Invited Talk 1
Modern era of Computation : Hard computing to Soft computing

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Abstract:
Computer and power of computation is expanding vary vastly. Initially the computer was evolved with the thought of computation for only numerical processing. Various application of numerical processing has been developed and explore. All these approaches of computation are considered as the hard computing. The hard computing has been used to solve the real world problems for them the deterministic model exists and outcome of the problem was certain. After that the new thought in computation has evolved with the concept of symbolic processing. It opens the doors for handling the real world's problems where no such deterministic model exists and outcome of the problem is uncertain. Therefore the concept of soft computing as a technique to solve such type of problems emerged. This soft computing further explores the possibility for machine learning and one of the powerful tools for Big Data analysis. The new age of computation is related with internet of things which includes the cloud computing and Big data analysis. The new era of computation i.e. soft computing is an emerging tool for analyzing the Big data, mining of data, data science, business intelligence and knowledge empowerment.

Invited Talk 2
"Geospatial Technology for Precision Agricultural"

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Abstract:
Hyperspectral imaging (HSI) with its information richness is emerging as a reliable, non-destructive, speedy and chemically independent method for number of agricultural applications. Characteristically, HSI extends the chemical and electromagnetic properties of the materials for their detailed exploration and analysis. Moreover, the applications of HSI data are stepping behind due the failure of state-of-art digital image and pattern recognition techniques, which found not enough capable to deal with HSI data processing and analysis challenges such as atmospheric corrections, curse of dimensionality, lack of training samples, endmember extraction, spectral mixing and classification. To deal with severe challenges, this paper focuses on spectral library generation, robust algorithm designing and classification of HSI data for various agricultural applications. In experimentation, multistage standard spectral library database of various regional crops (i.e. Cotton, Bajara, Jawar, Maize, Sugarcane, Wheat etc.) is generated and used for crop health assessment using Hyperion hyperspectral image. Out of the Region of Interest (ROI), total 400 data samples are taken for health assessment, which were carefully chosen from two growth stages (i.e. healthy, diseased) of two crops. After performing the classification of these data samples using three different classifiers, the experimental outcomes shows that the Support Vector Machine (SVM) found more precise with the correct classification rate (CCR) of 94.86%, where Linear Discriminant Analysis (LDA) and Binary Encoding (BE) has CCR of 73.29% and 76.69% respectively. Further, the agricultural applications HSI can be extended for precise crop type classification, health assessment, area estimation and yield estimation etc.

Keywords: Hyperspectral Imaging, Spectral Signatures, Crop Classification, Precision Agriculture.

Invited Talk 3

Object Detection Using Deep Learning

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The ubiquitous applications like scene understanding, robotics, self-driving systems and video surveillance triggered vast research in the domain of computer vision. Visual recognition systems which encompass image classification, localization and detection have achieved great research momentum. Due to major development in neural networks especially deep learning, these visual recognition systems have attained outstanding performance.

Deep Learning is getting a lot of attention these days as these algorithms are out-performing humans in Object Detection. These techniques have emerged as a powerful strategy for learning feature representations directly from data and have led to remarkable breakthroughs in the field of generic object detection. It has entered into several diverse areas like Automobile Industry for making self - Driving cars, Robotic making, disease identification, defense industries, Natural language processing, Speech Recognition and Visual Recognition etc. Advancement in Deep Learning is especially due to the improvement of Convolution Neural Network Architectures and implementation of new algorithms. Deep Learning is a class of Artificial Neural Networks that learns features from the weights obtained from neurons.

Object detection is one of the domains witnessing great success in computer vision. This work demystifies the role of deep learning techniques based on Convolutional neural network for object detection. Deep learning frameworks and services available for object detection are also enunciated. Deep learning techniques for state-of-the-art object detection systems are also assessed.

Invited Talk 4
The world scenario of Robotics and Intelligence

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Abstract:
There is a new wave of automated technology sweeping the world. Robotics and Intelligence (RaI) in the form of intelligent agents, chat bots, digital assistants and RaI-based services and apps are set to disrupt industries and eliminate risky jobs in the coming years. Intelligent or driver-less cars are also already being tested.
The anticipated future growth - and perceived weaknesses of the current generation of robots - is attracting deep-pocketed rivals, including many industries and a startups backed by advanced technologies.
Developers of the next wave aim to make the robots less expensive, more nimble and capable of performing more types of procedures, company executives and surgeons, finance advisor, legal advisor, reporter, and so on.
The implementations of these adaptive systems are also pitted to provide greater efficiency and risk mitigation, while also providing large time based advantages.
The software powering the robots that write these stories uses algorithms designed to collate data, find patterns and pull quotes from sources by sifting through reams of material, including that found online.
For example Reporter as the robot workers take no holidays, miss no deadlines and produce clean, well-researched copy for as little as seven Dollars (Rs 462) an article in the United States. On top of that, the algorithms that power these machines are designed to catch errors and learn from their mistakes.
The labs in world focuses on four major areas -- theory and algorithms, machine learning, artificial intelligence (AI), and systems and technologies for emerging RaI technology, which is the example of the role of technologies in socio-economic development.
The algorithms for RaIlearn to identify "turning points" -- the most dramatic moments in a sports game or a business transaction, and highlight them.

