computer Science and Engineering,
St. Martin's Engineering College, Hyderabad,Telangana State,India.

Abstract- In the world of endurance of the fittest the marketplace contests are escalating and management of the clients has Emerge as all the focal point for business. For the identical , various consumer migration or churn predicting models are been advanced and used by many Bigdata industries which can be suffering to emerge .At the latest , there exits many clustering Algorithms which focus on the same. And additionally many clustering algorithms also were put forward for the same. One Amoung those algorithms are SCM and SCSCM whose foremost awareness is on churn predictions. They make use Hadoop map Lessen framework. A more powerful and green clustering set of rules is parallel kernel ok-means is proposed on this paper. Our proposed system layout effectively and successfully plays clustering large quantity of heterogeneous dataset. Proposed algorithm can cluster established, unstructured and semi-structured statistics considered concurrently for clustering. The kernels run in parallel accepting datasets and balancing the load of massive data it's time intake as compared to other, is expected to be very less, quicker execution of clustering and complements the profit to a massive quantity

Keywords: Parallel kernel, k-means++, SCM, SDSCM, Clustering, Map Reduce.

*Corresponding Author
E-mail Address: yosepucse@smec.ac.in

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An Automated Live Forensic and Post-mortem Analysis Tool for Bit coin on Windows Systems

N. Sathwika[1], T. Sindhu[2], Ch. Likhitha[3]
[1,2,3] Undergraduate Student,
Department of Computer Science Engineering
Sridevi Women's Engineering College, Hyderabad, Telangana

Abstract- Bitcoin is a well-known crypto currency which is gaining popularity day-by day because of its features. It is not only popular with customers but also with criminals like using for ransomware, extortion and online child exploitation. Knowing the potential of Bitcoin involvement in criminal investigation, the need to have an in-depth understanding on the forensic acquisition and analysis of Bitcoins is crucial. However, the research on Bitcoin has been limited in the literature. The general focus of existing research is on post-mortem analysis of a specific locations like wallets on mobile devices rather than the approach that combines live data forensic and post-mortem analysis to facilitate the identification, acquisition analysis of usage of bitcoin on windows system. Hence, the proposed focus on where we present an open-source tool for live forensic and post-mortem analysis automatically. With the help of this tool, we can describe a list of artifacts which can be obtained from a forensic investigation on Bitcoin clients and their web wallets on different browsers on windows 7 and 10 platforms.

Keywords: Bitcoin forensics, crypto currency forensics, digital forensics, Bitcoin web wallets.

*Corresponding Author
E-mail Address: sathwika.n2000@gmail.com

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Detection of Cyber Attacks on Web Applications using Machine Learning Techniques

Dr. A. Gautami Latha[1], N.Nagarani[2], K.Vaishnavi[3], K.Krishna Priya[4]
1 Professor, Department of Computer Science & Engineering,
2,3,4 Undergraduate Student, Department of Computer Science & Engineering,
Sridevi WomensEngineering College, Hyderabad, Telangana.

Abstract - The increased usage of cloud services, growing number of web applications users, changes in network infrastructure that connects devices running mobile operating systems and constantly evolving network technology cause novel challenges for cyber security. In order to counter arising threats and to address the needs and problems of the users, there should some network security mechanisms, sensors and protection schemes. Here, we focus on countering emerging application layer cyber -attacks since those are listed as top threats and the main challenge for network and cyber security. The major contribution is the proposition of machine learning approach to model normal behaviour of application and to detect cyber-attacks. The model consists of patterns (in form of Perl Compatible Regular Expressions (PCRE) regular expressions) that are obtained using graph based segmentation technique and dynamic programming. The model is based on information obtained from HTTP requests generated by client to a web server. We have evaluated our method on CSIC 2010 HTTP Dataset achieving satisfactory results.

Keywords: Cyber-attacks, Graph based approach, Needleman-Wunsch algorithm, Web Applications.

*Corresponding Author
E-mail Address: nagaraninalla04@gmail.com

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Driver Drowsiness Detection Using Open CV

Ayush Agrawal[1], Ashish Sahu[2], Aviral Pandey[3]
[1,2,3] Student, Department of Computer Science Engineering,
GU Greater Noida

Abstract- Driver fatigue has become one of the main causes of vehicle accidents in the world in recent years. The driver's condition, i.e., drowsiness, is a clear way of measuring driver exhaustion. It is therefore very important to recognize the driver's drowsiness in order assist the human to reach destination safely without any problem. In this paper the main motto is to implement a reliable framework that suits the application for the detection for sleepiness. The primary objective of the work is to capturing the images from the driver continuously and obtain the information of eye in accordance with the specified algorithm. A webcam in this system records the video and the driver is detected with image processing techniques in each frame. The facial characteristics of the detected face are pointed and the aspect ratio, the mouth opening ratio and the nose longitation relationship are calculated and drowsiness is detected in accordance with their values.

Keywords: Image Processing, Open CV, Face Recognition, Raspberry pi

*Corresponding Author
E-mail Address: ayushagr2001@gmail.com

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Research on Recognition Model of Crop Diseases and Insect Pests Based on Deep Learning in Fields

Chaganti Ravali[1], Chennam Aishwarya Reddy[2], Mada shirisha[3], Katuka Prem Kumar[4], Dr. M. Narayanan[5]. Dr. G. JawaherlalNehru[6]
[1,2,3,4] UG Scholar, [5] Professor & Head, [6] Assistant Professor
Department of Computer Science and Engineering
St. Martin's Engineering College, Secunderabad – 500 100, India

Abstract: Agricultural diseases and insect pests are two of the most significant factors threatening agricultural development. Early detection and identification of pests will significantly minimize pest-related economic losses. In this paper, a convolutional neural network is used to classify crop diseases automatically. The data comes from the AI Challenger Competition's public data collection from 2018, which includes 27 disease images from ten crops. In this paper, the CNNInception-ResNet-v2 model is used for training. The residual network unit to the model has a cross layer direct edge and multi-layer convolution. The connection into the ReLu feature activates it after the combined convolution process is completed. The overall identification accuracy is 98 %, according to the experimental findings. The proposed model's effectiveness is verified by the experimental findings.

Keywords: ResNet-v2, Keras, Recognition of pests and diseases, Deep Learning, Convolutional Neural Network (CNN).

*Corresponding Author
E-mail Address: chinni.chaganti666@gmail.com

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Facial Expression Recognition using YOLO Object Detection Algorithm

V. Akanksha Rao[1], Gogineni Darvika[2], Abhishek Harish Thumar[3], Bundey Mohith[4], E. Soumya[5]
[1,2,3,4] UG Students, [5]Asst. Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Dulapally, Kompally, Secunderabad, Telangana 500100, India

Abstract- Automatic face expression analysis is a difficult problem with various applications. The majority of currently available automated facial expression analysis algorithms aim to recognise a few prototypical emotional expressions, such as anger and happiness. The method provided, will use three algorithms: You only look Once (YOLO), Convolution Neural Networks (CNN) and Recurrent Neural Network (RNN) to identify facial expressions. With a combination of these three, this project can recognize the expressions in both frontal view images and profile view images

Keywords: Faces, CNN, YOLO, RNN, Detection, Recognition, Expressions

*Corresponding Author
E-mail Address: v.akankshacs@gmail.com

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COVID -19 Detection using clinical text data analysis by Machine Learning Approaches

Venkannagari Athiksha[1], Venkata Snehith[2], Diddi Chitra[3], Atla AKhil[4], Nagaiah[5]
[1,2,3,4]UG Scholar, [5]Assistant Professor,
Department of Computer Science and Engineering
St. Martin's Engineering College, Secunderabad – 500 100, India.

Abstract - Technology advancements have a rapid effect on every field of life, be it medical field or any other field. Artificial intelligence has shown the promising results in health care through its decision making by analysing the data. COVID-19 has affected more than 100 countries in a matter of no time. It is imperative to develop a control system that will detect the coronavirus. In this paper, we classified textual clinical reports into four classes by using classical and ensemble machine learning algorithms. Feature engineering was performed using techniques like Term frequency/inverse document frequency (TF/IDF), Bag of words (BOW) and report length. These features were supplied to traditional and ensemble machine learning classifiers. Logistic regression and Multinomial Naıve Bayes showed better results than other ML algorithms by having 96.2% testing accuracy. In future recurrent neural network can be used for better accuracy.

Keywords: Artificial Intelligence, COVID-19, Imperative, Machine Learning, Ensemble.

*Corresponding Author
E-mail Address: athiksha555@gmail.com

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Hyper Parameter Tuning For Various Machine Learning Techniques

B.Gnana Priya,
Assistant Professor
Department of Computer Science and Engineering,
Faculty of Engineering and Technology, Annamalai University

Abstract - Several popular Machine learning algorithms such as Decision Tree, SVM, KNN, Navies Bayes, XGBoost and Random Forest are used in classification problems widely. The Hyperparameters of each model plays a vital role in deciding their performance. Hyperparameters are crucial as they control the overall behaviour of a machine learning model. The ultimate goal is to find an optimal combination of hyperparameters that minimizes a predefined loss function to give better results. The recognition of hand written digits is one of the most significant tasks in many applications. There is a need to identify the handwritten digits that the user upload through a smartphone or a scanner or other digital devices. In this work, Digits dataset is taken for classification. Three algorithms Decision tree, Support vector machine and Random forest are taken here for classification and their parameters are fine tuned to obtain better performance.

Keywords: Machine learning, Hyperparameter Tuning, SVM, Decision Trees, Random Forest

*Corresponding Author
E-mail Address: priyamvatha.joey@gmail.com

PAPER ID: ICICCI-21-0102

An Improved approach of proctoring system for online mode exams

Gopesh Kosala[1], Yamini Priya Pasam[2], Lavanya Thotakura[3], A . Raja Gopal [4],Vidhya Nayani Zillabathula[5]
Department of Computer Science and Engineering,
Lakireddy Bali Reddy College of Engineering,
Mylavaram, Krishna District, PIN- 521230, Andhra Pradesh, India

Abstract - Women and child protection is now considered to be a major problem in a globalized society. Women especially face severe immoral and brutish annoyance. It is thus a difficult task for ensuring safety and security of women. There are some mobile applications developed to ensure women security. But one thing to be remembered is that not all the time can a woman use the mobile so that the application is full time accessible. Hence we need to develop a smart device that can work well without the need of making a phone call or by using mobile phones. The developed device needs to be handy and easy to carry out anytime and anywhere. There are many such devices on sale but they do not provide effectual, powerful and accurate measure and solution. Here, we are presenting a "novel design and implementation on women and child safety based on IOT technology". We will be considering the situation where the women walking will be facing some unethical harassment practices and so she needs to be protected from this situation. The device will be in the form of a button that can be attached to the cloth. This smart device is implemented using different software and hardware modules for capturing the videos, images and tracking the location where the incident is occurring. This gathered information is then forwarded to the neighbouring or to the adjacent police station and to the victim's family. This work is accomplished by using GPS (Global Positioning System) and GSM (Global System for Mobile Communication). The developed smart piece of equipment also has memory cards and microcontrollers where in all these sophisticated and advanced components provide more accuracy and model the device to be more reliable.

Keywords: GPS, GSM, Microcontrollers, Victim's family, IoT technology

*Corresponding Author
E-mail Address: kosalagopesh@gmail.com

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Rumour Detection on Social Media

A. Karnan[1], Dr. G. JawaherlalNehru[2], Dr. M. Narayanan[3]
[1,2]Assistant Professor, [3]Professor & Head,
St. Martin's Engineering College, Secunderabad, India

Abstract - Twitter is one of the most popular micro blogging services, which is generally used to share news and updates through short messages. However, its open nature and large user base are frequently exploited by automated rumours, content polluters, and other ill-intended users to commit various cybercrimes, such as cyber bullying, trolling, rumour dissemination, and stalking. Accordingly, a number of approaches have been proposed by researchers to address these problems. However, most of these approaches are based on user characterization and completely disregarding mutual interactions. In this study, we present a hybrid approach for detecting automated rumours by amalgamating community- based features with other feature categories, namely metadata- , content-, and interaction-based features. The novelty of the proposed approach lies in the characterization of users based on their interactions with their followers given that a user can evade features that are related to their own activities. The rumours are identified based on the followers and the user's previous tweets and Automated Tweet Similarity, Reputation scheme is implemented for detect the spam in the system but evading those based on the followers is difficult. Nineteen different features, including six newly defined features and two redefined features, are identified for learning three classifiers, namely, random forest, decision tree, KNN, and Bayesian network, on a real dataset that comprises benign users and rumours. The discrimination power of different feature categories is also analysed, and interaction- and community-based features are determined to be the most effective for spam detection, whereas metadata-based features are proven to be the least effective.

Keywords: Metadata, interaction based features, automated tweet similarity, KNN, rumours

*Corresponding Author
E-mail Address: akarnancse@smec.ac.in

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Movie Recommendation System using Current Trends and Sentiment Analysis from Microblogging Data Rumour Detection on Social Media

Sai Chaitanya. R[1] , D. Varshitha[2], D. Charmitha[3], G.Vinay[4], V .L. Kartheek[5]
[1,2,3,4]UG Scholar, [5]Assistant Professor
Department of Computer Science & Engineering
St. Martin's Engineering College,
Near Forest Academy, Dhulapally, Secunderabad, Telangana, India-500100

Abstract - Recommendation systems (RSs) have garnered immense interest for applications in e-commerce and digital media. Traditional approaches in RSs include such as collaborative filtering (CF) and content-based filtering (CBF) through these approaches that have certain limitations, such as the necessity of prior user history and habits for performing the task of recommendation. To minimize the effect of such limitation, this article proposes a hybrid RS for the movies that leverage the best of concepts used from CF and CBF along with sentiment analysis of tweets from microblogging sites. The purpose to use movie tweets is to understand the current trends, public sentiment, and user response of the movie. Experiments conducted on the public database have yielded promising results.

Keywords: Collaborative filtering, Content based filtering, Recommendation System, Sentiment Analysis, Twitter

*Corresponding Author
E-mail Address: chaitanya.raparti@gmail.com

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Protecting User Data in Profile Matching Social Networks

D.G. Sai Teja [1], G.M. Vaibhavi [2], K. Mounik [3], K. Kiranmayi [4], V. Bhaskar [5]
[1,2,3,4], UG Scholar,Assistant Professor
Department Of Computer Science And Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dhulapally , Kompally , Secunderabad , Telangana 500100,India

Abstract - In this paper, we consider a scenario where a user queries a user profile database, maintained by a social networking service provider, to find out some users whose profiles are similar to the profile specified by the querying user. A typical example of this application is online dating. Most recently, an online data site, Ashley Madison, was hacked, which results in disclosure of a large number of dating user profiles. This serious data breach has urged researchers to explore practical privacy protection for user profiles in online dating. In this paper, we give a privacy preserving solution for user profile matching in social networks by using multiple servers. Our solution is built on homomorphic encryption and allows a user to find out some matching users with the help of the multiple servers without revealing to anyone privacy of the query and the queried user profiles. Our solution achieves user profile privacy and user query privacy as long as at least one of the multiple servers is honest. Our implementation and experiments demonstrate that our solution is practical.

