

**International Conference on Advancements
in
Interdisciplinary Research**

International Conference on Advancements in Interdisciplinary Research



Organized by
Forum for Interdisciplinary Research
in Mathematical Sciences
and
Beena Mahavidyalaya
Jaipur

July 24-26, 2020

Editors

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Published by:



AKN Learning

168C, Pocket 12, Jasola Vihar,
New Delhi - 110025, India
e-mail: aknlearning@gmail.com
website: www.aknlearning.com
PH: +91-11-4940 4704

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Edited by:

Prof. (Dr.) Alok Aggrawal, Prof.(Dr.) Amit Sharma, Prof. (Dr.) Narendra Kumar,
Prof. (Dr.) Sanjeev Kumar, and Prof. (Dr.) Naveen Kumar Sharma

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ISBN: 978-81-949758-6-1

Price: ₹305/-

Typeset by:

CoKerator Content Solutions Pvt. Ltd.

www.cokrator.com

Printed at:

Balaji Offset

Navin Shahdara, Delhi-32

Message from Chief Guest



Prof. (Dr.) Anirudh Pradhan

I am most grateful to God, the most gracious and most merciful, for His blessings in giving us this precious opportunity to gather at this memorable academic event. The **1st International Conference on Advancements in Interdisciplinary Research” (ICAIR 2020)** takes an in-depth look at the many issues raised by academicians from various domains in science, technology and management, the obstacles and opportunities created by the new products, services and applications. This conference is a step towards achieving our vision in becoming a world-class academic and research platform in order to inspire young researchers to work in the new domains in which science and technology become a gift for mankind.

Research in science and technology is exciting as it comprise of traditional research areas in computer science such as blockchain management, crypto currency, artificial intelligence, IoT, data science, mathematical modelling, general relativity, robotics, electronics and communications related various domains, compiler, operating system, network, and software engineering. This conference will be a good starting point for research and international universities to interchange knowledge and skills in the area of various domains. We are looking forward to find new solutions in this area and forecast future trends in order to realize India’s aspiration and to contribute to global needs.

It is a great pleasure to welcome all delegates and participants to this conference, coming from near and afar. A warm “welcome” I bid to all of you.

I would like to congratulate **Forum for Interdisciplinary Research in Mathematical Sciences, Jaipur, India and Beena Mahavidhyalaya Jaipur** for their commitment and superb drive in organizing this conference. I am very certain that this occasion will be able to provide a platform towards strengthening our relationships in knowledge sharing while at the same time provide the necessary thrust in joint research collaborations and product commercialization within the research society. It is my aspiration that this conference will be a foundation for the growth of new ideas towards a better tomorrow.

Last but not least, I would also like to thank all the conference sponsors. With your continued support and interest in us, I am sure that the quest of making FIRMS india a one of the best platform for academicians, is not going to be impossible to achieve.

Thank you,

Prof. (Dr.) Anirudh Pradhan
GLA University, Mathura Message from Chief Advisor

Message from Chief Advisor



Prof. (Dr.) Valentina Emilia Balas

I am delighted that Department of Mathematics, Dr. Bhimrao Ambedkar University, Agra and Forum for Interdisciplinary Research in Mathematical Sciences organizing an International Conference on Advancements in Interdisciplinary Research held during October 29-30, 2021. We at FIRMS aspire very strongly to expand our research and innovation horizon, especially in the domain areas of science and technology. System Designs is the driving force behind the IT and telecommunication industry and is helping to change the quality of life of mankind. That this conference is addressing some of the challenges and solutions in this vast field is heartening. I understand that the conference is filled with lots of expert key note speeches, tutorials, hundreds of research paper presentations and invited talks. This will definitely go a long way in enriching the knowledge of the participants in general and member faculty from Dr. Bhimrao Ambedkar University Agra and FIRMS India in particular, especially those in the field of science technology and management. I am extremely happy that many international experts and delegates are attending the conference to present their papers and also deliver key notes and invited talks. Such a huge conference cannot be organized without the whole-hearted commitment and involvement of many people, be it faculty or students or sponsors. I admire their commitment and congratulate them on the success of the conference. I also profusely thank all the sponsors for their effort to encourage academic research by way of liberal sponsorships. We at Dr. Bhimrao Ambedkar University, Agra and Forum for Interdisciplinary Research in Mathematical Sciences hope to further sharpen our research skills by organizing more of such international conferences in future. I sincerely hope that this conference (ICAIR2021) will facilitate the establishment of international joint research programs and become a Scientific platform for the exchange of research ideas. I wish the conference a grand success.

Prof. (Dr.) Valentina Emilia Balas
Aurel Vlaicu University of Arad, Romaniavii

Message from President FIRMS India



Prof. (Dr.) Jagdish Prasad

It is with great pleasure that I extend a warm welcome to International and local experts, academic researchers and scholars in Dr. Bhimrao Ambedkar University Agra, India and Forum for Interdisciplinary Research in Mathematical Sciences. India. Who are taking part in International Conference on Advancements in Interdisciplinary Research (ICAIR 2021) with various domains in science, technology and management. I am truly proud that the Department of Mathematics has managed to organize such an important conference in the domain of several disciplines. With such diverse and relatively large participation, I am sure that this conference will achieve its intent - to serve as an effective platform for us, the research community to learn, share and supplement each other's research, while keeping abreast of the latest trends in this arena. We invite you to use this Conference to create new, or to strengthen existing, partnerships between the scientific community, publishers, policy makers and academic and non-academic society.

Mathematical Computing, IoT, Data Science, Artificial Intelligence and its applications are very widely used, with billions sold every year. Millions of hardware, software engineers and academic researchers work in these domains. The development of artificial intelligence and scientific computing as a research field has helped to develop many software and hardware's to help human being in this globe. One question often asked about this field is how it differs from traditional computer systems? Are we applying the same principles to smaller systems? I believe that mathematical and scientific computing, though it uses many techniques from computer science and engineering, poses some unique challenges.

As pressure continues on designers to achieve higher levels of device integration in Embedded chips (SOCs) while reducing cost, size, complexity and power consumption, the need to devise architecture-centric efficient algorithms has become very crucial. This platform will come some solution for the design challenges and the role of architecture-centric algorithms and design methodologies that are capable of achieving the delicate balance of

performance, power consumption, and cost in embedded systems. The Program Committee has packed the conference with a host of expert key note speeches, pre-conference tutorials, Invited talks and around 360 research paper presentations in various sessions. I congratulate them for this astronomical effort.

A conference of this magnitude would not have been possible without the dedication and support of each and every one of the committee chairs, organizing members, industry colleagues, sponsors, academic institutes, and all supporting organizations. We sincerely hope that the conference in the city of Agra, known for its rich cultural heritage becomes a grand success. I wholeheartedly welcome you all. I would like to wish you a fruitful conference.

Thank you,

Prof. (Dr.) Jagdish Prasad
Amity University, Jaipur

Message From Conference Chair



Prof. (Dr.) Sanjeev Kumar

I am most grateful to God for his blessings on us in organizing the International Conference on Advancements in Interdisciplinary Research 2021 (ICAIR2021). This conference is indeed very meaningful to us all in the Department of Mathematics, Dr. Bhimrao Ambedkar University Agra and FIRMS India, as a whole. The main purpose of this conference is to share research outcomes among the researchers and academic staff members of the various Universities, Research Institutions as well as members of the industry. Welcome all of you, the research community to this humble yet pleasant conference.

I am very pleased that after two years since establishment, FIRMS India has successfully conducted various conferences, and has received co-operation and support from members of the industry, as well as the research community in the country and abroad. Walking down memory lane, the last International Conference in science technology and management (ICSTM 2021) was organized in august this year.

The theme for this year's conference, which is "Interdisciplinary Research", aims to examine in detail or put a measure on the level of quality research and current trends in the world of science and technology, especially in India. I sincerely believe that through various topics and many tracks that are held in this conference, researchers could effectively explore various possibilities in realizing their interest in their specific domain .

I would also like to stress that in this era of rapid technological advancement, we as researchers will not survive without working in a community, supplementing and supporting each other's work. I believe that this conference would serve as an effective platform for academic staff, researchers and engineers to learn, network, share and to create an environment for intellectual exchanges which would benefit all parties greatly. As a consequence, inputs from our peers would greatly help improve the standard and quality of the projects one is working on.

Lastly, may I ask that we work hand-in-hand in our effort to further enhance our research and development (R&D) arena which this country and the world needs. With your continued support and interest in us, I am sure that the quest of making this platform a nationally-reputable university is not going to be impossible to achieve.

Before I end, I would like to thank our sponsors, and the organizing committee of this event for their superb drive in making this conference a success.

Thank you.

Prof. (Dr.) Sanjeev Kumar
Department of Mathematics
Dr. Bhimrao Ambedkar University, Agra
India
Conference General Chair

Message from the Program Coordinator



Dr. Narendra Kumar

Welcome to the first International Conference on Advancements in Interdisciplinary Research 2020 being held during July 24 -26, 2020 organized by Department of Mathematics, Dr. Bhimrao Ambedkar University, Agra, India. - This conference is a forum for academic researchers and designers to present and discuss recent developments in the various domains of science, technology and management. There is a tremendous amount of innovative trends and new applications in this area in the recent past. Artificial Intelligence has applications in almost all research domains presently like scientific computing, mathematical modelling, soft computing, Communication systems, Wireless sensor networks, Bio-medical systems, Vision systems, Mobile systems to name a few. The conference is attracting a large number of academic researchers and engineers representing academia, government and industry from across the globe. The three day program will consist of Pre-conference tutorials, Key note speeches, Invited talks, Regular paper sessions. The main focus will be on challenges and opportunities in this niche area.

We received a total of 360 paper submissions. After an initial scrutiny and withdrawals, 234 papers were reviewed. We had a challenging task ahead of us of getting a rigorous review process accomplished. Fortunately, several international and national experts cooperated and completed the review process. As usual most of the reviews trickled in during the last week and we had a tough time keeping our schedules of informing the authors. We accepted a total of 200 papers and included many invited papers. I am happy to note that many papers went through three or four reviews and a few two reviews. Where there are only two reviews, the papers were accepted only when there is agreement between the two reviewers otherwise it was sent for a third review. Overall it is a very challenging and satisfying exercise and we want to thank everyone who served as a reviewer or as a TPC member. Thus we can say we have an outstanding technical program for this conference. It is unfortunate that we are unable to include several other good Papers in the program due to the limited number of sessions that could be accommodated in three days.

Dr. Narendra Kumar
Department of Mathematics, The ICFAI University, Jaipur

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Comparative Study of Efficiency of MPPT Controller Using ANOVA

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Abstract: Solar PV system generates variable power which depends on the irradiance of the sun. To supply the maximum power to the converters some controllers which work on few algorithms are used. In this paper we present the analysis and comparative results for the efficiency of MPPT controller to optimally charge the Li-ion battery from solar irradiations. This process is being carried out in MATLAB Simulink software. The efficiency of the MPPT controller has been compared with several methods using one-way ANOVA.

Keywords: MPPT controller, ANOVA, Perturb and Observe method, fuzzy algorithm.

Sentimental Analysis of Customers Reviews for Amazon

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Abstract: Opinions, feelings, judgments or emotions of human beings have always been a key element of their behavior. We seek out for other's opinions before making any decisions. Several fields of computing merge like NLP and AI to implement the sentimental analysis. The sentimental analysis determines the information expressed by a text. It shows one's opinion, emotions, sentiments expressed in written form. It is one*of the*most trending*research areas in computer science, management science, social science, and economics. There is a steep rise in trends of reviews, ratings, blogs, and recommendation sites. This vast data, though unstructured (natural language text) has become a valuable asset for companies and businesses. They use this data to develop and upgrade their Public relation (PR) strategy, market their product, avail new opportunities, keep a track of their rival companies to gain an edge in today's highly competitive world. The sentimental analysis creates a bridge between the company and its customers. This paper discusses about sentimental analysis of Amazon's fine food reviews.

Keywords: Sentimental analysis, Opinion mining, Natural language processing(NLP), Machine learning

Modelling the Enablers for Adoption of Electric Vehicles in India

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Abstract: Indian Economy at present is going through a lot of instability and uncertainty. Though the Indian Automotive Industry is not at a very good stage and the share of the demand for the vehicles are declining significantly, there lies a positive outlook for the Electric Vehicle segment. E- Mobility is grabbing the eyeballs all over the world but it lies at a very nascent stage in India. Adoption of Electric Vehicles will not only redefine the processes but also encompasses a lot of benefits including reduction in Green House Gas Emissions and lowering the dependency on other countries for Crude Oil which is magnifying the Import Bills. Indian Government has initiated several schemes and policies to promote the adoption of Electric Vehicles in the country but the results are yet to be seen. The purpose of this study is to review the policy measures undertaken in different countries to promote and support the Electric Vehicles and analyse the relationship between the major drivers that would diffuse the adoption of the cleaner alternative in India using Interpretive Structural Modelling (ISM) Technique. MICMAC Analysis is also used in order to study the dependency and mutual relationship between the variables. The results unveils that the Government Policies and Initiatives along with the Technological Advancements are the key indicators in accelerating the adoption process.

Keywords: Electric Mobility, Enablers, Electric Vehicles, India, Interpretive Structural Modelling

VMR-HO: An Efficient Multi-Objective Secure Virtual Machine Resource Allocation on Cloud Using Hybrid Optimization Techniques

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Abstract: In cloud computing environments, different users can run on same physical server and share the same underlying hardware resources because when a user requests to start a new machine, in most cases, the allocated machine is not an entire physical server but only a virtual machine running on a specific host and this is enabled by hardware virtualization technologies like VMware, Hypervisor. So, this needs fair sharing of resources among various users. While sharing of resources increases the utilisation rate of hardware platforms but it also introduces a new threat, and therefore, Virtual Machines (VMs) running on same physical server should be logically isolated from each other. To avoid those problems, we propose an efficient multi-objective secure virtual machine resource allocation in this paper on cloud environment using hybrid optimization techniques (VMR-HO).

Keywords: Cloud, game-theory, load balancing, optimization, security, task scheduling.

Comparative Study of Machine Learning Techniques for Predciton of Kidney Disease

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Abstract: As kidney chronic disease is nowadays widely increasing which either caused by kidney disease or reduce the function of the kidney, it also affects the cardiac problems- scientifically which can lead to sudden heart attacks at the end-stage. Early diagnosis and adequate therapies can only help in stopping this disease, where dialysis and kidney transplantation is the only way to save the life of the patient. Detecting kidney disease through machine learning and through data mining techniques which can reveal the hidden problem of the kidney. Therefore, the current article is based on the comparative study using various Machine Learning techniques to detect kidney disease. This survey supports to find the accuracy of algorithms which are more useful to find the kidney disease in early stage. The comparative study of all the algorithms and by implementing the models on different platforms, and it is analyzed that which is the best algorithm to predict CKD (Chronic Kidney Disease). The machine learning techniques are compared like Probabilistic Neural Network (PNN), Multilayer Perceptron Algorithm (MLP), Logistic Regression (LOGR), Regression Tree (RPART), Support Vector Machine (SVM) and Radial Basis Function (RBF).

Keywords: Classification, Machine Learning, Kidney disease Detection, Feature Extraction, Data Mining Technique

Delayed SEIQ Mathematical Model for an Epidemic Disease: Covid-19

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Abstract: Mathematical modelling deals the stability analysis of an improved model on covid-19 with the help of delayed differential equation. In particular, linear and non-linear behaviour considered for this epidemic situation in current scenario. Also, we obtained new theoretical solutions and the numerical solutions for susceptible, exposed, infected and quarantined stages. Finally, numerical outcomes of delayed SEIQ model presented to prove the findings.

Keywords: Mathematical Modelling, Epidemic Disease, Stability, Coronavirus.

Massive MIMO & its 5G Applications

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Abstract: Massive MIMO (Multiple Input, Multiple Output) has been victim to speculation over the past decade with companies reluctant to invest into this technology. Various researchers have stated that Massive MIMO is the future of communication technology. The questions in most students' minds are "What is MIMO & Massive MIMO?", "Basically, what makes it work", "What makes it so beneficial to us?", and "What are the applications of these technologies?". This paper does enough to educate you superficially on this topic. We will provide insight into the concepts that drive MIMO and Massive MIMO, list the advantages and disadvantages, list the current research being conducted, and even list the possible directions for future research.

Keywords: MIMO, Massive MIMO, MIMO Research, MIMO Applications, 5G, MIMO 5G

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Abstract: This qualitative study of facial emotion recognition aims to help people suffering from Alexithymia (by genes) in starting off their young age understanding simple human emotion through pictures. This model works on the basis of supervised learning with the help of convolutional neural network. These layers furcate the image highlighting the main feature that differentiate it from other images or identifies it to fall into a particular category. This idea widens up the scope of AI and Machine Learning in the field of Psychology.

Keywords: Alexithymia, Supervised Learning, Classification learning, Convolutional Neural Network.

An Integrated K-Means-GP Approach for US Stock Fund Diversification and its Impact Due to Covid-19

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Abstract: The stock fund diversification process is a tedious task due to the erratic nature of the stock market. On the other hand, work is harder due to the expectation of high annual return with low risk. This research work explores the potential of Goal Programming (GP) and K-means algorithm as an integrated K-means-Goal Programming (GP) approach for fund diversification, where K-means is used to create groups of stock based on their performance. Then GP is used to diversify total funds into various groups of stocks to achieve a high annual return. The experimental work has been done in 30 stocks of DOW30 of the years 2017-18, 2018-19, and 2019-20. A comparative study was carried with three different cases based on individual year data and an average of two and three years of data. The empirical results show that the K-means-GP approach outperformed the GP approach for stock fund diversification; the annual return is higher in the case of the K-means-GP approach using three years of average data with 12.59% of annual return against the expected annual return of 20%. It has also been observed that due to COVID-19 few stocks were performing in negative direction, and hence the annual return is being affected after fund diversification.

Keywords: K-means, Goal Programming (GP), DOW30, Fund diversification, COVID-19.

Non Orthogonal Multiple Access (NOMA) Technology for 5G Cellular Systems

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16SCSE114003,1613114027

Abstract: Non-Orthogonal Multiple Access is a promising radio access system for implementation redesign in bleeding edge cell correspondences. Still out from Symmetrical repeat division multiple access, which is an renowned high-limit even unique access methodology, it offers a good deal of appealing focal points, including increasingly detectable range possibility. Is different sorts of this techniques, including power-region and code-space. This paper is on a basic level settle around power-space NOMA that utilizes superposition coding at a transmitter and dynamic impedance crossing out at a authority. Various experts have displayed that NOMA is used successfully till meet both framework level and experienced data rate essentials of fifth-generation headways. Starting is of view, this paper in audits a continuous progress of NOMA in 5 Generation structures, looking over a tier limit examination, power task frameworks, goodness, and plans in NOMA. In addition, this paper discusses how NOMA performs when it is composed with various showed remote exchanges methods, for instance, pleasing trades, various data different yield (MIMO), pillar framing, space–time coding, and framework coding, among oars. In addition, this paper discusses a couple of critical issues on NOMA utilization and gives a couple of streets till future research.

Keywords: (i) Non-Orthogonal Multiple Access,
(ii) Orthogonal Multiple Access,
(iii) Solutions and,
(iv) Performance.

Food Recommendation System Using Neural Collaborative Filtering and Sentiment Analysis

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Rahul Jha⁵, Anant Rai⁶ and Manish Kumar⁷**

Abstract: The food is an essential thing for all human beings. Nowadays the companies are taking orders online for the food delivery, this has opened the door of a new market for various companies. The technological advancement can help in increasing the business of the food industry. The online food order transactional data of popular food giants like Zomato and Swiggy can help to gain insight into local food habits of an area in a city. Getting an overview of the food habits of local people in a city can be quite beneficial for opening a new restaurant, opening the branch of existing food store, or deciding whether a dish will be famous amongst customers in a particular area. The transnational data of Zomato available online is used to derive insights for the recommendation to the customers. In this study, we have proposed a method that uses neural collaborative filtering and sentiment analysis using deep learning methods together for the data analysis that provides the insights in a more convenient, well organized, reliable and accurate means. For the better experience of the customer, a web application using node Js is designed that provides the insights into data from various viewpoints. The proposed method provides the food recommendation not only on the basis of the ratings of a restaurant but it also includes the user's reviews as sentiments that helps a user to select the food according to the taste of the user rather than the general trend of his area.

Optimization Techniques for Cloud Computing: A Review

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Abstract: Nowadays the pop-up area of research is cloud computing. It is helpful in every stage user from top to bottom and every organization. Cloud computing is a concept that makes it easier to store, manage, and to interpret a huge amount of information, and data within the host server and which can be easily accessible by its owner. It helps organizations to access their data via any computer and not only in computers it is accessible from any device it can be a cell phone or a tablet or a laptop. This technology is useful for companies who are having big data from their clients, products, and also for a person who wants space for his gaming, etc. In this era, being efficient is not the only thing we need we also focus on being effective and cloud computing helps us in being time and cost effective. In this digitalization era, many organizations are relying on services provided by cloud computing in different fields, its popularity is increases rapidly. Due to this popularity, by different data centres the demand of resources increases based on the cloud application. Hence, the objective of this paper is to discuss the optimization techniques for cloud computing and provide solutions that help to save our resource consumption without affecting its performance. This paper provides a brief understanding of the genetic algorithm, memory optimization, and Practical Swarm Optimisation. Genetic Algorithm (GA) is about the evolutionary algorithm it is based on genetic and natural selection (the study of random patterns) which helps in getting high-quality results. In memory optimization server divide itself into various small units which are called Virtual Machine (VM) and give their client to have access of these units to use as per there requirements, it can be resized as per the need of the user. Particle Swarm Optimization (PSO) it is the best scheduling technique or algorithm in cloud computing, initially PSO produced its population which was randomly[1] produced, this works on the repeated mode in this hope that a satisfactory result will come out, but it is not guaranteed.

Keywords: Grid computing, Client server model, utility computing, Genetic Algorithm

Impact of Coronavirus on Global Cloud Based Wearable Tracking Devices

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Abstract: In 2020, a virus commences generating headlines all over the globe due to its unprecedented transmission from one person to another person. This virus called corona virus. COVID-19 (stands for corona virus disease 2019) has been responsible for the thousands of deaths across so many countries such as Italy, America, India, Brazil, China, etc. No one is saved from this pandemic around millions of people gets affected by COVID-19 across the globe. Although, many elements are get affected by this and one of them is wearable devices for example smart watch, smart bracelet, smart shoes, a smart belt, etc. In this digitalization era, wearable devices are gaining importance to deal with the present COVID-19 pandemic. Hence, in this paper, we will discuss what was the COVID-19 pandemic role behind its growth in the market, and what was its impact? This paper introduces the applications of wearable devices and provides a brief understanding of how does it play a role in fighting against the ongoing pandemic. These devices accredited remote health monitoring, screening, real-time tracking and better treatment without transmitting the virus from one person to another person, and surveillance. Thus, it decreases the workload on the healthcare industry for prevention and reducing the transmission of corona virus. Millions of human beings suffer from a respiratory illness that requires continuous monitoring to tackle this wearable device helps hospital staff to keep track of the breathing parameters of patients with corona virus and provides solutions to retrieve the patient's vital data with chronic disease. Hearing the news of growing patients affects the mindset of the rest of the people which increases stress level and anxiety. To overcome anxiety and stress level, wearable devices that tracks a person's heart rate variability (HRV).

Keywords: Wearable devices, COVID-19, Compound Annual Growth Rate (CAGR), smart watch.