Invited Talk 5
Future Computing

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Abstract:
Progress in computer technology over the last four decades has been spectacular, driven by Moore's Law, although Gordon Moore expressed his vision of progress simply in terms of the number of transistors that could be manufactured economically on an integrated circuit, the means of achieving this progress was based principally on shrinking transistor dimensions, and with that came collateral gains in performance, power-efficiency and, last but not least, cost.
Modern computers are found everywhere: homes, offices, businesses, hospitals, and schools, to name a few. Today's computers are smaller, faster, and cheaper than their predecessors. Some computers are the size of a deck of cards. Hand-held Personal Data Assistants and notebook computers or "ultra-lights" make users portable and give them the opportunity to work in a variety of places. These systems provide a wide range of connectivity and access to information on local, wide, and wireless networks. This gives users more convenience and more control over their time.
Future computers promise to be even faster than today's computers and smaller than a deck of cards. Perhaps they will become the zero size or size of coins and offer "smart" or artificial intelligence features like expert intelligence, neural network pattern recognition features, or natural language capabilities. These capabilities will allow users to more conveniently interact with systems and efficiently process large amounts of information from a variety of sources: fax, e-mail, Internet, and telephone. Already evident are some evolving cutting-edge applications for computer technology: wearable computers, DNA computers, virtual reality devices, quantum computers, machine learning technology, Big Data Analysis, augmented reality, surface computing, glass computing, IoT, pervasive computing, Ambient computing, deep learning, speech processing, cortana, siri, Alexa, bixby, 5G technology, 3D printing, haptic computing, HCI, BCI, Bio-inspired computing, block chaining, Robotics and optical computers.
The future will be the development of a human-wearable chip or card that stores all personal information and can be used to manage all kinds of transactions on all computational platforms. and, database systems on wired/wireless computers are giving way to knowledge base systems on wireless mobile devices. All these mean that data storage and processing must be more efficient and secure. Security issues are now a major concern because more interactions and transactions are effected daily, as more and more people adapting computing technologies.

Invited Talk 6
Cyber Security:A Challenge Of The Era

Sagar Jambhorkar

Abstract
Now a days, every individual is connected on internet either by computer or smart phone, being on network is the need of individual for education, entertainment , banking, social purpose etc. But have we ever thought about our security on network anytime?

While keeping or preserving individuals information or data to secure from unauthorised access or restrict from other is as important as any thing. In this , we have to focus on information security in cyber space. Cyber security is required mainly in defending the information from cyber criminals. This talk mainly focus on cyber security, information security, cyber attacks and crimes and cyber law in accordance to the crime.
Keywords: cyber crime, information security, cyber law etc

Invited Talk 7
Designing 'Smart City Sound' in the 'Year of Sound - 2020'

Menino Allan S.M. Peter Tavares

'Sound' lies at the core of every human experience. It is important to define how each space (natural and built) in a 'smart city' should sound like, so as to enable holistic and content human experience for inhabitants and visitors. It is also crucial to distinguish between 'environmental noise management' (focussing on containing annoying unwanted sounds, obliging directives such as European Union's Environment Noise Directive - END 2002/49/EC and through pilot projects such as National Ambient Noise Monitoring Network - NANMN 2011 in India) and 'soundscapping' (focussing on sounds of preference, obliging ISO 12913-1/2/3) as tools of a 'smart city sound' design. Thus noise control becomes proactive as a measure to improve sound quality along with other life enhancing non-acoustical features. In this design, the complete information of environmental noise requires perception of different auditory sensations besides raw data such as SPL (Sound Pressure Levels). Our present 'dB(A) Noise maps' will shift to 'Perceived Noise maps'. Psychoaoustics characterizes the different sensations caused by the different physical stimuli in the environment as much as 'soundscapping' describes the perceptions of the acoustical environment in each context. More inter-disciplinary research will yield appropriate models to relate our physical and perceptual worlds. Optimizing a culture of aural listening and acoustical comfort through effective methods of soundscapping alongwith awareness of effects of noise and efficient noise control engineering is a good goal for International Commission of Acoustics (ICA) organized International Year of Sound in 2020.

OP-1

Robust CNN architecture for identification of students' facial expression in classroom.

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Abstract:
Education is an integral tool which helps to build responsible future generation of our country.Classroom education plays a vital role in the entire education journey. It involves active listening and participation by students. Classroom teaching helps students to have face to face interactions with their peers and teachers.Our proposed model, helps teachers to identify the facial expressions of students using a robust CNN architecture. We have done extensive experiments with CNN parameters such as Number of layers, Number of Kernels, Iterations and setting up the learning rate. This trained model determines the students' facial emotions which can be used to find out students' mental health and attention towards the content taught. Face detection and identification algorithms are used to find out the number of students in classroom.Data collected from this will help the teachers to use appropriate techniques and contents to implement for different types of students in classroom. This application of NN in education will help the teachers to shape the future of the students and the students will experience personalized learning as per individual needs to the next level.

Keywords: Convolutional Neural Network (CNN), Face Detection, Facial Emotion Recognition

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OP-2
Use of Machine Learning Techniques in IoT

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Abstract:
Internet of Things (IoT) consists of various technologies, which supports advanced services in various application domains. The idea behind is to provide interconnection of internet enabled things or devices to each other and to humans, to achieve some common goals. It is expected that IoT to be seamlessly integrated into our environment and human will be wholly solely dependent on this technology for comfort and easy life style. Many central features of the modern world, such as hospitals, organizations, cities, grids, and buildings etc. all are to be facilitated by intelligence feature of IoT. This also facilitates the machines and objects to communicate, compute and coordinate with each other. Machine Learning helps number of machines connected together to understand what the user requires from the database. Machine learning plays a key role in IoT aspect to handle the huge amount of data generated by those machines. It gives IoT and those machines a brain to think, which is called as "Embedded Intelligence". This paper will mainly focus on IoT Technology, Elements and Applications, Challenges in IOT, Machine-Learning algorithms and Machine Learning in IoT Applications.
Keywords: IoT, IoT Elements, Technology, Applications, Machine learning, Machine Learning Algorithms, Cognitive IoT, Embedded Intelligence.
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OP-3
Analytical Study of Blockchain Applications in Indian Context

