International Conference
on
Intelligent Communication and Computational Research

ICICCR-2020

25th January 2020

Organized by

Punjab Institute of Technology
Rajpura, Punjab, India.
(A Constituent College of MRSPTU, Bathinda)

Schedule

ICICCR-2020

	International Conference on _Intelligent Communication and Computational Research_ _(ICICCR-2020)_ _25th JANUARY 2020_	
	Punjab Institute of Technology, Rajpura, Punjab, India **(A Constituent college of MRSPTU, Bathinda, Punjab India)**	
Date	**Time**	**Event**
25.01.2020	09:30 A.M. - 10:30 A.M.	**Registration**
	10:30 A.M. – 11:00 A.M.	**Inauguration**
	11:00 A.M.- 11:30 AM	**Tea**
	11:30 A.M. - 12:00 P.M.	**Key Note Speaker (1) : Prof. Rajesh Sharma, University of Tartu, Estonia**
	12:00 P.M. – 12:30 P.M.	**Key Note Speaker (2) : Dr. Kuldeep Kumar, NIT Jalandhar, Punjab, India**
	12:30 P.M. - 1:15 P.M.	**Lunch**
	1:15 P.M. - 4:00 P.M.	**Technical Session -1**
	1:15 P.M. - 4:00 P.M.	**Technical Session -2**
	4:00 P.M. - 4:30 P.M.	**Tea**

PAPER PRSENTATION SCHEDULE ON 25th JANUARY 2020

Date	**Time**	**Track Session, Venue and Paper IDS**
25.01.2020	**1:15 P.M. - 4:00 P.M.**	Track Session - 1 (T1): Venue: Seminar Hall, A103, Paper IDs: 1,3,6,8,12,20,21,23,25,26,27,30,31,32,34,36,38,39,40,44,45,48,51, 52,55 ,56,57,58,59,63,64
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Message from Chief Patron

It is creditable for the Maharaja Ranjit Singh Punjab Technical University, Bathinda that one of its constituent College Punjab Institute of Technology, Rajpura is organizing its 1ˢᵗ International Conference on Intelligent Communication and Computational Research (ICICCR-2020). The primary goal of this conference is to share the knowledge related to scientific information and innovations nurturing in the area of computational research and intelligent communication between students, researchers, academician, developers and engineers.

The revolution in the age of communication has put remarkable impression on the life's quality of all human beings in all corner of the world. Intelligent Communications is progression of the Unified Communications by combining the techniques of modern workplace and advanced technologies in today's era. Business which were once physically close; now have spread in multinational territories that use geographically apart variety of devices and are practicing the distributed nature. Computational Research encompasses mathematical modelling, data science, advanced algorithms development and high-level programming including features of visualization. A conference of this type is a platform to discuss about all these.

Disseminating information via presentations, seminars and conferences undeniably have great value for people engaged in the advanced area as well as society. I am confident that students, researchers, academician, developers and engineers will benefit from the innovative and vital ideas shared during the conference.

I express my gratitude to the organizing team, secretaries, and various chairs of conference and faculties of PIT Rajpura who have worked tirelessly to organize this international conference. I wish the conference a great success.

With Best Wishes.

Prof. (Dr.) Mohanpal Singh Ishar (Chief Patron),
Vice Chancellor,
MRSPTU, Bathinda.

Message from Organizer

ICICCR 2020
International Conference on Intelligent Communication and Computational Research
Web: www.iccrlab.com; Email: icicc.editor@gmail.com

Date: 25 January 2020

On behalf of the organizing committee of International Conference on Intelligent Communication and Computational Research (ICICCR-2020), we extend warm welcome to the management of the institute keynote speakers, our panelists, delegates, paper presenters and participants of this conference. The presence of our dignitaries on the dias during the conference is a further testimony to our sincere pursuits to achieve nothing less than the 'best', who have long trails of success behind them.

International Conference on Intelligent Communication and Computational Research (ICICCR-2020) is organized with the objective of bringing together research practitioners, professors, research scholars, students and industrial experts in the field of Communication and Computing to a common forum. The primary goal of the conference is to promote the exchange of innovative scientific information between researchers, engineers, students and practitioners. Another goal is to promote the transformation of fundamental research into institutional and industrialized research and to convert applied exploration into real time application.

We seek your support and good wishes for this conference to be a grand success. We thank our publishing partners and sponsors for their support in organizing of this conference. We hope you will enjoy the content, renew old friendships, make new friends, get new ideas, and above all, have a good time.

Warm regards,

Dr. Aditya Khamparia   **Dr. Gurpreet Singh**
Mr. Sanjay Kumar Singh   **Dr. Amit Manocha**

Organizing Secretary and Convener   **Conference Chair**

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A Systematic Review on Data Mining Rules Generation optimizing via Genetic Algorithm

Mrinalini Rana[a], Dr. Jimmy Singla[b]
aResearch Scholar, School of Computer Science and Engineering,Lovely Professional University, Kapurthala, India.
bAssociate Professor, School of Computer Science and Engineering,Lovely Professional University, Kapurthala, India

Abstract: In this techno savvy eon, companies have wide range of data and without converting it into appropriate information it is of no use. KDD (Knowledge Discovery Database), analysis process of data mining that helps the corporate to mine or extract useful information for "Decision Making process". To mine the correct information there are plethora of techniques for mining the data or information for illustration Apriori, Pattern finding, Clustering, Classification, Prediction, Time series and so. Moreover, the emerging optimization technique is Genetic algorithm. This paper summarizes data mining algorithms with multiple datasets.
Keywords: Data mining, Clustering, Association Rule Mining, Classification, Genetic Algorithm.

Impulse and Trilateral Noise Elimination Technique for Natural Pictures

Sujeet More[a], Ravi Kalkundri[b], Dr. Jimmy Singla[c]
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bAssistant Professor, Department of Computer Science and Engineering, Gogte Institute of Technology, Belagavi
cAssociate Professor, School of Computer Science and Engineering, Lovely Professional University, Jalandhar

Abstract: Natural pictures are frequently contaminated by some noises. Noise can ascend and also gained through picture capture, communication, etc. Noise elimination is a significant chore in processing. Overall the outcome of the sound eradication has a strapping impact on the standard of the processing practices. Many methods are well recognized for noise removal from natural pictures. The

character of noise elimination problem is liable used for the character of noise debasing of the picture. The arena of noise elimination abundant direct and indirect filtering techniques are available. Direct filters don't have the capacity to efficiently remove impulse noises, as they are prone to a propensity to distortion the boundaries of a picture. The second filter i.e. indirect filter is an appropriate instinct noise. There are several indirect filters grounded on traditional and ambiguous procedures have arisen in the previous few years. For instance, utmost traditional filters eliminate instantaneously distortion of boundaries, while ambiguous filters have the capability to associate boundary conservancy and flattening. Related to further indirect methods, trilateral filters are capable of representing knowledge in an efficient manner. This paper presents experiments and results for different methods and compares the which is the best-suited technique for processing.

Deep Convolutional Framework for perception systems in intelligent autonomous vehicles

Parampreet Kaur[a], Rajeev Sobti[b]
Lovely Professional University, Jalandhar 144401, India

Abstract: Deep Learning algorithms can facilitate and strengthen sophisticated ADAS/Autonomous vehicle technologies to a large extent. Vision based perception functions powered by modern sensor networks in combination with Convolutional Neural Network (CNN) models can provide cutting-edge results in computer vision problems. The paper encompasses different types of deep learning architectures, some popular vehicular datasets and the most viable deep learning libraries for implementing the autonomous driving algorithms. In this paper, convolutional model algorithm is designed using Keras to train the dataset and is evaluated which provided considerable accuracy rate to implement them in future object detection algorithms. CNNs can provide state of the art solutions for the problems related to perception related tasks such as classifying objects, traffic environment understanding and taking appropriate actions.

Machine Learning Approach for Credit Card Fraud Detection (KNN & Naïve bayes)

Darshan Kaur, Shubhpreet Kaur
CGC, Landran,140307, India

Abstract: The extraction of the useful information from the raw data is done a technique known as data mining. The prediction of new things from the current data has been done using the prediction analysis which is the application of data mining. Classifications techniques are most commonly used which are implemented for the prediction analysis. Hence, prediction of the credit card fraud detection is the main objective of this work. Author proposed various credit card fraud detection mechanisms and techniques to prevent and detect fraud timely. The fundamental of the proposed technique in the base paper is based on the conventional neural networks. This system drives the new values and learns from the previous experiences. For the detection of the credit card fraud, hybrid of KNN and naïve bayes classifier is proposed in this research work using which input data is classified into normal and fraud transactions. Test and training sets are the two sub-parts of the input data. In terms of precision and recall, the normal and fraud transactions have been predicted on the basis of test and training sets.