Keywords: data site, Ashley Madison, service provider, database, multiple servers

*Corresponding Author
E-mail Address: saitejadorbala2@gmail.com

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Behaviour Analysis for Mentally Affected People

[1]B. Jessica Dolly, [2]T. Gowri, [3]P. Malla Reddy, [4]P. Nikhil Reddy, [5]M. Naga Triveni,
[1234]UG Scholar, [5]Assistant Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College, Dulapally, Kompally, Secunderabad, Telangana 500100, India
E-Mail: [1]jessicajessi112000@gmail.com, [2]gowritekmal18@gmail.com,
[3]mallareddypasham143007@gmail.com, [4]nikhilreddyperudi@gmail.com, [5]3venipoluri@gmail.com

Abstract - Mental health is a measure of a person's emotional, psychological, and social well-being. It determines how a person thinks, feels, and responds to events. Working successfully and reaching one's full potential requires good mental health. Mental health is crucial at every age, from childhood to maturity. Stress, social anxiety, depression, obsessive compulsive disorder, substance addiction, and personality disorders are all elements that contribute to mental health issues that lead to mental disease. To preserve good life balance, it is becoming increasingly crucial to detect the beginnings of mental disease. Machine learning algorithms and Artificial Intelligence (AI) may be used to completely harness the nature of machine learning algorithms and AI for forecasting the beginning of mental illness. When deployed in real time, such apps will serve society by functioning as a surveillance tool for people who engage in aberrant conduct. To assess the status of mental health in a target population, this research recommends using several machine learning methods such as support vector machines, decision trees, nave bayes classifier, K-nearest neighbor classifier, and logistic regression. The replies to the designed questionnaire acquired from the target group were first subjected to unsupervised learning techniques. The Mean Opinion Score was used to validate the labels that were acquired as a consequence of clustering. These cluster labels were then utilized to create classifiers that might predict an individual's mental health. The population was divided into target categories, including high school pupils, college students, and working professionals. The study examines the impact of the mentioned machine learning algorithms on the target groups and makes recommendations for further research.

*Corresponding Author
E-mail Address: jessicajessi112000@gmail.com

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A Novel Feature Matching Ranked Search Mechanism over Encrypted Cloud Data

Mr. L. Manikandan[1] ,K.Sagarika[2],R. Sravanthi[3],P Maheswari[4],
[1]Assistant Professor, [2,3,4]Undergraduate Student,
[1,2,3,4] Department of Computer Science & Engineering,
Sridevi Womens Engineering College, Hyderabad, Telangana ,

Abstract - Encrypted search technology has been studied extensively in recent years. With more and more information being stored in cloud, creating indexes with independent keywords has resulted in enormous storage cost and low search accuracy, which has become an urgent problem to be solved. Thus, in this paper, we propose a new feature matching ranked search mechanism (FMRSM) for encrypted cloud data. This mechanism uses feature score algorithm (FSA) to create indexes, which allows multi-keywords which are extracted from a document as a feature to be mapped to one dimension of the index. Thus, the storage cost of indexes can be reduced and the efficiency of encryption can be improved. Moreover, FMRSM uses a matching score algorithm (MSA) in generating trapdoor process. With the help of FSA, the matching score algorithm can rank the search results according to the type of match and the number of matching keywords , and therefore it is able to return results with higher ranking accuracy. Comprehensive analysis prove that our mechanism is more feasible and effective.

Keywords: FMRSM, FSA, MSA, multi-keywords, encrypted.

*Corresponding Author
E-mail Address: manibe007@gmail.com

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Emotion Based Music Recommendation System using Wearable Sensors

B. Nikhil Reddy[1] ,E. Sriman Goud[2], A. Siddharth Reddy[3], B. Vamshi[4], V.L.Kartheek[5]
[1,2,3,4]UG Scholar, [5]Assistant Professor
Department of Computer Science & Engineering
St. Martin's Engineering College,
Near Forest Academy, Dhulapally, Secunderabad, Telangana, India-500100

Abstract - Most of the existing music recommendation systems use collaborative or content-based recommendation engines. However, the music choice of a user is not only dependent to the historical preferences or music contents. But also dependent to the mood of that user. This paper proposes an emotion-based music recommendation framework that learns the emotion of a user from the signals obtained via wearable Accessories which include sensors. In particular, the emotion of a user is classified by a wearable computing device which is integrated with a galvanic skin response (GSR) and photo plethysmography(PPG) physiological sensors and an optical sensor like camera. This emotion information is feed to any collaborative or content- based recommendation engine as a supplementary data. Thus, existing recommendation engine performances can be increased using these data. Therefore, in this paper emotion recognition problem is considered as arousal and valence prediction from multi-channel physiological signals. Experimental results are obtained on 32 subjects' GSR and PPG signal data with/out feature fusion using decision tree, random forest, support vector machine and k-nearest neighbour algorithms. The results of comprehensive experiments on real data confirm the accuracy of the proposed emotion classification system that can be integrated to any recommendation engine.

Keywords: vector machine, GSR, PPG, K-nearest algorithms, valence prediction.

*Corresponding Author
E-mail Address: nikhilreddy0803@gmail.com

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Modelling and Predicting Cyber Hacking Breaches using Stochastic Process Models

[1]Saddi Advaitha Reddy, [2]Nalla Rakshitha, [3]Abhishek Reddy, [4]Katta Pradhyun Reddy,
[5]Dr.M.Narayanan, [6]Dr.P.Santosh Kumar Patra, [7]Dr. G. JawaherlalNehru
[1234]UG Scholar, [5]Professor, [6]Principal &Professor in CSE, [7]Associate Professor
Department of Computer Science and Engineering
St. Martin's Engineering College, Secunderabad – 500 100, India

Abstract - The selection of parameters greatly affects the prediction accuracy of support vector machine. Analyzing cyber incident data sets is an important method for deepening our understanding of the evolution of the threat situation. This is a relatively new research topic, and many studies remain to be done. In this paper, we report a statistical analysis of a breach incident dataset corresponding to 12 years (2005–2017) of cyber hacking activities that include malware attacks. We show that, in contrast to the findings reported in the literature, both hacking breach incident inter-arrival times and breach sizes should be modeled by stochastic processes, rather than by distributions because they exhibit autocorrelations. Then, we propose particular stochastic process models to, respectively, fit the inter-arrival times and the breach sizes. We also show that these models can predict the inter-arrival times and the breach sizes. In order to get deeper insights into the evolution of hacking breach incidents, we conduct both qualitative and quantitative trend analyses on the data set. We draw a set of cybersecurity insights, including that the threat of cyber hacks is indeed getting worse in terms of their frequency, but not in terms of the magnitude of their damage.

Keywords: parameters, malware attacks, breach sizes, dataset, cyber hacking

*Corresponding Author
E-mail Address: advaithareddy2201@gmail.com

PAPER ID: ICICCI-21-0114

Sliding Window Blockchain Architecture for Internet of Things

T.Amith Krishna[1] , T.Naveen[2] , B.Sidharth[3] , V. Ramya[4] , Dr. B. Rajalingam[5]
[1,2,3,4] UG Scholar, [5]Associate Professor
[1,2,3,4,5] Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, Telangana, India

Abstract-Internet of Things (Io−T) refers to the concept of enabling Internet connectivity and associated services to non-traditional computers formed by integrating essential computing and communication capability to physical things for everyday usage. Security and privacy are two of the major challenges in IoT. The essential security requirements of IoT cannot be ensured by the existing security frameworks due to the constraints in CPU, memory, and energy resources of the IoT devices. Also, the centralized security architectures are not suitable for IoT because they are subjected to single point of attacks. Defending against targeted attacks on centralized resources is expensive. Therefore, the security architecture for IoT needs to be decentralized and designed to meet the limitations in resources. Blockchain is a decentralized security framework suitable for a variety of applications. However, blockchain in its original form is not suitable for IoT, due to its high computational complexity and low scalability. In this paper, we propose a sliding window blockchain (SWBC) architecture that modifies the traditional blockchain architecture to suit IoT applications. The proposed sliding window blockchain uses previous (n 1) blocks to form the next block hash with limited difficulty in Proof-of-Work. The performance of SWBC is analyzed on a real-time data stream generated from a smart home testbed. The results show that the proposed blockchain architecture increases security and minimizes memory overhead while consuming fewer resources.

Keywords: blockchain, SWBC, IoT, hash, proof-of-work, security.

*Corresponding Author
E-mail Address: amithkrishnathanda@gmail.com

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Cloud Based Solution to Ensure the Security of E-Health Records using Blockchain

Kothapu Lakshmi Narayana Chandana[1], Pitla Prem Kumar[2], Vallandas Ramya[3],
Vanam Thrishul[4], Mruthyunjayam Allakonda[5]
[1,2,3,4] UG Scholar [5]Assistant Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500 100, India

Abstract - Late years we have seen a change in perspective of Electronic Health Records (EHRs) on versatile cloud conditions where cell phones are coordinated with distributed computing to work with clinical information trades among patients and medical services suppliers. This high level model empowers medical care administrations with low operational expense, high adaptability and EHRs accessibility. Notwithstanding, this new worldview likewise raises worries about information protection and organization security for e-wellbeing frameworks. Instructions to dependably divide EHRs between versatile clients while ensuring high security levels in portable cloud is a difficult issue. In this paper, we propose a novel EHRs sharing structure that joins blockchain and the decentralized interplanetary record framework (IPFS) on a versatile cloud stage. In Particular, we plan a dependable access control component utilizing savvy agreements to accomplish secure EHRs dividing between various patients and clinical suppliers. We present a model execution utilizing Ethereum blockchain in a genuine information sharing situation on a portable application with Amazon distributed computing. Observational outcomes show that our proposition gives a successful answer for dependable information trades on portable mists while safeguarding delicate wellbeing data against likely dangers. The framework assessment and security examination additionally show execution upgrades in lightweight access control plan, least organization inertness with high security and information protection levels, contrasted with existing information sharing models.

Keywords: EHRs, blockchain, IPFS, protection level, medical care.

*Corresponding Author
E-mail Address: kothapu.chandana@gmail.com

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Contaminent Zone Alerting Application using Geo - Fencing Algorithm

Sampath[1], Anil[2], Neha[3], Chandu[4], Dr.T. Poongothai[5]
[1,2,3,4]UG Scholar, [5]Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India

Abstract - The World Health Organization has declared the outbreak of the novel coronavirus, Covid-19 as pandemic across the world. With its alarming surge of affected cases throughout the world, lockdown, and awareness (social distancing, use of masks etc.) among people are found to be the only means for restricting the community transmission. In a densely populated country like India, it is very difficult to prevent the community transmission even during lockdown without social awareness and precautionary measures taken by the people. Recently, several containment zones had been identified throughout the country and divided into red, orange and green zones, respectively. The red zones indicate the infection hotspots, orange zones denote some infection and green zones indicate an area with no infection. This project mainly focuses on development of an Android application which can inform people of the Covid19 containment zones and prevent trespassing into these zones. This Android application updates the locations of the areas in a Google map which are identified to be the containment zones. The application also notifies the users if they have entered a containment zone and uploads the user's IMEI number to the online database. To achieve all these functionalities, many tools, and APIs from Google like Firebase and Geofencing API are used in this application. Therefore, this application can be used as a tool for creating further social awareness about the arising need of precautionary measures to be taken by the people of India.

Keywords: COVID19, Geofencing API, IMEI, Firebase.

*Corresponding Author
E-mail Address: sampathdevadi@gmail.com

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Bitcoin Crypto Currency Prediction

B.Karnakar [1], G.Shiva Prasad [2] , K.Varun Kumar [3], Manohar Manchala [4] ,
Dr.P.Santosh KumarPatra[5] , Dr. M.Narayanan[6]
[1,2,3]UG Scholar, Assistant Professor [4] , Principal & Professor[5] , Professor & Head [6]
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad 500 100, India.

Abstract - The goal of this paper is to ascertain with what accuracy the direction of Bitcoin price in USD can be predicted. The price data is sourced from the Bitcoin Price Index. The task is achieved with varying degrees of success through the implementation of a Bayesian optimized recurrent neural network (RNN) and a Long Short Term Memory (LSTM) network. The LSTM achieves the highest classification accuracy of 52% and a RMSE of 8%.The popular ARIMA model for time series forecasting is implemented as a comparison to the deep learning models. As expected, the non-linear deep learning methods outperform the ARIMA forecast which performs poorly. Finally, both deep learning models are benchmarked on both a GPU and a CPU with the training time on the GPU outperforming the CPU implementation by 67.7%.

Keywords: GPU, CPU, RNN, LSTM, Bitcoin

*Corresponding Author
E-mail Address: mudhirajkarnakar@gmail.com

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Detecting At-Risk Students with Early Intervention using Machine Learning Techniques

K. Harshit[1], P. Keerthan[2], S. Sushma[3], C. M. Vardhan[4], Dr. G. JawaherlalNehru[5]
[1,2,3,4] UG Students, [5]Assistant Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, India.

Abstract - Massive Open Online Courses (MOOCs) have shown rapid development in recent years, allowing learners to access high-quality digital material. Because of facilitated learning and the flexibility of the teaching environment, the number of participants is rapidly growing. However, extensive research reports that the high attrition rate and low completion rate are major concerns. In this, the early identification of students who are at risk of withdrew and failure is provided. Therefore, two models are constructed namely at-risk student model and learning achievement model. The models have the potential to detect the students who are in danger of failing and withdrawal at the early stage of the online course.

Keywords: MOOCs, Digital Material, Learning, model, course.

*Corresponding Author
E-mail Address: k.harshith2000@gmail.com

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Real Time Human Emotion Recognition Based on Facial Expression Detection using Softmax Classifier and Predict the Error Level using OpenCV Library

SaiAkhilChanda[1], A.HarshithReddy[2], K.SachetanReddy[3], G.YashwanthReddy[4], Mr.C.Yosepu[5]
[1,2,3,4]UGScholar, [5]AssociateProfessor
Department of Computer Science and Engineering,
St. Martin's Engineering College, Dulapally, Kompally, Secunderabad, Telangana-500100,India

Abstract - Facial emotion recognition (FER) is an important topic in the fields of computer vision and artificial intelligence. It is developing technology with multiple real-time applications. Currently, the Deep Neural Networks, especially the Convolutional Neural Network (CNN), is widely used in FER by virtue of its inherent feature extraction mechanism from image. The developed System presents an approach towards facial emotion recognition using dataset consisting faces of seven classes of emotion (angry, disgusted, fearful, happy, sad, surprised, neutral) and it uses different models of deep neural networks such as You Only Look Once (YOLO), Convolutional Neural Networks (CNN).