Contact Tracing: An Cloud Based Architecture for Safe Covid-19 Mapping

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Abstract: In the recent, Corona Virus epidemic (COVID-19) increases day-to-day from one individual to another because of contact transmission and COVID-19 is caused by the SARS-CoV-2 virus. Identifying and stopping the spreading of contagious diseases such as COVID-19 is important to handling epidemics. One major part taken to find and trace their previous connections so as to then carefully dissociate any persons likely to have been infected and accommodate dispersion is to find out or explore more transmissible persons. These previous connections can be traced using smart machine such as smart watches and smart phones, which can frequently find and collect the connections and location of their infected ones through their embedded transmissions and localization methodologies or technologies, such as Global Positioning System (GPS) space based navigation system, Wi-Fi, biological connections, and Bluetooth. Contact Tracing is the one of the best technology in which we use a methodology for stopping and controlling the COVID-19. This review paper focuses on the methodology and effectiveness of these smart technologies and determines the model of contact tracing accuracy on the spread of the COVID-19, working of contact tracing, algorithms and control of the COVID-19. In this paper, we have determined the role of contact tracing in COVID-19, effective impacts of Contact Tracing and designed a COVID-19 epidemic model that we created to evaluate the number of people quarantined and effectiveness of the steps to be taken, through the smart watches and smart phone contact tracing technique used. In this review paper, our result shows that in order to be accurate and effective for the COVID-19 pandemic, the contact tracing technique must

be traced speedily, a valuation ratio of the population must use the smart devices, contact tracing application and this technology must be correct. All these rigid needs make smart device-based contact tracing rather inefficient at accommodating the spread of the virus during the COVID-19. However, in this phase smart machine-based Contact Tracing could be immensely and enormously useful and recognizing a second section, where a segment of the community will have increased immunity.

Keywords: Contact Tracing, COVID-19, Smart Technology Mode, SARS-COVID-2.

Optimization Techniques for Cloud Computing: A Review

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Abstract: Nowadays the pop-up area of research is cloud computing. It is helpful in every stage user from top to bottom and every organization. Cloud computing is a concept that makes it easier to store, manage, and to interpret a huge amount of information, and data within the host server and which can be easily accessible by its owner. It helps organizations to access their data via any computer and not only in computers it is accessible from any device it can be a cell phone or a tablet or a laptop. This technology is useful for companies who are having big data from their clients, products, and also for a person who wants space for his gaming, etc. In this era, being efficient is not the only thing we need we also focus on being effective and cloud computing helps us in being time and cost effective. In this digitalization era, many organizations are relying on services provided by cloud computing in different fields, its popularity is increases rapidly. Due to this popularity, by different data centres the demand of resources increases based on the cloud application. Hence, the objective of this paper is to discuss the optimization techniques for cloud computing and provide solutions that help to save our resource consumption without affecting its performance. This paper provides a brief understanding of the genetic algorithm, memory optimization, and Practical Swarm Optimisation. Genetic Algorithm (GA) is about the evolutionary algorithm it is based on genetic and natural selection (the study of random patterns) which helps in getting high-quality results. In memory optimization server divide itself into various small units which are called Virtual Machine (VM) and give their client to have access of these units to use as per there requirements, it can be resized as per the need of the user. Particle Swarm Optimization (PSO) it is the best scheduling technique or algorithm in cloud computing, initially PSO produced its population which was randomly produced, this works on the repeated mode in this hope that a satisfactory result will come out, but it is not guaranteed.

Optical Properties of Amorphous Thin Films of $\text{Se}_{90}\text{Sb}_{10-x}\text{Ag}_x$ and $\text{Se}_{90}\text{In}_{10-x}\text{Ag}_x$

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Abstract: Thin films of $\text{Se}_{90}\text{Sb}_{10-x}\text{Ag}_x$ and $\text{Se}_{90}\text{In}_{10-x}\text{Ag}_x$ ($x= 4, 6, 8$) glassy alloys have been deposited onto glass substrates by thermal evaporation technique under vacuum. Transmission spectra $T(\lambda)$ of the films were obtained in the wavelength range of 400–1200 nm. Estimation of the optical constants like refractive index (n), real dielectric constant (ϵ'), extinction coefficient (k) is made by straightforward analysis proposed by Swanepoel. It is found that n, k decrease with the increase in the wavelength.

Keywords: Chalcogenide glasses, thin films, optical properties

A Study on Aspects of Pandemic Covid-19 to Assess the Awareness in India

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Abstract: This paper mainly focused on to assess the awareness related to pandemic covid-19 among the Indian peoples as at present condition a new public health crises threatening the world with the emergence and spread of 2019 novel corona virus (2019-nCoV) or the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). The virus originated in bats and was transmitted to humans through yet unknown intermediary animals in Wuhan, Hubei province, China in December 2019. There have been around 10,249,377 reported cases of corona virus disease 2019 (COVID-2019), 504,466 reported deaths and 5,556,634 recovered to date (29/06/2020). The disease is transmitted by inhalation or contact with infected droplets and the incubation period ranges from 2 to 14 d. The symptoms are usually fever, cough, sore throat, breathlessness, fatigue, malaise among others. The disease is mild in most people; in some (usually the elderly and those with comorbidities), it may progress to pneumonia, acute respiratory distress syndrome (ARDS) and multiorgan dysfunction. Many people are asymptomatic. A total no. of 46 Teenagers (32male and 14 female) and 67 adults (25 male and 42 female) were given response to our online questionnaire. A questionnaire was made to know their opinion and appropriate statistical hypothesis test over was performed to interpret the data. No significant difference was observed for teenagers and adults (male and female) respectively. Near to same opinion was observed for the awareness with the value of Kruskal-Wallis Test (H) = 1.5619. As per real factors both all teenagers adults having a good awareness irrespective of genders having same potential and competence to face the problems of pandemic covid -19.

Keywords: Awareness, Covid 2019, pandemic, disease, teenagers, adults, precautions

Privacy the Bigger Threat for Start-Ups in Consumer Space

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Abstract: Following research paper elaborates our understanding on the privacy aspects of a start-up with the perspective of two sides. First perspective is that of a start-up meaning that the start-up company should keep hold of the private information of the consumers and second perspective is that of an entrepreneur's privacy meaning the privacy of his/her idea of the start-ups. As we know most of the start-ups are directly or indirectly developed in a co-working environment and are data-driven so privacy of data and idea itself becomes a threat for a start-up. As technical start-ups are mostly data oriented it is mandatory for them to seem after their data and protect it to avoid any sort of damage to the entrepreneur and also to safeguard the personal information of the consumers. So, securing your idea and data for the start-up becomes a strenuous job. Protecting and preserving one's idea and data related to their start-up is one of the most essential stages that should be given thorough attention to achieve the sole purpose of initiating a start-up. We will also understand that why is privacy so important in consumer space and what could be result if this privacy is breached or is exploited by the companies. It will also come to our understanding that how these start-up companies and entrepreneurs protect themselves from these types of data theft and security breaches. This paper will surely elaborate all the possible perspectives which involve problems and solutions that are related to privacy of consumer's information and privacy of an entrepreneur.

Keywords: Consumer space, privacy, Service providers, Theft

Medical Image Segmentation Using Fuzzy Clustering and Regularized Level Set Method

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Abstract: Medical image segmentation has been an interesting application of the image processing. Proper segmentation of the medical images plays a crucial role in the accurate and correct diagnosis of the diseases. Partial differential equation (PDE) is used as an approach for the realization of the medical images. The level set method (LSM) is a variational method based on the PDEs that efficiently segment the images. However, regulatory constraints initialization and prime configuration influences the level set method performance which stays manually bounded. Manual initialization of values causes level set segmentation to be either insufficient or excessive. The implementation of the level set method described in this paper works together with spatial fuzzy c - mean clustering (SFCM) to enable image segmentation. The amalgamation of two techniques styles a powerful tool to fragment images of different modalities. SFCM efficiently form clusters providing regions more consistent than supplementary methods with removal of noise spots and specious splotch. Also the regulating constraints of LSM are spontaneously predictable from the conclusions drawn of SFCM. The MATLAB tool is used to judge the performance of the suggested technique by using medical images such as CT scan image, MRI etc. the effective timing of segmentation of images.

Keywords: Medical images, Spatial Fuzzy Clustering, Level Set, Image segmentation, MATLAB

Statistical Approach for Noise Correction of Natural Language Processing Based Release Planning in Agile Software Development

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Abstract: It is a common practice to apply algorithms which includes fuzzy logic, natural language processing, machine learning, neural networks and many others for automation of software engineering tasks. In most of the automations, the algorithms are directly applied to automate the software engineering tasks without paying much attention to the fact that direct application of these algorithms may introduce a noise in the results produced. Hence, it is important to ensure all the noise factors are eliminated or at least reduced to minimum so that automated tasks provide improved results. Hence, this research paper focuses on noise reduction using statistical sampling when existing natural language algorithms (NLP) are directly applied for automation of release planning in agile.

Keywords: Agile Software Development, Release Planning, Software Project Management, Software Engineering, Natural Language Processing, Noise Correction, Statistical Algorithm

IOT Based Smart Street Light System for Smart City

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Abstract: IOT is a game changer for all the technologies in smart city. With the joint contribution of AI and IoT cities will be made smart and world will be made a better place to live. Smart City is a city that is operated at least human manpower and fully computerized. From Water supply to smart streetlights everything is smart as its name suggests. Building of smart cities using IoT and AI will reduce human effort even more. This paper will discuss about smart lights which reduces the power consumption and also discuss about its need in daily life, consequences.

Keywords: streetlights; consumption; resources; manpower; electricity; traffic lights; manual

Mathematical Modeling of Minimum Lubricant Film Thickness in Journal Bearing

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Abstract: Tribology is an interdisciplinary aspect of science and technology of two mating surfaces during relative motion. Tribology includes physics, chemistry, solid mechanics, fluid mechanics, mathematics, material science fluid statics and fluid dynamics and many more. The economic aspects of tribology are also very significant. By proper utilizing the tribology concept a country can save 1.0% to 1.4% of total budget. Journal bearing is a key component in any high speed rotary equipment. The maximum power is consumed to maintain the minimum fluid thickness between shaft and bearing. In this paper an attempt is made to obtain a mathematical model to get minimum film thickness so that consumption of electricity is reduced.

Keywords: journal bearing, minimum lubricant film thickness, eccentricity

Active Noise Control Technique

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Abstract: In this paper, authors made an attempt to implement the active noise control technique (ANC) to decrease the amplitude of noise communicating through the environment using an electro-acoustic (EA) system with the help of measurement sensors such as microphones and output actuators such as loudspeakers. In general, the noise signal is generated from ambient; therefore, it is easy to detect the noise in the vicinity of its source. The main objective of developing the ANC system is to generate an “anti-noise” that reduce the unwanted noise in a desired quiet region using an appropriate adaptive filter. The simulations were performed in the MATLAB 2015 environment and satisfactory results were obtained using the proposed technique. The problem under study is different from traditional adaptive noise cancellation techniques in two ways. Firstly, it is not possible to measure the desired response of a signal directly measured; only the signal with reduced magnitude is present. Secondly, the ANC system is required to take into consideration the secondary loudspeaker-to-microphone error (LME) path in its adaptation.

Comparative Analysis of SRAM Cell

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Abstract: Static Random Access Memory (SRAM) play a key role in various electronics gadgets as the technology scales down and the need for high performance. As the size of the SRAM enters in nanometer technology the various electrical parameters is affected like that threshold voltage, noise voltage, leakage current and cell stability. The stability of SRAM cell depends on the Static Noise Margin (SNM). In this article we have review SRAM cell, types of SRAM, SNM, data retention voltage (DRV) and effect of cell ratio (CR) & pull-up ratio (PR) which are the most important parameter for memory design. DRV is the minimum voltage requires to retain node values of SRAM cell. Here we consider conventional 6T SRAM cell, study the SNM & DRV improvement existing techniques. The techniques are based on word and bit-line voltage modulations, transistor width modulation.

Keywords: SRAM, Types of SRAM, Static Noise Margin, DRV, CR, PR

Numerical Solution of Volterra Nonlinear Integral Equation by Using Laplace Adomian Decomposition Method

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Abstract: In this paper we introduce a new approach for numerical solution of nonlinear Volterra integral equation of second kinds. This numerical solution based on Laplace transform & Adomian Decomposition method by using He's polynomials. Then Comparative study exacts solution, approximate solution and estimated error. All Calculations are calculated by Matlab 13 versions with the help of example.

Subject classification: 44A30, 45D05, 49M27, 65R10.

Keywords: Volterra integral equation, Adomian decomposition method, Laplace transform, He's polynomials.

Face Identification Built Attending Arrangement Using Machine Learning

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Abstract: Verification is one of the giant troubles in the technology of records setup. Labour-intensive Participation retaining is tough procedure, specifically for giant crew of scholars. Programmed Face Awareness (PFA) applied sciences have viewed histrionic enhancements in overall performance over the remaining few years. This thesis resolve exhibit in what way I can enforce procedures for frontal profile mask finding and attention in picture dispensation to construct a gadget that will discover and understand frontal profile masks of college students in a teaching space. In humanoid connections, the frontal profile mask is the utmost necessary element as it includes vital facts about a man or woman or individual. All people have the capacity to understand individuals from their frontal profile masks. The proposed answer is to improve a working prototype of a gadget that will facilitate type manage for lecturers in a study room through detecting the frontal profile mask of college students from a photo taken in a classroom. The second section of the gadget will additionally be capable to operate a facial consciousness towards a small database. In this technique the digicam is constant in the study room and it will seize the portrait, the frontal profile masks are detected and then it is identified with the database and subsequently the participation is marked. In current years, lookup has been carried out and frontal profile mask attention and detection structures have been developed. Some of which are used on social media platforms, banking apps, authorities, places of work e.g. the Municipal Forces, Instagram, RBI, etc.

Keywords: Face Detection, Face Recognition, Haar cascade classifier, LBPH algorithm

Face Identification Built Attending Arrangement Using Machine Learning

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Abstract: Verification is one of the giant troubles in the technology of records setup. Labour-intensive Participation retaining is tough procedure, specifically for giant crew of scholars. Programmed Face Awareness (PFA) applied sciences have viewed histrionic enhancements in overall performance over the remaining few years. This thesis resolve exhibit in what way I can enforce procedures for frontal profile mask finding and attention in picture dispensation to construct a gadget that will discover and understand frontal profile masks of college students in a teaching space. In humanoid connections, the frontal profile mask is the utmost necessary element as it includes vital facts about a man or woman or individual. All people have the capacity to understand individuals from their frontal profile masks. The proposed answer is to improve a working prototype of a gadget that will facilitate type manage for lecturers in a study room through detecting the frontal profile mask of college students from a photo taken in a classroom. The second section of the gadget will additionally be capable to operate a facial consciousness towards a small database. In this technique the digicam is constant in the study room and it will seize the portrait, the frontal profile masks are detected and then it is identified with the database and subsequently the participation is marked. In current years, lookup has been carried out and frontal profile mask attention and detection structures have been developed. Some of which are used on social media platforms, banking apps, authorities, places of work e.g. the Municipal Forces, Instagram, RBI, etc.

Keywords: Face Detection, Face Recognition, Haar cascade classifier, LBPH algorithm

Artificial Intelligence Based Desktop Partner

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Abstract: Today our lives became additional fast and agitated than ever before. We have a bent to speak, move and learn on-line. The ultimate luxury of having an assistant who always listens for you, takes action when necessary and anticipates your every need is now available through Intelligent Personal Assistants (IPAs) with the help of users communicate through Natural Language Processing (NLP). Within the age of constantly changing and advancing technology, we will do things that we have a bent to never thought that we could have done it before. To achieve the luxury and your thoughts of automatizing and performing tasks of services for an individual this paper aims to develop a Virtual Personal Assistant (VPA) having the power to maneuver just by the human voice. The assistant is designed entirely in python with an agenda of providing control over your desktop. The user's voice request is captured through the microphone and the result is replied in the form of speech using the built-in speakers. With the promising rising and emerging of the IPAs this voice-controlled virtual assistant helped in transcending our imaginations providing full features of utilizing the desktop technologies on users' voice directions.

Keywords: Intelligent Personal Assistants (IPAs), Artificial Intelligence, Virtual Personal Assistants (VPAs), Natural Language Processing (NLP).

Grace: An AIML Based College Inquiry Support Assistant Chatbot for Kaziranga University

**Nishan Boruah, Rashiv Loying, Baristha Pratim Bora,
Chiranjib Tamuly and Dibya Jyoti Bora**

Abstract: A chatbot also known as a chatterbot, talkbot, chat robot, bot or Artificial Conversational Entity is nothing but a computer software that can mimic human conversations via text or voice. Most commonly used chatbots have all the required information stored in its knowledge base, with the help of which it can perform conversation with a human user. It has a user interface (UI) similar to chat applications like WhatsApp or Facebook Messenger through which users can send text messages and in return the chatbot analyze the user messages from the pool of its knowledge base to generate a corresponding reply. Grace will be built using AIML which uses pattern matching to understand user message and generating bot's reply. The system will be deployed in Facebook Messenger which will help the students to ask queries and getting answers effectively. The main advantage of this system is that students need not visit the university physically for any college related queries. They can access and chat with the system in real time from university's official website or messenger application just with the help of an active internet connection, which will save a lot of time and money.

Keywords: Artificial Intelligence, AIML, Virtual Support Assistant, Knowledge Base, Chatbot, Pandorabots, Grace

RF Imaging System

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Abstract: In this survey the three different type of RADAR imaging system, which is given as follows: (1) Synthetic Aperture Radar (SAR). (2). Through-the-wall Radar. (3). Digital Holographic Near Field Radar.

Each system surveyed that how to improve the quality of image. Each of them have some specific problem. The digital holographic near field RADAR is study in such a way that if the incident angle is more than the ten to fifteen degree it divert the RADAR signal much and do not received the signal. This causes the information is lost. In this paper we proposed a new method which is used to generate the image of the missing data.

Modeling of Electromagnetic Wave Scattering FRO a Dielectric Circular Cylinder

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Abstract: Numerical model was constructed based on the formal solution of plane wave diffraction by a dielectric circular cylinder which is computing the scattered and complete field in the space around the circular cylinder for the cases of E–wave and H–wave polarizations. Spatial amplitude distributions are compared for dielectric and metallic obstacles at two different frequencies (high and low). Angular patterns are given for the complete and scattered electromagnetic field in case of the same frequencies and polarizations. The effect is analysed like the Brewster phenomenon when a plane wave is incident on flat dielectric interface. Also demonstrate the effect might be observed within some angular interval at a cylinder of large radius.

Online Medical Prescriptions to Checks the Level of Infection in Human Body

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Abstract: I chose to plan an infection detecting site, keeping in see the pandemic of current year, 2020. The expressed reason of this site is to spread awareness of COVID-19 and to put through fundamental COVID-19-related health services to the individuals of India. This websites expands the activities of the Division of Wellbeing to contain COVID-19 and offers best hones and advisories. The primary objective of planning this site is to keep individuals upgraded about their wellbeing and contaminations.

Keywords: Infection detection, website designing, detectyourinfection

Implications of Artificial Intelligence (AI) in Indian Higher Education

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Abstract: Technology is profoundly transforming our everyday lives. Artificial intelligence is about the development of machine that mimics human intelligence, which can learn from experiences and make rational decisions. In the past years, computer hardware, software and online service have brought about changes and reforms to classrooms and teaching methods. But the true extent of disruption in education is yet to be felt using Artificial Intelligence (AI). Artificial Intelligence has proven to be a game-changer in a number of fields, causing transformations unimaginable in the past.

Using Artificial Intelligence (AI), technologically advanced systems can be designed to interact with the world through capabilities like visual perception, speech recognition and intelligent behaviour that we would think of as essentially human. The blending of education with ICT has shifted the education system from traditional classroom teacher centric to flexible anywhere anytime (24×7) learner centric model. AI is the best way to effectively address students and enables organization to discover their capabilities in different aspects.

This paper will give an overview of AI along with its role in the field of higher education, focusing on the enhancement of human capabilities, empowering staff and interactive learning.

Keywords: Artificial intelligence, Interactive learning, Sentiment Analysis, human skills

IOT Enabled Smart Energy Saving System for Home Using Linear Regression Analysis

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Abstract: In this era of science and technology, when the entire world is moving towards the highest degree of comfort, almost at a saturation level and likes to see his life in terms of linear function of mere input and output, that too at the fastest possible rate, automation without human interference have become the prime concern of modern era. Nowadays, all the events can be viewed as a collection of few data, and to get control over those data structuring and restructuring, reflects the judging power of systems thereby improves its outcome. Similar idea can be observed when one talk about home automation. A home automation system will coordinate and perform control over domiciliary appliances in accordance with the dynamic external environment. It also emphasizes over home security which includes access control and alarm systems. When within the network, home devices form an essential constituent of the Internet of Things. A home automation system typically connects controlled devices to a central hub or “gateway”. The user interface for control of the system selects an alternative among many like wall-mounted terminals, tablet or desktop computers, a mobile phone application, or a Web interface, that may also be accessible off-site through the Internet. There are various ways to design based on different technologies. Previous work in this context includes mere monitoring and controlling. This is beneficial in one way, but no efficient optimization is presently done for power-saving. Power-saving is an absolutely important feature both in terms of energy conservation and cost effective. Internet of things (IoT) forms the most important part as it involves interaction of home appliances within the network and then it can be monitored according to desire. This paper emphasises on the intelligent operation of household energy saving

system by which it can monitor and control the household-systems, keeping in pace with the external and internal environment and also save energy (electrical consumption), henceforth user-friendly to keep electric bill within a desired value with adjusting and readjusting facilities (if bill exceeds the limit). All the appliances are controlled by Arduino Uno and Bluetooth Module.

Keywords: Automation, IoT, Arduino Mega, Bluetooth Module, Energy saving

Fiber Optic Sensors: A Leading Trend in Sensor Technology

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Abstract: Fiber Optic Sensors (FOS) are being used in a variety of application since last few decades. Technological research in the field has made it more attractive and viable. Fiber optic sensing is a field in which multi-parameter measurements are made by either using optical fiber itself or with the help of an external transducer. FOS exhibit higher sensitivity, immunity to Electromagnetic Interference (EMI), smaller size, longer lifetime and amenability to multiplexing. These sensors can be deployed for varying applications i.e. Physical, Chemical, Electrical, Water, Transportation, Agriculture and Industrial fields. FOS can be further classified based on location, spatial distribution and operating principle. In the present paper study of various sensors based on Fiber optics has been presented in detail. This will enrich the researchers to find the gap areas and motivate them to undertake the research work towards the advancement in the field.

Keywords: EMI, FOS, Fiber Bragg Gratings (FBG), Optical Path Length Difference (OPD), Refractive Index (RI), State of Polarization (SOP)

Image Steganography Method Used for the Enhancement of PSNR Value With the Help of Hybrid Optimization Technique

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Abstract: As we know that Data protection becomes necessary because of the transmission of data over internet has been increased rapidly. Steganography has gain interest from ancient time, and seek attention to the researchers. Due to the fast increase in data transmission over network we use steganography for the protection of our secret data. so, for all that we need a better security in Steganography. we need a better algorithm which will be used for the betterment of security of the Steganography and optimum pixels location so that we can embed our secret data into the image to enhance the Steganography performance. The two factors which are necessary for the performance of Steganography are its PSNR value and the capacity for the embedding of data. As we are familiar that nowadays hybrid optimization algorithms are used for the effectiveness and advancement in various NP hard problems. So inspired from these algorithms, in this proposed work hybrid model and advanced version of PSO will be used for selection of pixels to hide the data. In this proposed model PSO and GSA optimization algorithm will be hybridized to achieve effective pixels for data hiding and to enhance the capacity, the coherent bit length algorithm will be used in the proposed work. This paper is focuses on the enhancement of steganography performance with the help of optimization algorithm.

Keywords: Steganography; PSO; GSA; Image compression.