Attacks in Software-Defined Networking: A Review

Anmol Mahajan[1], Abhinav Bhandari[2]
[1]Department of Computer Science & Engineering Punjabi University Patiala, India
[2]Department of Computer Science & Engineering Punjabi University Patiala, India

Abstract: With its centralized and simply programmable design, Software-Defined Networking (SDN) is emerging as one of the most valuable new era technology for networking. It is a developing technology that offers solutions to most traditional network problems and a framework for the heterogeneous integration of different network devices. For different creative network architectures, it makes network configuration and management easier, more accessible, more programmable, more cost-effective and more versatile. The paper presents a detailed view of the existing SDN architectures and identifies major challenges that a new integrated SDN architecture needs to tackle. Also, the various security issues i.e. threats and attacks that hinder software-defined networking (SDN) growth,

are discussed. Therefore, reviewing the existing work and classifying the ongoing efforts to tackle the complex and difficult problems is the main purpose of this paper.
Keywords: Software-Defined Networking (SDN), architecture, application-aware networking, SDN Security

An Efficient Link Prediction Model Using Supervised Machine Learning

Praveen Kumar Bhanodia[1.], Aditya Khamparia[1], Babita Pandey[2]
[1]School of Computer Science and Engineering, Lovely Professional Univerity, Phagwara, India
[2]Department of Computer Science and IT, Babasaheb Bhimrao Ambedkar University, India

Abstract: With the advent of internet online social networks are furiously growing and influencing our daily life. in this work we have worked upon the problem of link prediction across nodes within these growing online social networks. Prediction of link with in the social network is pertaining to missing and future link in the network in future. This could be attained by topological attributes or measures alongwith machine learning approaches. The paper presents a prediction model which will be trained using supervised machine learning technique. For experimental analysis Wikipedia network has been used.

Keywords: Social Network, Link Prediction, node, graph, common neighborhood

OLFACTRO BRAINIAC : Aid-kit for Person with Smell Sense Disability

Avinash Kumar Sharma[1], Tushar Raj Verma[1], Srishti Agrawal[1], Urvashi Chaudhary[1]
[1]Department of CSE, ABESIT, Ghaziabad 201009, India

Abstract : As the problem of life threat in a gas leakage situation needs to be solved in a generic solution that senses and creates olfactory nerve artificially so that maximum combinations and individualistic gases can be detected using pattern recognition and feature extraction used in artificial neural network. This paper focuses on these approach with maximum accuracy and had paid emphasis on the hardware implementation (using Raspberry Pi 3B+) so that it can be converted in a productive way.he work-flow starts with the sensors sensing the gases there detection and computation in magnitude is transferred and the test set runs making essential predictions. The alert system is the user interface part including hardware and software notifications. The research work includes a stimulated backpropagation algorithm which holds a core portion for logical decision making. The core development of the algorithm holds to be advantageous as it deals with the real time scenarios over the tool or framework based algorithms.The scope for the research works is much wider in appealing industries of agriculture, food industries. The core algorithm will stand with all inputs to make prediction and cross validating approach to verify the training and measure the accuracy.

Keywords : ANN, Cloud, IOT, Raspberry pi, Sensors.

Insect Detection and Flight Tracking in a Controlled Environment Using Machine Vision: Review of Existing Techniques and an Improved Approach

Danish Shakeel[a], Er. Gursimran Kaur Bakshi[b], Dr. Bhupinder Singh[c]

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Abstract: Insects (like mosquitoes, bugs and flies) are one of the most common disease-vectors. Insect-borne diseases have a huge detrimental impact on human societies. Vector-borne diseases account for more than 17 percent of all infectious diseases, causing more than 700; 000 deaths

annually. For proper and improved implementation of vector control interventions, the behavioural analysis of the vectors is important. Vector detection and flight analysis is an essential component to proper and implementation of control interventions. With advancements in technology, computer vision and automated tracking techniques and tools, interpretation of vector behaviours has become accurate. Improved tracking techniques allow highly accurate recording and observation of insect behaviour. Software with specifically built algorithms enable precise quantification of these behaviours. The use of these techniques can support or replace existing monitoring tools and provide improved insights on insect behaviour that can lead to more-effective vector-control measures.

Enhanced Cloud Data Storage Security by Using Hadoop

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Abstract: Cloud computing is the modern technology, that facilitates to the user various resources, data and files to access from anywhere that a network is available, it is today's modern computing where we distribute our resources and software from one place to another, but still the security of the data is a major problem in the cloud. However, there is need of processing a huge number of data and maintained the security over cloud. In this research we proposed a software framework (hadoop) with the cloud which helps us to process the huge number of data by using map-reduce model. To add security we use Kerberos authentication protocol which helps us to enhance security level over the cloud and also it is used to provide authentication to the users. We analyze and compare our technique with existing techniques, the results shows that our technique is much more secure and provide user authentication.
Keywords : Cloud Computing, Hadoop, Map-Reduce, Authentication, Kerberos, Security, Encryption, Decryption.

Rumour Detection in Online Social Networks: Recent Trends

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Abstract: Internet technology improved the way people can interconnect and exchange information among each other. Increasing usage of online social networks for collection of news and information is also the main cause of rumor i.e. substances of information which are not verified when they are posted on social media sites. This paper discusses types of rumors that spread among social networks named as long standing rumors which disseminate for a long period and newly emergent rumors procreated through a rapid activity like breaking news. Paper is given an outline of study into social network rumors for the decisive aim of creating a classification method which contains four modules: rumor detection, tracking, stance classification and rumor veracity classification. We investigate the methods offered in the scientific literature for the improvement of such elements. Paper concludes with ideas for imminent investigation in social media mining for the recognition and perseverance of rumors.

Keywords: Rumor Detection, Veracity of Rumor, Stance Classification of Rumor, Rumor Resolution, Fake News and Social Media.

A Systematic literature review on load balancing algorithms of Virtual Machines in a Cloud computing environment

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Abstract: The emergence of cloud computing as computing resources evolved as a new kind of services in the area of communication and information technology from the convergence and evolution of business, technology and methodology perspectives which allows and furnish its users to access the

IT resources anywhere and anytime at low cost on pay-per-use basis. Therefore, it should be a kind of non-stop service to its users with adequate fulfillment of the demands made by the users, which are available on the cloud environments. There are many challenges to achieve it and cloud load balancing on virtual machines is one of them. The selected computing resource for the execution of a job does not give guaranty that it would persist throughout the lifecycle of the job. The resources over cloud must be handled and controlled by an appropriate mechanism by setting the priorities on the available cloud resources which are shared among its users. This paper does a systematic literature review on load balancing algorithms for one of a vital cloud resource which is the Virtual Machine over Cloud environment to address these challenges.

Analytical Study of Virtual Machine Allocation Techniques in Cloud Computing Using Machine Learning

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Abstract: Appropriate allocation of virtual machine (VM) contributes significantly in the compelling work in data centres. Virtual machine allocation is in fact distribution of collection of supporting devices known as virtual machines to the structure of tactile devices, hosts or the physical machines positioned in the datacentre. And certainly this allocation if blended with novel machine learning techniques will provide splendid results. This paper analyses the intended efficacious machine learning techniques for the foremost concern of data centres which is allocation of virtual machine to the concrete devices known as hosts or physical machines. The core purpose of this research is to explore some of the peculiar machine learning techniques for allocation of virtual machines in efficient data centre architecture.

State-of-the-Art in Automatic Rice Quality Grading System

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Abstract: Rice is regarded as main food for approximately 80% of the Southeast Asia population alone. As most countries attaining self-sufficiency in production of rice, consumer is more concerned for better quality rice. It is very cumbersome task for people to analyse the quality and grading of rice in the market. Quality inspection of rice grains is performed by human inspectors having a visual inspection manually which is neither objective in nature nor effective because many time the outcomes may not be trustworthy due to inexperienced inspectors or man-made errors. So an automatic rice quality grading system is required which can remove the shortcomings of manual quality grading process. In this paper, image processing techniques along with machine as well as computer vision are analysed to review the state-of-the art in automatic quality grading process. Various procedures and methods are considered for the review purpose to analyse the quality of rice grains on the basis of different parameters. The paper focuses on the recent research studies carried out for the development of automated rice quality grading systems using image processing, machine vision, computer vision and other techniques.