***Keywords*:** Facial Emotion Recognition, You Only Look Once (YOLO), Convolutional Neural Networks (CNN).

*Corresponding Author
E-mail Address: saiakhil762@gmail.com

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Cyber Threat Detection Based On Artificial Neural Networks Using Event Profiles

G. Raja Shekar[1] , S. RohanRaj[2] , Y. Mahesh[3] , D. SaiTeja[4], J. Manikandan[5]
[1,2,3,4]UG Scholar, [5]Assistant Professor
Department of Computer Science & Engineering

St. Martin's Engineering College, Near Forest Academy, Dhulapally, Secunderabad, Telangana, India-500100

Abstract: One of the major challenges in cybersecurity is the provision of an automated and effective cyber-threats detection technique. In this paper, we present an AI technique for cyber-threats detection, based on artificial neural networks. The proposed technique converts multitude of collected security events to individual event profiles and use a deep learning-based detection method for enhanced cyber-threat detection. For this work, we developed an AI-SIEM system based on a combination of event profiling for data pre-processing and different artificial neural network methods, including FCNN, CNN, and LSTM. The system focuses on discriminating between true positive and false positive alerts, thus helping security analysts to rapidly respond to cyber threats. All experiments in this study are performed by authors using two benchmark datasets (NSLKDD and CICIDS2017) and two datasets collected in the real world. To evaluate the performance comparison with existing methods, we conducted experiments using the five conventional machine-learning methods (SVM, k-NN, RF, NB, and DT). Consequently, the experimental results of this study ensure that our proposed methods are capable of being employed as learning-based models for network intrusion detection, and show that although it is employed in the real world, the performance outperforms the conventional machine-learning methods.

***Keywords*:** True Positive Alerts, LSTM, CNN, FCNN, cyber security, machine learning, network intrusion detection.

*Corresponding Author
E-mail Address: manibe007@gmail.com

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Study on Detection and Mitigation Approaches of Cross-Site Scripting Attacks on SNS (Social Networking Sites) environment

Pradeepa.P.K[1], Dr. N Valliammal[2]
Research scholar, Assistant Professor (SS)
Department of Computer Science
Avinashilingam Institute for Home Science and Higher Education for Women Coimbatore -641043, Tamilnadu, India

Abstract - Now a day's online network platform is an important platform to share ideas and their thoughts between the public. It is an online platform and provides virtual communication for online users that share like personal or career interests or real-life connections, not only personal also organizations, politicians etc. These sites are a speedy, safe and competitive way for communication that's why social networking sites become more in the World Wide Web. Some commonly used social networking sites are, Face book, Instagram, Twitter, MySpace, and LinkedIn. At the same time, security vulnerabilities have become major issues to all, this allows an attacker to breach integrity, availability, the secrecy of the social media services, and resulting into some valuable information's losses social media users. Among the variety of security vulnerabilities, Cross write scripting attack is one of the most often occurring types of attacks on SNS environment [9] recently, nearly 60% of all attacks on the web were detected as XSS-related attack. Cross-site scripting attack is a malicious script that is injected into trusted websites at the client side, where the attacker put into malicious code, typically javascript etc, into the web application to execute in the victim browser. Resulting from this type of Attack such as data compromise, stealing of cookies, passwords, credit card numbers etc. In this survey, the paper focuses on the different detection and prevention mechanisms available in the literature for Cross-site scripting attacks on social networking sites, along with discussing the advantage and disadvantage of each method also discuss comparison between these approaches.

***Keywords*:** Cross-site Scripting (XSS), XSS attacks detection and prevention, Social networking services.

*Corresponding Author
E-mail Address: pkpradeepa@gmail.com

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Stock Market Trend Prediction using K-Nearest Neighbor Algorithm

B.Varun Aditya[1], K.Harsha Vardhan[2], D. Raghavender Reddy[3], J.Manikandan[4]
Assistant Professor
Department of Computer Science & Engineering
St. Martin's Engineering College,
Near Forest Academy, Dhulapally, Secunderabad, Telangana, India-500100

Abstract - This paper examines a hybrid model which combines a K-Nearest Neighbours (KNN) approach with a probabilistic method for the prediction of stock price trends. One of the main problems of KNN classification is the assumptions implied by distance functions. The assumptions focus on the nearest neighbours which are at the centroid of data points for test instances. This approach excludes the non-centric data points which can be statistically significant in the problem of predicting the stock price trends. For this it is necessary to construct an enhanced model that integrates KNN with a probabilistic method which utilizes both centric and non-centric data points in the computations of probabilities for the target instances. The embedded probabilistic method is derived from Bayes' theorem. The prediction outcome is based on a joint probability where the likelihood of the event of the nearest neighbours and the event of prior probability occurring together and at the same point in time where they are calculated. The proposed hybrid KNN Probabilistic model was compared with the standard classifiers that include KNN, Naive Bayes, One Rule (One-R) and Zero Rule (ZeroR). The test results showed that the proposed model outperformed the standard classifiers which were used for the comparisons.

***Keywords*:** Stock Price Prediction, K-Nearest Neighbours, Bayes' Theorem, Naive Bayes, Probabilistic method

*Corresponding Author
E-mail Address: varun28baindla@gmail.com

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Sign Language Recognition System using Convolutional Neural Network and Computer Vision

D.Preethi[1], Fouzia Begum[2], G.Chetna Varma[3], J. Nishitha[4], Dr. B. Rajalingam[5]
[1,2,3,4] UG Scholar, [5]Associate Professor
[1,2,3,4,5] Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, Telangana, India

Abstract – It's always difficult to communicate with someone who has a hearing impairment. Individuals with hearing and speech disabilities can now communicate their feelings and thoughts to the rest of the world through sign language, which has indelibly become the ultimate remedy. It facilitates and simplifies the integration process between them and others. However, simply inventing sign language is insufficient. This blessing comes with a lot of strings attached. For someone who has never learned it or knows it in a different language, the sign movements are frequently mixed up and confused. However, with the emergence of numerous approaches to automate the identification of sign motions, this communication gap that has persisted for years can now be bridged. We provide a Sign Language recognition system based on American Sign Language in this paper. The user must be able to take photographs of hand gestures using a web camera in this study, and the system must anticipate and show the name of the acquired image. To detect the hand gesture, we employ the HSV colour technique and set the background to black. The photos are processed using a variety of computer vision techniques, including grayscale conversion, dilatation, and masking. And then there's the area of interest, which in this case is the hand. The gesture has been split. The binary pixels of the images are the features extracted. Convolutional Neural Network (CNN) is used to train and classify the images. We can accurately recognize ten different American Sign gesture alphabets. Our model has a fantastic accuracy rate of more than 90%.

***Keywords*:** Sign Language, ASL, Hearing is ability, Convolutional Neural Network, Gesture recognition.

*Corresponding Author
E-mail Address: devanakapreethi@gmail.com

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Data Accessibility in Blockchain-based Healthcare Systems that is Secure and Efficient

Madhavrao Bommineni[1], N.Venkatesh[2]
[1],[2]Department of Computer Science and Engineering
[1]St. Martin's Engineering College, Secunderabad, Telangana, India
[2]CMR Engineering College

Abstract - Constant reformulation and innovation takes place in the health care industry. Protective the confidentiality of patients' data is one of the maximum significant systems for healthcare reform to succeed. To ensure that only authorised entities have access to patients' confidential information, it is critical to use secure data pathways. Thus, the paper presents the idea of using distributed blockchain technology to safeguard the statistics in healthcare organizations. This investigation suggests a blockchain-based healthcare system allows patients and doctors to store personal data with ease and security. My proposed solution provides a compromise that also protects the privacy of the patients. It has been shown to withstand widely known attacks while keeping the system secure. Furthermore, an Ethereum based implementation has tested our proposed system's feasibility.

Keywords: Block chain, Data Accessibility, Privacy, Smart Contracts, Smart Healthcare, Security.

*Corresponding Author
E-mail Address: madhavraocse@smec.ac.in

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Characterising and Predicting Early Reviewers for Effective Product Marketing on E - Commerce Websites

Neti Rohit kumar[1], Neeradi Sunil Raj[2], Rimmala Prerana[3], D Chaitanya[4], Ch. Malleshwar Rao[5], Dr. P. Santosh Kumar Patra[6], Dr. M.Narayanan[7]
[1,2,3,4]UG Scholar, Assistant Professor[5],Principal & Professor[6], Professor & Head[7]
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad 500 100, India.

Abstract- online reviews have become an important source of information for users before making an informed purchase decision. Early reviews of a product tend to have a high impact on the subsequent product sales. In this paper, we take the initiative to study the behavior characteristics of early reviewers through their posted reviews on two real-world large e-commerce platforms, i.e., Amazon and Yelp. In specific, we divide product lifetime into three consecutive stages, namely early, majority and laggards. A user who has posted a review in the early stage is considered as an early reviewer. We quantitatively characterize early reviewers based on their rating behaviors, the helpfulness scores received from others and the correlation of their reviews with product popularity. We have found that an early reviewer tends to assign a higher average rating score; and an early reviewer tends to post more helpful reviews. Our analysis of product reviews also indicates that early reviewers' ratings and their received helpfulness scores are likely to influence product popularity. By viewing review posting process as a multiplayer competition game, we propose a novel margin-based embedding model for early reviewer prediction. Extensive experiments on two different e-commerce datasets have shown that our proposed approach outperforms a number of competitive baselines.

Keywords: Amazon, analysis, process, multiplayer, Yelp.

*Corresponding Author
E-mail Address: rohitneti9@gmail.com

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Analysis of Parkinson's Diseases using Pre-Trained Convolutional Neural Network

S. Manikandan[1], Dr. P.Dhanalakshmi[2]
Assistant Professor, Department of CSE wing, D.D.E,
Professor, Department of CSE, Annamalai University

Abstract- Parkinson's disease is one of the main type neurological disorder that is affected by progressive brain degeneration. This disease affects nearly affects 50 percent of men and women. There is no particular methodology or test to perceive the Parkinson's disease at the early stage. This results in the increased morality rate. To overcome, this computer-aided-diagnosis has been introduced to detect the Parkinson's disease. In the proposed work, Pre-Trained Convolutional Neural Network namely GoogleNet classifier is used as a feature extractor. To classify between the normal and Parkinson's disease affected patients Support Vector Machine and Random Forest were used. The system shows the satisfactory performance of 94.50 % when implementing with GoogleNet with Support Vector Machine.

***Keywords*:** Parkinson's Disease (PD), Support Vector Machine (SVM), Random Forest (RF), Convolutional Neural Network (CNN), GoogleNet.

*Corresponding Author
E-mail Address: radhamanikandan29@gmail.com

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Electronic Voting System using Public Blockchain with Privacy, Transparency and Security

Kothapalli Saisriram[1], Ramayanam Sai Veer Suvesith[2], Swathi Tomar[3],
Tummaluru Srikanth Reddy [4],P.Sabitha[5]
[1,2,3,4] UG Scholar, [5]Assistant Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy,Dulapally, Kompally, Secunderabad, Telangana 500 100, India

Abstract- With the advanced technology and developments since the 20th century, new procedure of casting votes in an election is developed every now and then. This project uses advanced technology like block chain and homomorphic encryption in order to make the election more safe and secure. By implementing the idea of block chain e-voting the elections can be made fairer, as it double checks the votes casted by the voters before and after the elections. Moreover, it eliminates the chances of malpractices as images of voters are taken into consideration. Hence, a voter can only vote once and can recheck their vote. At present the voting is done using paper ballots and electronic voting but it has problems mainly regarding security, credibility, transparency, reliability, and functionality. So, block chain e-voting can deliver an answer to all these problems and further can add advantages like as immutability and decentralization.

***Keywords*:** Blockchain, immutability, decentralization, transparency, homomorphic encryption.

*Corresponding Author
E-mail Address: saisriram8921@gmail.com

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Analysis of Women Safety in Indian Cities using Machine Learning on Tweets

Shubhanshi Pandey[1], K. Dhamini[2] , A. Sai Anirudh[3] , CH. Sonanjali Devi[4], Dr.G.JawaherlalNehru[5]
[1,2,3,4] UG Scholar, [5]Associate Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College, Secunderabad, Telangana, India.

Abstract - Sonar signals are used to detect objects in terms of women's security, we are living in the worst time our society has ever seen. Women from various parts of the world always experience a lot of harassment, starting from stalking, passing vulgar comments, and leading to sexual assault. The main motive of the project is to analyze women safety using social networking messages and by applying machine learning algorithms on it. Now-a-days almost all people are using social networking sites to express their feelings and if any women feel unsafe in any area then she will express negative words in her post/tweets/messages and by analyzing those messages we can detect which area is more unsafe for women. In this paper we focus on how social media is used to promote the safety of women in Indian cities from various social media platforms such as Twitter, Face book and Instagram. Tweets consists of text messages, audio data ,video data, images, smiley expressions and hash-tags .The content being shared can be used to educate many people to raise their voice if any abusive language or any harassment is done against women. Hashtags used by Instagram and Twitter can be used to convey one's thoughts across the globe and make the women feel free to express their views and feelings.

***Keywords*:** Hash tag, Safety, Sentimental Analysis, Sexual Harassment, Women

*Corresponding Author
E-mail Address: shubhanshipandey12@gmail.com

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Effective Cyber Security Monitoring and Logging Process

N.Krishnavardhan, Dr.M.Govindarajan, Dr.S.V.Achutha Rao
Research Scholar, Associate Professor, Professor
Dept.of CSE
Annamalai University, SIET

Abstract - Information technology drives productivity and growth in almost every industry today. One computing device contains more confidential information than thousands of documents in hardcopy. Cyber Security Monitoring is a critical part of Managed Detection and Response Service (MDR). Every activity on your environment, from emails to logins to firewall updates, is considered a security event. All of these events are, (or should be,) logged in order to keep tabs on everything that's happening in your technology landscape. Cyber monitoring is the process of continuously observing an IT system in order to detect data breaches, cyber threats, or other system vulnerabilities. Managed Security Monitoring Service will help to gain visibility, security and control of your industrial operations. Proactive monitoring across the security ecosystem maximizes investment value, while helping to balance outsourced expertise and in-house teams. Log file is an automatic documentation of the operations a computer device and its user perform, such as file creation/modification time, user access, adjustments, to name a few. Log files contain critical information for organizations.

Keywords: cyber security, logging, Security incidents, cyber intelligence, attacks, event logs

*Corresponding Author
E-mail Address: krishnavardhan522@gmail.com

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Optimized Feed Forward Neural Network for Classification of Diabetes in Big Data Environment

N.V.Poornima[1], Dr.B.Srinivasan[2], Dr.P.Prabhusundhar[3]
[1, 2, 3] Department of computer science
Gobi Arts & Science college, Gobichettipalayam.