Advancements in Fuzzy Reliability Theory: Fuzzy Reliability Theory Applications in Computer Science

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Abstract: Fuzzy Logic provides a simple path to reach at a definite conclusion based upon uncertain, duplicate, imprecise, noisy or missing input information. It is a type of logic that identifies more than one simple true and false value. Fuzzy Logic was proposed by Zadeh in 1965 and now it has been widely used because it deals with indefinite and incorrect information. It is very close to the human brain. In Fuzzy Logic, human expertise is used to create new system by using new technology. Fuzzy Logic put in various fields like Air Conditioners, Washing Machine, Microprocessor, Microcontrollers, Image processing, and many other real-world applications. Fuzzy Logic consists of four components: Fuzzifier• Rule Base• Inference Engine• Defuzzifier• Fuzzifier determines the input and output variables and maps them into linguistic variables with the help of membership functions. The inference engine uses If-Then rules defined in the rule base and on the basis of that it arrives at the fuzzy output. This fuzzy output is converted into a single crisp value with the help of defuzzified. Because of its extremely good response in different applications and its potential to deal with uncertainty, Fuzzy Logic is also used in Cloud Computing. In Cloud Computing, it is widely used in many areas which we will explain in chapter. The objective of this chapter is the analysis of different applications of

Fuzzy Logic in computer science. Application of fuzzy logic is Fuzzy control systems, Fuzzy optimization, and cloud computing. This chapter reviews the already available application areas of Fuzzy Logic in Cloud Computing. Analysis of different studies on application areas of Fuzzy Logic is considered in the area of cloud computing systems. Relative analysis has been done to classify these application areas. Cloud computing is a web-based technology that has brought a lot of improvement in the field of Information Technology. It is a pay-as-you-go service model that gives services on the basis of the demand of users, because of its ability to deal with unpredictability. Fuzzy Logic gives a good response in cloud computing. Fuzzy Logic-based application in cloud computing are Load balancing, Job Scheduling, QoS optimization, generally shown in the existing literature. Fuzzy Logic helps to improve the different areas in the field of computer science. This chapter is very useful for researchers working in the field of computer science with Fuzzy Logic.

Keywords: Fuzzy control systems, Fuzzy optimization, Cloud Computing, Fuzzy Logic, Job Scheduling, QoS.

An Extensive Review of Shortest Path Problem Solving Algorithms

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Abstract: Shortest Path Algorithms (SPAs) are established for solving shortest path problem (SPP) mainly classified into various types. Growth of concepts are derived for solving problem of shortest path ensured via various algorithms that performed over the earlier days. The key purpose of this article is to give a detailed overview to SPP besides problem solving algorithms. The problem of shortest path is represented as graph and solved by utilizing different algorithms based on the application. The main goal of SPA is shortening inclusive cost and distance. The application of artificial intelligence in the shortest path algorithms had described in a separate section. The time complexity of the different algorithms presented in the various literatures are discussed. From the profound survey this work suggests some of the future directions to the work. This examination proves that the performance varies between various algorithms which are used to resolve detailed variations of SPP.

Keywords: Shortest path algorithm, Shortest path problems (SPPs) - single-source, single-pair, single-destination, all-pairs, Time complexity.

Comparative Study of Efficiency of MPPT Controller Using ANOVA

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Abstract: Solar PV system generates variable power which depends on the irradiance of the sun. To supply the maximum power to the converters some controllers which work on few algorithms are used. In this paper we present the analysis and comparative results for the efficiency of MPPT controller to optimally charge the Li-ion battery from solar irradiations. This process is being carried out in MATLAB Simulink software. The efficiency of the MPPT controller has been compared with several methods using one-way ANOVA.

5G Revolution Transforming the Delivery in Healthcare

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Abstract: In the last two decades a lot of new technological advancements and developments have taken place in the field of healthcare. These advancements have helped to improve people's living standards and have increased the global life expectancy. However, the current healthcare system is facing a huge burden due to the increasing cases of chronic diseases like cancer, diabetes, etc. and the way our healthcare system is running currently has proved to be quite inefficient. In this research paper our focus will be on how 5G technology can revolutionize our healthcare system. We will discuss the challenges posed by our current healthcare system and features that 5G technology offers such as low latency, high-speed connectivity, and many other features that can prove to be the game-changer when it comes to healthcare. 5G will also enable us to leverage artificial intelligence and big data. With further developments in cloud computing and the development of new sensors and wearables, 5G will enable the medical internet of things. We will also be exploring the areas like diagnostics, imaging, analytics, and treatment that 5G technology will boost. These advancements will also give a boost to home healthcare. We will also be discussing the impact of 5G on the medical access, quality and cost and will also make some recommendations that such as data policies, research needs, effective regulations, infrastructure developments, trials, etc. that will lead to a better, safer and quality healthcare in the future without ignoring the fundamental rights of the individuals.

Keywords: Medical IoT, wearable sensors, implantable medical devices, remote surgery, home healthcare, telehealth

Fingerprint Based Door Access System Using Arduino

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Abstract: From earlier times, security was and also till now is an issue of concern in our households and also in office, shops, etc. Everyone has a fear of unauthorized person entering to their home or office without their knowledge. The normal door can be fitted with locks which are capable of breaking with the use of an alternate key. Alternatives to this system can be found like the password or pattern system in the locks which again has the possibility of getting exposed and opening the lock. So, a solution to such problems can be by combining door lock with biometrics. Biometric verification is any means by which a person can be uniquely identified by evaluating one or more distinguishing biological traits. Unique identifiers include fingerprints, hand geometry, earlobe geometry, retina and iris patterns, voice waves, DNA, and signatures. Here we will use fingerprint for biometric verification as it is one such thing which is unique to every individual and the use of fingerprint as the key to door locks can overcome the security problem of unauthorized people trespassing to our homes, shops, offices, etc to a great extent as duplicacy in such key is not possible. Also, this system will not lead to problems like losing keys because we do not require carrying keys if this system is used instead of traditional locks. So, using arduino we will try to implement the system with features which will increase the security level.

Cyber Security Issues, Challenges and Awareness in the Society

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Abstract: As more business exercises are being computerized and an expanding number of PCs are being utilized to store touchy data, the requirement for secure PC frameworks turns out to be increasingly clear. This need is significantly progressively evident as frameworks and applications are being circulated and gotten to by means of an unreliable system, for example, the Internet. The Internet itself has gotten basic for governments, organizations, budgetary establishments, and a huge number of ordinary clients. Systems of PCs bolster a huge number of exercises whose misfortune would everything except cripple these associations. As an outcome, cyber-security issues have become national security issues. Securing the Internet is a troublesome undertaking. Cyber-security can be gotten distinctly through precise turn of events; it cannot be accomplished through heedless seat-of-the-pants strategies. Applying programming designing methods to the issue is a positive development. Be that as it may, programming engineers should know about the dangers and security issues related with the structure, improvement, and sending of system based programming. This paper acquaints some known dangers with cyber-security, arranges the dangers, and dissects security systems and procedures for countering the dangers. Ways to deal with forestall, identify, and react to digital assaults are additionally talked about.

Keywords: Cyber security, challenges, cryptography, case study

Similarity of Strings Using Interval-Valued Fuzzy Automata

Alka Choubey, Ravi K. M. and Oumang Chaturvedi

Abstract: Approximate string matching is a sequential problem. Stochastic and fuzzy models were used so far to solve approximate string matching. This paper proposes an extended fuzzy automaton model for similarity of strings using interval-valued fuzzy set, the fuzzy set extension. This method models the edit operations (insertion, substitution and deletion) needed to transform any observed string into pattern string by providing a membership value in the subinterval of an unit interval. The paper also presents an algorithm and is applied on some words of dictionary that implements the proposed model.

Emotion Recognition in Hindi Speech

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Abstract: Speech Emotion Recognition (SER) is an active research problem. Specific audio characteristics like amplitude, pitch and tone can help distinguish one type of emotion in the speech with others. A subset of IIT-KGP SEHSC: Simulated Emotion Hindi Speech Corpus has been used in this research to examine the efficacy of machine learning classifiers in predicting emotion of a given hindi speech. Audio features used for classification are MFCC (Mel-frequency Cepstral Coefficients), SSC (Spectral Subband Centroids) and LPC (Linear Prediction Coefficients). The supervised classification techniques used are SVM (Support Vector Machine) and KNN (K- Nearest Neighbours) and Deep Neural Classification Techniques which involves CNN (Convolutional Neural Network) and MLP (Multi-Layer Perceptron). Combinations of the above features were fed to the classifiers to assess their performance. The best accuracy was obtained on a combination of all three features i.e. (MFCC, SSC, LPC) on SVM classifier which was 85.47%.

Keywords: Shallow learning, Deep learning, Hindi Speech Emotion Recognition, Support Vector Machine, Convolutional Neural Networks

Hybrid of SOM and K-Means for Developing Classification Models for Identification of Various Diseases

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Abstract: This paper presents the hybridized based method on K-means and SOM unsupervised Machine learning with different classifiers for diagnosis different diseases. The main aim is to evaluate and to compare the performances of different hybridized approaches either with K-means or SOM with their alternatives for predicting and diagnosis of 3 different diseases. Clustering technique here used to remove the unclustered instances or wrongly instances and PSO used to reduce the complexity of the system by reducing the dimensionality of the datasets. The classification accuracy obtained by the proposed hybrid based methods on 3 different diseases namely CKD disease, Hepatitis disease and Breast cancer disease are one of the best results as compared with other results reported in this literature. This research showed one of the best effective alternatives in order to find the best performing hybrid techniques. The classification methods used to evaluate are NB, MLP, RF, CART, Adaboost, and Bagging. Our proposed hybridized based method improves the accuracy of classification model from 2% to 10% for datasets. The results confirmed higher accuracy and used ICI, RMSE to evaluate the performance of proposed method.

Keywords: Naive Bayes, multilayer Perceptron, Classification and regression trees, Self-organizing Map, Particle Swam optimization.

Role of AI in the Prediction and Curbing of Covid-19

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Abstract: This research paper proposes the contribution of Artificial Intelligence in the prediction and curbing of COVID-19 and in what other efficient ways AI can be made use of. Recently the world is suffering from Coronavirus which is declared as a global pandemic being fatal. It has caused a state of emergency, here AI appears to save us by contributing through formation of vaccines and drugs through new and much innovative and efficient approaches which we're going to discuss, AI equipment's like Facial Scanners, Diagnostic AI, Surveillance AI and much more also play an important role and this is what we're going to explore about. While the world is struggling with the effects of COVID-19, complementary attempts of AI Technology have been made so it can be clearly said that AI has played a major role in providing useful information and stalling the spread of the virus by updating people on time.

Detection and Prevention of DoS Attack in VANET Using Arti_cial Neural Network

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Abstract: VANET is a type of wireless network in which vehicles communicate with each others by sending and receiving messages. The messages that vehicles sends with each other is about traffic on the road, accidents related information etc. As vehicles are moving on the road the information like road traffic or accident related information must be received on time without any delay. If there is some delay it may cause an accident. So network must be available all the time in VANET. If DOS attack is happen on the network it makes the network unavailable because of which vehicles in the network not able to communicate with each other which can cause serious threat. So if there is some DoS attack happen on the network it must be identi_ed in times before it cause any damage to the network. In this paper we have tried to im-prove the previous technique which is used for the detection of DoS attack so that it detects such kinds of attacks as early as possible. We have used neural networks to achieve the desire results which are improved than the previous results.

Analysing the Selection of Criteria for Predictive Maintenance of Vehicles Using Fuzzy DEMATEL-BWM

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Abstract: The measure which aims to reduce the failure of equipment to reduce unnecessary effort and cost is predictive maintenance. In automotive industries, predictive maintenance is even more essential as it leads to the reduction of time, money, and efforts of the consumer as well as a company by analysing the vehicle's maintenance routine. In predictive maintenance, a vehicle is sent off to maintenance only when it is required to and not anytime between, thereby reducing the cost. The preliminary step is finding the significant criteria that affect the overall health of the vehicle and the interdependencies between them. The study employs a fuzzy Decision-Making Trial and Evaluation Laboratory (DEMATEL) methodology for understanding the relationship between the factors followed by the fuzzy best-worst method (BWM) to prioritise the cause factors. Fuzzy theory is employed to incorporate subjective judgments in the decision-making process. Four main criteria have been chosen, and each criterion contains certain factors associated with it on which we will apply the method and get the result. The paper is validated for the maintenance workshop of defence vehicles in the northern part of India.

Keywords: Industry 4.0, Fuzzy, DEMATEL, BWM, Predictive maintenance

Web-Based Textual Analysis to Comprehend the Impact of Artificial Intelligence on Jobs

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Abstract: Many are awestruck with the changes Artificial Intelligence (AI) has brought. This ubiquitous technology has created its place in the job market and is here to stay for years to come. However, the impact of AI on various job sectors is susceptible. While most have welcomed this technology, many are concerned about the effects of AI. With the rapid automation of several job processes, job displacement seen as a significant outcome. AI has led to prominent businesses in the market become more efficient with the lesser workforce. This study aims to analyse and understand the effects of automation of different job tasks, and therefore conclude the impact of artificial intelligence on various jobs. The web-based textual analysis techniques opted to conduct the study.

Keywords: Text Mining, Text Analytics, Artificial Intelligence, Automation, Data Analysis

Heart Health Prediction Using MI

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Abstract: Heart disease is a major cause of death throughout the world. It is difficult to predict by medical practitioners as it requires expertise and higher knowledge of prediction. The environment in healthcare sector is information rich but lacks knowledge. A lot of data is available in healthcare systems over the internet but there is a lack of effective analysis tool to discover hidden patterns in data. An automated system will enhance medical efficiency and reduce cost and time. This software intends to predict the occurrence of a disease based on the data which is gathered from kaggle. “Disease Prediction” system based on predictive modelling predicts the disease of the user on the basis of the symptoms that user provides as an input to the system. The system analyses the symptoms provided by the user as input and gives the probability of the disease as an output. Disease Prediction is done by implementing the techniques such as Naïve Bayes, KNN and Decision Tree Algorithms. Our aim is to find out an suitable technique that is efficient and accurate for prediction of cardiac disease.

Handwritten Text Recognition : Deep Learning

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Abstract: This research paper offers a new solution to popular handwriting recognition techniques applying theories of Deep learning and computer concept. An expansion of MNISTdigits dataset called the Emnist dataset has been used. It includes 62 classes with 0-9 digits and A-Z characters in both upper case and lowercase. An application for Android, to recognize handwritten text and transform it into digital form by applying Convolutional Neural Networks, condensed as CNN, for text analysis and detection, has been created. Before that we pre-processed the dataset and implemented various filters over it. We created an android application using Android Studio and combined our handwriting text recognition program relating tensor flow libraries. The purpose of the application has been kept simple for illustration purpose. It supports a protobuf file and tensor flow interface to use the trained key areas graph to divine alphanumeric characters drawn using a finger.

Incorrect News Detection Using ML

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Abstract: In this paper, we explore the application of Natural Language Processing techniques to identify when a news source may be producing fake news. We use a collection of labeled real and fake new articles to build a classifier that can make decisions about information based on the content from the collection. We use a classification approach, using four different models, and analyze the results. The best performing model was the LSTM which had the accuracy of 94%.

The prototype tries on identifying fake news sources, based on multiple articles originating from a initial point. Once a prototype is labeled as a starter of fake news, we can predict with high confidence that any future articles from that source will also be fake news. Focusing on sources widens our article misclassification tolerance, because we have multiple data points coming from staring point.

Data Mining in Retail Industry for Sales Behavior Prediction

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Abstract: Data mining is proven to be one of the most important tools for the identification of useful data from so many data bases in almost every industry. Industries are using data mining to raise revenue and reduce costs. This document introduces the concept of data that has emerged as a way of finding patterns to make better strategies and decisions. We also discuss the common functions involved in data mining, discussing the application of various data in different fields. This paper attempts, how data mining can be used for a market campaign in the retail industry.

Keywords: Knowledge Data Discovery (KDD), Market

Basket Analysis, Customer Sales Management (CSM) Fire Detection Method Using Neural Networks

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Abstract: A neural network fire detection method was design using detection information for temperature, smoke density, and CO concentration to detect the probability of three components of fire conditions. The method overcomes the defect of domestic fire alarm systems using single sensor information. Test results show that the identification error rates for fires, smoldering fires, and no fire are but 5%, which reduces leak-check rates and false alarms. This neural network fire alarm can fuse a spread of sensor data and improve the power of systems to adapt within the environment and accurately predict fires, which has great significance for life and property safety.

Keywords: fire detection; neural network; multi-sensor information fusion; simulation

End-to-End Chat Application in Secured Environment

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Abstract: Chatting is a method of using technology to communicate with each other and to bring people and ideas together. Chat applications have become one of the most popular and vital applications on Smartphone. Though there are several applications available for this purpose but not all of them guarantee to provide end-to-end security to users. This paper aims to provide secure end-to-end chatting applications in which communications can take place without worrying about security.

To develop a chat application with a server and users to enable the users to chat with each other. Using this application users can communicate with each other with the help of a server that provides a secure communication through the usage of secure storage space. This paper focuses on security, privacy and speed by proposing end-to-end security which ensures only a sender and receiver can read the message without any third party interference. This will ultimately reduce the network traffic in the application and dedicated end-to-end communication without worrying about secure communication.

Keywords: Secure, Chat application, Server, Client, End-to-end.

E-Commerce for Handloom

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Abstract: Indian handloom is the cultural symbol of the ancient history. It is not just about making something out of looms but it is the pride of the culture and tribes. It symbolises the history and the culture. In the last few decades, the Indian government has well understood the need of handloom market for the betterment of the economy. A lot of Indian Women's are indulged in this activity which helps in their household. According to the fourth census on handloom by Indian government we can clearly see a large number of growths in this industry. Commercialising handloom would be like taking our culture forward and helping a lot of people for their household. India is well known for its art, craft, culture, ancient history etc, we can utilise this opportunity for providing a wide and cultural view of India Infront of the world. In this paper, a comparative survey of the third and fourth handloom census conducted by Indian government is studied with the benefits of commercialising handloom. Export and import market of handloom. Also, Strategy and challenges in handloom industry. An electronic-commerce website for handloom is suggested with its view and mission. Future scope and the boon to livelihood it will provide is discussed well.

Keywords: Handloom, culture, e-commerce, commercialising, market, commerce, handloom census, website, strategy, handloom challenges.

Stock Price Prediction and Performance Analysis Using Machine Learning

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Abstract: In the world of stock trading, it is one of the most important activities. Stock predictions of any company try to determine the future value of a stock. This paper explains the performance of a stock using Machine Learning. While making prediction technical analysis, fundamental analysis and the time series analysis is widely used by the stockbrokers to get an accurate prediction. To perform this prediction using machine learning and deep learning we will be implementing all required code in “Python” programming language. This paper will be proposed with a Machine Learning (ML) approach where we will train an algorithm for prediction, basically in our raw data we train the model with almost 70-80% of data called training data and remaining data used for measuring the accuracy of the algorithm called test data. While making prediction if trained model is not accurate then we have to reiterate training with same data for more number of times. In context of this study we will use recurrent neural network of deep learning called long short term memory (LSTM) to predict the future value of stock for the large and small capitalizations

Keywords: Stock prediction, Machine learning, Deep Learning, Recurrent neural network etc.

IOT Reverse Engineering

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Abstract: Recent attacks on IoT botnet have gathered the attention that many IoT devices are connected via the internet or directly with the internet. Many of these devices which are connected to the internet are lacking basic security measures such as strong password, low-level security, etc. As a result, we are facing various consequences with several IoT devices, these devices are already infected with different viruses and malware, and many more are in queue to be infected. The evaluation of many black-box techniques which are low-cost for reverse engineering of these devices, application, software, and fault injection-based techniques are used to detour password protection. These techniques are used to retrieve devices' micro-code and password. The upgrading of IoT devices without hiking the normal price or disturbing their convenience.

Keywords: IoT devices, reverse engineering, reverse engineering method, reverse engineering process, several IoT devices, boot loader, operating system, security camera, black box reverse engineering.

Bus Scheduler

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Abstract: Public transports like buses provide economical, expedient, time-effective means of transportation. But the main problem arises in the bus system is its management and booking fails many times, passengers also don't have the option to select the seats according to their convenience and even the passengers id card is not checked or linked when booking is made. People who rely on public transport suffer a lot due to lack of positioning feature in current bus system. This advanced bus scheduler can be used for obtaining the exact location of bus and details about passengers and driver. The main intent of this system is to develop pliable, user friendly and secure bus handling system that caters the requirements of passengers and also ensure the smooth booking and travelling experience for the passengers.

Keywords: Location-based services, Advanced Public Transport System, Digital geographic database, GIS, management, security

Research on Semi-Automated Vehicle Parking System Based on Parking Technique

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Abstract: The expansion in the quantity of vehicles prompts the issue related with the leaving of these vehicles. It is seen that a great deal of time is spend in scanning space for leaving the vehicles. This issue prompts the need of a computerized vehicle leaving framework which oversees and controls the quantity of vehicles that can be left in a given space at some random time dependent on the accessibility of parking spot. We are utilizing a semi-mechanized way to deal with equal stopping issues. This framework leaves the longitudinal control of the vehicle to the drivers however the horizontal control is computerized and it is additionally liable for halting the vehicle when it arrives at the last position. The framework associate with the client through HMI. The framework utilizes the crane for lifting the vehicle from the underlying to the leaving opening and from the leaving space to the leave way.

Keywords: Semi-automated system, Human machine interface, fully automated system.

Credit Card Fraud Detection

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Abstract: Machine learning is considered as one of the most successful techniques to identify fraud. Credit card fraud detection is of great importance to financial institutions, in an era of digitalization. In this paper, we discuss the automated credit card fraud detection by means of Machine Learning. This paper discusses automated credit card fraud detection by means of Machine Learning. We apply different machine learning techniques: Logistics Regression, Decision Tree, and the random forest classifier to the problem and show their significant result on real- world financial data. Finally, future directions are indicated to improve these techniques and their results.

Keywords: Detection techniques, Logistics Regression, Decision Tree, Random Forest, F1 score, Precision

E-Learning Using Cloud Computing

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Abstract: E-learning is a method of providing guidance and delivering information to the student of university or the as well as employees of companies. This program is developed in such a way that the individuals don't need to come to a classroom or companies' office instead can review all the data from any place as per their convenience. This e-learning model will totally be deployed on cloud platform. Advantages of E- Learning is that it helps to provide information to a large group of individuals who can't attend an institution. It also helps the student to complete the course at their own speed. The main objective of this system is to develop cloud computing, user friendly and secure cloud computing system that caters the need of student and employees and also ensure the easy using E-learning.

Keywords: E-Learning, Cloud Computing, SaaS, Iaas, Paas

A Collaborative Filtering Based Book Recommendation System

Shreyanshi Chauhan and P. Rajakumar

Abstract: A suggestion framework or recommender system is a class of a framework that channels information that foresee the “rating” or “inclination” a client would provide for an item. It makes proposals dependent on past rating clients provide for a specific thing [1]. It unequivocally utilizes the immediate clients towards those things which can address their issues by chopping down a broad data base of Information. Different procedures are recommended for suggesting things, i.e., content filtering, and associate mining methods are utilized. This paper takes care of the information sparsity issue for better implementation. The outcomes got are illustrated and difficulties are explained, for example, information sparsity and adaptability.

During the last few years, we have been noticing (at Amazon, Flipkart, Netflix) and numerous other such web administration that suggestion frameworks are strikingly utilized in our everyday lives. From web-based business to an online commercial (ever wonder how you get advertisements of a similar thing you looked through a couple of hours back), recommender frameworks are today broadly utilized in our day by day web based looking.

All the more succinctly, proposal frameworks are used to recommend important things to clients (next motion pictures to watch, books to peruse, items that are to be purchased, or anything else relying upon your browse history).

Frameworks which deal with recommendation can lead to increase of revenue when they are proficiently utilized or additionally be an approach to stand apart uniquely in contrast to contenders. As a proof of how important fundamental suggestion frameworks are, we can make reference to that, a few years ago, Netflix composed (“Netflixprize”) whose purpose was to make a recommender system that works better than its previous system where the prize money given to winners was of 1 million dollars.