Optimization of Software Development Process by Plugin Integration with Jira – A Project Management Tool in Devops

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Abstract: Software Development models (Waterfall, Spiral, Agile, Scaled Agile Framework-SAFe etc.) has been evolved over period of time to reduce the bottleneck in software delivery. Each of these models come up with some set of principles to follow in different phases. Irrespective of those principles a lot of tools has now come up in market to ease out the various aspects of delivery like requirement tracking, task breakdown, task assignment, workload balancing, release tracking, management of tasks interdependencies etc. Multiplicity of industries are being using different tools to

reduce complexity of project/programme management. Agilecraft, Trello, Leankit, JIRA are few of the market leader project management tools in this space. This research paper talks explicitly about the optimization of software development process by enhancing the core features of Jira with the inclusion of different Plug-ins.

This integration will help the software development and operations team to work under the same platform that in turn lead up to speedy delivery of software.

Keywords: DevOps Tool , Jira, Plug-in , Project Management, Software Development

An Efficient Brute Force Attack Handling Techniques for Server Virtualization

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Abstract: Security of server in all contexts is dominating in every field of computing, while working on the servers numerous threats and attacks like cracking of passwords, knowing the root of machine, giving privilege to unauthorized users are common attacks that can harm the system and take access of servers. The most prevalent commands like Hydra and Medusa, Ncrack are there which can be used for cracking the passwords of server and unauthorized users can take the access of serverby applying these commands. In this paper we will consider brute force attack and its tools with its implementation and prevention ways or techniques to avoid these types of attacks.

Keywords: Cracking Software Tools, Brute-Force, Cracking Passwords, Password Cracking

Cluster Head Selection Technique for Improving The Network Lifetime in WSN using ANP

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Abstract: Improved network lifetime is an important criterion to evaluate the effectiveness of the Wireless Sensor Network. Clustering is one of the important methods for prolonging the network lifetime in Wireless Sensor Network (WSN). It involves grouping of sensor nodes into clusters and electing Cluster Heads (CHs) for all the clusters. CHs collect the data from respective cluster's nodes and forward the aggregated data to base station. A major challenge in WSNs is to select appropriate cluster heads. In this paper, Authors present an Analytical Network Process (ANP) based Multi criteria decision making cluster head selection method. Five different criteria viz. Initial Energy (IE), Residual Energy (RE), Energy Consumption Rate (ECR), Average Energy of Network (AEN), Distance of nodes from CH (DNCH) have been used for selecting the cluster head from the available sensor nodes.

Role Of Maintenance Practices In Indian Smes: A Literature Review

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Abstract: Rapid globalization has led to a distinctively high level of competition between the assembling associations which has led to Small and Medium- Enterprises (SMEs) in manufacturing industry business to develop high dependability, accessibility and viability in their frameworks. This paper uncovers the basic issues of support work, ranging from the maintenance techniques, structure and execution of best practices to different variables impacting the use of maintenance practices. Implementation of maintenance practices in Indian manufacturing SMEs have turned out to be gainful in building the competitive image and better business execution. The manufacturing SMEs in India must acknowledge overall improvement in product quality through the execution of maintenance practices and should continue practicing the same. This article presents the combined observations of extensive research data available in this field and exhibits a diagram of different maintenance practices followed by manufacturing SMEs globally. It additionally features different methodologies recommended by analysts and experts in maintenance practices. This review intends to highlight the vital issues related to the maintenance practices being used by the SMEs in India. An attempt has been made to feature suitable empowering influences and achievement factors for the consideration and implementation of maintenance practices. In order to cover all relevant aspects of maintenance in SMEs, research data available on maintenance practices and manufacturing performance enhancement

was analyzed. A conceptualization model has also been developed to provide a better understanding of how manufacturing performance and maintenance practices are related to each other.

A Survey: Predictive Maintenance Modeling using Machine Learning Techniques

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Abstract: This is the survey paper which includes abstract of multiple references for better understanding of the topic. This paper includes brief overview about predictive maintenance and some of its application were its used as well as older research is also taken into account which discuss various methodology for Predictive Maintenance using Multiple Classifier Approach by Machine Learning. Predictive Maintenance is introduced into various Industries and sectors. It helps to predict the condition of equipment of machine which are already in use this tells whether the maintenance is required or not. This technique ensures that cost saving has done, as compare to regular maintenance where unnecessary replacements have been done without proper utilization of resources. The main advantage of this Technique is that it can allow timely and convenient scheduling of corrective maintenance and can prevent unexpected failures. If in advance we know which that part needs maintenance we can plan and work accordingly. This is continuous and iterative process the model or algorithm continue to evolve as it used.

A Survey: XSS Attack On Web Applications

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Abstract: These days the web applications are profoundly valuable and amazing for utilization in many fields, for example, fund, web-based business, human resource, etc so it must be all around verified. Applications may be susceptible, hence get abused by assailants to take the client's credentials. Cross scripting (XSS) is a significant risk to web applications as it is the fundamental and simple assault on web applications. Xss layout the platform for assaults such as Cross-Site Request Session Hijacking, Forgery ...etc. An XSS assault is an infusion assault in which vindictive content is infused into the site by the assaulter in the user-side in the client's program or on the server-side in the database. The malicious code is basically a JavaScript code and is performed on an input field in web applications. Kinds of XSS assaults are i.e. nonpersistent (or reflected) XSS, persistent (or stored) XSS, and DOM-Based vulnerabilities. The main cause of Cross-site scripting (XSS) weakness is failing to sanitize user inputs implanted in web pages. Despite adopting secure coding techniques and using vulnerability detection tools XSS remains in many web applications because the method is quite complex, improper implementation of methods, lack of knowledge of vulnerabilities. In this paper, we have surveyed on XSS attack, causes, and approaches for the prevention of stored based XSS and DOM based XSS.

A Comprehensive Review of Virtual Machine Migration Techniques in Cloud Computing

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Abstract: As cloud users grow exponentially, virtualization of the cloud data center (CDC) is accomplished by running simultaneous virtual machines (VM) on one cloud server in parallel processing. The growing demand for resources such as communication, storage, and computing can be successfully met by using dynamic virtual machine migration. For single or multiple VM migrations, most resource management techniques are used to maximize the performance and efficiency of the cloud data center. The Qos (service quality) declines proportionally with fast increase in cloud users and associated workload. The powerful live VM migration strategy can only be used to deliver better computing facilities, manage large numbers of cloud users and reduce time and energy on cloud data center. Modern cloud computing system depends primarily on live VM migration. This paper analyzes with their advantages and disadvantages all the latest live VM migration techniques. Their future range research and implementation has been briefly mentioned. Comparisons have been made between pre-copy and post-copy VM Migration techniques through simulation corresponding to CPU uses, memory

and network as parameters. This paper reviews various virtual machine migration schemes while, through a comprehensive analysis of existing schemes, examining the critical aspects of virtual machine migration schemes. Existing systems are explored with key goals. In the VM migration domain, some open research issues are also mentioned.

Agricultural Crops Disease Identification and Classification through Leaf Images using Machine Learning and Deep Learning Technique: A Review

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Abstract: With the rapid growth of population agricultural food production is now a major aspect. Today major crops are suffering from various types of diseases. The diseases in crops are in the different parts like roots, leaves, and stem; but leaves are the most common part for detecting the diseases. Due to different sizes, shape, and colors of leaves, it is a major challenging task to identify and classify diseases. The researcher's main focus is to develop such a technique which can identify disease in minimum time and more accurate. Machine learning and Computer Vision technologies have a major contribution for developing such techniques in this domain. This paper mainly summarizes the different research aspects and their pros and cons. It also discusses the different research scenarios for disease detection and classification in different crops. The performance of the different techniques are analyzed across the different scenarios and crops category. This paper also highlights some important points that should be taken as a consideration in future research work.