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Abstract:
Blockchain is an immutable and distributed ledger. In simple terms we describe it as, a chain of blocks containing data or information in a secure and genuine way that is grouped together in a network. Each block in a blockchain network stores some information with the hash value of its previous block which helps to maintain the integrity of data publicly. This network is interconnected with different nodes which are also known as miners (who analyse a block and have alocal copy of public ledger), helps to have access for a requested block of user from anywhere. Blockchain based decentralized systems can provide interoperability, data integrity and save a lot of time, money and human resources to the problems of a low-trust country such as India, since blockchain provide decentralized approaches to the datamanagementandcreationofavalue.
This paper studies various blockchain applications in different sectors such as healthcare, education, medicine and law. The aim of this paper is to analyse the traditional methods currently used in these sectors for handling and securing data records and proposing methods which uses blockchain technology using smart contracts that can greatly benefit in terms of integrity,transparencyandenhancedsecurityoftheirdata records.
Keywords - Blockchain, miners, hash, interoperability, integrity, block, decentralization, immutable, network, security, transparency
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OP-4

Impact of Learning rate on Batch Size for Accurate Object Detection

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Abstract:
Object detection is the task of identifying objects in images and videos. In the present-day scenario, Object Detection became a very important area to be dealt with due to its vast number of applications starting from home security applications to self-driving cars. Now a days, Object detection plays a major role in defence sector, most prestigious space exploration areas and medical research applications.
Detection of objects in images and videos with high accuracies turn out to be feasible with the advent of Deep Learning methods. Deep Learning is a class of Artificial Neural Networks that learns features from the Neuron weights. Convolution Neural Network Architectures are very much useful for the Improvements in Deep Learning algorithms[1]. Numerous researches are going on towards identification of best Object detection techniques.
The accuracy of Deep Learning models [2] depends on various Hyper-Parameters such as 'Learning-rate', 'Training batch size', 'Validation batch size', 'Activation Function', 'Drop-out rate' etc. Selection of Hyper- parameters in-turn decides the optimum accuracy. Hence, finding the best values for these parameters is a challenging task. Fine-Tuning of a Hyper-Parameter value for improvement of object detection accuracy. Selection of an inappropriate Hyper-Parameter value, leads to Over-Fitting or Under-Fitting of data.
In this paper, several sizes of datasets are considered for Training and Validation purpose and the Object Detection accuracy is identified at various Learning Rates[3]. For a particular dataset size, the optimal value of Learning rate is identified at which maximum Object Detection accuracy is achieved. This process is repeated with various dataset sizes and a relationship between dataset size and learning rate is formulated.This paper mainly concentrates on the impact of 'Learning-rate' on dataset size and identifies an optimum Learning rate at which Object Detection accuracy is maximum.
Keywords: Object Detection, Deep Learning, Hyper-Parameters, Learning rate, Batch Size, Dataset Size.

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OP-5
Extraction of Social Media Sentiments by Deep Learning

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Abstract:
Social media popularity has raised the interest in the extraction of social media sentiments. It refers to the process of exploring sentiments from various social media platforms. The information on the social media is unstructured and there is a requirement to represent it in the structured form by making use of the valuable information. Extracting information from the social network is the exploration that empowers the use of such a massive amount of unstructured distributed information in a structured way. Deep learning is employed to enhance the accuracy in visualizing the structured information that is speckled over the social network. It analyzes natural language text in order to extract information about different types of entities, relationships or events. This paper attempts to review various text mining techniques which is the keystone of Natural Language Processing and deep learning to analyze social media sentiments.
Keywords: social media, natural language processing, neural network, deep leaning, sentiments

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OP-6

SLA Management in Hybrid Cloud: A Review

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Abstract:

Cloud Computing is a part of parallel and distributed computing which provides various services and resources to the customers under one umbrella. Cloud provides services like Infrastructure, Platforms, Software's in through deployments models like Public, Private, Hybrid Community as per user needs on a pay per use basis. Customers can access resources and services from pool of resources from anywhere with location independency. Cloud customer switches among different cloud providers to achieve the needed service. The Cloud Service Provider provides all the services by first establishing Service Level Agreement with the customer who promises reliability, availability and other Quality of Service (QoS) parameters to be delivered efficiently and improve performance of cloud architecture. This paper takes Hybrid Cloud as a solution to vendor lock-in problem and thereby the SLA management of Hybrid Cloud is studied to achieve better Quality of Service in cloud which would help to improve the performance of the architecture. The paper uses Cloudsim Simulator for simulation and testing of SLA and QoS parameters in hybrid cloud.

Keywords: Cloud Computing, Vendor Lock-in, QOS, SLA, Cloud Brokers, Hybrid Cloud.

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OP-7
An Overview of Techniques used for Information Extraction from Scientific Documents

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Abstract:
Scientific documents are an important source of information for researchers to carry out qualitative research [1]. These are generally available in semi-structured format like PDF. To understand and analyze scientific documents; readers are interested in particular sections of that documents. Extracting text from these sections is a vital phase of information extraction because research papers do not have a common format i.e. usually every conference or journal has its own format for writing research papers [2]. This paper presents overview of techniques used for information extraction from scientific documents.
Early work in information extraction from research papers is based on machine learning techniques like Hidden Markov models (HMM) with 92.9% accuracy [4], Support Vector Machine (SVM) with 92.9% accuracy [5] and Conditional Random Field (CRF) with 98.3% accuracy [6]. Subsequently other techniques like rule-based metadata extraction system with 90.6% accuracy [8], hybrid approach [2], and rhetorical classifier with 0.51F accuracy [10] are used to extract information. Different information extraction techniques are studied and their comparison based on approaches used, data set used, type of information extracted, and the result of overall accuracy is summarised in a table.
Various researchers extracted metadata information like title, authors, emails, abstract, keywords, and references etc from research papers/ scientific documents with high accuracy. Extraction approaches are based on traditional machine learning techniques, rule based algorithm and some newly applied techniques. Also numbers of automatic information extraction frameworks or tools are very handy to extracts information from scientific documents in PDF format.
Keywords- Information extraction, PDF, NLP, metadata
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OP-8
Data Extraction and Estimation Algorithms Applicable in generating data for river modelling