Keywords: recommender framework, content-based filtering, coldstartproblem

Fast and Accurate Twitter Sentimental Analysis

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Abstract: Sentimental analysis is the process of finding sentiments or opinions such as positive, negative or neutral from text, reports and emoticons data. With the rise of social networking there has been a huge amount of user generated content. Millions of people are sharing their thoughts daily using micro blogging sites like twitter, Facebook, YouTube. We will be mining the sentiments or opinions from very popular and real time micro blogging site i.e Twitter, which is used for present real time reactions and opinions about every ongoing activities. Public and Private views for a very large range of topics are presented. Twitter provides organizations a fast and accurate way to examine user's perspective about the product or decision. This study reports on the process of sentimental analysis, extraction of huge amount of tweets. Results classify person's way of thinking via tweets into positive, negative or neutral category and present them in pie chart form.

Keywords: Sentimental analysis, opinions, Twitter, Micro-blogging

Security in Cloud Computing

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Abstract: Cloud it is where we store your data which can be accessed from anywhere we just need to connect to the server to gain access to the data the cloud provide storage,access,security and integrity of data when we talk about security it has many step in cloud the security make sure that the user data is safe from unauthorized access by monitoring analysis and gaining access we will further talk about this in detail how this is done and which are the step involved in it by cloud it make IT more efficient and cost effective but it is also opening threats to the security of the cloud which will be discussed in detail .

Suppose there is a person going on a trip in a cruise then he(james) is using an application in his mobile phone this application is made by the cruise line website, this application help in sharing image which is hosted on a cloud . after a week later the pictures which where shared by him which were viewed by his friend,his friends complained to his that the were being spamed after viewing his images so james goes to the in charge of the application on the cruise and complain to him by the cruse team is already aware of this happening now the question arises how they are aware of this problem before the user themselves are aware and what measures can they take to both remove this security problem they are aware as there is a team working which look after the breaches and security threads that a cloud has to bear .

Enterprise Resource Planner

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Abstract: This paper discusses an ERP system in an educational institution. ERP system is a software to integrate all the function in one single computer. We will discuss about developing an ERP software for education sector like schools,colleges etc. The project will keep information of various departments in the university or college. This projects integrate all the function in one computer system which keeps the information and details of every department in the education sector. This paper will tell reasons for adopting ERP and new Development in the ERP. Both advantages and disadvantages of ERP. This software will be very useful to keep the information secure and ERP will make every person to access the information very easily. ERP system will improve efficiency and flexibility of college management and to provide a simple platform for everyone to access the information/data. And this research paper will explain all the points why we need ERP and how much it is important for educational institute. And use of ERP will make more better environment and lifestyle.

Sentimental Analysis on Facial Expression

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Abstract: The sentimental analysis is phenomenon of exploring, analyzing and organizing human feelings. It is a process of extracting feelings of human from pictures. It involves the separation of image into various characters such as face, background, etc. It uses lips and eye shape for extracting human feelings. It uses numerous of applications such as Pycharm, Numpy, Open Cv, Python, etc. Its main objective is to find out the moods of human such as happy, sad, etc. This report generates the emotional state of human being as well as different emotion of human in different situation.

Keywords: Sentimental Analysis, Facial Recognition, Emotions, Machine Learning, Image processing, Artificial Intelligence.

Village Development System Using Artificial Intelligence

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Abstract: Today's era is considered as an age of science, technology, communication, intelligence, education and economy. The human being is tried to develop the society by implementing and adapting these concepts, especially in villages, city and town and turn them into Smart Village, Smart city and Smart Town. So, the objective of this survey paper is to discuss the impact of artificial intelligence and social media in rural areas for the development purposes, which is located outside of cities or town which is also known as villages. This paper puts light on the relationship of AI and Social media with rural development, that how to improve the rural areas by implementing various technology related to AI and social media.

Keywords: Artificial Intelligence (AI), Rural Development,

Delhi Metro System-A Prefatory Study

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Abstract: As there are growing number of vehicular trips by cars and two wheelers which result in traffic congestion, air pollution. Traffic accidents is one of the major topic in urban areas. Investments in high capacity rail based mass transit systems are being promoted to introduce this trend . This paper analyses the methodology and arguments and how to resolve this system. The paper shows the evaluation of Delhi metro in terms of capacity,time required during travelling and accessibility to the system.

Keywords: Delhi Metro rail, Public Transport, DMRC.

Survey Paper on Big Data Analytics on Satellite Data

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Abstract: Today's digital world deals with a lot of data. This data could be in different formats like audio, images, videos, text, etc. This enormous data is generated at variably high speed and huge volume. This real time vast data is known as Big Data. To analyse this real time Big Data, one needs a deep and thorough knowledge of it. This real time Big data comes from various different sources. So, to get the best performance of system, distributed processing is one of the best approaches. This survey paper focuses on distributed image processing. The difference in this approach is that this uses Real Time Satellite Data which is actually Big Data. This focuses on several fields and aims to provide survey of advancements that can be made to get better performance. This paper deals with Big Data, DIP (Distributed Image Processing), Data Analytics and Real Time Satellite Data and Applications.

Keywords: Big Data, DIP (Distributed Image Processing), Big Data Analytics, Real Time Satellite Data and Application

Steganography of Data

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Abstract: Digital communication has become an crucial part of communications in the current world and it has witnessed a obvious and continuous improvement in a lot of application during last few decades at the present time, almost all applications are Internet-based and it is important that communication be made confidential and sheltered. Cryptography and steganography are the two important and extensively used techniques, Steganography and Visual Cryptography is used mutually to add multiple layer of protection Using Steganography, the secrete text communication is wrapped-up in a cover figure,the image of stenographer is now sliced into multiple share using Visual Cryptography and transmitted in an open organization environment. At the recipient end the received shares are stacked one on top of an additional to create the wrap image which has the message text concealed in it. This is completed by illustration Cryptography. Now Steganography is used on this figure to gain the hide text communication.

Keywords: Information Hiding, Cryptography, Steganography,Encoding, decoding

Cardiovascular Disease Prediction Using Machine Learning

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Abstract: In the current era of computer science each and every thing becomes intelligent, self sufficient and perform task like humans. For these purposes there are various tools, techniques and methods are proposed. Support Vector Machine is a model for statistics and computer science, that has a algorithm to perform supervised learning, methods that are used for the analysis of data and Recognize patterns. SVM (Support Vector Machine) is mostly used for the classifications and the regression analysis and in the same way K- Nearest Neighbor Algorithm is a classification algorithm that is used to classify data using training examples. In this research paper we use SVM and KNN algorithm to classify data and predicting (find hidden patterns) the target clusters. Here we use Medical patients nominal data from the common patients to classify and discover the data pattern to predict the future diseases. Here we also Uses data mining which is used to classify the text analysis in future.

Voice Based E-mail System for Visually Impaired

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Abstract: Web is one of the fundamental extravagance for day by day living. Each individual is utilizing the realities and data on web. Then again, dazzle individuals face trouble in getting to the content assets. The improvement in PC based helpful frameworks has opened up various open doors for the outwardly debilitated over. Sound reaction based virtual condition, the screen reader assists daze with peopling a great deal to utilize web applications. This undertaking presents the Voicemail framework basic structure that can be utilized by a visually impaired individual to get to E-Mails without any problem. The inclusion of research is helping blind individual to send and get voice based sends, messages in their occupant language with the assistance of a PC. The framework is chiefly founded on Text-to-speech and Speech-to-text change.

Keywords: Text-to-speech, Speech-to-text, IVR and Speech recognition

Image Steganography

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Abstract: As we all know how internet is being used for transferring tons and tons of data in our day-to-day lives and for that matter security of the data should be our utmost priority. Image Steganography can be considered as the most prominent tool as far security of data is concerned. Image Steganography is the process wherein we tend to hide our information which can be in any form image, text or audio files into an another image, text or audio files. The recipient must be aware of the proper decoding techniques in order to decrypt the hiding information. The encryption and decryption of these files is performed using MATLAB codes. We will come to know about the general structure of the steganographic system and the various classifications of image steganographic techniques along with their different performance matrices and steganalysis detection attacks. Several efforts are being going on in order to develop new algorithm for steganalysis which can provide much more immunity and to trace the exchange of secret information between criminal elements. The proposed steganography showed us interesting and promising results when we compared it with other existing techniques available.

Keyword: Stego; Data hiding; LSB; Encryption; Watermarking; Compression

Automatic Medical Treatment Using Data Mining

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Abstract: In our proposed framework is recognizing dependable data in the clinical area remain as building hinders for a social insurance framework that is fully informed regarding the most recent revelations. By utilizing the instruments, for example, NLP, ML strategies. In this examination, center around sicknesses and treatment data, and the connection that exists between these two elements. The principle objective of this examination is to distinguish the ailment name with the indications determined and extricate the sentence from the article and get the Relation that exists between Disease Treatment and arrange the data into fix, forestall, symptom to the user. This electronic archive is a “live” layout. The different parts of your paper [title, content, heads, etc.] are as of now characterized on the style sheet, as delineated by the segments given in this record

Sentimental Analysis of Social Media

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Abstract: As social networking has taken over huge number of users. With over 3.2 billion users in 2019 alone. With the 3.2 billion users, a lot of data is generated. From usual text to images to emoticons to videos, a lot is generated on this basis. For this there are no such analysis going on what type of users are categorized, uploads an image or video, when they post, what do they post or for whom they post. For this, there are many analysis techniques that can be used here. In this paper I am going to use sentimental analysis. Sentiment analysis (also known as opinion mining or emotion AI) refers to the use of natural language processing, text analysis, computational linguistics, and biometrics to systematically identify, extract, quantify, and study affective states and subjective information.

Both Twitter and Instagram are the top most used social media networking application. Both produce content at a very large.

Twitter offers a fast and effective way to write the content. In first segment, we shall report the design on sentimental analysis of huge number of tweets. The result will signify the tweet which are positive, neutral or negative in a pie chart.

Instagram is another social media platform where user upload photos, updating their lifestyle. Using different kinds of hashtag and different kind of filters on photo. Since it has been launched, it has seen a large jump in its popularity. It was launch on October 2010. In spite taking the place of then largest and most popular social media application, still the research based on this platform is very low. Research community is yet to discover the potential of this platform. So, for this the second social media analysis is for the Instagram, we did the sentimental analysis of the platform with analysis as qualitative and quantitative. We have used some computer technology works as a vision to examine photo content. We

have identified and categorizing what kind of users are active and use the platform. Our study gave us the insight –

1. Photo Categories.
2. User types.
3. Relation of users and their followers.

This research is based on user generated content.

Securing Data in Cloud Using Encryption and Split Algorithm

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Abstract: Cloud computing plays a vital role in today's IT environment as it provides services to its end users on the subscription basis. Services like storage, computing, security, operating system etc are being provided to the end users depending upon their requirement. Cloud computing has opened a wide range of opportunities for both the service providers like Amazon, Microsoft etc and the end users who are being benefitted from the services. Cloud data storage security is among those services where the service provider provides with the adequate amount of storage to the user along with special security features to maintain the integrity, confidentiality and availability of the data. Various tools and techniques like encryption and decryption of the data are used to ensure the security of the data from any hazards or attacks. Data is being encrypted at User Side Encryption whenever it is transported and is decrypted at User Side Decryption whenever it is required. This enhances the security of the data in the cloud environment.

“ISA - An Intelligent Shopping Assistant”

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Abstract: The Intelligent Shopping Assistant is a web based mobile application which helps the users with their everyday grocery shopping by offering features such as natural language processed shopping lists and provide quick and easy shop navigation and ordering the items in the lists. The ISA lets local shop owners to open a portal and provide the list of products its selling. The users and easily capture the written list of items using their mobile camera, the ISA will process the items from the lists and add the items in the cart from the nearest shop and will redirect you to the transaction portal after he/she verifies all the items. It will reduce the time and effort of the users as well as the shop owners and provide a well written database for all their sold items. The following project report briefly describe the current and planned features of ISA.

Face Recognition

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Abstract: Humans are easily distinguishable by their faces. In the modern era Facial recognition is one of the most popular term which is used to authenticate a person from a digital source. There is growing rate in the number of algorithm, For Facial recognition such as principal component analysis, linear discriminate analysis, artificial neural network, independent component analysis. The review conducted in this paper is an insight into all the methods, parameters and also highlights the challenges which facial recognition has to face.

Customer Segmentation Using K-Means Algorithm

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Abstract: We live in a world where large and vast amount of data is collected daily. Analysing such data is an important need. In the modern era of innovation, where there is a large competition to be better than everyone, the business strategy needs to be according to the modern conditions. The business done today runs on the basis of innovative ideas as there are large number of potential customers who are confounded to what to buy and what not to buy. The companies doing the business are also not able to diagnose the target potential customers. This is where the machine learning comes into picture, the various algorithms are applied to identify the hidden patterns in the data for better decision making. The concept of which customer segment to target is done using the customer segmentation process using the clustering technique. In this paper, the clustering algorithm used is K-means algorithm which is the partitioning algorithm, to segment the customers according to the similar characteristics. To determine the optimal clusters, elbow method is used.

Keywords: Clustering; Customer Segmentation; K-Means Algorithm, Elbow method

Information Hiding Using Image and Audio Steganography Techniques

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Abstract: Advancement of technology and ease of internet access make information distributed over the world easily and rapidly. This made people to worry about their privacy and works. In modern world, organization around the world use various technologies to protect their critical data. Steganography is one of the technique used worldwide to protect the data from the being misused. Steganography is a encryption technique of hiding the secret file or message in order to avoid detection .The steganography can be used to hide any type of digital data like text, image, audio and video. In modern steganography first the data is encrypted using a specific algorithm and then it is inserted in ordinary data files. Steganography is very similar to cryptography technique both are used to hide data through encryption but steganography goes one step further and makes the cipher text invisible to unauthorized users.

Steganography is a science of hiding information from plain sight. As secret communication is very important because if a message is important and if you do not want others to know about your message then you use different kind of techniques to hide your message from the third person and the steganography is one such however the criminal and terrorist organization are using for their own purpose so understanding how to hide data using steganography will be very helpful.

Main goal of this paper is to educate people on various techniques of steganography, their use and recent advances are to keep the field looking at the safety part too. This paper focuses on Steganography, what it is, a brief literature of it and what its scope is in the future, What all development is and will be.

Keywords: cryptography, stegno image, cover image, cipher text.

Online E–Auction

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Abstract: This research paper explores the concept of e Auction, an increasingly form of online procurement. There is fixed delivery policy. This is a fully dynamic system which can be easily operated by the users. This research paper explores all the increasing form of online procurement. Online eauction system is gaining popularity day by day because of its ease of making online bidding and selling or buying. Users can freely go the website and register there and its ready for selling or buying their product. The main thing that is needed to be there is trust among the users, so that they can easily register and take part in the process without having any doubt regarding security.

The aim of any online system are related with two points that are:

1. Customer satisfaction
2. Business purpose

Therefore, to meet these requirements there must be need of making enhancements in the online auction system. This paper will explore the all forms of online procurement that we can make to improve the current system.

Keywords: e-auction, purchase via bidding, ecommerce

“Designing Encryption Scheme Using AES”

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Abstract: Advanced Encryption Standard (AES) algorithm is one on the foremost common and widely symmetric block cipher algorithm utilized in worldwide. In this paper we will do key expansion has an own particular structure to encrypt and decrypt sensitive data and is applied in hardware and software all over the world. It is extremely difficult to hackers to urge the important data when encrypting by AES algorithm. AES has the ability to deal with three different key sizes such as AES 128, 192 and 256 bit and each of these ciphers has 128-bit block size. In this paper will provide an summary of AES algorithm and explain different features of this key expansion details and class some previous researches that have done there on with compared to other process such as DES, RSA. This project will explain some modification of key modified in their frequency because AES contains different types od data. The new one key modified make more encrypted and also more secure as existing key expansion. Their will such operation as Substitute bye, Mix column, Sub byte and Add Round Key. Mix column operation is done on Matlab.

Internet of Things : Securities and Challenges

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Abstract: INTERNET OF THINGS is one of the most emerged technology that is developing day by day and is capturing this whole world. According to a report of cisco there will be near about 50 billion devices that will connect to INTERNET OF THINGS by 2020. As these numerous devices are being connected so the chance for being hacked increases more probably. These can be easily hacked from cell phones, tablets or computers. As the data in INTERNET OF THINGS depends on sensors as sensors collects the data from different devices and send them to actuators for further process. So according to the track most of the data depend on sensors and it becomes so important to proceed that data to be correct, accurate, and fully integrate and in this research paper we have talk about the challenges that we faced on dealing with Internet of Things

Devices and what security measures we need to take for proper working of Internet of Things devices. As the given data contain a large amount of private informations so it become necessary for having securities in Internet of things devices.

Keywords: Internet of things, security, actuators, privacy, challenges

Analysis of Cloud Computing in E-Governance

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Abstract: Cloud computing in the era of the internet and mobile computing is a boon for us. This provides a new way to deliver the services to the individual or masses on pay as per use model. Cloud computing is emerging technology and has many advantages like pay as you go model, scalability, quick deployment, high speed etc. Seeing these advantages many individuals, companies and governments are adopting cloud to provide better services to the masses. Today governments are still facing challenges of financial, poor IT infrastructure, technical resources and management to deliver the basic services to the citizens of their country. E-governance is one of the best ways to deliver the services to the citizens by the governments through the Information and Communication Technology (ICT). i.e. executing the operations through the IT model so that the masses can be benefited. This helps the government in reducing the overall cost of execution, corruption, increasing the transparency and ensuring the needy gets the benefit. Cloud has also made the governments interact with the citizens easily within this internet era. Although governments have started using cloud services but it needs to properly implemented to provide the pace in the country's growth. This paper presents an overview of the e-governance model based on cloud computing and suggests measures that can be used to provide better services to the citizens at a pace and also ensure the safety and security of their personal and sensitive data.

Keywords: Cloud Computing, E-governance, GI cloud ICT, IAAS, PAAS, SAAS

Twitter Data Sentiment Analysis

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Abstract: In this paper, I am going to research linguistic features for analysing the sentiment of tweets of Twitter . Twitter is social-networking and blogging application where user can write short message update. It is providing our service over 200 million users out of 200 million user there are 150 million users that are use on a dailybasis. This users generating tweets nearly 230 million on per day.

We evaluate the existing resources (lexical) as well as features that capture information about the informal and creative language used in microblogging. We crawled the political tweets during the general election in India and many other topics also, and further evaluate our proposed approach against the election results. Lots of views were shared during the elections. Analyzing the public sentiment is important for many applications sp that it can help the users in many ways. It is also use for Political analysis during election time to know about public opinion especially. In this project, we proposed the visualization of tweets based on single area. It will provide the polarity, number of retweets and then visualize them.

Automatic Text Summarizer Application Using Extractive Text Summarization

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Abstract: Text Summarization as a phenomenon has always been present and rather an evolving one with the advent of new technologies both in terms of data collection as well for the processing of this data. One reason of using text summarization is the huge amount of data floating over the internet in the form of text files, comments which is though potent enough to be used to extract useful information. but since the amount of text present in these sources is too huge, so the need of text summarization becomes justified by every argument. Some of the areas where text summarization is vastly used is applications involved in providing capsule information such as compact news applications, or websites providing academic notes for various examinations

This paper presents an auto text summarizer application which takes the URL of a web page as input, performs summarization on the selected elements and then presents this summarized text content on the front end of a web application. At the backend, the process of scraping of web page content (if an http URL is provided as input) using beautiful soup library or reading of text provided takes place. news in short forms, or micro blogging websites.

The scraped content after being preprocessed properly is summarized using a suitable library which in our case is one among NLTK, Spacy, Genism and Sumy. The summarized content is presented at the frontend using flask framework of Python. The results produced using different libraries are compared in the end in terms of reading time of the summarized content.

The application uses extractive text summarization technique in order to achieve its result which is a compact summary of the textual data prepared from the keywords already present in the document

Keywords: Auto Text Summarizer, URL, Flask, Web Scraping, Nltk, Spacy, Sumy, Gensim, Extractive Text Summarization.

E-Commerce Assistance Chatbot: Chat-Commerce

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Abstract: Customer services that are being provided by traditional markets follow the human dialogue, yet issues in terms of data scale as well as privacy are significant. Currently, these conventional markets are rapidly being replaced with online markets. The tight competition among online markets demands excellent customer service, 24-hours easy access and fast response. Chatbot can be a solution for these requirements. Artificial Intelligence has the powerful ability to acquire and analyze a large volume of data. E-commerce businesses have started implementing different forms of AI to understand their customers better and provide an enhanced experience. This paper introduces Chat-Commerce, an intelligence Chatbot system that can be used as an assistant for an e-commerce website. By leveraging e-commerce large scale data, this chatbot makes interaction with the site easier. User-generated content and in-page product descriptions from e-commerce websites are used by Chat-Commerce to answer repetitive questions. It is more practical and cost-effective since it enables human support staff to answer much higher value questions. Chat-Commerce functions as an add-on extension to mainstream web browsers and improves user's online shopping experience.

Keywords: Chatbot system, Chat-Commerce, DSSM model, web browsers, neural network, Regression based framework, state-of-the-art NLP, Semantic Classifier, Smart reply

E-Learning for Education: Industry and Impacts on Higher Education

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Abstract: This study investigates the future and use of e-learning in higher education in India. India is a land having 19.1% population under the category of youth which is highest in the world, who require proper direction for developing their skills. Students who are ready to apply for higher studies face difficulties such as financial or inability to cope with the universities curriculum. In this research paper we will see, how effective can e-learning be for education sector in India. The objective of the paper is to analyze different aspects of e-learning and how other factors strengthen or hinder its progress in India. Most universities around the world acknowledge many problems and obstacles that technology can help overcome. E-learning industry's growth in India is surpassing major developing countries around the world and with the increasing number of internet users, it is no where to stop.

Keywords: E-learning, Higher education, E-learning industry, Challenges, Motivation

An Adaptive Framework for Nutrition Analysis with IOT and Artificial Intelligence

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Abstract: Nutrition is important for both health and country's economic Development improper nutrition values added to the personal life will make the burden of diseases in a person's health life like obesity and heart and respiratory problems. Many junk or fast foods contain many excessive or maybe very less value of this nutrition required than average body requirement and this will lead to the many health problems and even death. This is the rapid growth of the unhealthy food in the last few decades lead to the unhealthy body, this is so because the hectic schedule of the person and food also processed in the very fast manner no matter of quality or quantity of the food is affected and lead to the bad food or unhealthy food. An average Indian have a 2,500 Kcal per day diet with a focus on whole-grain instead of processed flour, a mix of animal and plant proteins, a reduction of sugar intake, and dairy-based fats and saturated fats. Vegetarians consumed greater amounts of legumes, vegetables, roots and tubers, dairy, and sugar, while non-vegetarians had a greater intake of cereals, fruits, spices, salt, fats, and oils. Vegetarians had higher socioeconomic status and were less likely to smoke, drink alcohol, and engage in less physical activity. On multivariate analysis, vegetarians consumed more carbohydrates). Universal adoption of a diet similar to the reference diet would prevent 10.9 million deaths per year or 22.4% of adult deaths (from coronary heart disease, stroke, type-2 diabetes mellitus, some cancers, and other non-communicable lifestyle diseases) the author's estimate. So, to analyses these values in the given food item to tell the exact required nutrition value of the food with a machine learning model, 'I' and with the help of IoT (Internet of Things) and smart and wearable devices.

Student Information & Authentication System

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Abstract: The administration of understudy related data like a scholastic record in an instructive foundation gets a great deal of monotonous work as time passes as all frameworks in this day and age are being automated, there is a necessity for a machine-driven framework for overseeing such data. The principle motivation behind this venture is to encourage quality associate with mobility and automate the method of keeping up student data in an institute. Student Information & Authentication System (SIAS) will provide a straightforward user-design for the upkeep of scholar statistics. It often utilized by universities, that utilize mobiles and additionally, that reduces personnel. The objective of developing this application is to initiate the report with respect to attendance, admit card, marks sheet and personal information after the conclave or within the middle of the conclave. Student Information & Authentication System will provide an instantaneous user-interface between faculty & a student. Here students or their parents can check his/her performance using the provided login-id and password to them. Scholar's and Instructor's data are transferred through the administrator account then the login-id and passwords to the individual. The instructor can modify the scholar rank. Finally, students will gain all access to their records. The Student Information & Authentication System has three modules. Initially, an admin will log in using the Admin login module. After that he will transfer the information of scholars and teachers, referred to as student module and teacher module that have the functionalities like crud operation which is performed on the scholar's data.