A Survey: Optimization Algorithms In Deep Learning

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Abstract: Intelligent Systems or Smart Systems plays an important role in our day to day life. Deep learning (DL) is portray day by day a key role in our lives. It makes our work easier and efficient. It has already made a colossal impression in different areas, like cancer treatment diagnosis, in the quality of inventing new antibiotic, self-driving cars, foretelling of precognition and speech recognition. The meticulous domestic characteristics remover used in conventional knowledge, classification, and pattern recognition systems are not adaptable for massive-sized data sets. In many situations, confide in on the problem complication, DL can also beat the shortcomings of prior trivial networks that hindered productive training and thinking of hierarchical portrayal of multi-dimensional training data. A lot of parts of units comprised with enhanced algorithm and architecture used by DNN. The current survey retrospect's a few optimization methods to boost the perfection of the training and to decrease time of training. We leave no stone unturn into the math back of training algorithms used in current deep networks. We define current shortcomings, enhancements, and implementations. The survey also canvas distant types of planning like intricacy networks, deep learning networks, frequent neural networks, increase learning areas & patterns variation auto encoders that aims to learn depiction for a set of data, typically for dimensionality contraction, by practicing the network to avoid signal "noise'' and others.

Different Reconfiguration Mechanisms and Applications in Planar Antennas: A Review

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Abstract: There has been an increasing demand to design reconfigurable antennas during the last few decades. Based on its ability to radiate frequency, radiation pattern and polarization, a reconfigurable antenna is able to perform multiple functions. This paper briefly discusses the challenges faced in the design of these antennas. In the first part of the paper, various types of reconfigurable antennas are described that are characterized on the basis of reconfiguration mechanisms used and the parameter to

be reconfigured. The design aspects of reconfigurable antennas along with the components involved in designing are illustrated with advantages and shortcomings in the next part. Some of the applications of these antennas are also explained in the latter part.

Amyotrophic Lateral Sclerosis EEG Classification Using Deep Neural Network And TLBO

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Abstract: The prediction and detection of amyotrophic lateral sclerosis (ALS) diseases are a challenging task for the brain-computer interface. The discovery and classification of amyotrophic lateral sclerosis diseases used various neural network models. The limitation of the neural network deals with feature extraction and vector conversion of ALS data. The extraction of features of ALS diseases is very complex due to the recorded signal of the human brain. The recoded signal consists of the actual signal and other brain behaviours of a signal treat as noise. The noise recorded signal degraded the performance of the brain-computer interface. For the betterment of the brain-computer interface, I am using feature selection and reduction process with the neural network model. This paper proposed the deep learning-based classification algorithms for the prediction of ALS disease. The deep learning algorithm is a variant of a multilayer neural network for the extraction of features used discrete wavelet transform function. The discrete wavelet transform function decomposed the electroencephalogram signal in different sub-bands for the processing. The represent bands into varied frequency range. The proposed algorithms are simulated in MATLAB software and used the standard dataset of ALS diseases for the analysis of performance. The proposed algorithm compares with Bayesian-based neural network and ensemble-based machine learning classifiers for ALS disease detection. The performance of the proposed algorithms improved the efficiency of the brain-computer interface system.

Comparison and Analysis of Existing Microstrip Patch Antenna's with Fractal Geometry

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Abstract: Antenna is a salient a part of any wireless system as it meta morphs the digital alerts (propagating inside the RF Trans receiver) into Electromagnetic Waves (Propagating within the free area) efficiently with minimum loss. Antennas need to be categorised with a purpose to apprehend physical shape and capability extra virtually. The paper demonstrates the contrast and analytical have a look at of current MPA with fractal geometry.

A Review of Ultra Wideband Antennas with Band Notched Characteristics

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Abstract: The rapid growth has been observed over the last decades in the field of Ultra-wideband technologies. Due to the large bandwidth and less power consumption UWB system provides an eccentric solution for wireless communication of short range in both reception and transmission. The printed monopole antenna has been preferred for implementing UWB technology due to its distinct features such as ease of fabrication, light weight, low cost, compatibility with other systems etc. Basic requirement for designing these antennas is to avoid the interference by applying the notch band characteristic using different techniques. These techniques are continuously upgraded to improve the performance of the antenna designed under UWB technology with band notch characteristics. In this manuscript, an extensive literature review has been studied and presented on UWB antenna with band rejection characteristics proposed by distinct researchers in the last decade. In the reviewed literature,

the existing UWB antennas has been characterized according to notch bands and classified into various categories such as single, dual and triple band notch characteristics. Further, the different techniques applied by the researchers are also explained in detail in the sub-sections. Moreover, the design of different types of UWB antennas has also been discussed in this paper, which may be helpful for the future research work.

Keywords: UWB, Band notch, monopole antenna, wideband, X-Band, WLAN, Wi-MAX

A review on automatic detection of kidney abnormalities in ultrasound images

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Abstract: In these days people are suffering from various diseases. Kidney diseases are one of the major diseases amongst them which are increasing day by day like formation of cysts and stones, infection, tumour, change in kidney position and appearance etc. We cannot ignore kidney related problems because kidney malfunctioning can put life in risk. Hence, to prevent such kind of kidney abnormalities in patients, early detection and prevention is required. This paper presents a review on the detection and recognition of kidney abnormalities. The information can be useful to detect and locate the kidney diseases in the earlier stages to perform the surgical operation to cure them successfully. So, it has a recurring application domain that includes computer aided diagnosis system which helps to detect kidney abnormalities and provide a diagnosis of potential disease. Moreover B-mode ultrasound image has many issues like low contrast, speckle noise, gaussian noise, and other artefacts. So, there is a big need of superior image quality to extract related features. To overcome this challenge, appropriate image processing techniques as pre-processing and classification techniques have been described. The research work presents the overview of the various techniques for the detection and recognition of kidney abnormalities. Moreover, the objectives of these techniques and their performance are explained.

Keywords: Kidney abnormalities, ANN, SVM, KNN, Intensity threshold variation, Texture classification.

A Review on DDOS Attack, TCP Flood Attack in Cloud Environment

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ABSTRACT: Pattern of exploitation distributed computing inside the field of information Technology to influence giving climbable and flexible offices to the buyers according to request is rising as of late. Distributed computing bargains benefits in 3 levels alluded to as framework, stage and bundle to influence the solicitations of type of clients. The direct cloud attributes encase with multi abidance, area and gadget autonomy, versatility, asset pooling and estimated administration. since the utilization of proposals administration will expand the a great deal of there's security worry because of the a ton of assortment of IT abilities gave as an assistance in cloud, the a ton of the shot in security is concern. From the varying assaults which will influence the cloud setting, TCP Flood, DDoS assaults will reason a huge break in security. For adapting to DDOS assaults there territory unit various procedures and ways that region unit upheld related state of genuine which will be extra arranged as impedance, discovery and response that is once impacts. a ton of precisely this leads from maintaining a strategic distance from predominance of DDOS, worthy answers for watch once it happened and right procedure to deal with this disavowal of administration assaults while not acquiring framework administrations unrealizable by client.

Comparison of AODV and DSR in MANET's

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Abstract: MANET acronym for Mobile Ad-hoc Network is a wireless network that is it operates without any physical fixed infrastructure and does not need any centralized access point. Mobile network is wireless in nature that is any node can be part of this network. Different routing protocols exist in a network like reactive, proactive and hybrid. They may be better in one network while nastiest

in the other. In this paper we have made an effort for the comparison of the performance of AODV (Ad-hoc On Demand Distance Vector) and DSR (Dynamic source routing) on simulation tool like NS-2 on the basis of various parameters like packet delivery ratio, Delay and average throughput.

ENHANCING QoS PARAMETRS OF TCP NEW RENO USING ABRA TECHNIQUE

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Abstract: In a scenario like today, Transmission Control Protocol (TCP) is the most used Internet protocol. Actually, TCP has various advantages over other protocols like reliability, connection orientation; provide flow control and congestion control mechanisms, etc. As compared to wired networks, TCP provides the various characteristics in wireless networks. The main problem faced by any network is the congestion that arises due to overloading of packets. But TCP provides many features for mobilizing the congestion. TCP has multiple variants; we have discussed some of these variants like Reno, New Reno, SACK, FACK, Asym and an enhanced NewReno. Enhanced NewReno is created by applied an ABRA technique. Three simulation environments are provided to check that performance of Enhanced NewReno certain situations. In every situation, number of nodes are different. This comparison is based on the different parameters that are Average Throughput, number of packet sent, number of dropped packets, etc.

