



SRINIVAS UNIVERSITY

College of Computer Science & Information Science

City Campus, Pandeshwar, Mangaluru–575001

Karnataka State, India

Website: www.srinivasuniversity.edu.in

One Day National Level Virtual Conference

in Association with



IEEE Srinivas University Student Branch

On the theme

**Future Technologies of IT, Management,
Education, and Social Science**

19/12/2020

BOOK OF ABSTRACT

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NOTE

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SRINIVAS UNIVERSITY

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National Level Virtual Conference on Future Technologies of IT, Management, Education, and Social Sciences

Date : 19th December, 2020

Time : 10:30 am

Place : Srinivas University, City Campus, Pandeshwar, Mangalore

Sri CA. A. Raghavendra Rao

Chancellor, Srinivas University & President, A Shama Rao Foundation,

will preside over the function

Mr. Shyamprasad Hebbar

**Senior Vice President, Corporate Services
Diya Systems (Mangalore) Pvt Ltd, Mangalore**

will be the Chief Guest

Dr. A. Srinivas Rao

**Pro-Chancellor, Srinivas University & Vice President, A Shama Rao
Foundation**

Smt. A. Vijayalakshmi R. Rao

Director, A. Shama Rao Foundation

Smt. Mitra S. Rao

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and

Dr. P. S. Aithal

Vice Chancellor, Srinivas University

will be the Guests of Honour

Dr. Krishna Prasad K.
Associate Professor,
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Conference Convener

Prof. P. Sridhara Acharya
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Conference Advisor

One Day National Level Virtual Conference
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Paper 1

A NEW APPROACH FOR THE VIRTUAL WORLD- AUGMENTED REALITY

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ABSTRACT

Augmented reality (AR) is an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer generated perceptual information, sometimes across multiple sensory modalities, including visual, auditory, haptic, somatosensory and olfactory. AR can be defined as a system that fulfils three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects. It is a new approach than virtual reality. In augmented reality (AR) the user is provided with additional computer-generated information that enhances their perception of reality. Augmented reality differs from virtual reality (VR) in the sense that in AR part of the surrounding environment is actually 'real' and just adding layers of virtual objects to the real environment. On the other hand, in VR the surrounding environment is completely virtual. A demonstration of how AR layers objects onto the real world can be seen with augmented reality games. Augmented reality has been explored for many applications, from gaming and entertainment to medicine, education and business. Example application areas described below include archaeology, architecture, commerce and education. Some of the earliest cited examples include augmented reality used to support surgery by providing virtual overlays to guide medical practitioners. In this e-world, the augmented reality helps to catch up the common people in fields of media and entertainment areas. It is a new approach to the virtual world become more real.

Keywords: Virtual Reality, Augmented Reality, e-world.

Paper 2

A NEW APPROACH TO IMPLEMENT LEXICAL ANALYZER FOR CONCURRENT EXECUTION OF TASKS

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ABSTRACT

Compiler is a system program that translates a source language into target language. The structure of a Compiler is composed of several phases. The first phase is lexical analysis or scanning. This is the only phase which interacts with original source code written by the programmer and perform the various tasks which includes, read the input characters and produce sequence of tokens as output that the parser uses for syntax analysis, and make entry to symbol table, stripping out comments and white space in the form of blank, tab, new line characters from the source program. Another task is reporting the error encountered while generating the tokens and keeping the track of error by line number. Future of computing is rapidly moving towards massively multi-core architecture because of its power and cost advantages. To exploit full potential offered by multicore architecture, the system software like compilers should be designed for parallelized execution. Until the first decade of the 21st century, the method of compilation was sequential in execution. The recent advent of commercial multiprocessors has inspired researcher to take a closer look at parallel programming and various investigations were carried out for parallel tokenization process by splitting the source program on some criteria. In the past, various significant works have been made to change the design of traditional compiler to take advantages of the future multi-core platform. This research is concerned with adapting parallelism in the lexical analysis phase of the compilation process for concurrent execution of tasks of lexical analyzer by implementing an approach that lexical analyzer tasks are independently allocated to each core to perform parallelism which improves the performance of the lexical analyzer.