Keywords: Admin login module, Automation System, Student data module, Student Information & Authentication System.

Sentiment Analysis on Movie Review

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Abstract: The analysis has been the trending subject of interest among the researchers. Analyzing the mood and emotion of the reviewer is very important for the development of the content. Reviews helps in understanding about the trends among the people and the topic of interest. Sentimental Analysis helps sorting from different reviews collected by various reviewers. According to which it is decided whether the movie is a hit, flop or intermediate. In this paper we will understand all the three core concepts which are used in sorting of the review: Natural language Processing, Linguistic algorithm and Text Analysis. The formation of the bag of words for decision making and concepts which help in formation of the algorithms. The brief about the new approach for analyzing the sarcastic or intermediate comment and reviews. A very basic python code for finding polarity and subjectivity of the sentiment of sentence. Lastly, the advantages which it is providing to the entertainment industry. Also, some brief ideas about the development of the existing algorithms with some new techniques and development achieved by various leading organizations in this area of work.

Keywords: sentiment analysis; deep learning; machine learning; neural network; natural language processing, Sent WordNet, Aspect Oriented Sentiment Analysis.

Customer Churn Analysis and Prediction Using Machine Learning

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Abstract: churn in the banking area is a significant issue today. Losing the customers can be over the top expensive as it expenses to secure another client. A significant part of this procedure is the retention rate of customer. Customer Retention Rate implies that how extraordinary is your administrations for the clients. In case your administrations are not pleasing, you should see your customers churning very soon. One of the incredible advantages for improve Retention Rate is Churn Prediction. In this paper, we have made a solution for the churn issue in banking sector using predictive modeling technique. The goal of this study is to apply XGBoost algorithm to predict a customer churn and analyze the churning customer by using raw data.

Keywords: Customer churn; Customer retention rate; Predictive modeling; XGBoost algorithm.

Covid-19 Recovery Rate Prediction in India with Cellular Automata

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Abstract: COVID-19 recovery prediction is pronounced as one of the toughest problems that the world is facing now. The trend variations of deaths a recovery are changing drastically. There is an increase in the recovery rate and a decrease in the relative death rate with time. Very few researchers through a light in this area. The datasets are collected from Kaggle and processed with Non-Linear Cellular Automata to predict the recovery rate in India. The developed classifier is compared with the existing standard literature like Support Vector Machine(SVM), Random Forest(RF) and K-Means(K-ME) algorithm. Our classifi-er reports an accuracy of 89.94%, which was considerably better at this mo-ment. Keywords: COVID-19, Cellular Automata, Recovery Rate,

Handwritten Digit Recognition Using Machine Learning

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Abstract: People write in as many different ways as there are stars in a galaxy. This leads to development of different patterns in writing. Costly manual labour is required to do a mundane and tedious job of converting the physical written data and information into digital form for storing it in a digital form. This project discusses the solution to a part of problem as we have limited the scope to only the hand written digits (0-9). We have trained a model using deep neural networks for digit recognition using Google's Machine Learning tool TensorFlow and Python Programming language. We have used the 'MNIST DATABASE' which consist of training and test set for hand written digits (0-9) of size (28x28) pixels i.e. 784 pixels. The data set consist of 60,000 training data and 10,000 test data. The limitation of this model will be if digits other than (0-9) are given then the model will not be able to recognize and classify it and the model will be able to predict numbers only in black and white images.

Keywords: Computer Vision, K-Nearest Neighbour, Support Vector Machine, Neural Networks.

Fuzzy Information Measure in the Diagnosis of the Type of Diabetes

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Abstract: Diabetes is a group of metabolic disorders in which a person has high blood sugar level. This high blood sugar level is either due to body's failure to produce insulin known as type 1 diabetes or due to body's null response towards the insulin produced by the body itself known as type 2 diabetes. Five types of diabetes are considered in this paper: Type 1, Type 2, Gestational, Double and Iatrogenic Diabetes. Gestational diabetes arises during pregnancy. Double diabetes arises when type 1 diabetic patient develops insulin resistance. Iatrogenic diabetes is also known as secondary diabetes as it develops as a side effect of treatment of different medical problems. Diabetes Mellitus is a chronic disease and the number of patients is increasing day by day. As per the report of WHO [2016], the number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014 and the global prevalence of the disease among adults over 18 years of age has risen from 4.7% in 1980 to 8.5% in 2014, has rapidly rising in middle and low income countries. We proposed a fuzzy based method for the diagnosis of Diabetes. A fuzzy relation between the patients and the symptoms they have with the different types of diabetes with assigned degree of membership and non-membership has been established. The values of degree of membership and non-membership of patients and the corresponding symptoms have been found by the composition rules of fuzzy set. In this work we are able to diagnose the type of diabetes in different patients with different symptoms. 2

Keywords: Double, Gestational and Iatrogenic Diabetes, Shannon Information measure of Fuzzy, Type I, Type II.

E-Learning (Web Based Learning System)

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Abstract: E - learning plays a vital role in the development of an individual and hence the future of a worldwide in today's information and communication technology era. Conventional learning is teacher-centric and teaching the same subject in the best possible quality whenever it is very difficult. A good teacher is also unable to teach at multiple locations in a single moment of conventional learning, but e - learning neutralizes this limitation of conventional learning and becomes a very powerful weapon for human intellectual growth and helps to create intelligent culture. Conventional schooling has several other pitfalls besides repetitiveness, such as high expenses, confined to school, fixed time schooling, fixed idea learning, etc., which can be addressed with the new trends in e-learning. India is the world's first largest democratic nation and the main strength of the country lies in its democratic people. E - learning is a blessing in these nations and plays a critical role in creating intelligent think tanks that can be used by the whole world for the unified development of all countries on earth, and can be a strategic answer for other intellectual societies nation. This work focused more on introducing the new methodologies used for e - learning, priorities of each methodology for easy e - learning and future e - learning technological trends such as mobile learning, micro-learning, beacon learning, the Internet of Things, cloud - based e-learning, gamification and much more.

Keywords: Information, Communication, Technology, e-learning, Development, Conventional, Learning, Online, Education, Smart Phone.

Federated Clouds & Architectural Overview of Reservoir

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Abstract: Cloud computing provides variety of services to its customers with facilities like dynamic scaling of applications, platforms and hardware infrastructure. But the underlying physical resources on the service providers' side are limited, which means the concept of infinite scalability is mere illusion. The rate at which the cloud subscribers are increasing, in near future the problem of scalability is expected to worsen. Federated cloud proves to be a effective step in dealing with the scalability issue in cloud and to provide a better infrastructure control. In federated cloud the various service providers (infrastructure) share their resources with each other and with the application of suitable virtualization layer the hardware utilization and system efficiency is increased significantly. This article discusses the basic architecture of federated cloud (RESERVOIR PROJECT) along with its major components.

Keywords: Cloud Computing, Federated Clouds

Optical Character Recognition Technology

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Abstract: There are various fields where there is a huge demand for storing information into computer storage disk from data available in printed or handwritten documents or images. This is done to re-utilize this information through computers. One of the way to store information to a system from these documents is to scan the documents and then keep them as image files. For re- utilizing the information, it is difficult to read or query text or other information from the image files. One of the technique for automatically retrieving and storing information, in particular format, from image files is required. One active research area that develop a computer system with the ability to extract and process text from images automatically is Optical character recognition. OCR helps in achieving modification or conversion of any form of text or text-containing documents like handwritten text, printed or scanned text images, into an editable digital format for deeper and processing. Therefore, OCR helps a machine to automatically identify text in such documents.

Keywords: OCR, OCR Challenges, OCR Phases, OCR Applications.

Object Recognition Using Easynet Model

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Abstract: Object recognition is a computer vision technique for identifying objects in images or videos. Object recognition is a key output of deep learning and machine learning algorithms. From a computer point of view it is considered one of the toughest and most challenging tasks.

There are many research has already done in this area but here we came up with new approach which is reliable and fast.the Easynet model has been compared with other models.. The Easynet model sees the entire image at trial, so its predictions are in formed by the global context. At prediction time, our model generates scores for object presence in a given category. ith a single network estimate it makes prediction. Object detection is a simple regression problem which takes an input image and learns the class probabilities and bounding box coordinates. The confidence reflects the accuracy of the bounding box and whether the bounding box actually contains an object (regardless of class)..

Keywords: computer vision, image detection, feature extraction.

IOT Based Air Pollution Monitoring System

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Abstract: Pollution rate is constantly increasing because of factors such as, urbanization, industries, increasing population vehicle utilization that hazardously affect human health. We are planning to create a "air pollution monitoring system" based on IOT where we are going to observe the quality of the air on the web server using the internet that would cause an alarm once the quality of air is below the standards of a specific level which means when the air contains more than a satisfactory quantity of destructive gases such as Smoke, Alcohol, Carbon Dioxide, Benzene, along with Ammonia. It would demonstrate the quality of air in ppm and the LCD along with on the web pages thus which it could be observed effortlessly.

We have utilized the MO135 sensor that is one of the finest Air quality monitoring sensors as it could easily detect the amount of harmful gases as well as measure it correctly. In this IoT project, you are able to observe the pollution from all around the world using your mobile phone, PCs, Laptops, and smartwatches. We are able to install these systems where and are able to also cause few devices when pollution exceeds a certain level, like we are able to change on the exhaust fan or we are able to send alert mails or SMS to the users.

Keywords: sound pollution, air pollution, Internet of things, sensors, monitoring system Arduino.

Student Report Card Management

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Abstract: The Project Student Result processing Software is a complete multi-user Software. The Scorer accept and then processes the scores of students and subsequently produces their report cards and other analysis charts.

This project aimed at providing a School, College or University to analyze the student performance as well as teacher performance by generating reports like Merit list, Progress reports and Teacher performance reports etc. as key features to reduce manual analysis.

Student report card management System is essential for an institution or to a college or to a university, which utilizes computer, also which reduces manpower. Student report card Management System manages several student details like USN, internal assessment marks, parent name, phone number, email-id, date-of-birth, class, sex etc. The goal of evolving this application is to induce the report regarding attendance at the completion of the conclave or at the middle of the conclave. Also it is possible to get the average of internal assessments and it is easy to get the report at the end. Student's and faculty's details uploaded by the admin. He will give username and passwords to the respective. Faculty will update the student status by putting present or absent. Suppose if particular student is absent, the message will be sent to the respective parent and email will be sent to parent. Finally student can only view his details, he can take the report. Student report card management System has four modules. Initially admin will login, login module. Later he is going to upload the details of student, called student data module which has the functionalities like searching, inserting, updating and deleting the student data. At the end of the session report will be generated, called report module which is generated in the pdf format. If particular student is absent his status will be sent to the parent by a SMS, called SMS module, and email will be sent to the respective parent and it is known as email module.

Keywords: Student Management System, Login module, Student data module, SMS module, email module, report.

Chatbot in Python

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Abstract: A chatbot is a computer software program that conducts a conversation via auditory or textual methods. This software is used to perform tasks such as quickly responding to users, informing them, helping to purchase products and providing better service to customers. Chatbots are programs that work on Artificial Intelligence (AI) & Machine Learning Platform. Chatbot has become more popular in business groups right now as it can reduce customer service costs and handles multiple users at a time. But yet to accomplish many tasks there is a need to make chatbots as efficient as possible. In this project, we provide the design of a chatbot, which provides a genuine and accurate answer for any query using Artificial Intelligence Markup Language (AIML) and Latent Semantic Analysis (LSA) with python platform

Face Detection Identification

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Abstract: Face Detection Identification or we can refer it as Face Recognition is the process of recognizing the person with the help of classifiers and recognizers and identifying the person in real-time. The face recognition application has captured its roots on to the specific fields starting from security access and jumping on to healthcare, general identification, database systems. OpenCV, a library function to solve computer vision problems, is accountable for providing us with a class Cascade Classifier and loads the training file of the classifier onto our systems. In this paper we have emphasized on the LBPH recognizer for face verification. The classifier detects the face and recognizer provides us with the image along with the label associated with the person. This paper contains the basics of Face recognition, different techniques for types of classifiers, face recognition are given.

Keywords: face recognition, Eigen-Face, Fisher-Face, Local binary patterns histograms (LBPH) Face Recognizer, Cascade classifiers, OpenCV.

Implementation of Eigen Face Algorithm for Biometrics Based Time Attendance System

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Abstract: The face of any individual is unique can easily be differentiated from others which mentions an individual's identity. Face recognition is an automated identification system which uses personal characteristics of face of an individual to detect its identity. The procedure to recognize an individual through any of its body part like eyes, finger prints and face has basic methods. Recognizing faces is the most common procedure humans follow to identify an individual and distinct him/her from others. This procedure takes place in humans rapidly. Also the distance (means how far the target is), lightening and memory matters in humans too. This purpose of this study is to develop a stage to replicate and design a model to recognize a facial image of the target and graph it into a biometric system such that a computer can understand it. The main aim of developing this java application is to supply a whole automated attendance management system for college students and profile system for employees and management. Deploying a system like this will give us a simpler and secure approach to mark attendance. First the developer needs to feed the system with images of the authorized personnel only. These images with their details will be stored in a database which will be accessed to review records of attendance. Eigen face algorithm will be used to mark face coordinates and recognize image from the database. So that if next time the registered person enters the premises the software's camera it will recognizes the face and will mark attendance with the time of arrival. If the person arrives after the reporting time, the software displays the warning mentioning the late time.

Keywords: NETBEANS, JVM, XAMPP, JSP, PCA.

Image Recognition Difference Between CNN and Transfer Learning Model

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Abstract: CNN and Transfer Learning model algorithms are used to solve specific tasks. These are designed to work in isolation, they are used in image classification. Image classification is one of the areas where Deep Learning models are successfully applied to practical application. It is an active area of research where many approaches have been proposed and many are popping up. The purpose of this research paper is to show the difference between the classification of these two models, which model is more efficient and less time consuming. In the conclusion section of the research paper we have described which of the two algorithms for image classification is better in terms of efficiency and time taken.

Interusion Detection Prevention System

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Abstract: Network Security is to protect computer network against hacking, misuse, unauthorized changes to the system and securing a computer network infrastructure. A firewall is a mechanism used to achieve network security. It can be either hardware or software based, that controls incoming and outgoing network traffic based on a set of rules. Network attack is the intrusion or threat can be defined as any deliberate action that attempts unauthorized access, information manipulation, or rendering the system unstable by exploiting the existing vulnerabilities in the system. An intrusion is any set of activities that attempt to compromise the integrity, confidentiality or availability of a resource. Intrusion Detection system (IDS) / Intrusion Prevention System (IPS) has become a prerequisite in computer networks. IDS/IPS is a device or software application that monitors network or system activities for malicious activities. These type of IDS/IPS used in the network is known as Network based IDS/IPS.

Network based Intrusion detection/prevention system (NIDPS) protects a network of hosts and systems. Based on the intrusion detection method, it is classified as Signature based and Anomaly based IDS/IPS. Signature based IDS/IPS is that they operate in much the same way as a virus scanner, by searching for a known identity or signature. It can only detect an intrusion attempt if it matches a pattern that is in the database, therefore the databases need to constantly be updated to detect the new attacks. An Anomaly based Intrusion Detection/Prevention System is a system for detecting computer intrusions by monitoring system activity and classifying it as either normal or anomalous. If malicious activity may be looks like normal traffic to the system, it will never send an alarm. Major drawback of anomaly-based IDS/IPS is that it generates more false positive alarm.

Studying Implementation of Automated Time Table Generator for Various Educational Applications

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Abstract: Existing system of generating schedule in educational institutions with huge amount of students is extremely time consuming and generally various lectures ends up clashing with each other or with same faculty having more than one lecture at a time, this results in a lot of confusion concerning the schedule of institutions. In our paper we've tried to beat of these problems by a thought of preparing the timetable with the assistance of powerful algorithms. We use these algorithms to generate timetable that is more precise, accurate and error free. In our system we will take inputs like students, faculty and lecture details. By taking these inputs into consideration it'll generate possible sets of timetable which will be best for faculty also as students. This may integrate by making optimal use of all resources during a way which will best suit the constraints.

Keywords: Timetable, constraints, genetic algorithm, heuristic algorithm.

Cyber Attacks on Smart Cities and How Artificial Intelligence can be Used as a Boon

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Abstract: Smart cities are the future of human civilization. The World is approaching towards AI orientation where every other domain will have the involvement of Artificial intelligence. It is not too far, when most of the human work is going to be replaced by AI. IT Giants like Tesla, Google are working on AI since very long to help them making the cities smart. Another aspect which ensue with the evolution of AI is the security domain which is a major concern. The imagination of majority of AI driven Instruments in the wrong hand pose a catastrophic danger. In future, smart cities will largely depend on technologies namely Cloud, IoT, VANET, MANET.

These technologies are existing in this world for a long span of time uncovering all the possible vulnerabilities and breaches to the white as well as dark world. Responsible Disclosure of these vulnerabilities are done only by human which might steer to some of the vulnerabilities being undiscovered.

This paper will unearth the methodologies to discover most of the known vulnerabilities with zero-day vulnerability and threats using Artificial Intelligence. This paper will also enlighten most of the possible threats to a smart city. A model is proposed in the paper for a general approach of securing the world from new and upcoming threats in the future.

Keywords: Artificial Intelligence, Cyber attacks, IoT, VANET, MANET, Cloud, Vulnerability, threat.

Face Recognition System Based on LBP Algorithm

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Abstract: In this cutting edge time, recognizing an individual face is a standard biometric way to deal with recognizing a person of others. So systems are required to distinguish a face must be speedy and adequately enough to work continuously. Be that as it may, there are numerous troubles inside the execution of face distinguishing proof in low lighting conditions. In this paper, we have proposed a framework that is utilizing Local Binary Patterns Histogram calculation for distinguishing a face. It can perceive both front and side faces and redesign the estimation of the poor illuminated picture and grows the acknowledgment rate progressively.

Keywords: Face recognition, LBPH, Histograms, Identification Process

A Brief Review on Various Techniques Used for Automated Detection of Exudates in Diabetic Retinopathy

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Abstract: This survey article is dedicated towards a brief insight on automated detection of exudates techniques in Diabetic Retinopathy. DR is a condition that is the primary cause of vision loss and blindness in diabetic patients. Exudates (bright lesion) are the early stages of DR, which for diabetic patients is the major cause of blindness. This is a review paper which provides a brief acknowledgement of various segmentation techniques like texture segmentation, morphological method, pixel-based image segmentation, etc. and various algorithms like Fuzzy C-mean, Morphology Mean Shift Algorithm, etc. This survey will provide ophthalmologists an insight of various methods for exudates detection and their accuracy, specificity and computational complexity.

Keywords: Diabetic Retinopathy, Exudates, Bright lesion, Ophthalmologists

Load Balancing Techniques and Algorithms in Cloud Computing Comparative Analysis

Abstract: Every kid coming out of Harvard, Now thinks he can be the next Mark Zuckerberg, and with the new technologies like cloud computing, he actually has a shot. Because with the cloud computing their demand for services and resources are provided at any time, which leads to the tremendous increase in the users, and their demand for different services on the cloud computing platform so fruitful and efficient use of resources in the cloud environment became a critical concern. For this cloud computing requires Load balancing techniques to control and handle overloaded demand and requirements. Load balancing is playing a vital role in maintaining the rhythm of cloud computing. So load balancing in cloud computing becoming a more interested area of research. Many different techniques have been proposed to solve the problems of load balancing. This paper investigates the different algorithms proposed to resolve the issue of load balancing in Cloud Computing.

Keywords: Cloud Computing, Load Balancing, Static Load Balancing algorithms(SLB), Dynamic Load Balancing algorithms(DLB), Virtualization.

Image Processing in Face Recognition Using ML

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Abstract: The face is one of the easiest ways to distinguish the individual identity of each other. Face recognition is a personal identification system that uses personal characteristics of a person to identify the person's identity. Human face recognition procedure basically consists of two phases, namely face detection, where this process takes place very rapidly in humans, except under conditions where the object is located at a short distance away, the next is the introduction, which recognize a face as individuals. Stage is then replicated and developed as a model for facial image recognition (face recognition) is one of the much-studied biometrics technology and developed by experts. There are two kinds of methods that are currently popular in developed face recognition pattern namely, Eigenface method and Fisher face method. Facial image recognition Eigenface method is based on the reduction of face dimensional space using Principal Component Analysis (PCA) for facial features. The main purpose of the use of PCA on face recognition using Eigen faces was formed (face space) by finding the eigenvector corresponding to the largest eigenvalue of the face image. The area of this project face detection system with face recognition is Image processing. The software requirements for this project is MATLAB software.

Keywords: face detection, Eigen face, PCA, MATLAB

Consumer Intention Prediction Using Twitter

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Abstract: Marketing managers often measure buying intentions and use them as input to make decisions about new products and existing products and services. Purchase intentions are relevant and can predict future sales, but this is not perfect. Intention analysis via Twitter provides a quick and effective way for organizations to monitor public demand for their brands, businesses, directors, etc. Intention analysis has been studied by various functions and user methods in recent years. Microblog posts are difficult to handle due to which mining user intent remains a difficult task. In this paper, we introduced a novel approach that uses ontologies and semantic patterns. Our method combines natural language grammar and semantic analysis to identify the user's intention. We carry out case studies on the intentions of users in the business sector. Our experimental results show that our proposed method is important and effective in detecting customer intention. Our method combines natural language grammar and semantic analysis to identify the user's intention. We carry out case studies on the intentions of users in the business sector. Our experimental results show that our proposed method is important and effective in detecting customer intention.

Keywords: Intention, NLP, Ontology, Semantic Patterns, Twitter

Facial Recognition Attendance System Using Local Binary Patterns (LBP)

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Abstract: Facial recognition technology has got so many changes in terms of performance and these technologies are widely used in commerce, security etc. This facial recognition system will keep the record of attendance in real time. This work will provide a real world solution for marking attendance of corporate world, academics institutions. It mainly recognizes the face with very good accuracy by using principal component analysis. It keeps the record of attendance automatically as conventional system is time consuming. First, the face of subject is registered into database against the id of subject and name. After this, attendance is marked in the database corresponding to the faces.

The attendance management can be a big burden on the teachers if done by hand. Intelligent and auto attendance management system is being used to address this issue. Yet in this program, authentication is a big problem. In general, the smart attendance system is executed with biometrics. Some of the biometric approaches for developing this system is facial recognition. To be a The primary feature of biometric verification and facial recognition is used extensively in a number of applications such as video monitoring and CCTV footage systems, computer-human interaction and indoor access systems and network security. By using this method, the question of proxies and students present while not physically present can easily be established. This software project makes use of some simple Dot net APIs to communicate and get the local camera output. It could be a webcam, or any other camera attached. To get the camera video input into our system, we use these APIs.

Keywords: Micro Patterns, Pixels, Local Binary Patterns, Histogram

Facial Identification Using Local Binary Pattern Approach

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Abstract: There are such a lot of biometrics accessible like iris identification, fingerprint, and so forth. However Face identification or detection is likely the biometric software program program whose functions that may pick a novel focused individual in a digital picture. Face recognition had been utilized in many purposes like, within the space of banking, passport workplace, and so forth. However the primary drawback within the face recognizance is it could actually't understand the character within the case of the identical twins. That is why native binary patterns had been using for establish human face in the completely case of equivalent identical twins as a result of the LBP perform very well and very effectively concerning the complete micro pattern current on each human face.