Comparitive study of various Honeypot tools on the basis of their classification & features

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Abstract: According to my opinion honeypots are proved to be a gear system to our network security. During the past few years, this technology still acts as a shield to protect our systems. According to the need and the purpose for securing data from the foreign users many organizations use this technology. As many tools are open-source and freely available it becomes much cheaper and economical for the organizations to secure the data. This paper gives an introduction about the honeypots, their classification based on purpose and interaction and also compares them on various aspects. These aspects will clearly explain the pros and the cons of these honeypots. This paper may be helpful for readers to secure their resources from intruders by using the freely available honeypots tools as we provide detailed study of various network security tools.

Consumer Retention Policies Followed by Telecom Companies- A Post Jio Scenario

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ABSTRACT: In present times, there is a competition in every field or every sector. As a result, it is essential for the organization to maintain its good brand image. In respect to this, the organization always tries to attract or retain the customer towards their brand and services by increasing their selling activities which make a direct or indirect impact on their growth and expansion in a competitive market. While dealing in a global market, there are various factors such as internal factor or external factor highly affect the operational activities that are adopted by the telecommunication companies. To make focus on internal factors; it includes the employer's policies, procedures, rules, regulations, and an organizational culture that is the impact on the organizational operation activity inside the working lace. On the other hand, an external factor includes technological factors, social factors, political factors, legal factors and so on. In respect to this, the customer is an important factor that highly affects

the growth of any organization. Customer is defined as the king of the market and also known as the Black hole because it is not an easy task to understand the need and demand of the customer. In telecommunication sector, there are various service providers such as Airtel, Vodafon-Idea, BSNL, Jio available in the market that are using various policies to retain their customers.

Keywords: Telecom, Customer Retention, Competition, Policies.

Comparison of Mitigation of Voltage Sags Using Second Topology of DVR with PWM Controller

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ABSTRCAT: In the present scenario power quality is a significant era in power system. Due to maximum use of industrial devices which are highly sensitive to power quality that's by it become important concern. There are many power quality issues but voltage dip is one of concern about power problem because it is caused by inductive load like industrial induction motor. Customized power devices are used to compensate these issues. One of the customized power device which is used nearby customer side i.e. DVR (Dynamic Voltage Restorer). This is considered as one of most significant and effective customized power device. This paper compare two topologies of DVR to compensate voltage dip caused by 3 Phase induction motor load using DVR with controller pulse width modulation (PWM). Simulink model is analyzed to prove the objective of proposed topology to compensate voltage sag.

Keywords DVR, Power quality, Voltage dip, PWM, custom power device

Energy Efficient Diagonal based Clustering protocol in Wireless Sensor Network

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Abstract: In Wireless Sensor network (WSN), the sensor nodes have short life span due to its limited power source (i.e. battery). So its consumption needs to be optimized to increase the life span of WSN. We have developed and implemented a competent algorithm for cluster head selection and efficient transmission through hop by hop in WSN. In our proposed work, we have divided the area diagonally into two zones. The distance between sensor node and base station (BS) or transmission of data from SN to BS is decided by the zone in which node exists. In cluster based WSN, information gathered from every SN is sent to their respective coordinator or CH of every cluster. The simulation results were compared with state of the art algorithms depicting longer stability period, less dead nodes per round, larger average energy and extended lifetime.

Path Stability Evaluation and Controlled Broadcast Provision with A-AOMDV-CSE

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Abstract: Wireless network is most emerging area and progressing day by day. These days accessibility of large number of handheld devices has made the use of wireless technology possible for making communication easier. Mobile Adhoc Networks (MANETs) are the essential subpart of wireless technology which don't use fixed entity or stand alone for the purpose of long distance communication. Every mobile node play the role of a router in forwarding the data packets as well as control. Due to the dynamic nature of mobile nodes, the path breaks are frequently happen and this is a becoming the major issue of MANET. During movement of mobile nodes, energy consumption is very high and make the routing process difficult so that connection lost in between. Swarm intelligence is the collective behavior of decentralized and self organized system and Ant Colony Optimization (ACO) is a specific branch of Swarm intelligence which can be used to solve optimization problems like routing. In this paper, a new multipath routing algorithm is devised with the help of ACO and is incorporated in the environment of Ad hoc on Demand Multipath Distance Vector (AOMDV) routing protocol. The new algorithm is designed by considering the features like path stability and regulating the intermediate nodes for the transfer or broadcasting of the packets. The new algorithm is compared with other prominent routing algorithms like ADSR, AOMDV, TORA and DSDV. This algorithm demonstrate the better performance in comparison with all the other algorithms.

Review of Machine Learning Herbal Plant Recognition System

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Abstract: Since the ancient times herbal plants are being used for health wellness. But due to modern life style and dependences on allopathic medicine, the majority of the population is unaware about the usages and faced difficulty to identify the herbal plant. These plants are widely used in the area of research where recognition of useful/beneficial plants located in nearby locality becomes necessity of people, so they can take advantage in their daily life to cure diseases. It is apparent that there in need of machine which can automatically recognize the herbal plant. Such machines need to be training for plant recognition. Several physical features like roots, stem, leaf pattern, color, shape of leaf, number of petals are used to recognize and identify plants. Most prominent organ is the leaf shape as it is available throughout the year. Therefore, researchers considered leaf as an important part to recognized plant easily and accurately. In this paper main focus on plant recognition through leaf features using machine learning concepts so to achieve the desired goal on time and in specific conditions.
Keywords: leaf recognition, machine learning, deep learning, herbal plants.

Review On Optimal Mathematical Workload Allocation Models In Energy Consumption Using Fog-Cloud Networks

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Abstract: This paper provides information regarding different approaches in terms of energy consumption and delay in transmission which helps in finding out the optimized solution over fog-cloud networks. As we are very much familiar about the concept of cloud and fog computing which holds huge amount of data via different routing protocol and many other sources. Also, there is increase in need of localized services of mobile users. For such cases, we have insufficient in cloud resources which motivates the access of fog based computing these days. It provides the resources locally to the users which pre-stores data used in cloud and then distributes to the end users with fast-rate. Generally, routing of data consumes lots of energy or power because it follows the concept of packet forwarding through various intermediate networking nodes in a systematic manner. There are several factors and metrics which helps in optimizing power consumption for routing activity as provided minimum of the power and delay. The paper includes introduction of basic concept of minimization of energy consumption and margin in fog- cloud networks and discuss about some more optimized techniques to simplify the results. Also, we developed a problem based on workload allocation which suggests the best way to allocate workload in between the fog-cloud networks by considering minimum energy consumption with the specific constrained service delay. For better simulation, the mentioned problem can be divided in to three sub problems relative to subsystems. Each sub problem can be solved individually by considering some networking constraints and after that we combine three subsystems and get the minimized results in terms of energy consumption and delay in transmission. We use primal problem using approximation method in this case. Finally, we propose some more modified techniques by considering previous simulations and numerical results so that we can get more accuracy in results. This helps in saving of communication bandwidth, improvement in performance of fog and cloud computing.
Keywords: Fog-Cloud networks, energy consumption, workload distribution.

Security Attacks In MANET – A Comprehensive Study

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Abstract: MANET becomes an important field now a days due to its applicability and adaptability in various applications. With time, as the trend of using portable as well as mobile devices has increased,

so there is increase in requirements of this type of networks that allow users to easily establish communication. Actually users, now a days, do not want to be always attached with any fixed i.e. wired network. This all lead to development of mobile devices and their network types. Large number of users came into existence with these requirements. MANET was connsidered as best option to resolve such requirement of user. As this count increased in network with participation of mobile nodes, the probability of having existence of fake or malicious nodes in this network will also increase. This malicious node, once becoming part of network, starts disturbing the whole communication system of adhoc network. Basically, this communication network was called as Adhoc network because it may be generated at moment when actually it is required by nodes, especially those need to have communication among each other. Due to ease of establishing network, nodes can easily become part of such network but sometimes malicious nodes take advantage of this facility and starts controlling nodes available in that network or starts receiving information packets after pretending themselves as authenticated node. By doing so, any type of attack can be applied in network. The way of attack is implemented by attacker defines the nature and attack type.