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Abstract:
It's a new era where several advance technologies are stepped-in and changed common people's life entirely. If considered Information technology, it has brought great revolution and opened multiple dimensions for the Research and Development (R&D). Specifically, today's web technologies have made tremendous information available on the fingertips. If this publically shared web-information scrapped and redefined, it could be very useful to meet future challenges. Considering flaws of web scrapping, data generated by web scrapping may not be enough sufficient. Therefore, in support to this appropriate data estimation technique also should be applied so that data completeness can be attained. Such techniques are very useful to save time and ease data generation burden on R&D team, who most commonly follows the conventional method for data generation. If data generation for a large geographical area is aimed, then the conventional method will be highly burdensome, time-consuming and even costly. Considering these factors, this research paper systematically describes the algorithm developed for web-scrapping and data estimation. Along with, it also describes the utilization of the generated data for river modelling. In-short this research paper demonstrates extract, redefine and disseminate using data extraction and estimation techniques.
Keyword: Data Extraction, Data estimation, Data generation, River engineering, River modelling

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OP-9

Overview of historical development of different usability evaluation models

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Abstract:
The interaction between user (Human) and computer was available to only few people in early 1970s. Human–computer interaction (commonly referred to as HCI) explores the design and use of computer technology, focused on the interfaces between users (humans) and computers. Human Computer Interaction became important in the late 1970s as a part of the development of the personal computer when for the first time; it was possible for many users (humans) to have their own personal computer.Nowadays, the interaction has been simplified and no specialized knowledge or experience is needed to run simple and everyday tasks. People nowadays are able to manage their personal lives, their jobs, and their health, their education through computing devices through user-friendly interfaces.
Usability came in existence in the 1980s, when due to the reducing price of computers; it was possible for many people to have their own personal computer. Almost all the users were highly trained specialists during the earlier three decades of computing. The interaction with computers for the typical user, is associated with constant dissatisfactions and following the anxieties. For most of the users then, computers were very hard to use, and often left totally unusable. Therefore, Usability became a key objective for the design of any interactive software that would be used by normal users and not only by the trained technical computer specialist. Usability and user-friendliness both were initially believed to be a property of interactive software. Software was either usable or not.The concept of usability was and is the permanent and original focus of HCI.
In this paper, an overview of the historical developments leading to the need for usability of human computer interaction (HCI) and some of the models of usability that came in to existence is presented.
Keywords: Human, HCI, Personal Computer, Usability

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OP-10
Android Malware Detection: An Overview

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Abstract:
The use of smartphones has been increased drastically in recent decade. Nearly 75% of a smartphone market has been captured by Google's Android operating system. Today's statistics reports that average person having 60 to 90 apps installed on their smartphone. Last year, the smartphone-based attacks are risen by 50% compared to 2018. Accordingly, researcher proposed many techniques for the analysis and detection of android malware. This paper presents the study of android malware detection techniques. It gives insights into the android malware, effective features, classification techniques and android malware databases. This will provide platform to the Android malware researchers toward proposing the new techniques in the area.
Keywords: Android; Android Malware; Static Analysis; Dynamic Analysis
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OP-11

Comparative Study of Mathematical Models for Traffic Signal Optimization: An Indian Perspective

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Abstract:
Congestion and breakdown phenomenon are issues that are pervasive in transportation systems, decreasing throughput and efficacy. Systems with limited resources require modelling in order to ensure optimal performance, which may be in terms of cost, data transmitted or vehicles discharged. Stochastic traffic congestion is predominant in empirical traffic systems and has reached a consensus.
A number of mathematical models based on simulation are in practice with respect to transportation systems which revolve round the concept of system state. These models are classified based on time, state and space. The primary objective of these simulation tools are traffic modelling, planning and operations of transportation systems. Irrespective of enormous data, high computing power, advanced methods for intelligent transportation, several simulators are used to solve traffic congestion problems which wastes a lot of time, energy and causes air pollution. With emphasis on optimizing traffic signals, this paper unveils the characteristics of various traffic simulators.
The study presents a systematic review of various tools focusing on constraints such as cycle length of signal, traffic claiming measures, waiting time of vehicle, variable travel time, road restriction and density (no. of vehicles) at the intersection. Various researchers have proved that traffic simulation case studies based on perception are flexible and adaptable to real-time situations. Apparently, simulation software tools have many challenges in minimizing the travel time by coordinating the vehicles movement at the intersection and identifying the congestion in order to select appropriate mitigation measures.
Keywords: Intelligent Traffic Management Systems, Traffic Simulation Software, Optimization, Heterogeneous Road Network, Algorithms, Artificial Intelligent

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OP-12

Centralized Controller Placement Problem in Large-Scale Software Defined Networking: A Different Perspective

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Abstract:
Software Defined Networking (SDN) is an embryonic paradigm shift in computer networking which changes the traditional network architecture by making the network programmable and flexible rather than been dependent on proprietary hardware devices. SDN decouples the networks control and forwarding planes to better optimize each.
The controllers centralized decision capability for routing packets indeed enhances the networks performance but gives rise to a problem known as Controller Placement Problem (CPP) i.e. the number of controllers required and the location to deploy them when network traffic upsurges. CPP is defined to be a NP-hard problem. However, there are different algorithm attempted to search the optimal solution. But, since the network traffic is stochastic in nature it is difficult to solve the CPP.
The biggest challenge in SDN is to manage the traffic based on dynamically varying network metrics like stretch, path length, control path delay and inter-controller delay. The paper proposes a fuzzy logic based approach to the CPP as it is difficult to predict traffic patterns due to its fuzzy nature. Fuzzy C Means (FCM) clustering algorithm has been applied to split the network into sub-networks wherein some network elements could be clustered in more than one sub-networks based on their membership grades. Each fuzzy cluster signifies the number of controllers required, thus classifying the CPP as a multi-objective and multi-constraint decision problem capturing traffic variations.
Keywords: fuzzy logic; membership grade; cpp; traffic patterns; control path