Abstract- One of the main problems in the human body is diabetes. Diabetes is one of the critical health issues in the human body it causes human life severely. In women, the diabetes rate is more and higher as compared with the others. It severely affects pregnant ladies while they are affected by diabetes. This can be affected the daily routine. The one and only method are to take dialysis at the beginning stage. The famous doctors check the patients and provide the precautions and the medicines for that. They handle the patients affected by diabetes. To solve this problem several methods and techniques are used in the machine learning algorithm under the big data environment. This algorithm provides good prediction results by taking the data from the dataset. In this diabetes prediction, the machine learning algorithms combine with the big data environment. In the previous methods, the k-means clustering and cuckoo search is used in optimization. In this existing system, its accuracy and performance are high but it takes a huge time to computational process. To solving this problem an optimization based on machine learning is applied. Here the dataset is downloaded from the Indian diabetes dataset. For removing the unwanted and missing data in the dataset we use pre-processing and clustering. And the feature reduction is done in the use of glow-worm optimization. The glow-worm is the fastest method compared to the cuckoo search optimization. The classification of diabetes is done with the help of feed-forward neural networks. The aim of the classification is that the user misunderstanding the values after removing the unwanted data. The whole process is realized in the MATLAB R 2018a environment and evaluated in terms of accuracy, precision, recall, F-measure, and Matthew correlation coefficient. This approach outperforms all other existing techniques with an F-measure of 97.7%.

Keywords: Diabetic, dataset, pre-processing, glow-worm, Feedforward neural network.

*Corresponding Author
E-mail Address: poorniram7@gmail.com

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Techniques and approaches to recharge the sensor nodes in wireless rechargeable sensor networks: A study

Aaditya Lochan Sharma[1], SubashHarizan[2]
Department of Computer Science and Engineering
Sikkim Manipal Institute of Technology
Sikkim Manipal University

Abstract- Wireless sensor networks (WSNs) have drawn its enormous attention by the researchers and scientific community due to its wide range of applications. However, sensor nodes (SNs) are equipped with the limited battery/energy source which restricts the perpetual operation. Thus, various techniques/approaches are suggested or proposed by the researchers to preserve the precious energy of the SNs. However, these techniques and approaches only extend the limited operational time of the network. Recent advancement in the wireless energy transfer (WET) techniques have revolutionized the way to recharge SNs and draws the attention of the researchers to replenish the energy of the wireless rechargeable sensor networks (WRSNs). In this technique a single or multiple mobile or static charger are used to restore the energy of the rechargeable SNs. In this paper we have presented various techniques/schemes/approaches proposed by the researchers to utilize the single or multiple mobile or static charger to replenish the energy of the SNs to enhance the lifetime of the WRSNs.

Keywords: Wireless sensor networks, Wireless rechargeable sensor networks, WET, Scheduling, Mobile charger.

*Corresponding Author
E-mail Address: aaditya_202027007@smit.smu.edu.in

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Hand Gesture Recognition using Convolution Neural Networks

A. Rajeshwar[1], K. Bharatvamsi[2], K. Santhosh Reddy[3], P.Shivani[4], Dr.N.Narayanan[5]
[1,2,3,4] UG Scholar, [5] Professor & Head
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract -Hand Gesture Recognition (HGR) aims to translate sign language into text or voice in order to improve communication between deaf-mute people and the general public. Due to the complexity and significant variances in hand actions, this activity has a wide social influence, but it is still a difficult work. Existing HGR approaches rely on hand-crafted characteristics to describe sign language motion and construct classification systems. However, designing reliable features that adapt to the wide range of hand movements is difficult. To address this issue, we offer a unique convolutional neural network (CNN) that automatically extracts discriminative spatial temporal characteristics from raw video streams without the need for prior information, removing the need to construct features. Multi-channels of video feeds, including color information, depth clues, and body joint locations, are used as input to the CNN to integrate color depth, and trajectory information in order to improve performance. On a real dataset acquired with Microsoft Kinect, we validate the proposed model and show that it outperforms previous approaches based on hand-crafted features.

Keywords: CNN, HGR, video feeds, depth clues, joint locations.

*Corresponding Author
E-mail Address: naniadarla01@gmail.com

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Accident Detection System Using CNN Model

T. Sai Teja[1], Suyash Singh[2], B. Vikas[3], Azeem Pasha[4], C. Yosepu[5]
[1,2,3,4] UG Scholar, [5] Associate Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - There are lots of studies about preventing or detecting the car accidents. Most of them includes sensing objects which might cause accident or statistics about accidents. In this study, a system which detects happening accidents will be studied. The system will collect necessary information from neighbour vehicles and process that information using machine learning tools to detect possible accidents. Machine learning algorithms have shown success on distinguishing abnormal behaviours than normal behaviours. This study aims to analyze traffic behaviour and consider vehicles which move different than current traffic behaviour as a possible accident. Results showed that clustering algorithms can successfully detect accidents.

Keywords: analyze, accident, neighbour vechiles, clustering algorithms, machine learning

*Corresponding Author
E-mail Address: saitejathota134@gmail.com

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Vehicle Detection and Speed Detection

A.Saicharan Reddy[1],G.Rethik Reddy[2],B.Rajith[3],Manookanth Rathi[4], J.Sudhakar[5]
[1,2,3,4] UG Scholar, [5] Associate Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - Now-a-days traffic in two-tier cities has increased lot, so surveillance system is needed to monitor the traffic and avoid unwanted delays and accidents. Vehicles speed estimation can be done by analyzing the video captured. The conventional or the vehicles is through using RADAR device and other models like constant g-factor, sequence method and motion median. The limitations of this device or models are accuracy is bit less and costly and does not capture long distance images. Different techniques have been used for speed estimation; here in this paper we propose a mixture of Gaussian technique to estimate the speed. In speed estimation we need to detect vehicle from the captured video and analyze the video considering the centroid at each instance of a frame and distance will be calculated. The proposed method consists of mainly four phases background subtraction using Mixture of Gaussian, feature extraction using Shi-Tomasi technique, vehicle tracking, distance and speed calculation. The effectiveness of using Gaussian mixture model was evaluated with a sample video data set and the actual speed and the determined speed comparison is shown in the below results. The vehicle speed is estimated using distance travelled by the moving vehicle over number of frames and frame rate.

Keywords: Radar, Shi-Tomasi technique, vehicle speed, g-factor, frame.

*Corresponding Author
E-mail Address: iamreddy31@gmail.com

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Securing Data with Block chain and Artificial Algorithm

Alluri Shivani[1], Mandula Meghana[2],Matta Jahnavi Reddy[3], Talakokkula Ashwitha[4] , J.Sudhakar[5]
[1,2,3,4] UG Scholar, [5] Associate Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - Data is the input for various Artificial Intelligence (AI) algorithms to mine valuable features, yet data in Internet is scattered everywhere and controlled by different stakeholders. As a result, it is very difficult to enable data sharing in cyberspace for the real big data. In this paper, we propose the SecNet, an architecture that can enable secure data storing, computing, and sharing in the large-scale Internet environment, aiming at a more secure cyberspace with real big data with plenty of data source, by integrating three key components:

a) Blockchain-based data sharing with ownership guarantee, which enables trusted data sharing in the large-scale environment to form real big data. Blockchain is a Peer-to-Peer decentralized technology. The important thing to know about blockchain technology is its Transparency i.e; no need for third parties and instant access to data since it is replicated on all nodes. It is a series of linked blocks of transferred data between different connected nodes that form the network of the blockchain. There exists many types of blockchain, either private or public, and the most popular are Bitcoin and Ethereum. The first one is the infrastructure for the well known cryptocurrency Bitcoin. The other, Ethereum, is very similar to Bitcoin but differs however in several aspects.

b) AI-based secure computing platform to produce more intelligent security rules, which helps to construct a more trusted cyberspace.

c) Trusted value-exchange mechanism for purchasing security service, providing a way for participants to gain economic rewards when giving out their data or service, which promotes the data sharing and thus achieves better performance of AI.

*Corresponding Author
E-mail Address: ashivaniraji@gmail.com

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5G-Smart Diabetes toward Personalized Diabetes Diagnosis with Healthcare Big Data Clouds.

Apoorva Sharma[1], Bhaskar Ganti[2], Lakhan Palore[3], Nikhil Sangani[4], E.Soumya[5]
[1,2,3,4] UG Scholar, [5] Assistant Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - Recent advances in wireless networking and big data technologies, such as 5G networks, medical big data analytics, and the Internet of Things, along with recent developments in wearable computing and artificial intelligence, are enabling the development and implementation of innovative diabetes monitoring systems and applications. Due to the life-long and systematic harm suffered by diabetes patients, it is critical to design effective methods for the diagnosis and treatment of diabetes. Based on our comprehensive investigation, this article classifies those methods into Diabetes 1.0 and Diabetes 2.0, which exhibit deficiencies in terms of networking and intelligence. Thus, our goal is to design a sustainable, cost-effective, and intelligent diabetes diagnosis solution with personalized treatment. In this article, we first propose the 5G-Smart Diabetes system, which combines the state-of-the-art technologies such as wearable 2.0, machine learning, and big data to generate comprehensive sensing and analysis for patients suffering from diabetes. Then we present the data sharing mechanism and personalized data analysis model for 5G-Smart Diabetes.

Keywords: 5G-networks, IoT, Intelligence, Diabetes, Machine Learning.

*Corresponding Author
E-mail Address: apoorva20299@gmail.com

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Semi Supervised Machine Learning Approach using DDOS Detection

N.Rohan Raj[1], P.Rajesh Kumar[2] , S.Ajay Kumar[3] , V.Lahari[4] , Ediga Lingappa[5] ,
Dr.M.Narayanan[6] , Dr.P.Santosh Kumar Patra[7]
[1,2,3,4] UG Scholar, [5] Assistant Professor , [6] Professor & Head, [7]Professor & Principal
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - Distributed denial of service (DDoS) attacks are a major threat to any network-based service provider. The ability of an attacker to harness the power of a lot of compromised devices to launch an attack makes it even more complex to handle. This complexity can increase even more when several attackers coordinate to launch an attack on one victim. Moreover, attackers these days do not need to be highly skilled to perpetrate an attack. Tools for orchestrating an attack can easily be found online and require little to no knowledge about attack scripts to initiate an attack. The purpose of this paper is to detect and mitigate known and unknown DDoS attacks in real time environments. Identify high volume of genuine traffic as genuine without being dropped. Prevent DDoS attacking (forged) packets from reaching the target while allowing genuine packets to get through. A DDoS attack slows or halts communications between devices as well as the victim machine itself. It introduces loss of Internet services like email, online applications or program performance. We apply an automatic characteristic selection algorithm primarily based on N-gram sequence to obtain meaningful capabilities from the semantics of site visitors flows. DDoS attacks are the perfect planned attacks with the aim to stop the legitimate users from accessing the system or the service by consuming the bandwidth or by making the system or service unavailable. The attackers do not attack to steal or access any information but they decline the performance of the network and the system.

***Keywords*:** Distributed Denial of Service (DDoS), Malware Detection, Text semantic, DDOS attack, Framework

*Corresponding Author
E-mail Address: vlaharirao4538@gmail.com

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Characterizing and Predicting Early Reviewers for Effective Product Marketing on E Commerce Websites

V.Srija[1],S.Sowmya[2],N.Sandeep[3],M.Rahul[4] , P.Sabitha [5] ,
[1,2,3,4] UG Scholar, [5] Assistant Professor ,
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - Online reviews have become an important source of instruction for users before manufacture an informed procure decision. Early reviews of a product tend to have a high effect on the ensuing product sales. In this paper, we take the initiative to study the behaviour characteristics of early reviewers through their posted reviews on two real-world large e-commerce platforms, i.e., Amazon and Yelp. In specific, we divide product lifetime into three uninterrupted phase and quantitatively characterize early reviewers based on their rating behaviours, the helpfulness scores received from others and the correlation of their reviews with product popularity By viewing review posting process as a multiplayer competition game, we present a novel margin-based embedding model for early reviewer divination. Extensive experiments on two different e-commerce datasets have shown that our proposed approach outperforms a number of aggressive baselines.

***Keywords*:** online review, instruction, Amazon, Yelp, margin-based embedding model.

*Corresponding Author
E-mail Address: srijaveeramallii@gmail.com

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Credit Card Fraud Detection using Predictive Modelling

D. Grishma[1], K. Swathi[2], T. R. Sathwika[3], J. Supriya[4], Dr. T. Poongothai[5]
[1,2,3,4] UG Scholar, [5] Professor,
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - Fraud is a set of illegal activities that are used to take money or property using false pretenses.Transaction fraud using credit card is one of the growing issue in the world of finance. A huge financial loss has significantly affected individuals using credit cards and furthermore vendors and banks. One of the most successful techniques to identify such fraud is Machine learning. This paper proposes a fraud detection algorithm using Logistic Regression, Random Forest, Decision tree, which can help in solving this real world problem. The accuracy of detecting fraud in credit card transaction is increased using this proposed System. To evaluate the model efficiency, a publicly available credit card dataset is used. Then a real-world from a financial institution is analyzed. In addition, we used Random Forest, Decision tree and Naïve Bayes for the collection and representation of data.

***Keywords*:** online review, instruction, Amazon, Yelp, margin-based embedding model

*Corresponding Author
E-mail Address: swathinarayana998@gmail.com

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Human Activity Recognition using Machine Learning With Data Analysis

Arvind Chary. P[1], Lohan. V[2], Neha Reddy. K G[3], Vinod Kumar. B[4], Mallikarjun.G[5]
[1,2,3,4] UG Scholar, [5] Assistant Professor ,
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - The significant intent is to generate the model for anticipating the activities of a human that ensures the aversion of human life. Activity Recognition is monitoring the liveliness of a person by using smart phone. Smart phones are used in a wider manner and it becomes one of the ways to identify the human's environmental changes by using the sensors in smart mobiles. Smart phones are equipped in detecting sensors like compass sensor, gyroscope, GPS sensor and accelerometer. The contraption is demonstrated to examine the state of an individual. Human Activity Recognition framework collects the raw data from sensors and observes the human movement using different deep learning approach. Deep learning models are proposed to identify motions of humans with plausible high accuracy by using sensed data. Human Activity Recognition Dataset from UCI dataset storehouse is utilized. The performance of a framework is analysed using Convolutional Neural Network with Long-Short Term Memory and Recurrent Neural Network with Long-Short Term Memory using only the raw data. The act of the model is analysed in terms of exactness and efficiency. The designed activity recognition model can be manipulated in medical domain for predicting any disease by monitoring human actions.