Keywords: Lexical Analysis, Scanner, Lexical Analyzer, Finite Automata, Regular Expression, Compiler, Tokens, Parallel Tokenization, Multi-core Machines

Paper 3

A STUDY ON EFFICIENT INTELLIGENT SYSTEMS FOR HEALTHCARE DATA MANAGEMENT AND DELIVERY USING INTERNET OF THINGS (IOT)

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ABSTRACT

Mobile apps and sensors are used to create an Intelligent Healthcare Data Management System and Distribution. Such programs will organize health care data for patients and convert it to higher quality. This data will be forwarded to the system server. This device's lifetime has to be established with viability that needs to be improved, memory use is less than 100 KB and it works for any data and across different resources. However, the anticipated network could minimize the waiting time for data to be transposed, and these channels have been used by health center servers. Intelligent data management system for healthcare will make it easier for patients and sick people to use such resources as diagnostic resources, surveillance services, and emergency response services wherever they are in all areas. A healthcare Data Management and Delivery tool assists the hospital management to overcome challenges involved in storing, processing and accessing data ubiquitously. The apps developed should focus on minimizing storage and affectively using processing with latest technologies like compression, de-duplication, secured encryption, cross platform connection ability, high back and recovery and many more. Using Internet of Things and Sensor we can connect multiple machines or systems and can integrate them to work for achieving efficient healthcare analytics and management of these important processed data. In this paper we study different Healthcare Data Management and Delivery tools. Using the knowledge and gap of existing tools we will propose a framework for effective management of Healthcare data and delivery of the same with the aid of Internet of Things. This paper could play a crucial role in order to identify the need for the effective Healthcare data management and delivery and also to contribute some knowledge to improve the healthcare management systems efficiency.

Keywords: Healthcare Data Analytics, Internet of Things (IoT), Data Management, Delivery, Recovery

Paper 4

A STUDY ON INTERNET OF THINGS – BASED ENERGY MANAGEMENT SYSTEM, FRAMEWORK AND CHALLENGES IN SMART CITIES

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ABSTRACT

Rapid changes in technology have created an extensive and crucial interest in the developing smart cities across the world. The dynamically increasing trend in recent computing is Internet of Things(IoT). Internet of Things is a archetype in information technology which provides immeasurable services for the advancement of technological innovations. IoT applications enables seamless consolidation of the cyber-world with the physical world. The influence of Internet of Things (IoT) and its closely related counterpart Internet of Everything(IoE).(IoE) is so exponential that it has become an active part of our digital lives. Consumers become the greatest beneficiaries as IoT creates the next wave of digital revolution. Connected objects form a dimension beyond the electronic world in which Internet operates and extends to things and places. Energy demand for IoT applications is increasing rapidly. In this particular situation, energy management is an major issue because of high energy savings and efficient energy crisis reasons. This paper focuses on how IoT can be used effectively in managing the energy consumption especially in cities. As the cost and demand of energy is increasing rapidly, many of the organizations developed different smart methods for controlling, monitoring and to save energy. A smart Energy Management System (EMS) helps to reduce the cost of high demand of energy. The evolving technologies of Internet of Things (IoT), Deep Learning and Big Data can be effectively used to manage energy consumption in residential, commercial, and industrial sectors. This paper presents a study on the various ways in which Energy Management System (EMS) helps for smart cities, smart homes. In this paper, an overview of IoT-based energy management in smart cities, the framework and software model of an IoT-based system with edge computing, challenges are dealt in detail.