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OP-13

A Novel Method For Malicious Code Detection And Spam Detection

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Abstract:
The cheapest form of communication in the world is email, and its simplicity makes it unsafe to many threats. The most important threats to email is spam. Malicious spam is spam with malicious content in forms of dangerous attachments or links to phishing websites. Hence, a system that can automatically learn how to classify malicious spam is highly desirable. A novel dataset for the process of feature selection; a step for improving classification in later stage is required. Based on the design idea of SDN network, this paper analyzes the propagation model and detection method of malicious code in future network. It can provide reference for the management strategy of the switch node or the host node by future network controller.To detect vulnerabilities and malicious codes in legacy BIOS, a security detection system for legacy BIOS is designed and implemented. A dynamic and static combined Android malicious code detection model based on SVM has been proposed. In this paper proposes a method "A Novel Method for Malicious Code Detection and Spam Detection". The proposed methodology use Shape based feature extraction which tends to recognize the characters in the images and identify whether an image is Ham or Spam.

Keywords: malicious code detection, Android SVM ((Support vector machine), Malicious Code, email, malicious spam detection, educationalInstitute, feature selection

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OP-14
Critical Analysis & Approach for Security Issue in RFID Authentication System

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Abstract:
Nowadays, there are many critical security issues in RFID authentication systems; e.g., alert system, warning system in accident case, security system, etc. These may be used in critical situations like kidnapping for children, road accident cases, arising due to growing population or increase in the no. of passengers that needs safety and security control. The primary concerns for such cases are authentication and to identify the travels for security system, cyber security issue, network security and so on.
This paper discusses the five different techniques in security issues in RFID authentication system such as, RFID based safety warning systems, information systems security, secure authentication system, RFID based tracking and security system and An RFID based fallen object detection system. But there are some issues to discuss and analyze for some components in these methods. The analytical approach to overcome these issues is presented in analysis and discussion section.
To overcome these problems, the paper proposes critical analysis and approach for security issue in RFID authentication system i.e. safety and security in the case of scenario like insecurity arising due to increase in the population day by day.
Keywords: RFID, Security issues, Authentication, Critical analysis.

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OP-15
An Efficient And Combined Data Apporch For Privacy Preserving In Data Mining

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Abstract:
Data mining is use to extract useful information from large dataset, whereas privacy preserving preserve this data against loss or disclosure. The main aim of Privacy Preserving in Data Mining (PPDM) observe the problem of developing exact models about aggregated data without access to private information in personal data record.
Our solution protect them from jointly reconstructing the original data more accurately than the best effort using any individual copy in the collection. Our solution give a permission to data owner to generate perturbed copies of its data for arbitrary trust levels on as per user demand. This feature offers data owners maximum flexibility.
As compared to other solution our solution is robust against diversity attacks with respect to our privacy goal.
Keywords: Privacy Preserving data mining, multilevel trust.

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OP-16
IOT Based Smart Home Automation System Design using Efficient Wi-Fi Network

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Abstract:
The Internet of Things refers to the wide network of various physical objects that characteristics an IP address for internet connectivity in and around the world, and the communication which can occurs in between such objects and another Internet-enabled devices/objects and systems. Automation has been achieved by various means including mechanical and electronic devices usually in combination.
This paper is focused on analysis of five different techniques such as Etherum based smart home automation system, Smart energy theft automation system, Home automation using Message queuing telemetry transport (MQTT) protocol, Wi-Fi based smart home automation system and home automation system using IOT data management (IOTDM) etc. But there are some issues arising in these methods which are critically analysed in this paper.
To improve these issues, the paper has proposed a new home automation technique by using IOT, so as to reduce the existing problems and make home automation more smart and secure.
Keywords: Internet of Things (IOT), Home automation system, Microcontroller

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OP-17

Efficient & Implementation of Social Data Protection Scheme

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Abstract:
Recently, Users are important piece of social media security since they constantly posting messages, updating their status, liking or disliking other postings, and sharing photos and videos. This paper provides the complexity of students' experience. The growing scale of automatic data analysis techniques. They developed a workflow to integrate large-scale data mining techniques. Spatial Crowdsourcing is a sourcing model in which individuals or organizations obtain goods and Energy system models require large datasets, increasingly so given the trend towards greater temporal and *spatial* resolution. A Social Media-based Product Improvement Framework (SM-PIF) Social networking websites allow individuals and other organizations to interact with one another and build relationships and communities online. When companies join these social media channels, consumers can interact with them directly. Social networking sites act more precisely, e-word of mouth. The Internet's ability to reach billions across the globe has given online word of a powerful voice and far reach.

To improve these issues, the paper has proposed anEfficient and Implementation Social Media Protection Scheme, so as to reduce the problem and make more secure.

The method proposed in this paper is "Social Media Protection Scheme", The implementation of social protection schemes requires collecting many types of information including that identifying Beneficiaries and their dependents or employers, contact details, and more.

Keywords: Social media, Social network, Framework.

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OP-18

Analysis of Top-K Utility Pattern Mining Framework

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Abstract:

In this paper, a new framework of the utility-list structure based top-k high utility itemset mining has analysed. Numbers of techniques developed to extract top keyword from quality datasets which relates with search spaces. These could not be directly performed on the utility mining techniques with the help of proposed method in this paper would find a top-k search space itemsets. A new utility-list structure and several strategies are proposed to acclaim the border minimum utility threshold rapidly.