***Keywords*:** Human Activity, Long-Short Memory, UCI, Dataset, Neural Network.

*Corresponding Author
E-mail Address: arvind.chary1999@gmail.com

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Using Artificial Neural Networks to Detect Fake Profile

S Raja Lingam Seth[1], Anshuman Singh[2], Rohan Katkam[3], Md. Afroz[4], Asad ul Islam[5] , Manu Hajari[6] , Dr. M Narayanan[7], Dr. P. Santosh Kumar Patra[8]
[1,2,3,4,5] UG Scholar,[6]Assistant Professor, [7]Professor & HOD, [8]Principal &Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - There is a tremendous increase in technologies these days. Mobiles are becoming smart. Technology is associated with online social networks which has become a part in every one's life in making new friends and keeping friends, their interests are known easier. But this increase in networking online makes many problems like faking their profiles, online impersonation having become more and more in present days. Users are fed with more unnecessary knowledge during surfing which are posted by fake users. Researches have observed that 20% to 40% profiles in online social networks like Facebook are fake profiles. Thus, this detection of fake profiles in online social networks results into solution using frameworks.

***Keywords*:** smart technology, networking, Facebook, fake profiles, researches

*Corresponding Author
E-mail Address: anshu28012000singh@gmail.com

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Pattern Recognition by Using Machine Learning to Improve the Accuracy

Manu Hajari[1], K Chandra Mouli[2],
[1,2] Assistant Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, Telangana 500100, India.

Abstract - Pattern Recognition is one of the key features that govern any AI or ML project. In today's world, a lot of different type of data is flowing across systems in order to categorize the data we cannot use traditional programming which has rules that can check some conditions and classify data. The solution to this problem is Machine Learning, with the help of it we can create a model which can classify different patterns from data. One of the applications of this is the classification of spam or non-spam data.

***Keywords*:** Pattern Recognition, AI, ML, data, traditional programming.

*Corresponding Author
E-mail Address: manu.hajari@gmail.com

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Future Trends in Engineering Education and Research

Trupti K. Wable[1], Snehal S. Somwanshi [2], Rajashree D. Thosar [3].
[1,2,3]Assistant Professor, Department of Electronics & Telecommunication Engineering,
SVIT, Chincholi, Nashik, India

Abstract - Engineers play a key role in our societal development, contributing to and enabling initiatives that drive economic progress, enhance social and physical infrastructures, and inspire the changes that improve our quality of life. Simultaneously, industry and manufacturing are facing unprecedented challenges due to globalization and distributed manufacturing. As a result, the business environment of manufacturing enterprises is characterized by continuous change and increasing complexity. The challenges for companies arise not only from the need for flexible technical solutions, but also from managing complex socio-technical systems, and contribute tangibly to the sustainable development of manufacturing and the environment. Researchers and graduates with the ability to understand both complex technological processes and the creative arts and social skills are increasingly sought after in today's industrial and business world in areas of: Manufacturing Management, Health and Service Sectors, Product Engineering and Technical Sales, Transportation and Logistics.

Keywords: Engineering Education, Grand Challenges for Engineering, Sustainability, Socio-technical Systems

*Corresponding Author
E-mail Address: trupti.wable@pravara.in

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Cyber Crime and Security

P.Shilpa [1], K.Subhashini [2], K.Sumanth [3]. R.Jagan [4] ,R.V.Sudhakar[5]
[1,2,3,4] UG Scholar, [5]Associate Professor
[1,2,3,4,5] Department of computer Science and Engineering,
St.Martin's Engineering College, Dulapally,Kompally,Secunderabad,Telangana 500100,India

Abstract - The world has become more advanced in communication, especially after the invention of the Internet. A key issue facing today's society is the increase in cybercrime or e-crimes (electronic crimes), another term for cybercrime. Thus, e-crimes pose threats to nations, organizations and individuals across the globe. It has become widespread in many parts of the world and millions of people are victims of e-crimes. Given the serious nature of ecrimes, its global nature and implications, it is clear that there is a crucial need for a common understanding of such criminal activity internationally to deal with it effectively. This research covers the definitions, types, and intrusions of e-crimes. It has also focused on the laws against e-crimes in different countries. Cybersecurity and searching methods to get secured are also part of the study.

***Keywords*:** Cybercrime, e-crime, cyber security, computers, internet, social media, cyber laws.

*Corresponding Author
E-mail Address: shilpaparipally@gmail.com

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Fake Images Detection using CNN Algorithm

V.Vineeth Chandra [1], G.Vijay [2], C.Indira Priya Darshini [3]. Y.Chandra Mouli [4]
[1,2,3] UG Scholar, [4]Assistant Professor,
Department of computer Science and Engineering,
St.Martin's Engineering College, Dulapally, Kompally, Secunderabad, Telangana 500100,India

Abstract - Now-a-days biometric systems are useful in recognizing person's identity but criminals change their appearance in behaviour and psychological to deceive recognition system. To overcome from this problem we are using new technique called Deep Texture Features extraction from images and then building train machine learning model using CNN (Convolution Neural Networks) algorithm. This technique refer as LBPNet or NLBPNet as this technique heavily dependent on features extraction using LBP (Local Binary Pattern) algorithm.

***Keywords*:** Convolution Neural Networks, Local Binary Pattern, LBPNet, NLBPNet.

*Corresponding Author
E-mail Address: vineeth.vallepalli@gmail.com

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Driver Drowsiness Monitoring System using Visual Behaviour and Machine Learning

B.Ragasree[1],G.Sneha[2],J.Pravalika[3],N.Rithika[4],N.Krishna Vardhan[5]
[1,2,3,4] UG Scholar, [5]Associate Professor,
Department of computer Science and Engineering,
St. Martin's Engineering College, Dulapally, Kompally, Secunderabad, Telangana 500100,India

Abstract - Drowsy driving is one of the major causes of road accidents and death. Hence, detection of driver's fatigue and its indication is an active research area. Most of the conventional methods are either vehicle based, or behavioural based or physiological based. Few methods are intrusive and distract the driver, some require expensive sensors and data handling. Therefore, in this study, a low cost, real time driver's drowsiness detection system is developed with acceptable accuracy. In the developed system, a webcam records the video and driver's face is detected in each frame employing image processing techniques. Facial landmarks on the detected face are pointed and subsequently the eye aspect ratio and mouth opening ratio are computed and depending on their values, drowsiness is detected based on developed adaptive thresholding. Machine learning algorithms- Support Vector Machine based classification have been implemented as well in an offline manner.

Keywords: Drowsiness detection, Eye aspect ratio, Mouth opening ratio, Machine Learning, Support Vector Machine, visual behaviour.

*Corresponding Author
E-mail Address: bijjaragasree@gmail.com

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Canvas Art Generation using GANs

B. Prasanthi[1], Siddhartha Kolisetti[2]
[1]Assistant Professor, Dept. of CSE, Mahatma Gandhi Institute of Technology
[2]Student, Dept. of CSE, Mahatma Gandhi Institute of Technology

Abstract - Generative Adversarial Networks (GANs) have attained magnificent leads to multiple image coalescence tasks, and are becoming a trending topic in computer vision experimentation due to the spectacular accomplishments they pulled off in numerous requisitions over the years. Style transfer has been aimed completely on transforming the design of one image to a distinct image. Crucial progress has been made to process any real-time image and, lately, with capricious style images.

Keywords: Generative Adversarial Networks (GANs), Generator, Discriminator, Images.

*Corresponding Author
E-mail Address: bprasanthi_cse@mgit.ac.in

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The Study of Augmented Reality in Education

Sonali Agarwal [1], Ramander Singh [2]
[1,2]Associate Professor, Meerut Institute of Engineering and Technology,Meerut, India

Abstract - The demand for online education is increasing day by day. This paper represents the development of an educational application for providing easy online learning to students. The aim of this application is to provide with online learning content and an option for the teachers to upload the notes, books and video lectures that can be conveniently downloaded and accessed by students. Till now, all the Educational Institutions such as College, Schools, Universities are following the concept of face to face Education. But the situation of Covid-19 forced everyone to be at home. But it is observed that online learning becomes boring for students and they are not able to focus properly because of which their study suffers. But in the situation of lockdown imposed by government to prevent the spread of Covid-19, the students cannot go to their colleges, schools. This research is an attempt to make the online learning interesting for students by making use of Augmented Reality. If the students are provided education using Augmented Reality(AR), they will develop interest and will be able to grasp the content easily and quickly.

Keywords: coronavirus, COVID-19, education, Augmented Reality (AR), technology.

*Corresponding Author
E-mail Address: sonali.agarwal.it.2017@miet.ac.in

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Security Standards for Data Privacy Challenges in Cloud Computing

Pratibha Mundra [1], Devender Kumar Dhaked [2]
[1,2] Department of Computer Science and Engineering,
Rajasthan College of Engineering for Women, Jaipur, India

Abstract - The rapid growth in cloud computing is becoming very notable due to the rapid advancement of Cloud Computing technologies. Cloud Computing means using computer resources as an on-demand service via the internet. In recent years it received considerable attention, but protection is amongst the key inhibitors in reducing cloud computing (CC) development. In general, it transfers user information and application software to vast data centers, i.e. the remotely located cloud that does not monitor the user and cannot fully secure data management. This unique aspect of cloud computing, however, poses several security issues that must be explicitly addressed and understood. This paper provides an analysis of cloud security issues, as well as the benefits /drawback of the cloud computing model for the service and implementation. Also, we discuss the safety issues of emerging cloud computing systems. As cloud computing applies to both Internet providers and the infrastructural facilities (i.e., data center hardware and systems software) that provide these services, we have security issues concerning the varied applications and infrastructures. More questions about security problems should be taken into account, for example, availability, protection, data integrity, data recovery, and so on.

Keywords: Cloud Computing, Cloud Security, Data Security, Security Issues..

*Corresponding Author
E-mail Address: pratibha.mundra25@gmail.com

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A Review Analysis of Various Machine Learning Approaches and Its Applications on Education Sector

Palagati Anusha[1], Thupalli Sai Kishore[2], Thatimakula Sai Kumar[3]
[1,2,3]Assistant Professor, Department of CSE, KMM Institute of Technology

Abstract- Machine learning has an incredible impact on the teaching field. Teaching field is adopting new technologies to predict the long run of education system. It is Machine learning that predict the long run nature of education environment by adapting new advanced intelligent technologies. we have a tendency to explore the appliance of machine learning in customised teaching and learning environment and explore additional directions for analysis. Customised teaching and learning take into account student background, individual student attitude, learning speed and response of every student. This customised teaching and learning approach give feedback to teacher once real time process of the information. This manner an educator will simply acknowledge student attention and take corrective measures. This paper investigates Machine learning approaches in learning environment and explores the appliance of Machine Learning in teaching and learning for additional improvement within the learning environment in higher education.

***Keywords*:** Machine Learning, Approaches, Applications,Education, E-Learning, Algorithms.

*Corresponding Author
E-mail Address: palagatianushareddy@gmail.com

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Facial Expression Recognition System

Abhay Pratap Singh [1],Kaushal Kumar [2], Rashi Gupta [3],Varun Tiwari[4]
[1,3]Students, School of Computing Science & Engineering, Galgotias University.
[2] Students, School of Computing Science & Engineering(CNCS), Galgotias University.
[2]Assistant Professor, School of Computing Science & Engineering(SCSE),Galgotias University
.

Abstract - Facial expression helps to physically describe how someone feels. There are different meaning of various expressions. In machine learning and deep learning the facial expression recognition technology has a major role to play in understanding a deeper sense of the interaction of the human and machine. The quality of human expression recognition remains a tough challenge for computers. Facial expression recognition can be divided in to four phases: preprocessing, face registration, feature extraction off ace and expressions classification. Facial Expression Recognition. In many applications it is used, for instance to explain psychiatric illnesses and examine what is happening in a human mind, Detection oflying, etc. We used the fully convolutional neural network here because it is powerful. The data used was data under supervision. We used the FER2013 dataset to evaluate and to reliably classify facial expressions using common deep learning frame work such as keras and Open CV.

***Keywords*:** Keras, Image classification, algorithms.

*Corresponding Author
E-mail Address: zeelfordefence@gmail.com

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Designing of Deterministic Finite Automata for a Given Regular Language with Substring

Rashandeep Singh[1], Dr. Amit Chhabra[2],and Nishtha Kapoor[3]
[1,2,3] Chandigarh College of Engineering and Technology, Chandigarh.

Abstract - Theory of computation deals with the computation logic in relation to the automata and is an important branch of computer science. There are various formal languages such as regular languages, context-sensitive languages, context-free languages, and so on that can be recognized by different automata. Regular language is recognized by finite automata. Finite automata recognize the symbols as an input and change its state accordingly. A finite automaton can be deterministic or non-deterministic in nature. Deterministic finite automata are used in the first and foremost important phase of compiler design i.e. lexical analysis. Different tokens are recognized by different final states of a DFA. It is a difficult and time consuming task to construct a DFA as there is no fixed approach for creating DFAs and handling string acceptance or rejection validations. The objective of this paper is to propose and implement an algorithm for construction of deterministic finite automata for a Regular Language with the given Substring. The output of this algorithm will be a transition table. The proposed method further aims to simplify the lexical analysis process of compiler design.

Keywords: Regular Language, Deterministic Finite Automata (DFA), Substring, Transition table.

*Corresponding Author
E-mail Address: rashandeepsingh@gmail.com

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Analysis and Performance of Various Data Mining Techniques used for Malware Detection and Classification

M .Meena Krithika [1], Dr. E. Ramadevi [2]
[1] Assistant professor, Department of Computer Science, NGM College, Pollachi.
[2]Associate professor, Department of Computer Applications, NGM College, Pollachi.

Abstract - Daily increasing usage of Internet has become serious issues. The manual investigation of malware and its classification is no longer considered it as effective. Hence automated prediction and classification of malware is necessary. This paper is discussed with three type of malware analysis. This research analysis has the classifiers such as k-Nearest Neighbour, Naïve Bayes, Support Vector Machine (SVM), J48 Decision tree, and Neural network. These methods are evaluated by following metrics such as Recall, Precision, F1 score and Accuracy. This research is used to find the effective malware classification method. When compare with other methods, Neural Network achieved 98% of accuracy.

***Keywords*:** Classification, Recall, Precision, F1-Score, J48, Neural Network, Naïve Bayes.

*Corresponding Author
E-mail Address: mmeenakrithika@gmail.com

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Comparative Study about issue of ERP for Large Scale and Small-Scale Industry

Jaimini Kulkarni [1], Dr. Abhijeetsinh Jadeja[2]
[1]Research Scholar BAOU, Ahmedabad ,Gujarat.
[2]Assistant. Professor BPCCS. Gandhinagar,Gujarat.