Keywords: MANET, Security attacks, Routing Protocols, Performance metrics

Automatic Audio Based Emotion Recognition System: Scope And Challenges

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Abstract: Emotion is an integral part of human behaviour and inherited property in all mode of communication. We, human is well trained thought your experience reading recognition of various emotions which make us more sensible and understandable. But in case of machine, however, it can easily understand content based information such as information in text, audio or video but still far behind to access the depth behind the content. It is need of the era that machine should also be trained to understand emotions correctly for better understanding and to avoid any miscommunication. Present study comes into domain of emotion recognition from audio conversation. Moreover, Audio emotion analysis has many applications in various sectors like healthcare, banking, defence and IT. On the other part, text emotions are easy to decode as there is no role of factors like tone and pitch, but in case of audio emotion analysis both the factors need attention for better accuracy. Also there are several factors like noise, disturbance, and various pauses in communication which results in degrading the accuracy. It is a challenging task to make machine to understand the emotion of the respondents.
Keywords: Emotion recognition, Speech, Speech Emotion Recognition, Punjabi, Deep Learning, Machine Learning, Challenges.

Hybrid Encryption Algorithm to Detect Clone Node Attack in Wireless Sensor Network

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Abstract: Wireless sensor network (WSN) is the collection of sensor nodes which are distributed in a specific environment. WSN is resource-controlled network which is vulnerable to physical attacks i.e. clone node attack. An attacker acquires information from captured node and then creates the cloned node in the WSN. The main purpose of the cloned nodes is to control the entire network and increase the invasion in the sensor network. When communicating from legitimate node to other node, the message is not secure, so an attacker can modify it. Current asymmetric encryption methods and symmetric encryption methods can provide a level of security, but there are some limitations in it. The hybrid encryption method combining the asymmetric and symmetric methods which will offers high security with minimal key management. We have proposed a new hybrid secure encryption method in this paper which combines the asymmetric and symmetric cryptography method. The proposed efficient algorithm to protect communication from clone node attacks in wireless sensor network. The hybrid algorithm uses advanced cryptographic standards AES, BSDN and Dual RSA encryption techniques and MD5 hash functions. In this algorithm, message is divided into three parts and BSDN, AES and Dual RSA encryption are parallel implemented to the sub-message. The proposed algorithm

is analyzed based on parameters such as encryption, decryption and execution time. The result shows that proposed encryption algorithm works better in terms of encryption and decryption time.

Keyword: Wireless Sensor Network, Clone Node Attack, Encryption, decryption

Comparison of Mitigation of Voltage Sags Using Second Topology of DVR with PWM Controller

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ABSTRCAT: In the present scenario power quality is a significant era in power system. Due to maximum use of industrial devices which are highly sensitive to power quality that's by it become important concern. There are many power quality issues but voltage dip is one of concern about power problem because it is caused by inductive load like industrial induction motor. Customized power devices are used to compensate these issues. One of the customized power device which is used nearby customer side i.e. DVR (Dynamic Voltage Restorer). This is considered as one of most significant and effective customized power device. This paper compare two topologies of DVR to compensate voltage dip caused by 3 Phase induction motor load using DVR with controller pulse width modulation (PWM). Simulink model is analyzed to prove the objective of proposed topology to compensate voltage sag.

Keywords: DVR, Power quality, Voltage dip, PWM, custom power device

Neuro Linguistic Programming: A Novel Approach to Sentiment Analysis

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Abstract - This Paper lights on Neuro-Linguistic Programming (NLP), which is used to impact the belief system of the human mind. NLP is a novel approach to sentiment analysis (SA) by which people knows their sentiments and platform to train the human mind. It includes various neuro-linguistic techniques with the implementation of sentiments and emotions. The research aims to provide awareness to people about the changing behavior of their minds. It tells how NLP works with various sentiments and provides a significant change in behavioral patterns. There are many social and commercial areas where NLP makes its standards as compared to various other sentiment techniques.

Keywords: Effective communication,Emotional Intelligence, Neuro-Linguistic Programming (NLP), Sentiment Analysis, Visual-Kinesthetic disassociation.

Assessment & Prediction of Software Reliability: ANN Approach

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Abstract: Software reliability means operational reliability. If we assume that hardware & input values have no error, then the probability that a software system will fulfills its assigned task in a certain environment for predefined number of input case is known as software reliability. There are many approaches for checking the reliability of software, such as object oriented approach, regression testing approach, load testing, stress testing, black box testing, white box testing and many other methods. From several years software researchers have proposed many methods to assess the software reliability, but none of the methods is fit for assessing the reliability in all cases. Some methods are good for assessing the reliability in one case but are worst in other case. In this paper we will describe the artificial neural network based approach to assess the reliability of software. The time allotted to testing team is very less in comparison to time given to coding team which further deteriorates the reliability of software. We will use simulation criteria and queuing modeling in this paper.

Keywords: Software Reliability, software testing process life cycle, Debugging, Bug Correction, and Queue management discipline.

Solving Knapsack Problem with Genetic Algorithm Approach

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Abstract: The knapsack problem is preferred in analyzing area of stochastic & combinational extension with the intention of choosing objects into knapsack to avail maximum capacity while not increasing knapsack's stowage. The main focus of this paper describes problem solving approach using genetic algorithm (GA) for the 0-1 knapsack problem. The experiments started with some initial value of Knapsack variables remain continue until getting the best value. This paper contains two sections: The first section contains concise description of the basic idea of GAs and the definition of Knapsack Problem. Second section has implementation of 0-1 Knapsack Problem using GAs.
Keywords: Genetic Algorithm, Knapsack Problem, population, Optimization, GA operators, Dynamic Programming.

Feature Space Discriminatively Trained Punjabi Children Speech Recognition System Using Kaldi Toolkit

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Abstract: Despite significant progress has been made in building of ASR system for various adult speech, whereas the children ASR system is still in infant stage for Indian languages. To build Punjabi children speech recognition is one such challenge because of unavailability of zero-speech corpus. In this paper, efforts have been made to build small vocabulary Punjabi continuous children speech corpus. In explored system, four variations of bMMI discriminative techniques have been perform on two context models: Dependent and Independent. Experiment result have shown that system attains Relative Improvement (RI) of 22-26% on fbMMI and fMMI acoustic model as compared to other approaches. Various combination of parameter has been implemented with variation in boosted parameter and iteration values to obtain optimal value of bMMI and fbMMI acoustic models.

Literature Review on Security Issues and limitations in Biometric Applications

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Abstract: The first and most important link in the security is to restrict access to system and the data resources to authenticated users only. Biometric identification is the term that matches the digital image of a part of a body with the previously saved image in the system. The benefit of using this to confirm the authenticated user over using passwords, biometric comprise of fingerprints, face recognition voice patterns retina scan, the authentication of a user is the most crucial part to the protection of any information system. However, it is revealed by the recent research that the biometric technology can be defeated with the cheap materials. People are encouraged to use this technology to improve their network security and this shows a challenge at this time, biometrics are not secreting but there may be risk of being copied, forged and captured by the fake users. In this paper we describe the biometric authentication vulnerability to various attack is analyzed and efforts to defeat the spoofing attack, and the threats that can be confront by biometric identification. It is becoming increasingly clear that the usage of this technique is stymied by less understanding that how biometric pattern should recognize efficient, how to know that sensed data is not fraudulent. This paper represents an overview of the weakness of the biometric identification, the attacks that can be encountered by biometric system.