Next-generation of Virtual Personal Assistants Automated Searching Techniques: Speech Assistants

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Abstract: This project is based on Speech recognition Technology and this is one of the most-expand technology in the engineering field. It is intended and developed keeping that think about mind, and a touch effort is formed to realize this goal. It has variety of application in various field and gives too many benefits approx. 20% population of this planet are affected by various type of disabilities; lot of people are blind or various people are unable to use their hand or fingers constructively. speech recognition system provides big help to those case and those people provide information to the system by voice input. Consider the Thousands of individuals in world they're unable to use their hands making typing impossible. our project it for these people that can't type ,and see ,even for those folks who are lazy and don't desire it .This system is able to acknowledge the speech and convert this input which we takes as audio into text; it also allow to user to perform task like open any sort of thing through Google. Speech recognition system are often classified in several differing types by describing the sort of speech utterance, type of speaker model and sort of vocability that they need the power to acknowledge. (Reetu Kumari, 2017)

Tracking Multiple Objects Moving Simultaneously in a Video Sequence

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Abstract: Observation assumes a fundamental job in checking sharp exercises far and wide. The difficult undertaking in checking is distinguishing proof and following of moving articles. PC vision methods are utilized so as to follow these moving articles. Existing procedures are not proficient with regards to taking care of colossal measures of video information which changes after some time and furthermore takes an enormous measure of time. Therefore, there is a need to have an effective item recognition and development following strategy which assists with conquering these issues. This paper proposes vigorous video object discovery and following procedures. The proposed strategy is partitioned into two stages specifically identification stage and tracking stage. Location stage contains Closer view division and Commotion decrease. We have proposed a model which utilizes Blend of Versatile Gaussian models to accomplish closer view division in a proficient manner and fluffy morphological sifting to expel clamor from the frontal area fragmented frames.

New Generation Cryptographic Security for Cloud Computing

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Abstract: Nowadays, cloud computing usage is rapidly increasing by various IT companies due to its several advantages. It gives lot of benefits with cost savings, high speed, its reliability and also offers advanced online security. By using these three techniques AES, DES and RC2 we are doing encryption and decryption of our data which is already stored into the cloud and in this way, we can preserve our data confidentiality, integrity and data availability. To make sure the security of cloud computing is the major factor. In terms, we have used hybrid encryption with the use of cross breed cryptographic calculations to enhance the security of information present on cloud server. This is what we are going to deal with in this Research Paper.

Keywords: Trusted storage, Confidentiality, Integrity, Reliability, AES, DES, RC2.

Sentiment Analysis of Twitter Data

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Abstract: Sentiment is like emotions of any human being that we can capture and analysis to their emotions and handle their moods like to know the interest of their person .we actually prefer the online importance of the specialize feature that are used for detecting the sentiment of twitter(messages).We judge and then manipulate the existing resources and take the output as positive and negative comments as a pole registered by the audience or users , we take reviews by this method as to know the interest of the people regarding there popular facts , media , politics , entertainment & general matters etc .The final judgement is on the basic of the audience comments whether it is positive or negative .It influence the sentiment of the people on the basis of their reviews given on the political parties tweets. In this paper we basically provide a platform to the audience or public to independently choose their sentiment and also a way to give a right opinion among their interested approach .

Keywords: Apache Hadoop 3.x, Apache Hbase, Apache sqoop, Apache flume, Apache Hive, Linux Operating System, Python 3.1, Twitter Developer API.

Bird Identification Using Minimal Sample

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Abstract: There are thousands of categories of birds, it is very difficult to identify the birds by human and computer because different variation of birds to control and analysis. We have to recognize Fowls that weigh over 1.8 pounds (0.816 kg) on the grounds that these winged creatures strike can make loads of harm the airplane. Bird strikes happen most often during LANDING, APPROACH, INITIAL ASCENT, TAKE OFF. In this research we have used Caltech-UCSD Birds-200-2011 Dataset Caltech-UCSD Birds-200-2011 (CUB-200-2011) is an extended version of the CUB-200 dataset. In this dataset there are 200 flying creature species classifications, in this exploration venture we make dealt with gadget (android application). In this dealt with gadget we use move figuring out how to prepare this model. We attempt diverse model to show signs of improvement exactness like VGG16, VGG19, MobileNet, ResNet50 and Commencement and so on.

Keywords: bird species, Caltech-UCSD Birds-200-2011, Transfer learning, VGG16, VGG19, MobileNet, ResNet, Inception

Face Recognition System

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Abstract: Face Recognition System is one of the most important for the capability of human perception system and has been rapidly growing and became challenging in real time applications. The system captures images and videos and can identify who that person is and the main benefit of this system over other biometrics is that it does not require any physical interaction on the behalf of user. Surveillance cameras can be used for various purposes like hospitals, shops, airports, streets, etc. This method is more considerable over other biometrics because of its accuracy and allow high enrollment and verification rates.

During the past decades face recognition system has received high attention and has advanced technically. This method is the most active application for images and video capturing, analysis and understanding.

In this research paper regarding implementation JavaScript is being used where it can identify and recognizes whose that image is. This paper also includes various methods of face recognition system. The main aim of this research is to see different face recognition method and gives a good and effective solution for the recognition using the image which may be a great help in the security purpose.

Keywords: Face Recognition, biometrics, Surveillance cameras, JavaScript.

Real Time Face Detection Using Java Script

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Abstract: Face detection is one of the fields in the computer vision industry and by considering the past events many applications and researches have already been done for face detection and face Recognition.

The live detection of faces is of use especially nowadays and surveillance cameras can be easily found in the streets and in the shops, factories, hospitals, military, all are based on the live detection of faces. The use of surveillance camera with the live face detection we can also see the actual condition of the object or person and detect any face on the camera.

By using live detection of faces we can detect that there is a human presence nearby whenever our camera caught the human so it is very useful for security purposes .This live face detection method can be applied to the surveillance cameras as well as the webcam of your computer, by applying the live face detection on the webcam we can detect who is in front of the computer and this applies to more than one face also. By applying other techniques along with the face detection we can track the person also. As for the implementation of this research is the detection of the faces using JavaScript.

Keywords: Face Detection; Webcam; Surveillance camera; JavaScript.

Hybridization of Algorithms for Face Recognition

Abhinav Bhattacharya and Praveen Dominic

Abstract: Facial recognition is the process of authentication of an individual by the unique features of their face. Face recognition system is considered as one of the fastest technologies in the world of biometric systems. It uses the human face as the key identifier to authenticate an individual. With growing cyber-security needs and with the expansion in present technology mining data has become much easier. In theory we have tried to hybridize selected algorithms to achieve better results in terms of processing speed and accuracy. The main goal of this paper was to achieve an improved recognition rate by hybridizing Gabor wavelet with Eigen-Faces face recognition features found by Principal Component Analysis(PCA), gray-scaling, Standard Scaler, Logistic Regression and SVM which would tune-up the recognition process by notable stats.

Keywords: Principal Component Analysis(PCA), Gabor wavelet, Eigen-Faces, gray-scaling, Standard Scaler, Logistic Regression, SVM

Virtual Interaction Environment Portal

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Abstract: Information technology is revolutionizing the economic world structure. It is also providing new capabilities for online training and online interaction development which is required by the educated workforce. The presence of a virtual interaction environment portal (VIEP) can alter the dimensions of existing learning and the teaching/coaching relationships in a drastic way. This paper will explore how Institutes/Organizations and their students/ employees can benefit from appropriate use of technology in ways that help them learn and interact in an environment which is more conducive as compared to the traditional methods of Face to Face Learning/ interaction. The Paper highlights the potential pitfalls of using VIEP .Further, it is explored as to whether the element of Collaboration is supported in VIEP or not. The ultimate goal of VIEP is to transfer knowledge gained or interact teacher and student in a virtual environment to an actual real-world setting. The paper discusses the need for assessment of VIEP On the basis of studies done in the past, there is a general and longstanding consensus that skills acquired in a virtual environment can be transferred to real situations and improve real-life task performance. However, the paper indicates that to ensure cognitive skills acquired in a VIEP are transferable to the real world, training objectives need to be tied directly to realistic scenario events which successively are directly linked to measure of specific required behaviour.

Keywords: Effectiveness, Virtual Learning Environment, virtual interaction between student and teacher.

Analysis of Fake Currency

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Abstract: In this time counterfeit money is become an intense issue for all nations, since it is influencing our economy. As a result of the shading printing innovation there is quickly increment the phony cash note. In this time anybody can without much of a stretch print the phony money note with the assistance of laser printer. As a result of the laser printer there are constantly increment counterfeit cash rather than certified note. Along these lines, the debasement and the dark cash issue abhorrent in India. Counterfeit cash framework is progressively valuable to recognize the money of note for the spots, for example, bank counter and shops.

With the assistance of this model we can without much of a stretch distinguish the Indian cash. What's more, with the assistance of picture handling we can without much of a stretch do check of cash. In this paper, we distinguish the significant element of note with the assistance of MATLAB and with the assistance of these element we can separate between the phony note and genuine note. This proposed model give improvement result with contrast with different models. Lastly, we can foresee separate between counterfeit note and genuine note.

Keywords: Fake currency, picture handling, Artificial Neural Network, MATLAB algorithm.

Online Carpool System

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Abstract: There square measure tons of issues for a rustic within the transport section. a number of the key issues square measure inadequate public transportation, high gas costs, traffic jams, depletion of natural resources for getting fuel etc. The solution of those issues needs tons of resources and time. therefore another to scale back the problems mentioned earlier are often used. This various is none apart from automotive pooling. This aims to collect the travellers with similar destinations and time and facilitate scale back the amount of vehicles used and utilize the house within the vehicles. the web automotive pooling system may be a web-based application that has America with an easy riding platform between the automotive owner and car user. This project permits users to access quality assets in hand by others specifically after they want. It shows a medium for on the market automotives to choose abreast of the interest of car house owners with time and capability.

A Comparative Study of Health Management System and Monitoring

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Abstract: As patients come to be greater proactive about their fitness and turn to technology inclusive of the Internet to gather know-how and use of IoT-devices which offer fitness related statistics, the patient-health care professional relationship has been changing continuously. Now a Days Technology helps to maintain excellent fitness status. Health Management System and Monitoring is the concept in which health of patients is monitored in a very smarter way Under these concept various type of sensors and nano sensors are being used so with the help of these sensors health information can be collected and we can used this information to identify health condition .The essential contribution of this paintings lies a comparative examine of various current healthcare and health monitoring device so we can find out the gap which still exist .We are going to review all the available information regarding Health Management System and Monitoring and Its working process as well and try to identify all the area in which possible future work can be done.

An Artificial Intelligence Based Multi-Dimensional Approach for Identification of Cyber Threats in Web Application

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Abstract: the humongous growth in the number of web applications over the internet has enormously fascinated the crackers, security researchers, penetration testers, etc. as this exponential increase in the total web application count have provided them with the opportunity to infiltrate into more systems than ever before. This increase in the total web application count not only attracted these specific class of individuals but it has also caused the future forecasters to think of a way with the help of which vulnerabilities can be predetermined even before the web application is launched or if they do exist then they could be determined without any human intervention. This paper provides the solution in the form of Yes, as Artificial Intelligence is a field of computing that can be used to determine these vulnerabilities. This paper covers various vulnerabilities that exist in a web application and how artificial intelligence can be used for their identification.

Keywords: Artificial Intelligence, Cyber-Security, Security, Penetration Testing, Ethical Hacking

Heart Disease Prediction System

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Abstract: Cardiac disease is a major cause of death throughout the world. It is hard to know or predict by medical practitioners as it requires expertise and higher knowledge of prediction. The environment in healthcare sector is information rich but it has lacks of knowledge. A lot of data is available in healthcare systems over the internet but there is a lack of effective analysis tool to discover hidden patterns in data. An automated or self-made system will increase medical efficiency and decrease cost and time. This software goal to know or predict the occurrence of a disease based on the data which is collected from Kaggle. The Main aim is to extract the hidden patterns by applying Machine Learning techniques on the dataset and to predict or know the presence value on a scale. The prediction of heart disease requires a large size of data which is too massive and complex to process and Analysis by conventional technique. Our goal is to find out a suitable technique that is efficient and accurate for prediction of cardiac disease.

Keywords: prediction, cardiac disease, machine learning, algorithms, analysis.

Online Advertising Agency System

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Abstract: Advertising is one of the quickest developing and evergreen fields where business-related work for selling items, promoting through on the web, TV publicizing, flag publicizing, and numerous works are done. For each promoting organization, they handle various kinds of work and they have to consistently be in contact with clients. The current framework manual technique is utilized for taking requests, keeping up subtleties of clients, publicizing orders, and keeping up representative's data in records. Which is a period taking and not a proficient strategy for offering better assistance?

To take care of this issue in this task, we propose a product application that will have various modules for taking requests, dealing with client's data in the focal database, dealing with representative data, and promoting making applications. Utilizing a solitary programming application every one of these tasks can be performed which spares time and improves client assistance.

Keywords: advertising agency, system, banner, advertising Software

Smart Metering Using IoT and AI

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Abstract: Using modern technologies of Internet of Things (IoT), Edge Computing, Over the Air (OTA) Programming, Serverless Computing, and Microservices Architecture, Smart metering using IoT and AI aim to achieve the required goals of fleet management, real time data analysis and seamless visualization. IoT is the network of physical things with electronic software, sensors, and connectivity to enable objects to collect and exchange data. Using modern concept of server orchestration, it proposes to break all the barriers of traditional computing. From decrement in the bandwidth involved in data transmission to handling of any number of users at bulk, it aims to build a comprehensive cloud solution with Amazon Web Services (AWS) platform integrated to a secured user application and a central dashboard. Also Smart metering using IoT and AI will be using Deep Learning algorithms like Recurrent Neural Network (RNN), in order to Analyze the data incoming from numerous IoT enriched electric meters and provide wise notification tips to the consumers. The tips target in subtraction of unwanted energy consumption and addition of overall energy efficiency. Proper real time statistical and comparative analysis will be performed in the best manner as possible to revolutionize the entire energy ecosystem.

Keywords: Automatic Billing, Conventional meter, Smart Meter, Wi- Fi Module, Power Theft.

Weather Forecasting Using Data Mining

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Abstract: Climate forecasts are an important use of climate and have been one of the problems of science and technology worldwide for the past century. In this paper, we investigate the use of data mining techniques to predict high temperatures, precipitation, evaporation and wind. This was done using the random forest regressors using the decision tree algorithm and the mean of the output of the different different decision tree . A meteorological data model was developed and this was used to train classifier algorithms and the data is being drawn or taken from the country Sweden and the data is from 2000 to half of the 2019 . The performance of these algorithms was compared using standard performance metrics, and the algorithm yielded the best results used to extract the rules for the classification of such climate variables. The Neural Network prediction model has also been developed for the system for forecasting the weather and results in comparison to the actual weather data for the predicted times. The results indicate that if sufficient data are provided, Mining data strategies can be used for climate forecasts and climate studies.

Keywords: Weather Forecasting, Data Mining, Neural Integration Networks, Decision Trees.

Cardiovascular Disease Prediction Using Machine Learning

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Abstract: In the current era of computer science each and every thing becomes intelligent, self sufficient and perform task like humans. For these purposes there are various tools, techniques and methods are proposed. Support Vector Machine is a model for statistics and computer science, that has an algorithm to perform supervised learning, methods that are used for the analysis of data and recognize patterns. SVM (Support Vector Machine) is mostly used for the classifications and the regression analysis and in the same way K- Nearest Neighbor Algorithm is a classification algorithm that is used to classify data using training examples. In this research paper we use SVM and KNN algorithm to classify data and predicting (find hidden patterns) the target clusters. Here we use Medical patients nominal data from the common patients to classify and discover the data pattern to predict the future diseases. Here we also use data mining which is used to classify the text analysis in future.

Keywords: Machine learning , support vector machine , k-nearest neighbour algorithm.

Scope of E-Commerce in Handloom and Handicraft Heritage of India: Overview

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Abstract: From the very beginning of its existence, India has always been a place known for its amazingly diverse nature. From agriculture to business, India has shown its level of significance and impact in every field. The Indian Handloom and Handicraft industries have also been much-appreciated elements of society. They have been a part of Indian Heritage and culture. The latest trend of E-Commerce can be a new way to improve the current condition of the drowning Handloom and Handicraft heritage in India. It can take them to their apex in the market. The value, as well as the prevalent status of the Handloom and Handicraft, will be redefined. The workers involved in this sector will have better sources and funds to keep their businesses perform well. With the increase in India's level of internet connectivity, it is easy now to establish a connection between the handloom heritage and e-commerce. It can improve the condition of the workers and also help in getting more people involved with the handloom sector. This article will help us to understand the current situation of the handloom and handicraft in India in a better way, the scope of e-commerce in this sector, opportunities for both, handloom workers and e-commerce companies, challenges, and advantages.

Keywords: E-commerce, Handicraft, Handloom, Internet, Online Shopping.

Providing Security to DNS Using RSA and DSA Approach of Cryptography

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Abstract: It's become a huge problem to provide security to communication held through internet by using IP addresses. When we are talking about DNS, again it's related to host name, mapping, IP addresses. So to deal with it and to resolve this problem we are using Cryptography. And with the help of that we provide an unique address to each of them, the unique address helps the computer to establish a link between them and to find them. ICANN coordinates helps these unique identifiers all over the world. We wouldn't have one global Internet without these ICANN coordinates. With the help of these when typing a name, the name must be translated into a number before the connection established. This system is known as the Domain Name System (DNS). Most recent vulnerabilities in the DNS were discovered due to which an attacker can hijack this method of look upon some one or searching a site on the Internet by name. Due to these vulnerabilities, introducing a technology called DNS Security Extensions (DNSSEC). We are using Cryptography to do so.

Keywords: DNS, DNSSEC, DNS Security, ICAANN, Cache Poisoning, RSA.

Weather Forecasting Using Linear Regression in Machine Learning

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Abstract: Prediction requires accurate classification of data .In order to predict the uncertain things, we need to analyse various factors which involved either directly or indirectly. Weather is one of the most influential environmental constraints in every phase of our lives on the earth. So as to make everyday tasks we are very much rely on weather and need to know weather condition on before hands. This could be achieved by predicting the weather condition such as humidity, rainfall, temperature, thunder, fog, etc. This helps us in protecting ourselves from abnormal conditions and avoids unnecessary delays. The main objective of this paper is to design an effective weather prediction model by the use of multivariate regression or multiple linear regressions and support vector machine (SVM). As of now, there are various debates going on around the world either scientifically or non-scientifically regarding the change of Earth's climate in fore coming decades/centuries and what impact it will cause on all the living creatures. Scientific models which predict future climates offer the best plan or aspiration for providing the information which will allow the world's policy maker to take preventive measures and make better decisions for the future of the Earth and for the future lives. This paper explores about weather forecast in effective way.

Handwritten Text Recognition : Deep Learning

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Abstract: This research paper offers a new solution to popular handwriting recognition techniques applying theories of Deep learning and computer concept. An expansion of MNISTdigits dataset called the Emnist dataset has been used. It includes 62 classes with 0-9 digits and A-Z characters in both upper case and lowercase. An application for Android, to recognize handwritten text and transform it into digital form by applying Convolutional Neural Networks, condensed as CNN, for text analysis and detection, has been created. Before that we pre-processed the dataset and implemented various filters over it. We created an android application using Android Studio and combined our handwriting text recognition program relating tensor flow libraries.

The purpose of the application has been kept simple for illustration purpose. It supports a protobuf file and tensor flow interface to use the trained key areas graph to divine alphanumeric characters drawn using a finger.

Face Recognition System

Abstract: The face is our primary focus of attention in social interaction playing a major role in conveying identify and emotion. Although the ability to infer intelligence or character from facial appearance is suspect, the human ability to recognize face is remarkable. The data and information accumulating in abundance, there is a crucial need for high security. Biometrics has now received more attention. Face biometrics, useful for a person's authentication is a simple and non-intrusive method that recognizes face in complex multidimensional visual model and develops a computational model for it. Facial recognition software is based on the ability to recognize a face and then measure the various features of the face. This project is aimed to identify the face of the person using various features like eyes, hair, lips, nose, etc. The details such as distance between the eyes or shape of the chin, are then converted into a mathematical representation and compared to data on other faces collected in a face recognition database.

Machine Learning Techniques for Rainfall Prediction: A Survey

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Abstract: Heavy rainfall is constantly a significant issue over the world as it influences all the main consideration on which the person is depended. It is one of the main reason behind catastrophic disasters like flood, drought spell which influences the lives of several people across the globe every year. Specially for the countries like India where agriculture has a major role to play in Economy, Rainfall Prediction becomes a important factor and its accuracy is must. But talking about current scenario, unpredictable and exact precipitation forecast is a difficult task. Non-linearity of precipitation information makes Regression in Machine Learning, a superior system. Regression problems give probably the most testing research openings in the zone of Machine Learning and Artificial Intelligence, and all the more comprehensively insightful frameworks, where the expectations of some objective factors are basic to a particular application. This paper considered different past works done in the related field from recent years, to give a complete report about models applied and dataset utilized, other than their streamlining strategies and results.

Keywords: Machine Learning Techniques; Rainfall Prediction; Artificial Intelligence; Survey

Auto Complete Using TRIE

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Abstract: Auto completion is one of the most effective trait available as a web service. This trait can be helpful from a small scale application like auto complete for items sold at a store to a large scale application like website suggestions, Google suggestions involving a large dataset. The major challenge while implementing this trait is to achieve a fast lookup without consuming a lot of memory. This article introduces a structure that can perform auto complete service containing millions of concepts. The proposed data structure that can perform auto completion increases the search complexity while saving a large amount of memory. By using this data structure a lookup can be performed within milliseconds the memory required is less than the memory required by ternary search tree.

Keywords: Visual Studio, Auto completion, TRIE.

Car Pooling: To Reduce Congestion

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Abstract: Transport section is a major problem for the country. Transport related problems are inadequate public transport, high gas prices, traffic jams, lack of natural resources for fuel conservation. Car Pooling is one of the options. This common destination brings the traveler together over time and helps in reducing the no. Use vehicles and use space in the vehicle.

There is a way to reduce congestion by using the public transport management, by managing traffic system, car pool etc.

IoT Based Smart Garbage System

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Abstract: As people are getting progressively smart so are the things. While the idea comes up for Smart urban communities there is an essential for Smart waste organization. The idea of Smart Dustbin is for the Keen Colleges, buildings, Transport stand and Healing centers. The Smart Dustbin along these lines thought is an improvement of conventional dustbin by lifting it to be excited about using sensors. Keen dustbins is an unused idea of execution that makes a typical dustbin clever using ultrasonic sensors for trash level discovery and making an impression on the customer redesigning the status of the can- ister using GSM modem. The LCD screen is used to show the status of the degree of garbage gathered in the canisters. The LCD screen shows up on the status of the rubbish level. The framework puts on the buzzer when the level of waste gathered crosses the set constrain. Henceforth, this framework has any kind of effect to keep the city clean by exhorting approximately the waste levels.

Keywords: Arduino Board; GSM; IR Sensor; LCD; Line Follower; Ultrasonic Sensor.

Car Pooling: To Reduce Congestion

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Abstract: Transport section is a major problem for the country. Transport related problems are inadequate public transport, high gas prices, traffic jams, lack of natural resources for fuel conservation. Car Pooling is one of the options. This common destination brings the traveler together over time and helps in reducing the no. Use vehicles and use space in the vehicle.

There is a way to reduce congestion by using the public transport management, by managing traffic system, car pool etc.

Object Detection Using Python Open CV

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Abstract: Effective and accurate object detection has been a significant subject in the headway of computer vision frameworks. With the approach of profound learning methods, the precision for object identification has expanded definitely. The undertaking means to consolidate greatest in the class strategy for object detection with the objective of accomplishing high accuracy with a constant presentation. A significant challenge is the dependency on other computer vision strategies for helping the profound learning based methodology, which prompts moderate and non-ideal execution. In this project, we apply deep learning approach to deal object detection technique. The system is prepared on the most testing freely accessible informational index, on which an object detection challenge is directed yearly.