Abstract - This paper attempts to explore and identify issues affecting Enterprise Resource Planning (ERP) implementation in context to Indian Small and Medium Enterprises (SMEs) and enormous enterprises. Issues which are considered more important for giant scale enterprises might not be of equal importance for alittle and medium scale enterprise and hence replicating the implementation experience which holds for giant organizations won't a wise approach on the a part of the implementation vendors targeting small scale enterprises. This paper attempts to spotlight those specific issues where a special approach must be adopted. Pareto analysis has been applied to spot the problems for Indian SMEs and enormous scale enterprises as available from the published literature. Also by doing comparative analysis between the identified issues for Indian large enterprises and SMEs four issues are proved to be crucial for SMEs in India but not for giant enterprises like proper system implementation strategy, clearly defined scope of implementation procedure, proper project planning and minimal customization of the system selected for implementation, due to some limitations faced by the Indian SMEs compared to large enterprises.

Keywords: Implementation, Enterprise Resource Planning, Small and Medium Enterprise, Pareto analysis, Large Scale Enterprise.

*Corresponding Author
E-mail Address: abhijit.highereducation@gmail.com

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Ensemble Model for Classifying Sentiments of Online Course Reviews using Blended Feature Selection methods

Melba Rosalind J [1], Dr. S. Suguna [2]
[1]Research Scholar, Madurai Kamaraj University, Madurai -2
[2]Assistant Professor in Computer Science
Sri Meenaskhi Govt. Arts College for Women(A), Madurai – 2

Abstract- Plenty of research study is carried out in analysing people's opinions expressed in social media, blogs and micro blogs. The success of the study relies on finding the optimal result in classifying their opinions. This paper has carried out a study with an objective of identifying suitable machine learning algorithms for sentiment classification using unigram and bi-gram features based on TF-IDF approach. The sentiment prediction performance of both stand-alone and ensemble machine learning algorithms are weighed with different classification metrics. Supervised base classifiers such as KNN, LR and RF are trained both on unigram and n-gram features. Apart from that our proposed blended (CHI+IG+RVI) feature selection methods are also employed on them to compare the performance difference. Experimental results illustrate that the proposed, ensemble stacking outperformed the base and bagging ensemble classifier with 88% accuracy for unigram and 77% for bigram features.

***Keywords*:** Sentiment classification, Machine learning, Ensemble, Feature selection, Course reviews, Bagging, Stacking

*Corresponding Author
E-mail Address: melbarosalind@ldc.edu.in

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A Study on Various Techniques Involved In Mental And Suicide Detection: A Comprehensive Review

Shabir Ahmad Magray, Baijnath Kaushik
School of computer Science and Engineering , Shri Mata Vaishno Devi university, Kakryal , Karta, Jammu & Kashmir-182320

Abstract-Loan approval is a very important process for banking organizations. The system approves or reject the loan applications. Loan approval depends upon various factors and vary from bank to bank based on their evaluation parameters for the approval of the loans. This whole process of checking the eligibility by a customer is time consuming process. In order to make this process completely automated and faster, we developed a model using machine learning techniques and python. Logistic regression, Decision tree classifier, AdaBoost Classifier and Random Forest classifier techniques are used in predicting the eligibility status of the customer for the loan. Apart from the prediction of eligibility status, we also developed a web application using streamlit library, which includes a recommender system for the input collection from the customers, based upon the applicant's profile banks with optimal interest rate are given in form of a table. The experimental results conclude that the accuracy of Random Forest classifier algorithm (82.29%) is better as compared to Logistic Regression (70.83) and decision tree classifier (77.08).

***Keywords*:** Loan prediction, Random Forest classifier, decision tree classifier, Logistic regression.

*Corresponding Author
E-mail Address: 19mms010@smvdu.ac.in

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A Study on Various Techniques Involved in Mental and Suicide detection: A Comprehensive Review

Shabir Ahmad Magray, Baijnath Kaushik
School of computer Science and Engineering , Shri Mata Vaishno Devi university,
Kakryal , Karta, Jammu & Kashmir-182320

Abstract: Mental health is not limited to a particular country but it is global issue, mental disorders may transform to suicidal ideation without successful therapy. To save the lives of people, early detection of mental disorder and suicidal ideation should be tackled. The prediction can be done using the clinical interviews between the experts and the targeted people and apply various machine or deep learning techniques for automatically detection of suicide risks in social content. In this paper, we will present the survey of methods for suicide detections. Various publicly available datasets are also summarized in this paper.

***Keywords*:** Deep learning, Machine Learning, Social Content, Suicide ideation

*Corresponding Author
E-mail Address: 19mms010@smvdu.ac.in

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Sign Language Translator for Speech Impaired

Vignesh Jinde[1], Tejan Vedivelly[2], Akshay Reddy Kaidapuram[3], Vikaram Pattapu4, Kasi Bandla[5]
Dept. of ECM,Sreenidhi Institute of Science and Technology, Hyderabad, India

Abstract - Deaf and dumb have limitations in terms of communication. Researchers' area unit keen to develop a technology translator is ready to translate signing into written communication. the most objective is to translate signing to text/speech. The framework provides a helping-hand for speech-impaired to speak with the remainder of the planet victimization signing. This ends up in the elimination of the centre one who typically acts as a medium of translation. This is able to contain an easy atmosphere for the user by providing speech/text output for a signal gesture input. The most application of this project is to produce aid for the speech-impaired to speak with those that don't grasp the signing. Thanks to the simplicity of the model, it may also be enforced in smartphones and is considered our future commit to do this. Output would be provided for numerous gestures in an exceedingly separate window within the variety of text. Text output can additional be born-again into speech victimization text-to-speech device for additional sleek communication.

***Keywords*:** Translator, Sign Language, Gestures, Speech Victimization.

*Corresponding Author
E-mail Address: 17311a1927@sreenidhi.edu.in

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Number Identification using Hand Gestures

B. Prasanthi[1], Rishitha Reddy[2]
[1]Assistant Professor, Dept. of CSE, Mahatma Gandhi Institute of Technology
[2]Student, Dept. of CSE, Mahatma Gandhi Institute of Technology

Abstract- Hand Gesture System used for Number Identification shows the connection between the system and the user with the help of hand gestures. This is collaboration between live stream and hand gestures. The webcam captures the gesture, when the user enacts a specific gesture, identifies the gesture and gives the action related to it. For this purpose a model of Deep Neural Network used. The CNN Architecture, without any hand-turning allows to bring out suitable information from input images. This technique helps in understanding and recognizing various gestures and makes the communication between humans and machines more powerful. Hence, this type of applications are used by the people who are blind and deaf so that they can give suggestions at anywhere with the gestures. Basically in hospitals and any other medical applications we can use this type of applications.

Keywords: CNN, Number Identification, Hand gesture, Deep neural network.

*Corresponding Author
E-mail Address: bprasanthi_cse@mgit.ac.in

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Time Table Generator

B. Prasanthi[1], Sravanthi Kunchala[2]
[1]Assistant Professor, Dept. of CSE, Mahatma Gandhi Institute of Technology
[2]Student, Dept. of CSE, Mahatma Gandhi Institute of Technology

Abstract- Timetable generation for education institutions with various branches, years and branches is a very difficult task. It consumes large amount of time and is quite important for a six month semester. Therefore, it requires a huge manpower and time. In some criteria, this manual process of timetable creating is burdensome. In this research, we have implemented an algorithm to create timetables automatically which would conserve huge time and burden on the person who is performing this task manually. It is better to use approach which is based on software in which a system processes the information and produces the results with high accuracy.

***Keywords*:** Timetable, hard constraints, soft constraints, optimization, automated timetabling, genetic algorithm

*Corresponding Author
E-mail Address: bprasanthi_cse@mgit.ac.in

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Semantic-based Adaptive Framework for Personalized and Optimized Information Retrieval

J.I. Christy Eunaicy[1], Dr.S. Suguna[2]
[1]Asst.Prof, Dept of CA & IT, Thiagrarajar College, Madurai
[2]Asst.Prof, PG &Research, Dept of Computer Science, Sri Meenakshi Govt Arts college for women(A),Madurai

Abstract - Effective retrieval of the most appropriate documents on the topic of interest from the Web and it is problematic due to ahuge amount of information in all categories of formats. To arrive atproper solutions in IR systems, machines essential additional semantic information that aids in understanding Web documents. In this research work, the semantic IR model is examined, situated to the exploitation of domain ontology and Customer Personal data to sustenance semantic IR proficiencies in Web documents, stressing on the use of ontologies in the semantic-based perception. The proposed framework is reputable to offer more relevant recommendations based on the user's group using user classification. The principle intention of this work is to design and implement a semantic search that repossesses the search results analyzing the context and semantics of the query. The semantic search repossesses the most appropriate results for the queries under the relevant domain. The semantic information retrieval supported the user access pages are preprocessed and the weblog data of the particular user is analyzed to identify the user profile. Then the retrieved information is graded with clustering the semantic content-based results. The ranked content is then analyzed with the user profile to produce optimized search results for the users based on the user classification.

***Keywords*:** Information Retrieval, Semantic Mining, Adaptive Framework, Personal User Information Retrieval.

*Corresponding Author
E-mail Address: eunaicy@gmail.com

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Prediction of Recovered, confirmed and death cases of Covid-19 pandemic

[1]Lazmi Rajput, [2]Divaya Garg, [3]Mr. Satyam Rana
Department of Information Technology, MIET, Meerut

Abstract- We are writing this research paper for analyzing the number of recovered, confirmed and death cases of covid-19 pandemic around the world. Because of hectic situation of covid19, all people suffered and still suffering a lot. This situation of covid19 forced out government to lock our country. Lockdown is still continuously going on in 2021 also. In this paper, we have considered all confirmed, recovered and death cases. We have used time series analysis, SVR, HOLT and linear regression model for this prediction. These models inferred result very closely to the actual number of cases of covid19.

***Keywords*:** COVID19, Time series, Holt, SVR, Linear regression, Matplotlib, Sklearn, NumPy, Pandas, Seaborn

*Corresponding Author
E-mail Address: rajputlazmi@gmail.com

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Recent Trends And Novel Smart Nurse Application Of Iot Enabled Uav System To Combat Covid-19

[1]Rashandeep Singh, [2]Kriti Aggarwal and [3]Dr. Gulshan Goyal
[1,2,3]Chandigarh College of Engineering and Technology, Chandigarh, India

Abstract- Unmanned aerial vehicles commonly known as UAVs refers to remote controlled autonomous or semi-autonomous systems which assist in collection and transmission of aerial data. Integration of various hardware and software technologies into these unmanned vehicles allows development of specific industrial applications and deployment of these UAVs even in the human inaccessible and disaster-prone areas. Thus, different technologies provide a different consumer market for UAVs. With the recent trend and need for an internet connected world, integration of the Internet of Things (IoT) into unmanned vehicles have gained a heavy popularity. IoT enabled UAVs can help construct smart management systems that are capable of autonomous data transmission over the network of things. Development of smart operations is the need of the hour for every developed and developing nation. The present paper reviews the history, design and classification of UAVs. The paper also surveys the role and relevance of IoT based UAV platforms in the Indian market and discusses applications of IoT enabled UAVs across the world. Further, a novel application of IoT enabled UAV-Smart Nurse is proposed to combat COVID-19 pandemic.

***Keywords*:** Unmanned System, Unmanned Aerial Vehicles (UAV), Drone, Internet of Things (IoT), Smart Nurse.

*Corresponding Author
E-mail Address: rashandeepsingh@gmail.com

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CEMRPA: Certificate-less Enhanced Multi-Replica Public Auditing in Public Key Infrastructure

Dr. M.RamaKrishnan, Mrs.M.B.C.AshaVani
Professor and Head, Department of Computer Applications,Madurai Kamaraj University,Madurai-21.
Assistant Professor, Department of Computer Application & IT,
Thiagarajarcollege,Madurai-09.

Abstract- Cloud storage helps data owners store and view data from anywhere on a system in compliance with a pay-per-use agreement. However, cloud computing poses a range of protection issues, including data integrity and affordability. Recently, many multi-replicate literature audit schemes to resolve these concerns concurrently were suggested. The bulk of current implementations are focused on PKIs or identity-based cryptography (IBC). However, they also have an immense responsibility for handling licenses or a big issue with escrow. We suggest a Certficate less Enhanced Multi-Replica Public Auditing System (CEMRPA) for mutual data in cloud storage resolve these problems. Our framework embraces dynamically shared data with a new data form, namely the replica variant table. Finally, the security analysis reveals that under the current paradigm, the strategy is stable. The results are analyzed and show that our proposed model CEMRPA is more efficient than existing schemes.

***Keywords*:** Multi-Replica, Certificate-less, CEMRPA, PKI, IBC

*Corresponding Author
E-mail Address: ramkrishod@gmail.com

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Performance Comparison and Evaluation of the Routing Protocols of MANETs in Different Simulation Range

Kumar Amrendra[1], Research Scholar, Jharkhand Rai University, Ranchi
Anuradha Sharma[2], Assistant Professor, Jharkhand Rai University, Ranchi
Dr. Piyush Ranjan[3], Professor, Jharkhand Rai University, Ranchi

Abstract- In an ad hoc network, the nodes are connected through the wireless links. Communication between different nodes is made with the help of different routing protocols. In case of static or stationary nodes the performance of the routing protocols is better than that in case of moving (mobile) nodes. There are various number of routing protocols and the performance studies have been done on all. On the basis of update mechanism, the protocol are divided into reactive, proactive and hybrid protocols. The simulation is done on the simulator NS2. Many researchers have done the analysis and proposed their observation until this point. Among the various routing protocols based on update mechanism, we have taken three different protocols the first one is AODV (Ad-hoc On-request Distance Vector), next is DSR protocol also known as Dynamic Source Routing Protocol and the third one is DSDV protocol which stands for Destination-Sequenced Distance-Vector. Execution correlation of AODV, DSDV, DSR protocols are done in this research with varying number of nodes in two different cases (Simulation area of 400*400 and Simulation area of 500*500) by setting up the nodes on an irregular manner. Our analysis states that the throughput of the system and the end-to-end delay shows variations in case of increasing number of nodes in the two different cases (Simulation area of 400*400 and Simulation area of 500*500) whereas the parcel thickness division, standardized steering load and vitality expended remains constant regardless of the simulation area.

***Keywords*:** AODV, DSR, DSDV, Routing, Topology, Throughput.

*Corresponding Author
E-mail Address: anshu.amrendra@gmail.com

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A review on Mart Shop – An E-Commerce Portal

[1]Charul Mehta, [2]Anisha Ninawe, [3]Dipti Deoke, [4]Aditi Pidurkar, [5]Janvi Ghate, [5]Dr. Mrs. Snehal Golait
Priyadarshini College of Engineering, Nagpur, Maharashtra

Abstract - This paper is defining a short overview of the system called "Mart Shop" an e-commerce android app made with the latest technology flutter and dart programming. In this system we have developed an e-commerce app for small vendors who want to sell their products online without paying any extra cost for the online shop registration. Anyone can register on this app by entering limited details and that's it. Users can buy products easily like they go shopping on other shopping apps. The app is totally free for everyone.