This paper is focused on analysis of many identical high top-k utility patterns mining algorithm, such as mining for Top-K High Utility Itemsets, Solutions to Utility Big Data Analysis, Negative Sequential Patterns Mining, Efficient High Pattern Mining with Tighter Upper Bounds and Tighter Upper Bound including Average-Utility for Mining High Average-Utility Patterns. However there are some issues that need to resolve. These are discussed in this paper and efficient proposed the analysis of the various utility mining techniques referring to the various frameworks.

Keywords: Top-k High utility patterns, TKUL-miner, sequential patterns, frequent itemset mining, knowledge discovery database

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OP-19
Security in Cloud Computing a major concern

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Abstract:
Cloud Computing has attracted a lot of attention in recent times. The media as well as analysts are generally very positive about the opportunities Cloud Computing is offering. The positive attitude towards the importance and influence of Cloud Computing resulted in optimistic Cloud-related market forecasts. Data storage in cloud computing leads to several security issues such as data privacy, integrity, and authentication. Efficiency for the user to upload and download the data in a secure way plays an important role, as users are nowadays performing these actions on all types of devices, including e.g. smartphones. Signing and encryption of the sensitive data before hosting can solve potential security breaches.
Keywords: Security , integrity

OP-20
Credible Multi Criteria Cloud Service Selection in Cloud Environment

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Abstract:
Cloud computing has grown rapidly and becomes very popular now a days. With the increasing popularity of cloud computing, there exist a wide range of cloud service providers. It is very difficult for the users to decide about the best service providers and the reason for its selection. There is a need for credible multi criteria cloud service selection framework that helps the customers to select a suitable cloud service provider. In this paper we discuss and formalize the issue of cloud service selection in general and propose a multi-criteria cloud service selection methodology. This paper also addresses a survey analysis on the different cloud service selection techniques provided by different cloud service provider.
Keywords: Cloud Computing, Cloud Service Provider, Cloud Services, Multiple attributes.

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OP-21
Role of Sentiment Analysis in Social Media

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Abstract:
Over a decade, Sentiment Analysis has become a popular topic of scientific and market research, in the branch of data mining, natural language processing and machine learning. Social media analytics is the process of collecting data from social media websites and analyzing that data using social media analytics tools to make business decisions. The most common use of social media analytics is to mine customersentiment to support marketing and customer service activities. Sentiment analysis classifies the data provided by the customer in to positive, negative and neutral polarity. This classification plays a major role in decision making and helps firm, company, organisation to analysis their services and policies. Sentiment analysis techniques are implemented which includes machine learning and lexicon based approach. This paper reviews the roles that sentiment Analysis plays in social media.
Keywords: Sentiment Analysis, Opinion Mining, Decision Making, NLP, Positive Sentiment, Negative Sentiment.

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OP-22
A Survey Based on Various Crypto-Steganographic Algorithms

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Abstract:
Network of Digital communication is growing in exponential manner day by day. Hence, Security must be provided to the digital communication. Security of information is important, noticeable and performance related aspect of network communication. Cryptography and Steganography ensure security to the information transmitting over the internet. However, Steganography deals with concealing the existence of message and cryptography deals with concealing content of message. Both of them ensure security, but none of them completely fulfil security measure such as robustness, imperceptibility, capacity etc. Overcoming the weaknesses of each other and provide more secure environment, by combining steganography and cryptography techniques. This paper deals with study of cryptography,

steganography and discusses the various methods of combining cryptography and steganography algorithms into single system.

Keywords: Stego-image; Steganography; Cryptography; Encryption; Decryption

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OP-23
Big Data Analytics as a CRM Tool to improve Customer Relationship

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Abstract:
In this world of globalization and emerging trends in technologies such as rapid growth of social networks as well as internet. Advantage of this leads that organizations may try to better understand their customers as well as preserving their business and also main challenge is to compete to the market. Along with such circumstances, continuously increased speed and data volume, but natural there is a great demand among the organizations to develop such a mechanisms as well as processes to interpret and analyse such data for decision making.
Big data analytics useful to improve customer service ,calculation return on investment on various initiatives as well as for predicting client behaviour by the practice of integrating big data into a company's CRM processes .
The main significance of the paper rely on analysis of case studies ,secondary data research and theoretical comparison among the authors of the themes and the key-concept using Big Data analytics by linking it with marketing as a customer relations vehicle, in a quest for adding value to business.
The big data analytics may accurately modify the competitive industrial setting and offered remarkable profit to the business organization in terms of operation, competitiveness as well as strategies.Outcomes exposed that companies must hire talented and skilled employees and must introduce analytical tools as well as real time data to enhance the productivity .

Keywords: Big Data Analytics, CRM, Marketing

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OP-24
A Study of linguistic change using N-gram viewer

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Abstract :
Data mining techniques are used to analyze music, images maps and the linguistics of the spoken word and letters, written using key features.
Various Software tools are available online for performing data mining. In the present study N-gram viewer is used.
N-grams are inputted in the System. The process involves four steps : (i) N-gram identification (ii) Classification (iii) Dependent Modeling and (iv) Clustering.
The experiment is performed on the historical text based on Buddha's teaching (Pali : Cattari Ariya Saccani) the "Four Noble Truths". The result is produced in the form of a graph when the inputted phrases are either presented in the form of a phrase or phrases separated by comma which may or may not be case-sensitive.
The generated graph shows the result between year 1800 up to 2000 from the corpus stored in English with a smoothing of 3 visualization reflects the linguistic change. The Pali corpus will facilitate the study of linguistics trends, especially those related to the evolution of syntax.
Keywords : N-grams, Cattari Ariya Saccani, Corpus

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OP-25
Tools and Techniques in Data Science – A bible