Student Information & Authentication System

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Abstract: The administration of understudy related data like a scholastic record in an instructive foundation gets a great deal of monotonous work as time passes as all frameworks in this day and age are being automated, there is a necessity for a machine-driven framework for overseeing such data. The principle motivation behind this venture is to encourage quality associate with mobility and automate the method of keeping up student data in an institute. Student Information & Authentication System (SIAS) will provide a straightforward user-design for the upkeep of scholar statistics. It often utilized by universities, that utilize mobiles and additionally, that reduces personnel. The objective of developing this application is to initiate the report with respect to attendance, admit card, marks sheet and personal information after the conclave or within the middle of the conclave. Student Information & Authentication System will provide an instantaneous user-interface between faculty & a student. Here students or their parents can check his/her performance using the provided login-id and password to them. Scholar's and Instructor's data are transferred through the administrator account then the login-id and passwords to the individual. The instructor can modify the scholar rank. Finally, students will gain all access to their records. The Student Information & Authentication System has three modules. Initially, an admin will log in using the Admin login module. After that he will transfer the information of scholars and teachers, referred to as student module and teacher module that have the functionalities like crud operation which is performed on the scholar's data.

Keywords: Admin login module, Automation System, Student data module, Student Information & Authentication System.

A Survey Paper on Steganography Techniques

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Abstract: Steganography is going to pick up its significance because of the exponential development and secret communication of potential PC clients over the web. It can likewise be characterized as the investigation of imperceptible communication that normally manages the methods of hiding the presence of the conveyed message. By and large information installing is accomplished in communication, image, content, voice or sight and sound substance for copyright, military communication, verification and numerous different purposes. In image Steganography, mystery communication is accomplished to insert a message into cover image (utilized as the bearer to install message into) and produce a stego-image (created image which is conveying a concealed message). In this paper we have fundamentally broke down different steganographic procedures and furthermore have secured steganography review its significant kinds, order, applications.

Keywords: Datahiding, steganography, cover writing, stegano-key.

Task Tracker - A Web Application

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Abstract: The existing System is predicated on offline so there's limited interaction of the users with system because those users who are outside from the organisation aren't able to interact with System. In the existing System there's no au-dit trail and log feature. In the Existing system there's no direct communication among employees and users. In the existing system users aren't allowed to look at there task and add the task . But the developing System is web application in order that each user from outside the organisation will able to use the system. In the developing System there's thanks to log the record of the user login and performance performed by them. There is a feature of chat and email that's included within the developing System . And within the new system users are allowed to look at and add the task. Keywords: TTr (Task Tracker);

Edge Computing Video Analytics for Real-Time Traffic Monitoring in a Smart City

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Abstract: The expanding advancement of urban focuses brings genuine difficulties for traffic the executives. Right now, present a brilliant visual sensor, created for a pilot venture occurring in the Australian city of Liverpool (NSW). The task's point was to structure and assess an edge-registering gadget utilizing PC vision and profound neural systems to follow progressively multi-modular transportation while guaranteeing residents' security. The exhibition of the sensor was assessed on a town place dataset. We likewise present the interoperable Agnosticity structure intended to gather, store and access information from numerous sensors, with results from two genuine investigations.

Keywords: Edge-Computing; IoT; Smart City; Video Analytic; Traffic Monitoring; CCTV.

Face Recognition: A Survey Paper

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Abstract: Automation has started dominating every field of technology. Machines that are smart to deal with data on their own are being proposed and studied extensively. A lot of processing and research is being carried out in the field of computer vision. Image processing is the backbone of computer vision and multiple real time applications are using computer vision as the basis to obtain meaningful results. Identification of human faces is a research area being widely explored as it eases human task in multiple applications. A larger amount of databases and images are available to test newly proposed algorithms and study their accuracy. Some of the major challenges in face recognition are different lying poses, complex background and lightning effects, changing illumination. In this paper we will discuss different methods, techniques and algorithms which have been proposed and advocated recently in the field of face recognition.

Their merits and demerits are analyzed and challenges are explored. Further, the available datasets and their characteristics are also detailed so that budding researchers have knowledge of frequently used repository for comparing and analyzing their results.

Keywords: Face Recognition, Biometric Application, Machine Learning, Deep Learning, Image Processing, Linear Regression, Coefficient correlation, Data preprocessing.

Sustainable Tourism for India and Steps Taken by Government

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Abstract: Tourism is a very important tool for economic advancement of India and for other countries also. It is among the world's fastest growing businesses and is a big source of income for many countries. Since 2000 the businesses related to tourism have given a number of benefits. Tourism does not only have positive impacts, but it has negative impacts also, which includes depleting natural resources, increment in waste products, and impact on the environment. These bad impacts increased the need for sustainable tourism, which helps to increase positive impacts of tourism. In this research paper we will discuss and examine the meaning and importance of sustainable tourism with the role of government in promoting it in India. This paper will not only help India but people of other countries also to learn about the importance, meaning and need of sustainable tourism.

Keywords: advancement, depleting, increment, sustainable, promoting

Deploying People Counter System at Edge

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Abstract: People Counter System is an application of computer Vision, many of the solution [1] has been implemented for people counting system but none of them can be deployed to IOT device or edge devices. IOT devices is the future of computing, many devices in near future will be an IOT enable devices which has low resources and storage, so computation task has to be minimal on this devices. This paper proposes a people counter app that can run on edge or an IOT devices, this app detects people in a designated area, calculate the number of people in the frame and average duration of people in the frame. This People Counter System also consider the people's movement in consideration, so movement of people will not hinder its ability to calculate the correct result. This People Counter System can be deployed to an IOT device by using MQTT Protocol. The monitoring system can be deployed to web via using MQTT Mosca Server and Node.js Server.

Keyword: Computer Vision, OpenVINO, MQTT, MQTT Mosca Server, IOT, Edge, SSD Model, Neural Network, CNN, RNN.

Real Time Person Removal from Video

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Abstract: The process of removing special areas in a video or repairing the damaged parts in a video segment is known as video painting. In this work the proposed in painting algorithm can in real time remove unwanted human objects from the video. On a canvas, the algorithm makes the video frame by frame and then performs segmentation to assign binary values to the frame's segmented pixels. A value of 1 is given to the human objects, and 0 is given to all other objects. Now we can distinguish the (1) values from the rest using a simple formula and the algorithm will fill those values with (0) pixels. Later we will provide the conclusion and future scope of our work.

Keywords: Video-inpainting, BodyPIX, Tensorflow.js, Human Segmentation

Smart Home Automation System

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Abstract: Project named - Smart Home automation System. It is a method, method, or system operating or controlling the process by electronic devices to get people involved in reduced to a minimum. The need to create an automation system for an office or home growing day by day with many benefits. Industries and researchers work for them create efficient and inexpensive functional systems for monitoring and controlling various devices like lights, fans, AC based on need. Automation is successful and an economic use of electricity and water and reduces much wasted.

IoT gives people and things to connect at any time, anywhere, anyone, to make the most of it any network or any service. Automation is another important use of IoT technology. It monitoring of energy use and environmental controls in buildings, schools, offices and museums through various senses and analysts control lights, temperature, and humidity. The Smart Home system is built with a focus on the resident's need and convenience.

Hand Written Signature Verification Using PCA Algorithm

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Abstract: This paper describe a method of Hand written signature verification using Principal component analysis algorithm which proof better efficiencies in pattern matching time complexity training data and pre processing in compare to existing tech This tool aims to reduce Fraud in all related Finicial transaction. The entire process is divides into four steps acquisition pre processing feature exectraction and classification.

Keywords: Preprocessing, PCA, Classification, Feature extraction , Data acquisition

Fake Coronavirus News Detection in Social Media Networks Using Machine Learning

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Abstract: The expansion of fake news in the online world starts with a trendy topic around us whether it is related to environment, politics, healthcare or any pandemic like Coronavirus. Flashy & altered headlines attract users to help media enhance their business. Fake news & hoaxes related to a pandemic like Coronavirus can lead to much harm than coronavirus itself. This extensive spread of fake news comes with a negative impact on the citizens. Therefore it's very important to detect, intervene & analyze any fake news. The main purpose of writing this research paper is to come out with the best approach to monitor the misleading information of Coronavirus around the internet by investigating the principles, methodologies & algorithms. Fake news comes with the big, unstructured, irrelevant, incomplete & noisy data and for its detection, some evaluation metrics, representative datasets, network analysis approach & algorithm like Naïve Bayes Classifier will be on the role leading to the most effective & accurate way to detect fake news related to Coronavirus all around the globe.

Keywords: Fake news, Coronavirus, COVID-19, Network Analysis, Machine Learning, Naïve Bayes Classifier, Fact-checking.

E-Auction

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Abstract: The purpose of this paper is to develop an eAuction program. The main reason for using this project was that people needed a system where they could easily and efficiently sell online. The program was developed to look at the traditional auction for online sales, due to the fact that online shopping and e-commerce sales have played an important role in the business and have become popular ways to sell goods.

After completing the bidding process there is a marketing plan for them and their suppliers. This is a powerful program that users can easily use.

Keywords : e-auction, auction, bid, bidder, e-commerce.

Smart Home Automation System

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Abstract: Project named - Smart Home automation System. It is a method, method, or system operating or controlling the process by electronic devices to get people involved in reduced to a minimum. The need to create an automation system for an office or home growing day by day with many benefits. Industries and researchers work for them create efficient and inexpensive functional systems for monitoring and controlling various devices like lights, fans, AC based on need. Automation is successful and an economic use of electricity and water and reduces much wasted.

IoT gives people and things to connect at any time, anywhere, anyone, to make the most of it any network or any service. Automation is another important use of IoT technology. It monitoring of energy use and environmental controls in buildings, schools, offices and museums through various senses and analysts control lights, temperature, and humidity. The Smart Home system is built with a focus on the resident's need and convenience.

Are Children Smarter Because of the Internet and Technology

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Abstract: Today's world, technology is everywhere, and the Internet is a major part of our lives. Everything what we do in our daily life in only depend upon the internet or the computer and we can say somewhere we are dependent upon the technology. So we can easily conclude that most of the children now a day have a Internet facility or have a good gadget.

There are a lot of children which having the gadget like the tablets, mobile, Phone, iPods and many more which they use daily. These gadget which children are using are making more comfortable to them and making thinking capability very low, due to these gadget they think that they are smart or more socialized. If these gadget are used in a proper way, proper time than it can become a better way otherwise it's a disastrous of time. There are many new technology around us like the IOT, machine learning and many more, if children need they can utilized these technology and make a better future in the world.

With children of all ages they are using the internet on daily basis, are they learning or just using it to socialize with other friends? In developed countries, up to 85% of children aged between twelve and seventeen are online. The internet is however very helpful in comparison to the others due to the platform it offers to enhance interaction with the technology.

Keywords: Future Internet, enhancement, technology, socialized.

Security Issues & Solutions in Cloud Computing- A Review

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Abstract: Cloud computing is the most renowned and needed branch in the IT section nowadays. Numerous advantages are provided by using cloud computing for end-users and in business. Cloud Computing is an important and advantage seeking option for not only the IT section but for the people of various industries like banking, healthcare, education, etc. Security is the main concern in any field. The only reason because of which some companies are not accepting Cloud Computing is due to security breaches in cloud computing. This paper discusses the Cloud Computing in detail with its services and deployment models and the various security issues in cloud computing.

Keywords: Cloud Computing, Security, Service Models, DDoS, SQL Injection

Spam Detection Using ML Techniques

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Abstract: Spamming is that the method of posting unwanted and not connected comments on specific posts in any form of social sharing medium or video-sharing medium. These messages are announced by bots for reducing ranking or distressing users viewing expertise that ultimately reduces the rank of web site and post. This spamming is completed manually conjointly that area unit principally seen in best pages.

There are a few strategies which will take away spamming strategies that use data processing techniques however during this project, we have a tendency to automate the method of spam comment detection machine learning by taking a dataset of youtube spam messages and applying count vectorizer and naive mathematician algorithmic program for bunch on the given dataset programmed in Go. Anyone having an e-mail address should have Janus-faced unwanted e-mails that we have a tendency to decision spam mail. trendy spam filtering software package are ceaselessly troubled to notice unwanted emails and mark them as spam mail. it's in progress battle between spam filtering software package and anonymous spam mail senders to defeat one another. attributable to that, it's vital to enhance spam filters algorithmic program time to time. Behind the scenes, we have a tendency to use Machine-learning algorithmic program to search out unwanted e-mails. additionally specifically, we have a tendency to use text classifier algorithmic program like Naïve mathematician, Support Vector Machine or Neural Network to try and do the duty. This article uses Naïve bayes algorithmic program to spot spam e-mail. i will be able to conjointly attempt to compare the results supported statistics.

Study of the Indian Tsunami System

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Abstract: The Indian Tsunami Early Warning System Services, Hyderabad is responsible for providing tsunami situation and the predicted situations to authorized officials from the Ministry of Home Affairs and Ministry of Earth Sciences in India. The centre operates on regular basis and has the functions of monitoring seismological waves under water, bottom pressure recorders and tidal stations with the help of BOUY throughout the Indian Ocean to evaluate potentially underwater earthquakes and tsunami warning information. A database of all possible earthquake scenarios for the Indian Ocean is used to identify the regions under risk at the time of event or the regions which can be at risk if the situations continues The tsunami event on 12 September 2007 was a performance test for the system for the first time. [1] The system is equipped communication and technical support facility is capable of detecting tsunamis in the Indian Ocean. It was possible to generate advisories in time for the administration and possible evacuation was avoided. [2]

Keywords: Tsunami, INCOIS, Earth System Science Organisations

Image Processing Technique to Solve Sudoku

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Abstract: In this day and age with the headway of innovation picture handling is one of the field that is by and large endlessly utilized. It is a strategy which is utilized to perform procedure on crude picture like upgrade of nature of the pictures . This paper gives a diagram of picture preparing techniques. The essential goal of this is to give writing review of different strategies to perceive Sudoku puzzles and different procedures to explain this riddle. It additionally examines the different strategies for advanced recognition and vision based method.

Keywords: Sudoku Puzzle, Computer Vision, Optical Character Recognition, Image Processing.

Trend Analysis, Interpretation and Summerization for Marketing Strategies Using Aided Data

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Abstract: Sentiment analysis or opinion mining has emerged as an interesting research field in past few years. In sentiment analysis we extract sentiments from text for analysis and aggregation. Extraction, analysis and aggregation of sentiment can be done at different levels. In aspect level sentiment analysis we aggregate sentiment for different aspects of entities mentioned. Most of the previous research work has focused on explicit aspects and ignored implicit aspects which are implied by some other words and/or phrases present in the text. Since a significant percentage of sentences contain implicit aspects, detection of implicit aspect plays an important role in sentiment analysis. This survey concentrates on implicit aspect detection and detailed overview of state of the art is provided. The available methods are categorized based on type of algorithm used. Quantitative evaluation for different methods as stated by authors is also given for comparison purpose. The detailed sentiment information collected may be useful for many applications in various domains.

Keywords: Aspect, sentiment analysis, opinion mining, implicit aspect

An Agile Training Placement System

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Abstract: An agile training and placement system is an administration framework develop on wamp server and php myadmin protocol for the placement division of the university, So as to give the subtleties of its understudies for their procedure of registration gave an appropriate login. The training and placement division of the university stores all the confidential data of the understudies for the campus drive like their names, roll number, enrollment number, personal and technical competencies, mail-id and CGPA that are vital in the resume.

The Framework is an online web-based application that can be pervade all through the Galgotias University campus and outside also with appropriate login. It tends to be utilized as an online web application for the training and placement division of the university in order to maintain the understudy's data with reference to campus drive. This web application stores all the confidential data of the understudies that can be seen by all the understudies. However, the confidential data can be altered by the understudies with a legitimate help. By keeping up understudies data, the application assists the recruiters for the enlistment procedure.

Understudies can login into the application and search for the jobs created by the recruiters, events happening, etc, and the administrator has the facility of checking the company and student statistics.

So, this online web application grants an efficiency of keeping up of confidentiality data of understudies and help to replace the old existing manual system into a fully automated system. And gets the list of understudies who fulfill all the eligibility criteria for the recruitment drive.

Keywords: Information, database, CV, Understudies.

Smart CCTV

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Abstract: In this paper we are discussing about the SMART CCTV. This smart cctv used to detect the Authentic person. This cctv mainly used after office hour. when the unauthorized person enter into bank after office hour that time this smart cctv help to catch the all movement by photo as well as video at the time and send to the admin. so that the admin inform to the nearest police station that will help to catch the unauthorized person at the time. so that it will helpful for our society The Technique having in four stage:

1. Identifying an unauthorized object by using open CV and Video detector.
2. Using Rasperry Pi, Camera Module, Proposed Module and Linux operating system.
3. Measuring the dimension of objects.
4. Reporting the unauthorized objects.

In the implementation of these technique, we designed a system that used Open CV Software library, Respeberry Pi and Raspeberry Camera. The proposed technique nearly achieved 96% success in determining the unusual object and report the user.

Application of Artificial Neural Network for Modeling and Forecasting of Solar Radiation Data

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Abstract: Artificial intelligence (AI) found its applicability in almost every sector of engineering, medical, economics, space, etc. However, a high amount of research on AI has been found for estimation and forecasting the system behavior. Modeling and forecasting the Solar Radiation (SR) data is one of them. SR data depends upon different meteorological and geographical parameters and has no linear relation with these parameters. To estimate and forecast the SR data a number of techniques are available but Artificial Neural Network (ANN) proves its superiority over other techniques as it is simple, doesn't required complicated calculations, not required tedious mathematical modeling, ability to handle complex problems, capable to model nonlinear behavior and easy integration with other techniques. In this paper, a brief introduction has been presented for different AI modeling techniques and a review has been provided on different ANN and hybrid ANN techniques for prediction of SR data.

Keywords: Solar Radiation data, Artificial intelligence, Artificial Neural Networks, Hybrid systems

Real Time Face Detection Using JavaScript

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Abstract: Face detection is one of the fields in the computer vision industry and by considering the past events many applications and researches have already been done for face detection and face Recognition.

The live detection of faces is of use especially nowadays and surveillance cameras can be easily found in the streets and in the shops, factories, hospitals, military, all are based on the live detection of faces. The use of surveillance camera with the live face detection we can also see the actual condition of the object or person and detect any face on the camera.

By using live detection of faces we can detect that there is a human presence nearby whenever our camera caught the human so it is very useful for security purposes .This live face detection method can be applied to the surveillance cameras as well as the webcam of your computer, by applying the live face detection on the webcam we can detect who is in front of the computer and this applies to more than one face also. By applying other techniques along with the face detection we can track the person also. As for the implementation of this research is the detection of the faces using JavaScript.

Keywords: Face Detection; Webcam; Surveillance camera; JavaScript.

Information Hiding Using Image and Audio Steganography Techniques

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Abstract: Advancement of technology and ease of internet access make information distributed over the world easily and rapidly. This made people to worry about their privacy and works. In modern world , organization around the world use various technologies to protect their critical data. Steganography is one of the technique used worldwide to protect the data from the being misused. Steganography is a encryption technique of hiding the secret file or message in order to avoid detection .The steganography can be used to hide any type of digital data like text, image, audio and video. In modern steganography first the data is encrypted using a specific algorithm and then it is inserted in ordinary data files. Steganography is very similar to cryptography technique both are used to hide data through encryption but steganography goes one step further and makes the cipher text invisible to unauthorized users.

Steganography is a science of hiding information from plain sight. As secret communication is very important because if a message is important and if you do not want others to know about your message then you use different kind of techniques to hide your message from the third person and the steganography is one such however the criminal and terrorist organization are using for their own purpose so understanding how to hide data using steganography will be very helpful. Main goal of this paper is to educate people on various techniques of steganography, their use and recent advances are to keep the field looking at the safety part too. This paper focuses on Steganography, what it is, a brief literature of it and what its scope is in the future, What all development is and will be.

Keywords: cryptography, stegno image, cover image, cipher text.

Online E–Auction

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Abstract: This research paper explores the concept of eAuction, an increasingly form of online procurement. There is fixed delivery policy. This is a fully dynamic system which can be easily operated by the users. This research paper explores all the increasing form of online procurement. Online eauction system is gaining popularity day by day because of its ease of making online bidding and selling or buying. Users can freely go the website and register there and its ready for selling or buying their product. The main thing that is needed to be there is trust among the users, so that they can easily register and take part in the process without having any doubt regarding security.

The aim of any online system are related with two points that are:

1. Customer satisfaction
2. Business purpose

Therefore, to meet these requirements there must be need of making enhancement sin the online auction system. This paper will explore the all forms of online procurement that we can make to improve the current system.

Keywords: e-auction, purchase via bidding, ecommerce.

Study of ETL Tool : SQL Server Integration Service (SSIS)

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Abstract: ETL basically stands for extract transform and load. It is a process which includes extracting data from various sources, transform data and load to one or more destination. In this paper we study SSIS and compare it with different ETL tools like Informatica, Data integrator, Infosphere Information Server

Keywords: ETL, SSIS, Informatica Infosphere Information server, Data Integrator

Movie Recommendation System Analysis

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Abstract: A recommending process is a mechanism to suggest recommendations that are build on predefined large datasets which are already preferred by the service providers. Furthermore, a recommendation system is an approach operating on different principles and algorithms. The recommendation system performs a significant role in many applications. There are different criterions for making multiple movie suggestion depending on the recommending process; one general criterion is the overall rating. There are different verities of recommending techniques: Content- Based (CB), Collaborative Filtering (CF) and hybrid technique. The paper aims to provide varied challenges and issues of recommendations system. First, having an overview of functionality of a recommendation system. Second, explaining various issues and challenges of the recommender system. Third, proposing a hybrid system by incorporating different techniques to reduce time complexity, achieve better accuracy and high quality recommendations. By specifying challenges and issues, one can create a recommendation system with proper functioning and upgrading movie recommendation system in future.

Keyword: Content Based (CB), Collaborative filtering (CF), Hybrid technique

Cloud Computing In Banking Sector

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Abstract: The evolution of Cloud Computing has changed each and every platform which directly or indirectly depends upon the IT Resources. All the IT departments are adopting cloud platforms. The main key point of cloud is “Portability”, i.e. data can be accessed from any- where anytime. As compared to other companies and corporate, banks and other financial institutions have been quite slow in adopting cloud services.

The banks which do not adopt cloud services operate completely like software companies. They hire software developers, UI designers, data administrators, security analysts and even software testers. All these things increases the expenditures by which many banks run into loss. The adoption of cloud in banks will allow smaller banks to establish a global brand at a very less cost and many other helpful things will be discussed.

Keywords: cloud computing, cloud data, banking data, Single Platform Banking;

Online Crime Management: A Novel Approach

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Abstract: The “Crime Management System” is an electronic site for web-based grumbling and automated administration of crime records. Here in this site an individual who wishes to record a protest or report an occurrence must enlist before sign in and once the administrator validates the client the individual can log in into the site and document a grumbling. This grievance will be gotten by police and police can communicate something specific concerning the status of the objection to the client who recorded the objection.

Police can utilize this product to oversee various crime and a portion of the works which is done in police headquarters physically. Police get their login secret phrase from the administrator straightforwardly. A portion of the modules like news, wellbeing tips, missing people, and most needed lawbreakers can be seen through the site without signing in. So this site encourages police to discover the issues in the general public without them going to the police headquarters.

Keywords: Introduction, objectives of Proposed System, phases of the online crime management system, functionality of the proposed system, Technology, future scope.

Classification of Aerial Cactus for Conserving Biodiversity Hotspot Zones Using Deep Convolutional Neural Network VGG16

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Abstract: There are many exceptional regions in the world with the existence of varieties of unique several endemic plants in biodiversity. Conservation of biodiversity 'hotspots' is protection and maintenance in a sustainable way. The research studies proved a good relationship with a diverse ecosystem would help health, resource consumption, climate changes, and other areas positively. Human activities which lead to the destruction of biodiversity. So our aim is to identify this biodiversity-ecosystem by using automated surveillance and preserve the ecozone. To assess the impact of earth's natural resources, it is necessary to build a model that identifies the columnar cactus in the aerial image and recognizes the vegetation inside the protected areas by identifying the columnar cactus. The proposed model aims to identify and to classify aerial cactus with the help of VGG 16 Convolutional Neural Network architectures. The main work is done with the help of experimentation and evaluation of the performance of the network to recognize a specific type of cactus in aerial imagery. The dataset containing the 21,500 images, this images is provided by the Kaggle and it is a part of the VIGIA project. The proposed model compared with various convolutional neural network models like ResNet26, hyperspectral CNN, LetNet-5 and Resnet50 for the particular problem. The experiment result of the proposed model shown the high prediction accuracy of 98% and 0.98 ROC/AUC score, substantiate the purpose of the perspective to accomplish best in results for the columnar cactus recognition.