An Enhanced DDoS TCP Flood Attack Defence System in a Cloud Computing

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ABSTRACT: Network firewalls act as a result of the primary line of defence towards undesirable and malicious traffic targeting net servers. Predicting the overall firewall overall performance is crucial to community safety engineers and designers in assessing the effectiveness and resiliency of community firewalls con to Distributed Denial-of-Services (allotted Denial of carrier) attacks as those sometimes discharged via today Botnets. Distributed Denial-of-Services attack (DDoS) could be a primary hazard for cloud surroundings. ancient protective procedures can't be merely applied in cloud protection as a result of their implausibly low potency, vast storage, to call some. A distributed Denial-of-Services

(DDoS) attack is that the second most accepted law-breaking attacks once facts larceny. DDoS communications protocol flood attacks will exhaust the cloud's sources, eat most of its information measure, and damage an entire cloud task inside a fast amount of your time. The timely detection and interference of such attacks in cloud tasks ar consequently necessary. The planned device offers a approach to securing the machine by victimisation real time packet observance and saved facts by victimisation classifying the incoming packets and you create a choice based at the classification effects. For the length of the detection section, the machine identifies Associate in Nursingd determines whether or not a packet is traditional or originates from an offender. At some stage within the interference section, packets, that ar classified as malicious, are denied to access the cloud service and also the provide science is also blacklisted. The virtualization for cloud, packet instrument Wireshark and Support Vector Machine (SVM) is employed to place operative the planned system. The performance of the planned system is compared the utilization of the distinct current systems with differing types of sophistication and packet filtering and learning ways like OSSEC. the results show that planned machine yields the fantabulous performance with changed classification and packet filtering technique in real time with advanced potency.
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Index Terms: Cloud Computing, DDoS Attack, IP Packets, SVM, Virtualization, Wireshark, OSSEC

Semantic Segmentation using Deep Convolutional Neural Network: A Review

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Abstract: Image segmentation is the process of assigning each pixel of the image to a class label. It is a sub-field of computer vision, in which the aim is to divide an image into multiple segments. It has various applications such as automated cars, delivery drones, object recognition, security, and monitoring, etc. With the advent of neural networks, deep convolutional neural networks (DCNNs) provide benchmarking results in the problems related to computer vision. Manifold DCNNs have been proposed for semantic segmentation such as UNet, DeepUNet, ResUNet, DenseNet, RefineNet, etc. The general procedure is common for all the models. It has three phases - pre-processing, processing and output generation. The outputs of the processing phase are the masked image and segmented image. In this paper, a systematic critique of the existing DCNNs for semantic segmentation has been manifested. The datasets and the architectures of the existing models have also been discussed in this paper with illustrations.
Keywords: Semantic Segmentation, DCNNs, Deep Learning, Computer Vision, Autoencoder, Deep Convolutional Neural Network.

Secure Cloud Storage Architecture for Digital Medical Record in Cloud Environment using Blockchain

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ABSTRACT: Medicinal services and genomics are the absolute most significant sorts of information for cross-organization prescient displaying that appraisals understanding results by dissecting watched information and producing logical proof utilizing information from different establishments. Decentralized protection safeguarding prescient displaying empowers numerous establishments to become familiar with an increasingly generalizable model on medicinal services or genomic information by sharing the halfway prepared models rather than patient level information, while dodging dangers, for example, single purpose of control. Restorative consideration has turned out to be one of the most crucial pieces of human lives, prompting a sensational increment in therapeutic huge information. To streamline the conclusion and treatment process, human services experts are presently receiving Internet of Things (IoT) - based wearable innovation. In any case, these advances likewise posture grave protection dangers and security worries about the information move and the logging of information exchanges. These security and protection issues of medicinal information could result from a postponement in treatment advance, notwithstanding imperilling the patient's life. We propose the utilization of a Blockchain into give secure administration and investigation of human services enormous information. Be that as it may, square chains are computationally costly, request high data transmission and extra computational power, and are in this manner not totally appropriate for most asset obliged IoT gadgets implied for shrewd urban communities. In this work, we attempt to determine the previously mentioned issues of utilizing Blockchain with Healthcare Data. In this way, we propose a novel system of Blockchain models appropriate for Healthcare continuous information that depend on their conveyed nature and other extra protection and security properties of the system

and distributed storage. First information will be characterized utilizing information grouping. This arranged information will be sent to Blockchain for extra protection and security properties. The arrangements given here make application information and exchanges increasingly secure and unknown over a Blockchain-based system.

Keywords: Medical Big Data, Cloud Computing, Data Security, Cryptography, Blockchain, Internet of Things, Data Classification

Blockchain applications, opportunities, challenges and risks: A survey

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Abstract: Managing the increasing number of online transactions and the multitude of connected devices along with maintaining network security is of great concern. In recent times, the go to solution is mainly based on setting up a cloud based infrastructure that requires high end hardware assets like servers, broadband networks, database storage etc. There are a number of things that we have to take care of when dealing with such technologies like high costs associated with maintaining servers, security concerns related with IoT, problems related with trust establishment etc. The blockchain technology offers lucrative features for dealing with the above mentioned problems in a primarily decentralized environment. It has great potential to be applied in various domains. In this paper, we detail various blockchain concepts specifying its benefits, constraints, challenges associated with it and the various domains where it can be applied. We'll also correlate different blockchain based ecosystems and the associated security mechanisms along with the notion of merging this with our existing security systems.

Keywords: Blockchain, distributed ledger, smart contracts, consensus

An Optimized Approach for Underwater Image Dehazing and Colour Correction

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Abstract: Underwater image processing is essential to meet sustainable development goals. Underwater images are susceptible to colour loss, blurriness and are hazy in nature due to presence of suspended particles. Backscattering leads to haze content in image whereas absorption causes colour distortion. Due to scattering, absorption effects and varying wavelength of different colours, there is a problem of poor visibility, non-uniform illumination and colour fading. That's why, for real time applications, underwater images demand high level colour correction and dehazing to ensure feature extraction, visibility enhancement, edge contrast improvement and preservation of image characteristics. Requirement is to design suitable underwater image processing technique that adapts according to perceived environment with different noise levels and non-uniform illumination. Algorithm should be efficient and possess higher functionality to enhance real-world ocean environment images.
Keywords: Real-world Underwater images, Conventional Techniques, Artificial Intelligence Techniques, Illumination, Backscattering, Image enhancement, Dehazing, Colour Correction

PRABHAVI-UPYOG: Cost Effective Car Parking Solution.

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Abstract: The paper focuses on the implementation of an optimized, cost effective parking solution for smart cities where car will be parked and guided on place or a block where it best suits and the parking area is fully utilized with minimum quanta of fragmentation or left over space. This paper includes utilizing algorithm of operating system, concept of image processing and image analysis through convolutional neural network and a portal using a framework with database connectivity. The Proper dataflow is being described from the car image acquisition and its processing a basic predictions and the allotment of car in a particular block of a parking system. This approach would be beneficial for the maximum utilization of that area also the specific usage in hospitals, malls etc would not face any

problem. The main key role is to include deep learning in the model fitting for training and testing the data set containing images of cars and there categories where they belongs. The methodology used for allotment of cars is the fitting algorithm used in operating systems and refining, modifying the algorithm according to the suitability of the dynamic car allotment in real time. The database developed will comprise which block is empty or occupied and left over space will be there for the proper guidance of cars and for the calculation shown in mathematical approach.

Performance of Internet of Things (IOT) Based Healthcare Secure Services and Its Importance: Issue and Challenges

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Abstract: The IoT has a variety of application domains, including medical assistance. The IoT revolution is redesigning modern medical care with promising technological, economic and social prospects. This article shared short advances in IoT-based healthcare technologies and reviewed cutting-edge networking architectures / platforms, industrial applications and trends in IoT-based healthcare solutions. In addition, this article has analyzed other features in addition to the security and privacy of the IoT, including security requirements, threat models and attack taxonomies from the point of view of medical care. Furthermore, this article also proposed a smart collaborative security model to minimize security risk; will di scuss different innovations, such as the widespread use of big data, artificial intelligence in the context of medical care, various IoT and e-Health policies and regulations have been addressed worldwide to determine how economies and societies can facilitate sustainable development terms and provides some avenues for future research on health care based on the IoT based on a series of open problems and challenges.
Keyword: IOT, Architecture, Software Metrics, M2M, WSN, IPB

Study and Analysis of Fingerprint and Face Recognition Systems using Meta-Heuristic Algorithms

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Abstract: This present work aims to obtain an optimized biometric fingerprint and faces recognition system using optimization algorithms. During the pre-processing stage, various image quality enhancement algorithms have been applied to fingerprint and face bio-metrics and thereafter these enhancement algorithms have been compared with the proposed algorithm. In this paper, the treatment on the bio-metrics has been implemented using two authentication systems, namely, Fingerprint Recognition System and Face Recognition System problems and algorithms. In order to enhance the biometric template security, various encryption and decryption algorithms have been compared and applied to fingerprint and face template. The results have been presented by computing the quality parameters and subsequent calculation of efficiency. This obtained efficiency of the proposed work is then compared with image quality enhancement algorithms, of the work is depicted after comparison.
KEYWORDS: PSO; BFO; GA; Face Recognition;Fingerprint Recognition; Feature Extraction; Feature Optimization;Classifier

A new Soft Computing Fractal Model for Cancer treatment with Fractal - fractional operators

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Abstract: In the current work, we represent a new soft computing cancer model with the help of Fractal Fractional operators. In this paper, we used the nonlinear system. The numerical scheme we

have applied which is a new method. This proposed methods we have applied for different Fractal Fractional operators. The existence and uniqueness conditions are also established.