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Abstract:
In the recent times, there is a tectonic shift in technology especially in the digital domain. Deep penetration of the Internet across the globe revolutionizes the technology businesses[1]. At present, about 2.5 quintillion bytes of data is generated each day[2]. Development and growth of disruptive digital technology such as Internet of Things (IoT) and cloud will further pace and accelerate data generation. More than 90% of data in the world has been generated in the recent times, i.e. after 2016. By 2025, it is estimated that therewillbe an increase of 175 ZB (zettabytes) (67% CAGR growth) in the data generated, out of which IoT alone will generate 90ZB of data[3]. Moreover, 49%of the total data generated will be available in a public cloud environment for consumption. In addition to that, it is also estimated that approximately 30% of the data generated will be consumed in real-time applications. Because of enhanced data storage infrastructure, high-end computing server, availability and accessibility of the humungous data, a new paradigm shift in the field of data science and analytics is observed[4]. The recent advancement inthe data science field leads to the new dimension of decision-making process in the domain of business, scientific exploration, forecastingetc. To accomplish this, many powerful algorithms and techniques are developed. The objective of this paper is to present a comprehensive survey on the tools and techniques available in data science to extract meaningful insight frombigdata.
Keywords: Digital Domain, Machine learning, Data Science

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OP-26

A Study of Social Networking and Its Effects on Society

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Abstract:
A social media is an online platform which people use to build social networks or social relations with other people who share similar personal or career interests, activities, backgrounds or real-life connections. It is clear that social networks have become part of people lives. With the world in the midst of a social media revolution, it is obvious that social media like Facebook, Whatsapp, Twitter, YouTube, LinkedIn, MySpace, Skype, etc., are used extensively for communication purpose. We can make use of social media to expand or broaden our knowledge in a particular field and build our professional network by connecting with other professionals in our industry. With the advancement of social media many organizations are making use of this medium to better their businesses. Facebook have 323 million users in India alone, making it the leading country in terms of Facebook audience size. WhatsApp have 400 million active users in India, a nation with 450 million smartphone users overall, underlining the messaging app's dominance. The number of Twitter users in India is more than 34 million in 2019. YouTube is the 2nd most popular social media platform with 2.0 bn users. 500 hours of video are uploaded to YouTube every minute. People watch over 1 billion hours of YouTube videos a day. Over 70% of YouTube views come from mobile devices. Communication, education, connectivity, co-operation, co-ordination, marketing, advertising, helps in building communities, etc. are positive effects of social media on society. Fraud, scams, hacking, fishing, cyber harassing, addiction, etc. are negative effects of social media on society.
Keywords: Social Media, Networking, Facebook, WhatsApp, Twitter, Mobile Devices

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OP-27
Implementation of Iris Recognition Using Circular Hough Transform and Template Generation

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Abstract:

Iris recognition is considered reliable technique in biometric system to gain higher security. In this paper research is focusing on an efficient iris recognition technique. Iris of an eye image is segmented, unwrapped into a rectangular strip and normalized. Normalized iris is transformed into polar coordinate and filtered. A mask is applied for noise suppression and encoded using encoding technique. This encoded iris pattern features are extracted and template is generated. This final template is stored in the database and input image template pattern is matched using pattern matching technique. This experiment uses two standard database images CASIA V1.0 and IITD, the performance measure FAR and FRR for different threshold values is considered for the evaluation of the system..
Keywords: FAR, FRR, CASSIA, IITD,CHT, HD, JIRIS, JPC, MOS.

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PP-1
"Security and Privacy in the Internet of Things"

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Abstract:
Remotely control devices system means wireless devices system is facing problem of security & privacy threats. For remote system wireless communication is used .In recent year "Internet of Things" is research attention for wireless network. IoT means "Internet of things "the object is connected to internet and accesses it. In IoT everywhere. Billions of devices, people & services to be interconnected for exchange information and useful data. IoT used in healthcare, homes automation, business, company, military purpose, for wireless communication and control the environments. In IoT "things" are connected to web each device has unique ID for verification. In future electronic devices will be smart which can be communicating with other devices and other system. IoT required very accurate and consistence, integrate data for accessing system and control the system.
In "Internet of things" number of security and privacy issues emerge .The security and privacy is main problem in IoT .Identifications, verification authentication and device diversity are the real security and protection in IoT. In this paper IoT vision, existing security threats and open challenges, security requirement in domain of IoT and discussed about basic issue identified to safety and privacy of IoT.
Keywords: Internet of things, Information security, security & Privacy in IoT, verification & identification

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PP-2
Optimal Face Recognition System using ANN

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Abstract:
A face recognition system consists of collection of multiple images captured by image capturing devices such as camera or a webcam. These images of human faces are stored in a database for future processing and endeavours to decide or perceive characteristics of particular person.Face recognition is generally carried only by comparing the features of the query face to that of known face.
The recognition system involves database management, image classification, training andcamera or webcam interfacing to the PC using MATLAB. In the present work, an artificial neural network model has been developed using the concept of deep learning and transfer learning. Convolutional Neural Network (CNN) algorithm has been used for training the neural network using the predefined image

database comprising of 22 classes with each class consisting of 20-25 images. The network is trained several times and the procedure is repeated during learning to minimize an error by adjusting the weights for each class.
The developed model has been successfully tested using MATLABand associated neural network toolboxes. The accuracy of the system is observed to depend upon the type of training, initial learning rate and the number of epochs used for training.
Keywords: Face recognition, CNN, Deep Learning, Transfer Learning, Artificial Neural Network
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PP-3
Neural Network Based Intrusion Detection System

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Abstract:
In today's world the network plays an important role as it is used to store and transfer data to and from the virtual memory online. In order to achieve security, a neural network based Intrusion Detection System is designed. A single layer Neural Network System having one hidden layer with ten neurons is developed using Neural Network toolbox of MATLAB. The developed Network is trained using Levenberg-Marquard back propagation algorithm on KDD cup 99 dataset having 2000 samples out of which 70% of the samples are used for training the network, 15% for testing the network and 15% for validation of the network. The performance of the system is evaluated using Performance plot (Mean Square Error graph), Training State plot graph and Regression plot and Error Histogram.
The developed Intrusion Detection System reduces the false alarm rate and is found to be better than the existing commercially available anti-viruses.
Keywords: Neural Network, Security, Intrusion Detection, back propagation algorithm