Keywords - E-commerce, dart programming, flutter, vendors, sell and buy.

*Corresponding Author
E-mail Address: charulmehta24@gmail.com

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Customized Digital Virtual Assistant using Python

Siddhidhatri Rohit Reddy[1], D UpagnaKiran[2], N Shashank Vardhan[3], Kasi Bandla[4]
Dept. of ECM, Sreenidhi Institute of Science and Technology, Hyderabad, India

Abstract- The Virtual Assistant has developed in Python with the help of Artificial Intelligence. Virtual assistants are growing more resourceful in this digital era, assisting to human being by connecting many tools of a corporate organization for improved software development and also a more comfortable lifestyle. The virtual assistant is voice-driven and connected to the organization's cloud, allowing it to retrieve and readily access pre-existing data and offer it to stakeholders or employees as needed. It could access, analyze, and interpret data from the organization's cloud, as well as provide results to requests through Stack or the Internet. It can send and receive emails, play music, read the news, and deliver weather reports, among other things, in response to voice instructions. It also works with keyboard input commands. The system that is being presented here has been customized.

***Keywords*:** Virtual Assistant, Python, Artificial Intelligence, Voice-Driven, Hailey and Customized.

*Corresponding Author
E-mail Address: 17311a1982@sreenidhi.edu.in

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Analysing the impact of Air pollutants on precipitation: A Visual Analytic Approach

[1]G.Sudha, [2]Dr.S.Suguna
[1]Assistant Professor, PG and Research Deparment of Computer Science,
[2]Sri Meenakshi Government Arts College for Women (A)
(Affiliated to Madurai Kamaraj University)
Madurai, India

Abstract- The rising air pollution across world invariably caused irregular and unexpected changes over climate, weather conditions. Pollution has been generated by various activities at both industrial and residential sectors. Man made activities tends to generate several pollutants and they get mixed at air; make the air to be dangerous for living, hazard to every living being. Each pollutant influences and indirectly affects the weather condition. The pollution particles prevent cloud water from condensing into raindrops and snowflakes. Air pollution also affects the water carrying capacity of clouds, which in turn influences the seasons. Being a casual observer, it seems to be environmental changes but its impacts on agriculture, water reservoirs and biodiversity are really significant. The objective of this work is to analyze the relationship among the air pollution particles and weather attributes especially, precipitation using visual analytic approach. Every activity depends up on weather condition especially, agriculture sector purely depend on precipitation received at right time of crop cultivation. Unseasonal rainfall affects every living being in this world. The goal this work is to predict the precipitation by means of air pollutants.

***Keywords*:** Visual analytics, Air Pollution, PM25, correlation, regression, analysis.

*Corresponding Author
E-mail Address:g.sudha79@rediff.com

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Design of Dynamic based Personalized and Recommendation System for E-Commerce Applications

M.Vithya[1] Dr.S.Suguna[2]
[1,2]Lecturer, Sri Meenakshi Govt. Arts College for Women (A), Madurai-2

Abstract - The problems are faced by the data miner with the data collected at the server side to discover sequential navigational patterns that are to identify the visitors and distinguish them. The complication is that specific visitors when they use proxy servers or share the same system to surf the website. The proposed detection model for the recommendation is established to provide more associated and optimized suggestions for the users. This work attempts to attain an enriched accuracy level through the exploitation of recommendation systems in Personalized Web Mining. The work focuses on an optimized and personalized recommendation based on the usage profile. The weblog information of the users is pre-processed to attain the log information like user identification, session identification, and path completion for the user profile construction. The user profile is constructed based on the pre-processed weblog info to obtain behavioral patterns. The behavioral patterns are employed for the integrated filtering framework for detection and recommendation of the personalized web pages is included. The proposed framework model of recommendation system is predicted more accuracy rate and less CPU utilization when compared with an existing system.

***Keywords*:** CPU, Proxy, Surf, Web Mining, weblog.

*Corresponding Author
E-mail Address:vithyagopal20@gmail.com

PAPER ID: ICICCI-21-0198

Protected Copyright Information Sharing using Blockchain for Digital Garment Design Work

[1]D.Geethanjali, [2]Dr.R.Priya, [3]Dr.R.Bhavani
[1,2,3]Department of Computer Science and Engineering, Annamalai University, Chidambaram. Tamilnadu, India

Abstract: Due to the rapid growth of the internet and the availability of digital data, the copyright owners need to protect their data from illegal duplication. Protecting multimedia content have the big challenge in the present scenario. The blockchain based digital image watermarking techniques solves this difficulty to a greater extent. The proposed system has the following sequential steps. (i) Watermark embedding process (ii) Generation of Hash code (iii) Creating the blockchain list (iv) Store and retrieve the blockchain files into IPFS and finally (v) Extract the watermark image. The above steps are implemented as follows: First, cover and watermark images are selected, Arnold Transformation is applied on the watermark image, Watermark is embedded on the cover image using Discrete Wavelet Transform (DWT). In the second step, Perceptual hash and md5 hash codes are generated for cover and watermarked images respectively. Then the hash codes are added into the blockchain transaction list. And they are stored in IPFS (Inter Planetary File System). Now the IPFS has two files namely watermarked image file and copyright specification of design work file. Based on the user request IPFS file is downloaded using the ipfshash code. At last, the watermark image is extracted by using the watermark extraction process. The Arnold Transform increase the watermark image strength and provide secure watermark encryption. When compared to other transforms DWT has good localization, better image quality and it has multi resolution feature. Hash functions are used to identify the image before and after watermark embedding process. Blockchain is used to transfer the information without the third party with security. IPFS is used to store and retrieve data without the centralized server and improve the effectiveness of the system. This scheme also exhibits the various types of attacks on the watermarked image and it is compared with the existing system.

***Keywords*:** Copyright Protection, Digital Right Management, DWT, IPFS, Perceptual Hash

*Corresponding Author
Email Address: anjali.geetha81@gmail.com

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Geo-Fencing: An Employee Attendance Management System

[1]Gautam Rampalli, [2]Spoorthy Shivani Pabba, [3]Sharon Sucharitha Kondru, [4]Meghana Srirangam
[1]Assistant Professor, [2,3,4]Student
[1,2,3,4]Dept. of Information Technology
Kakatiya Institute of Technology & Science, Opp. Yerragattugutta

Abstract—Attendance is key factor for many organizations in analyzing and developing strategic actions to reduce employee absences so that workers are consistently present to do their jobs and to ensure the work is productively carried out for the benefit of the organization. Existing Systems were not accurate in realistic phase, as many of the systems are configured to only database results rather than employee presence in field area. These results were not accurate, and more risk factorized for organizations where field area plays a major role such as Civil Organizations, Coal mining employees, as they are threat prone to some disasters accidentally. So, to estimate and find accurate presence of an employee, a better and real time proposition called as geo-fencing will be useful. This project is developed based on polygon-based geo-fence feature which triggers a message as a log to the management if the registered id is out of the assigned fence. It is used to define geographical boundaries and has been a virtual fence to locate particular and assigned location of an organization. In a nutshell, this project is a web application developed in python language using framework. The front-end is designed and developed with Cascading Style Sheets and Hyper Text Markup Language whereas SQL Alchemy is used for backend handling. The core advantage of "Geo-fencing: Employee attendance tracking system" is to obtain accurate results and develop secure way of employee tracking and attendance capture system for an organization and thereby help estimate their economic deliverables and plan the associated, estimated and proposed time or budget.

Keywords— Geo-fencing, Circular fence, Polygon fence, Tracking, Fencing

*Corresponding Author
E-mail Address: gr.it@kitsw.ac.in

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A Novel Adaptive Method to Extract Text Information from Images for Information Retrieval

Mr. Subhakarrao Golla, Dr. B Sujatha, Dr. L Sumalatha
Research Scholar, Professor of CSE, Professor of CSE,
JNTUK, Kakinada. GIET, Rajahmundry, UCE College of Engg., JNTUK

Abstract: Many approaches are identified in extracting the text information represented in the natural images. The process of extracting the text from images applies with detection, tracking and recognition procedures. The extracted text can be used to retrieve the original images. Due to the differences in size, orientation and alignment of the text the process of extracting text is a challenging one. This paper focuses on text extraction procedures and thereby to retrieve the text by indexing the extracted text.

Keywords: Text extraction, frames, page decomposition, pixels, poly chorome, Caption Text, Gabor Filters, SVM.

*Corresponding Author
E-mail Address: subhakar.golla@gmail.com

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Performance Evaluation of Cloud Workflow Scheduling using Deep Reinforcement Learning

K. Nithyanandakumari[1], S. Sivakumar[2]
[1]Assistant Professor, Cardamom Planters Association College,Bodinayakanur , TN. nithya_raj811@yahoo.co.in
[2] Principal, Cardamom Planters Association College, Bodinayakanur,TN.

Abstract - Cloud computing is a platform that provides refined services to a large number of users over a network. Scheduling is one of the fundamental solutions to enhance the efficiency of all cloud-based services. Cloud scheduling assigns accessible cloud resources to tasks and optimizes numerous performance metrics. The massive scale of workflow as well as the elasticity and heterogeneity of cloud resources make cloud workflow scheduling difficult. In such a case, machine learning based scheduling models using neural networks can be leveraged to solve this challenging problem. The make span and execution cost are the two critical performance metrics in workflow scheduling. In this study, a scheduling strategy for workflow is proposed that uses a deep neural network model in a reinforcement learning setting. The proposed Deep Reinforcement Learning based Workflow Scheduling (DRLWS) model minimizes the make span and total execution cost. Simulated experiments show that the DRLWS model can find better results.

Keywords: Deep learning, Reinforcement learning, Cloud Computing, Workflow Scheduling, Deep Neural network.

*Corresponding Author
E-mail Address: nithya_raj811@yahoo.co.in

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Personal Voice Assistant

[1]G. Suraj, [2]M.Aashritha, [3]J.Sri Chandhana,[4]A.Sanjay,[5]Ms. Laxmi Devi
[1,2,3,4]UG Student, [5]Assistant Professor
Department of Computer Science and Engineering,
St. Martin's Engineering College,
Near Forest Academy, Dulapally, Kompally, Secunderabad, 500100, India.

Abstract- A personal voice assistant that use to take the user commands as input and perform tasks based on the user commands. It provides more efficient and natural interaction with support of multiple voice commands in the same utterance. This assistant has a unique face recognition technique through which only the authorized user can provide the command to the assistant and can perform their various tasks on system. Our proposed system reaches out to help our society by making their work easier as this system can tell the news, search what you want, send email by only your voice command, play game with you, set reminders, tell the location, forecast weather, can tell horoscope of you and endless number of tasks can be done by this. Thus, our system can be used for the doing the multi-purpose tasks in robust and flexible approaches.

Keywords **-** Speech Recognition, Face Recognition, TTS, Voice command, Voice assistant.

*Corresponding Author
E-mail Address: gariboyinasuraj@gmail.com

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A Novel Design and Development of the Conveyor Cabinet with UV Light Chamber and Dry Fogging System for Decontamination of Objects for COVID -19 Safety

SamarthBorkar[1],Abhishek Naik[2], Ashwini Saravannavar[3],Bhushan Gawde[4],Saeera Desai[5]
[1]Asst. Professor, [2,3,4,5]Student
Department of Electronics & Telecommunication Engineering
Goa Collegeof Engineering, Farmagudi, Ponda Goa, INDIA

Abstract- Due to the Covid-19 pandemic, it has become hazardous to go out in crowded areas, specifically supermarkets, where items are touched by many people with unhygienic hands and act as a source for the transmission of the disease. Following World Health Organization's (WHO) guidelines and maintaining proper hygiene has become an essential part of our life. A novel system has been designed by us using the conveyor system with UV light chamber and dry fogging technology for decontamination. An effort has been made to design a conveyor system that carries objects into a sanitizing chamber, which cleans the items either by dry fogging method or by using UV lights based on categorization of objects. Almost 99% sanitization is achieved by making use of these two methods and this can be used as a base for any further work in this domain.

***Keywords*:** decontamination, conveyor system, dry fogging system

*Corresponding Author
E-mail Address: samarth@gec.ac.in

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Predicting Drug Risk Level from Adverse Drug Reaction

Ms .S .Sowmya[1] ,P.Priyanka[2], M.Sonalika[3], M.Pragna[4], G.Nandini[5]
[1]AssistantProfessor, [2,3,4]Undergraduate Student,
Department of Computer Science&Engineering, Sridevi Womens Engineering College
Hyderabad,Telangana

Abstract - The Adverse drug reactions (ADRs) are the major source of morbidity and mortality. The prediction of drug risk level based on ADRs is few. Our study aims at predicting the drug risk level from ADRs using machine learning approaches. A total of 985,960 ADR reports from 2011 to 2018 were attained from the Chinese spontaneous reporting database (CSRD) in Jiangsu Province. Among them, there were 887 Prescription (Rx) Drugs (84.72%), 113 Over- the-Counter-A (OTC-A) Drugs (10.79%) and 47 OTC-B Drugs (4.49%). An over-sampling method, Synthetic Minority Over sampling Technique(SMOTE),wasappliedtotheimbalancedclassification.Firstly,weproposedamulti-classificationframeworkbasedonSMOTE and classifiers. Secondly, drugs in CSRD were taken as the samples, ADR signal values calculated by proportional reporting ratio (PRR) or information component (IC) were taken as the features. Then, we applied four classifiers: Random Forest (RF), Gradient Boost (GB), Logistic Regression (LR), AdaBoost (ADA) to the tagged data. After evaluating the classification results by specific metrics, we finally obtained the optimal combination of our framework, PRR-SMOTE-RFwithanaccuracyrateof0.95. We anticipate that this study can be a strong auxiliary judgment basis for expert son the status change of Rx Drugs to OTC Drugs.

***Keywords*:** ADRs, IC, CSRD, SMOTE, OTC Drugs, ADA

*Corresponding Author
E-mail Address: swecsowmyasalkiti@gmail.com

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Bird Species Identification using Deep Learning

M.Aishwarya[1], Y.SreeVishnuPriya[2], P.Beulah[3],G.HariTeja[4], N.Krishnavardhan[5],
Dr. P. SantoshKumar Patra[6], Dr.M.Narayanan[7]
[1,2,3,4] UG Scholars, [5]Assistant Professor, [6]Principal & Professor, [7]Professor & Head
Department of Computer Science and Engineering,
St. Martin's Engineering College, Near Forest Academy, Dulapally, Kompally, Secunderabad,
Telangana 500 100, India
Email ID: aishuyadav1407@gmail.com[1], sreevishnupriya99@gmail.com[2],
pasambeulah@gmail.com[3],hariteja285@gmail.com[4], krishnavardhan522@gmail.com[5]

Abstract - This paper presents an automated model based on the deep neural networks which automatically identifies the species of a bird given as the test data set. It uses the Caltech-UCSD Birds 200 [CUB-200-2011] dataset for training as well as testing purpose. By using deep convolutional neural network (DCNN) algorithm an image converted into grey scale format to generate autograph by using tensor flow, where the multiple nodes of comparison are generated.