Keywords: Deep Learning, Aerial Cactus Identification, ConvNet/CNN, Machine Learning, Python, VGG16, Kaggle.

Denial of Service Attack Using Slowloris

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Abstract: Attacks on the Denial of Service broadcasts remain among the most dangerous and visible attacks on the Internet. Contrary to previous attacks, most recent DDoS attacks did not occur over the network layer, but over the system layer. The main difference is that ultimately, an attacker can look for a specific server system, while leaving the remaining systems in place, thus producing less saturation and more difficult to find. Such attacks are possible by exploiting the terms of the application layer used. Denial of Service Attack is any type of attack on a network structure to disable the server being used by its customers. The attack of sending millions of requests to the server in an effort to slow it down, degrading the server with large packets of inactive data, sending the request with an IP address. In this paper we introduce the implementation and analysis of Slowloris.

Keywords: HTTP request and response, bandwidth, DoS, Slowloris, Partial HTTP request

A Speaker Independent Speech Recognition System Using an Acoustic Model

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Abstract: Most natural shape of human conversation relies upon speech. For recognizing human speech by machines, our PCs can act as an intermediate for mankind expert. This can be done by speech reputation machine, which permits the records processor to discover the words of a person who speaks in a microphone or smartphone, and changes them into written textual content. Let's assume we are making a version and as opposed to a writing technique we want our device to reply to the speech, it will become pretty hard and calls for a lot of things to be done. A speech recognition system removes this barrier by translating speech into text. There are several actual examples of speech recognition machine. For example- Siri, which takes our speech as input and give us an output. There are several uses of Speech recognition system, some of those are it overcomes the barrier of literacy. It can be used by both literate and illiterate people because it focuses on spoken words.

Speech Recognition has moved past the small vocabulary, custom utility environment. The technology these days gives merchandise with as much as a 1000-word vocabulary, excessive accuracy in noisy environments, an excessive degree of user friendliness and the capacity to be related to any present laptop software. In today's world it is very important to have a thing like Speech Recognition System because it is very much helpful in making the work easy for large amount of people.

Optimization of Image Classification Model Using Discriminative Fine-Tuning in Pytorch and Fastai

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Abstract: Computer vision, natural language processing, tabular data analysis and collaborative filtering to develop recommendation systems are some applications of deep learning. We use convolutional neural network (CNN) with pre-trained model of ResNet34 and apply transfer learning to train our model for image classification. ResNet is short of Residual Network and contains 34 layers, example of other architectures is ResNet50, AlexNet, Inception. The advantage of using pre-trained model is it takes less time and memory to train and its easibility to use. We apply discriminative learning rate to train previous layers of ResNet at slower learning rate and newly added layers at the end of model at faster learning rate. In this paper we study the effectiveness of using discriminative fine-tuning for optimizing image classification model based on transfer learning with ResNet34.

Keywords: Image Classification, Deep Learning, Transfer Learning, Neural Networks, Gradient Descent

Object Detection and Classification Between Crawling: A Review

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Under Guidance of

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Abstract: An optical camera-based intrusion arrangement (Light Intrusion DeTectioN systEm named as acronym LITE) for an outside setting was recently developed by a superset of the authors. The system classified between human and animal images captured during a side-view manner supported the peak . supported the system and algorithm design, most likely human-crawl would be classified as animal by the LITE. during this paper, classification between human-crawl and animal is addressed. additionally to the present work, classification of person with weapon versus person with vehicle is additionally addressed (referred as person with Crawling) to supply more information about the sort of intrusions. A Convolutional Neural Network (CNN) based approach is employed to unravel the above stated two problems. within the case of “person with Crawling” classification, a study of various CNN architectures was administered and analysis like that’s presented. just in case of human crawl vs animal movement, performance results like only the simplest architecture model is provided among the various tried models. Further on, additional insights are provided about the classification using the eye heat maps and t-SNE plots. The test classification accuracies for human-crawl vs animal and person with Crawling classification on the recorded data are on the brink of 95.65% and 90%, respectively. The LITE, having the Odroid C2 (OC2) Single-Board Computer (SBC) with CNN-based classification algorithm for human-crawl versus animal task ported thereon , was deployed in an outside setting for a realtime deployment. It provided a classification accuracy on the brink of 92%. Traditional Crawling detection methods are built on handcrafted features and shallow trainable architectures. Their performance easily stagnates by constructing complex ensembles which combine multiple low-level image features with high-level context from Crawling detectors and

scene classifiers. With the rapid development in deep learning, more powerful tool, which are ready to learn semantic, high-level, deeper features, are introduced to deal with the issues existing in traditional architectures. These models behave differently in specification , training strategy and optimization function, etc. during this paper, we offer a review on deep learning based Crawling detection frameworks. Our review begins with a quick introduction on the history of deep learning and its representative tool, namely Convolutional Neural Network (CNN). Then we specialize in typical generic Crawling detection architectures along side some modifications and useful tricks to enhance detection performance further. As distinct specific detection tasks exhibit different characteristics, we also briefly survey several specific tasks, including salient Crawling detection, crawl detection and crawling object detection. Experimental analyses also provided to match various methods and draw some meaningful conclusions. Finally, several promising directions and tasks are provided to function guidelines for future add both Crawling detection and relevant neural network based learning systems.

Keywords: deep learning, Crawling detection, neural network

Next-Generation of Virtual Personal Assistants Automated Searching Techniques: Speech Assistants

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Abstract: This project is based on Speech recognition Technology and this is one of the most-expand technology in the engineering field. It is intended and developed keeping that think about mind, and a touch effort is formed to realize this goal. It has variety of application in various field and gives too many benefits approx. 20% population of this planet are affected by various type of disabilities; lot of people are blind or various people are unable to use their hand or fingers constructively. speech recognition system provides big help to those case and those people provide information to the system by voice input. Consider the Thousands of individuals in world they're unable to use their hands making typing impossible. our project it for these people that can't type ,and see ,even for those folks who are lazy and don't desire it .This system is able to acknowledge the speech and convert this input which we takes as audio into text; it also allow to user to perform task like open any sort of thing through Google. Speech recognition system are often classified in several differing types by describing the sort of speech utterance, type of speaker model and sort of vocabulary that they need the power to acknowledge. (Reetu Kumari, 2017)

Keywords: Speech recognition, Human factor, virtual personal assistance, smart device, connected words, intelligent virtual assistance.

Big Data Approaches in Market Research

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Abstract: Market Research has been an advocate of “big data” approaches because the field connects several core disciplines that use “big data” methods – media, communication and cultural studies, the social sciences, and computer science. Equally, the major objects of research in Market Research – including platforms, search engines, mobile apps and devices, and Internet technologies and networks themselves – are key sources of “big data” on user interests, attitudes, and activities.

The early development and application of “big Market data” research methods in Market Research, as well as critical interrogations of such approaches, focused especially on research through Survey as a platform. Survey Programming is a quarter part of the ‘Market Research’ process. Now, what exactly is ‘Market Research’?

Very simply, a research of the market is ‘Market Research’. Market Research is essential for all firms operating and hoping to succeed in today’s world. It basically refers to the acquiring of thorough knowledge after detailed research about the firm’s target market and the threats and potentials associated with that market. Without this knowledge, a firm can’t survive the tough competition that the present world offers. Based on this study, the businesses design market strategies which help them to take economically and socially efficient decisions.

Facial Expression Recognition

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Abstract: Emotion recognition is the very easy and adequate way to express someone about what you are feeling or in what mood you are in at that point of time. In the current scenario of world where everything is being computed it is important to make the machine understand those emotions or expressions. Emotion recognition is the technique used for facial expression extraction. Here we are trying to make machine learn and understand the different emotions or features extraction so that to understand a face well. A will be made used the image processing and emotion understanding which will learn various types of expression given by the person such as happy, angry, sad etc. In this paper, we will explain facial expression and difference between expression and emotions. We will also study the brief about some of the previous researches done in the same field or work. Learning about what they has done will give a brief about the new work published.

This paper also explains why facial expression recognition is important and what can be future works or improvements for this system. This paper concludes every fact about facial expression recognition from its definition to how it works to its improvements.

Keywords: Facial expression, Emotion Recognition, Action Units, Facial Expression Extraction, Neutral.

Neural Collaborative Filtering Based Recommender System

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Abstract: Recommender System is a commercial purpose system that decides what should be recommended to the user . It is used in many fields. It helps to create relationship between user, product and identifies the most appropriate product for that user. In recent years, deep neural networks have yielded immense success on speech recognition, computer vision and linguistic communication processing. However, the recommender systems has gotten relatively less scrutiny from deep neural networks. DNN uses complex mathematical modelling for finding the output of an input. During this work, we try to develop techniques supported neural networks to tackle the key problem in recommendation — collaborative filtering — on the basis of implicit feedback.

By replacing the real product with a neural design which will take in a subjective capacity from information, we present a general framework named NCF, short for Neural network based Collaborative Filtering. NCF is nonexclusive and will express and sum up matrix factorization under its framework.

Keywords: Collaborative Filtering, Neural Networks, Deep Learning, Matrix Factorization, Implicit Feedback

Vehicle Parking System

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Abstract: The Vehicle Parking System had been conceived with the view to automate the manual work flows involved in the management of vehicle parking lots. It drastically reduce the error,inaccuracies,error prone tendencies,delay and overheads involved in performing the same task by hand. It is aimed to provide a fully automated system that is capable of checking in and out of vehicle entering and exiting the designated parking lot and recording relevant information.

Keywords: component; formatting; style; styling; insert (key words)

Object Detection Using Tensor Flow

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Abstract: Efficient and accurate object detection has been a crucial topic within the advancement of computer vision systems. With the arrival of deep learning techniques, the accuracy for object detection has increased drastically. The paper aims to include state-of-the-art technique for object detection with the goal of achieving high accuracy with a real-time performance. A major challenge in many of the thing detection systems is that the dependency on other computer vision techniques for helping the deep learning based approach, which results in slow and non-optimal performance. In this paper, we use a totally deep learning based approach to unravel the matter of object detection in an end-to-end fashion.

The network is trained on the foremost challenging publicly available dataset (PASCAL VOC), on which a object detection challenge is conducted annually. The resulting system is fast and accurate, thus aiding those applications which require object detection. Here we are proposing an application which can be used to identify different types of objects like human objects present in a picture consisting of different other objects. We will apply supervised learning to make the system learn how a human object is recognized by teaching it with some examples. This model is going to work on data sets. The data sets have some patterns that are combined to form a result pattern and resultant pattern is analysis with the input and provide results. Our Model is going to more accurate with more balanced data sets. Fueled by the steady doubling rate of computing power every 13 months, object detection and recognition has transcended from an esoteric to a well-liked area of research in computer vision and one among the higher and successful applications of image analysis and algorithm based understanding. Because of the intrinsic nature of the problem, computer vision is not only a computer science area of research, but also the object of neuro-scientific and psychological studies, mainly because of the general opinion that advances in computer image processing and understanding research will provide insights into how our brains work and vice-versa

Speech Recognition Paradigm : A Review

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Abstract: Discourse is a characteristic mode to interface with others. With discourse, we can communicate our words to other people. Discourse acknowledgment is away or innovation where the announcements or orders of human discourse to comprehend and respond in like manner. Discourse acknowledgment permits machining framework to transform the approaching discourse signals into orders through the way toward distinguishing and comprehension. It likewise makes the common voice correspondence work. Primary Goal of discourse acknowledgment is to accomplish better language correspondence among man and machine. So it is an extraordinary innovation of human machine interface. The paper depicts the discourse acknowledgment innovation improvement is all fundamental standards, techniques and order of this innovation. Precision of various techniques for discourse innovation is furnished to sift through strategies with their presentation perspective.

Research Paper on Home Automation System

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Abstract: The main objective of this project is to develop a home automation system using an Arduino board with Bluetooth being remotely controlled by any Android , OS smart phone.. As technology is advancing so houses are also getting smarter.

Modern houses are gradually shifting from conventional switches to centralized control system, involving remote controlled switches. Remote controlled home automation system provides a most modern solution with smart phones..

In order to achieve this a Bluetooth Module is interfaced to Arduino board at the receivers end while on the transmitter end, a GUI application on the cell phone sends ON/OFF commands to the receiver where loads are connected...

This paper provides a low cost-effective and flexible home control and monitoring system... This project is implemented in hardware and software components that interact through network connection...

Keyword: Arduino, Home automation, Bluetooth, Smart phone, Security

Search Engine Voice for Laptop & Desktop System

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Abstract: The voice discourse acknowledgment permits the client to comprehend the verbally expressed voice orders and create the outcome based on that. This venture manages the voice got and producing yields dependent on the conference capacity of the machine. The outcome is created and is made accessible for the further.

Voice based gadgets or applications are growing a ton.. It utilizes state work manship forms in Speech to Text, Natural language seeing, profound learning and content to discourse. the initial step to fabricate a voice application is to tune in for the client's voice continually and afterward comprehend the voice to comprehend and actualize things. The undertaking manages understanding in English and mirrors the work doled out to it. Discourse acknowledgment which is otherwise called programmed discourse acknowledgment(ASR) and voice acknowledgment perceives the expressed words and expressions and changes over them to a machine-intelligible content, discourse acknowledgment innovation let clients control computerized gadgets by talking as opposed to utilizing customary devices, for example, keystrokes, buttons or consoles. It is accomplished utilizing Google Speech recognition. Forth is to work, a functioning web connect is required. There are a few disconnected acknowledgment plans, however, for example, Pocket-Sphinx, anyway they have a some what tough organization technique that includes a few conditions. venture manages the acknowledgment of various voices made in English and creating the outcome based on that. This is only an initial task about discourse acknowledgment by means of Python.

Keywords: "Voice speech recognition, voice input, Py Audio, internet connection, Python text editor, keystrokes."

Quick Parking Based on Web Application

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Abstract: Everyone who owns or drives a vehicle in India or abroad , would be all too familiar with the hassles of finding parking spaces, parking attendants , inconsistent or monopolized rates and other problems associated with it. This application is helpful for find parking area nearby .It will also be helpful for those who want to use their free space as parking area for others and want to earn money. It helps to reduce traffic problem and a new way to earn money. It will also help people to protect their vehicle from being stolen as the application contains full information of owner of the parking area. This Automated Vehicle Parking System (AVPS) project presents the requirement, design and implementation of an enterpriseclass application for QuickParking following a Model-View-Control Model. The application is designed to be scalable, extensible highly available and with good performance. Automated Vehicle parking system is a web based application . It uses web documents written in a standard format such as HTML and JAVA and the server used in this project is Apache tomcat server. It is called as QuickParking according to its purpose and uses.

Keywords: QuickRide, AVPS, Reduce traffic, Money earning, Parking Area, Security, QuickParking

Renewal of Aadhaar

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Abstract: The main purpose of this research paper is to add a new system “Renewal of Aadhaar” to the Aadhaar project. This Research paper also presents a brief review on the Aadhaar card and discusses the scope and benefits of Aadhaar in the upcoming time with the arrival of this new system. Aadhaar project was one of the significant projects in India that brought the universal trend of digital innovation. In year 2018 Government of India made Aadhaar card mandatory for every government applications, and also has promoted Aadhaar enabled transactions for reliability and better security.

Keywords: Aadhaar card, UIDAI, Aadhaar Renewal, Unique Identification, Digital Innovation

Heart Disease Prediction Using Machine Learning

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Abstract: Heart is the accompanying critical organ diverging from cerebrum which has more noteworthy need in Human body. It siphons the blood and supplies to all organs of the entire body. Desire for occasions of heart ailments in clinical field is significant work. Gigantic Measure of patient related information is kept up on month to month premise. A touch of the information mining and AI strategies are utilized to imagine the coronary illness, for example, Artificial Neural Network (ANN), Decision tree, Fuzzy Logic, K-Nearest Neighbour (KNN), Naïve Bayes and Support Vector Machine (SVM). This paper gives an information on the present count and it gives a general framework of the present work.

Cardiovascular ailment is one of the most deadly conditions in the current world.

Measurable information show the mortality of cardiovascular illness by uncovering the level of passings overall brought about by heart ailments.

In this way, there is a verifiable need to foresee the condition at the soonest.

Keywords: Data mining, Heart disease, Machine learning, Medical centre.

Object Detection Using Tensor Flow

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Galgotias University, Greater Noida, Winter 2019-2020

Abstract: Efficient and accurate object detection has been a crucial topic within the advancement of computer vision systems. With the arrival of deep learning techniques, the accuracy for object detection has increased drastically. The paper aims to include state-of-the-art technique for object detection with the goal of achieving high accuracy with a real-time performance. A major challenge in many of the thing detection systems is that the dependency on other computer vision techniques for helping the deep learning based approach, which results in slow and non-optimal performance. In this paper, we use a totally deep learning based approach to unravel the matter of object detection in an end-to-end fashion.

The network is trained on the foremost challenging publicly available dataset (PASCAL VOC), on which a object detection challenge is conducted annually. The resulting system is fast and accurate, thus aiding those applications which require object detection. Here we are proposing an application which can be used to identify different types of objects like human objects present in a picture consisting of different other objects. We will apply supervised learning to make the system learn how a human object is recognized by teaching it with some examples. This model is going to work on data sets. The data sets have some patterns that are combined to form a result pattern and resultant pattern is analysis with the input and provide results. Our Model is going to more accurate with more balanced data sets. Fueled by the steady doubling rate of computing power every 13 months, object detection and recognition has transcended from an esoteric to a well-liked area of research in computer vision and one among the higher and successful applications of image analysis and algorithm based understanding. Because of the intrinsic nature of the problem, computer vision is not only a computer science area of research, but also the object of neuro-scientific and psychological studies, mainly because of the general opinion that advances in computer image processing and understanding research will provide insights into how our brains work and vice-versa

Secured Image Steganography Based on Least Significant Bit (LSB) Algorithm

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Abstract: In this plank the conviction of LSB strength possession is eased to enlarge the anonymous range of the in the data bits. In this accumulating variable number of bits in every passage (L, S or B) of component depending on the genuine colour practicality of that component. The conceptualization - passage accommodating bottom most colour values, so that we can reserve bigger number of that data bits. So now this methodology can be used to put into LSB pictures where every pixel are stand in for four bytes to demonstrate the potency of that pixel. This effort exhibit more productive consequences, mainly the volume of that data- bit to be concealed with respect to the connection to the LSB figure pixels.

Now there is a fact that the Human visual system (HVS) can't see the difference in colour or potency of the pixel while the LSB bit is transformed. This is a neurotic-visual essential, after all this can also be utilized as a superiority to reserve the detailed confidential intelligence in those bits and yet it will regard to no crucial distinction in the figure or picture.

Under this plank, the Most Significant Bits (MSB) of the confidential information in which to be concealed in the form of an image is reserved in the Least Significant Bits (LSB) of the portrayal utilized as in the cover picture. It is also familiar that the above pixels in a portrayal are kept in the shape of the bits. In the monochrome portrayal, the potency of every pixel is reserved in eight bits (1-byte). Correspondingly, for a colour (R-Red, G-Green, B-Blue) picture, every pixel needs twenty four bits that is eight bits for each and every surface.

Framework for Security in Cloud Computing

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Abstract: Cloud Computing is considered as an attractive service model. While there is increasing use of this technology so there are security threats and when it comes to networking aspects, there is a very little support. Cloud Security is a set of technologies or controls which are deployed to secure the data, application and the infrastructure of cloud computing. It is the sub domain of network or information security. Namely the categories of security issues are: Network Security, Interfaces, data security, virtualization, governance, compliance issues and legal issues. Currently the most important problems which are seen in these references are legal issues, compliance and loss of control over data. There is need of advanced technology to secure the cloud in this paper an idea is proposed for data security.

Keywords: Cloud Computing, Virtualization, Cryptography, Steganography, Hashing, Data Breach, Data Loss, Cloud Storage, Cloud Security, Hash Table.

Research on Semi-Automated Vehicle Parking System Based on Parking Technique

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Abstract: The Semi-automated car/bike parking system has been designed in such a way that it could reduce/minimize the work of a human being. Many things which a human being does, is now done by a machine which is semi-automated, as most of the burden is reduced from the people, who are being employed at the parking area. Only few things are taken care of by the people employed at the parking area (Jian Yu Chen, 2018). They keep a record of the vehicles which takes entry and exit in the parking area. But these records are being recorded in the GUI based standalone system. Therefore only few works is done by the person employed at the parking area. The person only collects revenue which is given at the exit of the vehicle from the parking system. There is less confusion created by this semiautomated standalone system. The data provided by the client is kept private with the entire authentication required. Therefore, this semiautomated vehicle parking software makes things easier for the human being working and a person parking their vehicle in the parking system.

Keywords: semi-automated; authentication;

Image Based Face Detection Using Open CV Python: Authentication System

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Abstract: Face detection by the use of images and videos is very popular in the fields of biometric research. Nowadays almost each and every place is covered with surveillance camera for capturing videos which are used in security purposes. It has been observed that face detection and recognition has played very crucial role for security as it does not need any human help or any sort of cooperation. The main benefits of the face detection above other security measures are its uniqueness. Due to dynamic human face it is very much difficult and hard to build a system that can capture and recognize human face in terms of computer vision. The main issues that arise are mainly due to accuracy and speed in the detection and identification of any human face.

The aim of this research is that to see different face detection methods and give a good and effective solution for the purpose of our face detection using an image which has great accuracy and speed which would be a great help in our security aspects. The solution given is mainly based on the tests conducted on different images having large number of faces.

Keywords: Face detection, Biometrics, Face Identification.

Face Recognition Based Attendance Management System

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Abstract: In this project we have implemented the automated attendance system using Open-Computer- Vision (OpenCV) library and methodology to implement them using Python. We have projected our ideas to implements “Automated Attendance System Based on Facial Recognition”, in which its implies large applications. The application includes face identification, which saves time and eliminates chances of proxy attendance because of the face authorization. Hence, this system can be implemented in a field where attendance plays an important role. Automatic face recognition (AFR) technologies have made many improvements in the changing world. Smart Attendance using Real-Time Face Recognition is a real-world solution which comes with day to day activities of handling student attendance system. Face recognition-based attendance system is a process of recognizing the students face for taking attendance by using face biometrics based on high - definition monitor video and other information technology. In my face recognition project, a computer system will be able to find and recognize human faces fast and precisely in images or videos that are being captured through a surveillance camera. Numerous algorithms and techniques have been developed for improving the performance of face recognition but the concept to be implemented here is Deep Learning. It helps in conversion of the frames of the video into images so that the face of the student can be easily recognized for their attendance so that the attendance database can be easily reflected automatically. Keywords: Face recognition, Face detection, Deep Learning, Convolution Neural Network(CNN).

Analyzing Human Face Using Python

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Abstract: Detection of mood of a person plays a vital role in today's world. In this research paper, we come up with a new approach for building desktop application using face detection technologies. Our application is going to determine the mood of a person through camera. For example, if a user is feeling sad or happy, then system will automatically fetch a joke (if feeling sad) or fetch a motivational message(if feeling happy) from database and send it to the user on the window terminal. For this whole process, we are using technologies like Machine Learning, Python, Data Mining, OpenCV and Tensorflow. The scanned image is being compared with training dataset and thus movement is predicted. The objective of this paper is to develop a system which may analyze the image and predict the expression of the person. The study proves that this procedure is workable and produces valid results.

Keywords: Convolutional Neural Network; Python; Face Expression; Machine Learning; OpenCV; TensorFlow