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PP4
Comparative Study of Various Data Compression Techniques

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Abstract:
With the crescent demand of information storage and data transfer, the need for data compression has become increasingly important, In the present work, we deal with the study of different data compression techniques. The primary objective of the data compression techniques is to reduce the size of data storage used to represent any content without sacrificing the quality of data.
The experimental work is done in MATLAB where a GUI is developed to demonstrate the compression of image using different techniques. the GUI acquires a static image and different compression techniques are implemented on the acquired image. Compression ratio is evaluated to analyse the percentage of compressed image.
This paper proposes to analyse various lossy and lossless data compression techniques observed to reduce the consumption of resources, such as hard disk or transmission bandwidth and cost. Peak Signal to Noise Ratio(PSNR)metrics is used for comparative analysis of the different compression techniques used.
After studying lossy and lossless compression techniques, it is observed that lossless image compression techniques are the most effective over the lossy compression techniques.
Keywords: Data compression, Image Compression, peak Signal to Noise Ratio(PSNR), lossy, lossless,

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PP-5

Study of different polarimetric decomposition methods of SAR data using support vector machine (SVM).

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Abstract:
During last few years several studies were conducted to find the effectiveness of SAR backscattering in identification of different vegetations. Polarimetric measurement is the measure of different polarization of electromagnetic waves. When compared with thermal or optical radar data, microwave radar data is found to be fruitful in certain remote sensing task. As polarimetric image data contains information obtained from scattering of light from different physical elements of terrain. Many polarimetric decomposition techniques have been developed to study the features of terrain. The objective of present study was to evaluate different polarimetric decomposition algorithm by using C-band synthetic aperture radar (SAR) data. Central India was used for the analysis. The RADARSAT-2 central India's image with fine quad-pol was used for the analysis of full polarimetric data. The present study reveals that Yamaguchi decomposition is better as compared to other decomposition method. The experimental results obtained with polarimetric C band SAR data imply that SAR data have significant potential in land cover classification. The performance of each decomposition outputs in relation to each land cover unit present in the study area was assessed using the SVM classifier. Results show thatYamaguchi3 component decomposition (overall accuracy 88.19% and kappa coefficient 0.85)
Keywords: Polarimetric decomposition, Support vector machine (SVM)

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PP-6

Estimation of Speed of an Object Using Microwave Doppler Radar

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Abstract:
Doppler effect has been extensively used to estimate the speed of the moving objects and/or the source. In the present work, an Arduino based system is designed in our laboratory for the measurement of speed of moving objects, using a microwave Doppler radar sensor module, RCWL-0516. The designed system is operated in the microwave range, there by enhancing the detection capability and reliability over the other proximity sensors, such as ultrasonic and IR sensors.
The sensor module is interfaced to the Arduino Uno microcontroller module and necessary software is developed to determine the Doppler shift by mixing the transmitted signal and received signal (with little modification in the sensor module). The Doppler shift and the speed of the moving objects are displayed on the LCD screen.
The facilities of the designed prototype have been utilised in the measurement of speed of the motor vehicles, bicycles and human beings. The values of speed measurements are found to be comparable with those recorded by standard meters.
Keywords: Doppler Effect, Arduino Uno, Doppler shift, RCWL-0516 Microwave radar sensor, speed

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PP-7

Study of Risk in Online Social Networking

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Abstract:
The use of internet has permeated in every strata of society. The present scenario is such that Internet is accessible to everyone. Internet with it's wide range of services has increased the proficiency in every field such as entertainment, health and fitness, news etc. Online social networking is one such facility provided by internet which is very popular.
Online social networking has given ability to connect worldwide. Getting in touch with friends or making new friends has become easy with the services provided by SNS. People of any age group with any background across the world can get connected to each other. Social networking site has provided a common platform to connect and share their views/data such as photos videos etc. This valuable bulk amount of data uploaded has raised a concern about security. Malware or virus can spread on such sites as pandemic on online social sites. [1] Data security is not just limited to password protection on such site.

In social networking site, data can be assessed in multiple ways. This paper tries to find out the risk of using online social sites and the threads of uploading data on online sites.
Keywords: Risk; Social Networking site.

References:
1 CandedWuest, Security Response

PP-8
Principal Component Analysis for Monitoring Urban Growth of Nagpur City

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Abstract:
Remote Sensing and geo-spatial technologies like Mobile Applications for geo-tagged photography, UAVs, DRONES etc., in combination with GIS and GPS provide the best methods of monitoring the resources on Earth as well as the development and the changes due to natural and man-made disasters. These technologies have provided for better understanding of the areas on our planet which are inaccessible and reduced the time, effort, cost for survey. Modelling the earth has become easier. Various techniques of image processing and pattern recognition help in the interpretation and feature extraction of satellite remote sensing data for monitoring the changes taking place on the Earth surface.
Remote sensing in combination with other geo-spatial technologies haveopened new vistas for monitoring the resources on the Earth from space in varioussectors like agriculture, urban, water resources, geology, ocean, forests etc. Optimaland judicious use of geospatial technology augments the decision support system(DSS) and makes planning strategies more effective.
Nagpur city, in the heart of India, has seen a great deal of development in the past few years especially with the cementing of roads and the metro rail. Though the metro rail route is not operational, except in a patch, partially, the changes made to the green city is visible in the satellite data. Principal Component Analysis (PCA) along with other filtering methods provides a very good and fast method to monitor the urban growth. In this paper, satellite data of Nagpur City has been analysed to see the changes in the transport network of the city using these pattern recognition techniques.
Keywords: Remote Sensing, GIS, Image Processing, Principal Component Analysis (PCA), Unmanned Aerial Vehicle(UAV), Global Positioning System (GPS), Geographic Information System (GIS)

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