Keywords-: Convolution neural network, Image Classification, grey scale pixel, Caltech-UCSD

*Corresponding Author
E-mail Address: aishuyadav1407@gmail.com

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Performance Comparison and Evaluation of the Routing Protocols of MANETs in Different Simulation Range

Kumar Amrendra[1], Anuradha Sharma[2], Dr. Piyush Ranjan[3]
[1]Research Scholar, [2]Assistant Professor, [3]Professor
Jharkhand Rai University, Ranchi

Abstract- In an ad hoc network, the nodes are connected through the wireless links. Communication between different nodes is made with the help of different routing protocols. In case of static or stationary nodes the performance of the routing protocols is better than that in case of moving (mobile) nodes. There are various number of routing protocols and the performance studies have been done on all. On the basis of update mechanism, the protocol are divided into reactive, proactive and hybrid protocols. The simulation is done on the simulator NS2. Many researchers have done the analysis and proposed their observation until this point. Among the various routing protocols based on update mechanism, we have taken three different protocols the first one is AODV (Ad-hoc On-request Distance Vector), next is DSR protocol also known as Dynamic Source Routing Protocol and the third one is DSDV protocol which stands for Destination-Sequenced Distance-Vector. Execution correlation of AODV, DSDV, DSR protocols are done in this research with varying number of nodes in two different cases (Simulation area of 400*400 and Simulation area of 500*500) by setting up the nodes on an irregular manner. Our analysis states that the throughput of the system and the end-to-end delay shows variations in case of increasing number of nodes in the two different cases (Simulation area of 400*400 and Simulation area of 500*500) whereas the parcel thickness division, standardized steering load and vitality expended remains constant regardless of the simulation area.

***Keywords*:** AODV, DSR, DSDV, Routing.

*Corresponding Author
E-mail Address: unagaiahcse@smec.ac.in

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Under water Sonar Signal Recognition By Incremental Data Stream Mining Using Machine Learning

Mr.L.Manikandan[1]R.Sai lakshmi[2] ,P.Anjani[3], R.Sumasree[4]
[1]Assistant Professor, [2,3,4]Undergraduate
Department of Computer Science & Engineering,
Sridevi Women's Engineering College, Hyderabad, Telangana

Abstract – Sonar signals are used to detect objects under water. The detection of submarines under water using this sonar signals helps in alerting the navy if any enemy submarine is found .The location of the object is also found .The traditional approach like classification algorithms of data mining are used for detecting the objects with good accuracy. But these approaches detect all the objects like rocks, fishes and some unwanted materials under the sea along with submarines and noisy data causes disturbance .To overcome this problem we are implementing new algorithms using machine learning.

***Keywords*:** Sonar**,** data mining, fishes, under water.

*Corresponding Author
E-mail Address: manibe007@gmail.com

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Refactoring Software Clones based on Machine Learning

Dr.T.K.S.Rathish babu[1],E.Swayaprabha[2],B.Vishala[3],Shruthi[4],
[1]Professor, Department of Computer science Engineering,
Sridevi Women's EngineeringCollege,Hyderabad.
[2,3,4]Undergraduate student, Department of Computer science Engineering,
Sridevi Women's Engineering college, Hyderabad, Telangana

Abstract-Our approach is to help developers in finding code clones and refactoring the code clones by using machine learning algorithms .Here we advise developers refactored code clones by using automatic advisor . In this paper we suggest, what code clones need to be refactored and which methods are used to refactor code clones .This paper gives an unique machine learning algorithm to find the refactored codes by extracting features from detected code clones and trains model to suggest developers on what code needs to be refactored. Our approach differs from others, which specifies types of refactored code clones as classes and creates a model for finding the types of refactored code clones and clones which are unidentified .Here we introduce a method by which it converts the outliers into unknown clone set to improve the results of classification.

***Keywords*:** Refactoring clone, machine learning, outlier detection, classification, AST and PDG features

*Corresponding Author
E-mail Address: evuramprabha@gmail.com

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Development of Hybrid Haze Removal Algorithm for On-road Vehicles

Prashila S. Borkar[1], Samarth Borkar[2]
[1]Asst. Director, [2]Asst. Professor,
[1]Dept. of Information Technology, Panaji-Goa.
[2] Department of Electronics & Telecommunication Engineering Goa College of Engineering

Abstract- Roads are considered to be crucial infrastructure components in any country. However, bad roads, bad weather conditions or human factors leads to road accidents. To address this problem, images captured by digital cameras mounted in the cars are processed at real time to restore some visibility. In this paper, we propose a novel image processing based defogging algorithm which works on the captured foggy image as two input images initially and output obtained from two images is taken as input to a new module, and various enhancement techniques are operated on the image at each stage and outputs obtained at each module. Various techniques such as Discrete Wavelet Transform (DWT), Contrast Limited Adaptive Histogram Equalization (CLAHE) in HSV Model is employed. A computationally simple yet cost effective post processing is included to solve the problem of low contrast by employing DWT based image fusion. Experimental results both quantitative and qualitative evaluation such as higher value of entropy, evaluation of descriptors, PCQI, feature metric and visibility metric demonstrate the validity of proposed algorithm by virtue of restored natural images, colour fidelity and image sharpness.

***Keywords*:** visibility enhancement, image defogging, hazy image, contrast enhancement, DWT, image fusion

*Corresponding Author
E-mail Address: prash0202@gmail.com

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Twitter Trend Analysis for Predicting Public Opinion

Rashmi Kapu[1], Naga Sravani Komaravolu[2], Mohammad Abdul Adeeb[3] Kasi Bandla[4]
[1,2,3,4] Dept. of ECM,
Sreenidhi Institute of Science and Technology, Hyderabad, India

Abstract- One of the main features on the homepage of the Twitter shows a list of top terms which are the trending topics at all times. These terms reflect the topics that are being discussed most at the very moment on the site's fast-flowing stream of tweets. In order to avoid topics that are popular regularly, Twitter focuses on topics that are being discussed much more than usual, i.e., topics that recently suffered an increase of use, so that it trended for some reason. Twitter analysis can be used for tasks like marketing or product analysis. In this paper, we used sentiment analysis in order to detect the hate speech in tweets. To do so, we collect tweets, pre-process them, look for trending topics, and use a multi-classifier algorithm to predict public opinion. Sentiment analysis is text mining that finds and extracts subjective information from source material, allowing a company to better understand the social sentiment of its brand, product, or service while monitoring online conversations. However, analysis of social media streams like Twitter is usually restricted to just basic sentiment analysis and count based metrics. Weused 'tweepy' package in order to access the Twitter API.

***Keywords*:** Machine Learning, Topic Detection, Text Mining Tweets, Racist words, Polarity.

*Corresponding Author
E-mail Address :17311a19d4@sreenidhi.edu.in

PAPER ID: ICICCI-21-0227

Semantic based Information Retrieval in E-learning documents with QIR System

B.Gomathi[1], S.Suguna[2], M.Thangaraj[3],
[1,2]Assistant Professor, [3]Professor, Computer Science
Madurai Sivakasi Nadars Pioneer Meenakshi Women's College, Poovanthi

Abstract-The web contains a vast amount of records that can be useful to clients for businesses, organizations, etc. But for E-Learning, the Semantic-based information retrieval techniques give the most relevant concepts based on user query compared with the normal web. In this paper, a semantically driven E-learning framework is proposed. The main pillar of the Semantic Web is RDF and OWL, which extracts metadata from the web documents. In the normal web, the keyword-based search method provides an irrelevant huge amount of information, but our proposed semantic-based QIR (Querying, Indexing, and Ranking) system provides the relevant data in a short period with less time complexity. This work is implemented using Java Programming language. This proposed QIR system increases the performance of the result based on precision and recall compared with the existing one.

***Keywords*:** Information Retrieval, RDF, SPARQL, E-learning, Querying, Indexing, Ranking, Semantic Web

*Corresponding Author
E-mail Address: sweetgoms@gmail.com

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Analysis of Women Safety in Indian Cities Using Machine Learning On Tweets

Mrs.S.Anitha[1], T.Pavani[2], CH.Alekhya[3], G.Dikshitha[4]
[1,2,3,4] Assistant Professor, Department of Computer Science Engineering,
Sridevi Women's Engineering College, JNTU-H

Abstract- Women and girls have been experiencing a lot of violence and harassment in public places in various cities starting from the stalking and leading to sexual harassment or sexual assault. This research paper basically focuses on the role of social media in promoting the safety of women in Indian cities with special reference to the role of social media websites and applications like twitter, Facebook and Instagram. This paper also focuses on how sense of responsibility on part of Indian society can be developed the common Indian people so that we should focus on the safety of women surrounding them. Tweets on twitter which usually contain images and text and also written messages and quotes which focus on the safety of women in Indian cities can be used to read a message among the Indian Youth Culture and educate people to take strict action and public those who harass the women. Twitter and twitter handles which include hash tag messages that are widely spread across the whole globe sir as a platform for women to express their views about how they feel while we go out for work or travel in a public transport and what is the state of their mind when they are surrounded by unknown men and whether these women feel safe or not.

***Keywords*:** hash tag, safety, sentimental analysis, women, sexual harassment.

*Corresponding Author
E-mail Address: pavanituripati2000@gmail.com

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A Systematic Review of Various Applications in Internet of Things

Dr.M.Thillainayaki[1] Ms.B.Janani[2] Ms.K.Indhu[3]
[1,] Assistant Professor, Computer Science
[2,3] Assistant Professor, Commerce Nehru Arts and Science College
Coimbatore

Abstract- The Internet of Things (IoT) is known to be an ecosystem comprising smart objects equipped with sensors, networking and processing technologies that integrate and work together to provide an environment in which end-users receive smart services. Through the world in which smart services are given to use any operation anywhere and anytime, the IoT brings various benefits to human life. By using the smart applications in IoT, the end users will satisfy with their work in very smart way. The IoT brings positive impacts across the world through human life in which smart utilities are given to use any operation anywhere and at any time. The Quality of Service(QoS) will provide various services to different applications in several ways.

***Keywords*:** Internet of Things, Monitoring, Quality of Service

*Corresponding Author
E-mail Address: thillainayakim@gmail.com

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Biological system Administrations for Compelling Utilize of Information Driven Modeling

Dr.A.B.Arockia Christopher[1], Dr.M.Balakrishnan[2], Dr.A.S.Muthunantha.Murugavel[3], J.Ramprasath[4]
[1,2]Assistant Professor (SG), [3]Associate Professor, [4]Assistant Professor
Department of Information Technology,
Dr. Mahalingam College of Engineering and Technology, Pollachi, Coimbatore, India.

Abstract: The principle point of this paper is the means by which viably Data Driven Modeling (DDM) can be adequately utilized for biological system administrations contrasting and the traditional displaying, the DDM (Data Driven Modeling) measure gives the best exactness. For going through preparing, tree order calculations were utilized like choice tree, packing, irregular woods with boosting angle like XGBoosting. The biological system dataset is contrasted here and all most appropriate calculations. In Random woods the way toward finding the root hub and parting the element hubs will run arbitrarily. The highlights assume a significant part in arbitrary backwoods calculation particularly tracking down the significant component for preparing the set. Over fitting is one basic issue that may aggravate the outcomes, yet for Random Forest calculation, if there are sufficient trees in the woodland, the classifier will not over fit the model particularly for arrangement issues. Irregular backwoods with XGBoost (eXtreme Gradient Boosting) which an incredible, and lightning quick AI library where the trees are developed successively and the speed is expanded by equal preparing. This information is prepared utilizing Random Forest in XGBoosting with extra hyper boundaries and the exactness is anticipated.

***Keywords*:** Data pre-processing, XGBoosting algorithms, Random Forest algorithm, Predictive model.

*Corresponding Author
E-mail Address: abachristo123@gmail.com

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A Novel Approach to Detect the Human Face using Machine Learning

[1]Akash Kumar, [2]Vivekanand, [3]Shivanand Mishra
Galgotias University, Greater Noida, India

Abstract- Web-based innovation has improved definitely in the previous decade. Thus, security innovation has become a significant assistance to ensure our every day life. In this paper, we propose a strong security dependent on face acknowledgment framework (SoF). Specifically, we foster this framework to giving access into a system for authenticated user using face detection. It is very challenging problem to detect faces and recognize it. Face Detection and recognition technology is used in many security areas like in offices, airports, ATMs, bank, smart phones, etc. In this paper we provided the basic approach to face detection, methodology and its applications.

***Keywords*:** ATM, Detection, recognition, SoF.

*Corresponding Author
E-mail Address: akash_kumar2.scsebtech@galgotiasuniversity.edu.in

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A Guide tour on security techniques for multimedia data

Dr.S.Ponni alias sathya[1] ,Dr.S.Ramakrishnan[2] , Dr.S.Nithya[3]
[1]Assistant Professor(SS), [2]Professor, [3]Assistant Professor(SS),
IT department, Dr.Mahalingam college of Engineering and Technology, Pollachi.

Abstract- The multimedia is a mixture of various forms of data like test, images, graphics and video. In the current scenario, the usage of multimedia data by society has increased. The content transferred between the sender and receiver, has all the possibility to be accessed by the unauthorized party and also the original content is subjected to various attacks such as digital signal processing attacks, image processing attacks, video processing attacks, false positive attacks and geometric attacks. To provide the security to the content, avoid the illegal communication and resolve the ownership problem, the watermarking based technique is adapted. This paper exposes the overview about watermarking technique, reveals various researches in recent past for multimedia data and discusses the applications of watermarking.

***Keywords*:** Multimedia, Video watermarking, Data security, Copy right

*Corresponding Author
E-mail Address: sathyaashok2007@gmail.com

About Department

The department of CSE has commenced right from the inception of this college in 2002 with an intake of 60 and subsequently increased its intake to 240 by 2012. The department has well equipped laboratories with latest configuration systems and updated licensed software's were installed. The department also provides a R&D lab with an internet connection of 30 systems for staff and students to take up their research work.

The Department also has a tie up with various Multi National Companies which offers training in latest technologies, placements and Internships. The faculty has authored 21 books, published 64 Patents and Papers in SPRINGER, IEEE & SCOPUS index journals and Conferences.

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