Optimization in Cost of Sorting by CRCW PRAM Model

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Abstract: This paper is aimed at studying and comparing the efficiency gained by various modes of embedding parallelism in the process of enumeration sort which calculates the position of each of the input values and places them accordingly to generate an output array containing the values in sorted order. Each of the parallel algorithms are individually analysed from the perspective of time complexity and the efficiency gained by each over the sequential method. Increase in the level of parallelism leads to decrease in the time demanded in generating output, at the cost of increase in the number of processing units. Time demanded could be minimized by maximizing the number of processing elements, but optimization in the overall cost, product of number of processing elements enrolled and time taken in generating the output, could be achieved at an intermediate level. We illustrate the scenario in which the product, which illustrates the overall cost, is minimized.

Survey Paper on Gender and Emotion Classification using Facial Expression Detection

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Abstract: In day-to-day life Computer Vision is a domain in itself which deals with lots of application ahead like health care, banking, industrial, agriculture and many more in retail and security field. To gather the information about mood of any individual the main focus is on face. It is generally seen that humans depict their emotions through facial expression. At times, instead of verbal communication emotions are expressed by face.   Here, along with it emotion classification nowadays gender classification is merged. Basically 'LK method' and 'Pyramidal LK' method were used for face detection. Both gender and emotion classification are less explored through face detection using Convolutional Neural Network (CNN) but in this paper it is analyzed that both classifications can be done in a single blend using state-of-art technology i.e. Multilayer Convolutional Neural Network (M-CNN).

Enhancements in Performance of Reduced Order Modelling of Large Scale Control Systems

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Abstract: The enhancements in model order reduction techniques is occurring at very fast rate to obtain the more accurate and reduced approximation of large scale systems to easier the task to study the large scale systems. In this paper, the enhancements occurring in the field of model order reduction is studied with the help of a test example. The initially developed techniques like Balanced Truncation is studied and compared with newly developed MOR techniques like dominant pole retention, clustering approach, response matching technique. The study reveals that the developments in MOR techniques are helping in designing reduced order approximation of large scale systems with less error among the large scale and reduced order system and more study is required in this field to make the study of large scale systems more accurate.

Comparative Analysis on Prediction of Software Effort Estimation Using Machine Learning Techniques

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Abstract: Effort Estimation (EE) is a technique for finding the entire effort required to predict the accuracy of a model. It's a significant chore in software application development practice. To find

accurate estimation, numerous predictive models have developed in recent times. The estimate prepared during the early stage of a model expansion is inaccurate since requirements at that time are not very clear, but as the model progresses, the accuracy of the estimation increases. Therefore, accurate estimation is essential to choose for each software application model development. Here, Linear Regression (LR), Multi-layer perceptron (MLP), Random Forest (RF) algorithms are implemented using WEKA toolkit, and results shows that Linear Regression shows better estimation accuracy than Multilayer Perceptron and Random Forest.

Index Terms: Effort Estimation, Machine Learning Techniques, Prediction, Classification, Random Forest, Linear Regression, Multi-layer perceptron

Internet of Things Attacks and Countermeasures: Classification and State-of-the-Art

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Abstract: The Internet of Things (IoT) has great potential to change the fundamental way of interaction with technology in daily life and for ease it also observes and records user preferences that challenges privacy in another way. IoT devices are suspended to extensive usage even more than mobile phones and attain more access to private and secured data. With the growth of connected devices, mobile security is already a challenge then perspective challenges for IoT connected devices must be much greater than considered at present and can be primarily categorized into safety, security and privacy. Rigorous development of security techniques should be an essential process towards the foundation of strong IoT systems to achieve and retain user trust. The paper presents a survey and analysis on security principles, challenges and countermeasures at different layers of IoT architecture.

Index Terms: Internet of Things, IoT, IoT architecture, Security issues in IoT, Attacks in IoT.

Analysis of Prediction based Algorithm for Hand Gesture Recognition

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Abstract: Gesture recognition is a way for the computer to understand the body language of humans. Through gesture recognition, a human can communicate with machines. This is a technique that is used to identify the hand, monitoring the hand movement, analyzing the different hand gestures and find the correct gestures in the last. There are many technologies developed and discussed but no technology ensured 100% accuracy. In my survey, I found that when applying DTW (dynamic time wrapping) algorithm they achieved 75% accuracy and the LCS (Longest common subsequence) method achieved 85% accuracy in recognizing gestures.

Keywords: Human Computer Interaction, Gesture Recognition, HMM, DTW, LCS, Neural Network.

A Dynamic Fuzzy Histogram Equalization for High Dynamic Range Images by Using Multi-Scale Retinex Algorithm

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Abstract: High Dynamic Range (HDR) images are appropriate to compress as Low Dynamic Range (LDR) images to show in LDR devices. A Holo artifact, a large intensity gradient, affects the value of Low Dynamic Range image to HDR image conversion. Tone reproduction approaches, and combined tone reproduction technique and image edge protective filter are some of the techniques to exclude the Holo artifacts. LDR device users are not satisfied with the converted images displayed in the LDR devices, and this affects the device value in markets. In this paper, a Multi-Scale Retinex (MSR) based Tone Reproduction Operators (TRO) is proposed to remove the Holo artifacts present in the images

during HDR image to LDR image conversion. Before tone reproduction, the divergence of an image has improved using Brightness by Maintaining Dynamic Fuzzy Histogram Equalization (BPFHE) method. After evaluating the algorithm in MATLAB, performance is measured based on input HDR image and LDR output image feature comparisons.

Keywords: HDR, LDR, Operators, Multi-Scale Retinex, Tone quality modulation index

Enhanced Secure and Efficient Key Management Algorithm and Fuzzy with Trust management for MANETs

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Abstract: Mobile Ad-hoc Network (MANET), a network of self-configuring that ignores consuming static network infrastructure besides the centralized Base Station (BS). The prevailing method is dynamic topology also it provides limited network resources. In MANET, the energy level changes very frequently because of mobility. MANET offers rise to several security intimidations that need appropriate consideration for their organization. An Enhancing Security using Efficient Key Management Algorithm design and Fuzzy with Trust management is suggested in this paper. This method provides a mobile agent that travels over a network and collects dynamically changing fuzzy with trust values for securely transfer the data to the respective destination. Fuzzy with trust management algorithm provides an optimal path selection from a source node to a receiver set simultaneously. Trust decision is centered on fuzzy logic as well as key management algorithm which provide security for all nodes that are presented in the networks. The recommended algorithm is stimulated by consuming network stimulator 2. The planned protocol delivers improved outcomes linked with prevailing protocol over a throughput, delay, energy, overhead, Packet Delivery Ratio (PDR) and trust. A simulation outcome minimizes consumption of energy besides security improvement.

Keywords: Mobile Agents, Enhanced Secure and Efficient Key Management Algorithm, Fuzzy logic, Trust values

SINR and Fuzzy Approach based Enhanced Handoff Decision Making Algorithm

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Abstract: There has been unprecedented growth in the wireless networks and range of services provided by them in recent times, there has also been continuous evolution in network technologies aimed at achieving higher speeds, security, reliability and quality of service. The arrival of 3G and 4G networks have revolutionized the wireless data and multimedia services and work is being done at rapid pace to develop the fifth generation (5G) networks to further enhance the Quality of Service. Integration of heterogeneous networks is a must in order to achieve the objective of providing the best quality of services to a mobile user without delays or disruptions. In order to achieve seamless mobility in heterogeneous networks environment, Vertical Handoff (VHO) is the key issue that needs to be addressed effectively. For a long time, the researchers have considered RSS based strategies to be most reliable and effective for VHO decisions. The authors of the paper have discussed various studies which show that SINR based strategies can offer better and more efficient VHO decisions. The paper also proposes an Enhanced Decision-Making algorithm which uses MCDM approaches for different traffic classes.

Keywords: Fuzzy, Handoff, Handoff Parameters, Handoff Phases, RSSI, SINR

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