Keywords: Internet of Things(IoT), Internet of Everything(IoE), Energy Management System(EMS)

Paper 5

A STUDY ON PRIVACY AND SECURITY ISSUES IN INTERNET OF THINGS

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ABSTRACT

IOT has become the key part of everyday life, it is the latest technology that will alter the way we communicate with various devices. However almost all electrical gadget in the coming years will be a smart device that can compute and interact with mobile devices and other equipment. In the near future, the use of IoT in various apps is expected to witness high growth. The IoT makes it possible for billions of computers, communities, and services to communicate and share information with others. The IoT is seen as the future of technology, along with an improvement in its security use problems. Starting from autonomous driving, wearable devices, smart fitness, digital retail and Medicare, IoT applications are being extended. With the growth of using it, nevertheless, security problems are growing. IoT manufacturers' lack of compliance, lack of user experience and understanding, upgrading and maintaining devices, absence of physical hardening and botnet attacks are regarded as the key factors for security problems in IoT-based applications. In this context, an extensive systematic analysis on security and privacy issues in IoT networks is also given to examine security problems related to IoT and its effect on users that have been carried out in the current study.

Keywords: Internet of Things, Electrical gadgets, Security, Analysis, Technology.

Paper 6

A STUDY ON SECURITY ISSUES IN ARTIFICIAL INTELLIGENCE

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ABSTRACT

Artificial intelligence is a growing technique that enables enterprises efficiently handle complicated tasks and increase productivity levels. Privacy and security are also significant AI-related problems that affect data protection and lead intrusion issues. Latest advances in artificial intelligence (AI) imply that such a new technology would have a deterministic and potentially disruptive effect on more generally military capability, strategic rivalry, and global affairs. Only use of AI will guarantee success under the circumstances of unprecedented information accumulation and the need for rapid decision-making. It is a time-consuming method for intelligence, counterintelligence, forensic science, counteracting organised crime, rapid analysis of information available, drafting diverse decisions, developing plans and multivariate models, conducting different studies. An organisation is able to achieve its safety goals by choosing acceptable security practices and techniques. This paper discussed the analysis being carried out in the field of information security and the role of artificial intelligence in it. It also addresses recent advances in data hiding strategies, which are the latest trend in information security.

Keywords: Artificial Intelligence, Security, Technology, Transformation, Information Hiding

Paper 7

AN ALTERNATE APPROACH FOR SMART AGRICULTURE BY CROP YIELD AND PRICE PREDICTION USING DATA ANALYTICAL TECHNIQUES

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ABSTRACT

The India is a country where more than seventy percent of the people's main profession is agriculture. Also in next few years the demand for agricultural product is also increases because of raise in the population throughout the world. This reason there should be some evolution takes place in agricultural practice and life style of agriculture. There are some technologies like Wireless Sensor Network (WSN), Internet of Things (IoT), Artificial Intelligence (AI) and data analytics contributed to agriculture sector. In WSN contain different types of sensors especially used to gather different types of data from various geographical places. The IoT is a technology based on WSN and also embedded with other software's and technologies with the intension of communication and exchange of information between two objects or system over the network or internet. AI is the technology is responding with real time data and notifies the changes takes place. The Data analytics is a core technology today for data processing, data cleaning, data classification, data modeling and data transforming with the intension of discovering new information that supports conclusion and decision-making process. There are different data analytic techniques that can be applied to several areas in agricultural sector. The identification of several areas in agriculture and finding possible data generation sources and possible types of data generating is the biggest challenge. Here we need to identify the best suitable data analytic approach that can be applied to existing data set as well as real time data. This paper identifies the different areas in agriculture and finds main sources of data in said area. Also includes the implementation of data analytical approaches to predict particular crop yield and to predict product prices. The main objective of this paper is to find appropriate solution for yield prediction and price prediction of particular agriculture product.

Keywords: Data Analytics, smart agriculture, prediction, Data set, Internet of Things (IoT), Wireless Sensor Network (WSN)

Paper 8

APPLICATION OF DEEP LEARNING IN TESLA- A CASE STUDY

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ABSTRACT

Artificial Intelligence is the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. It encompasses where without human participation machines will learn from experience and develop skills. Deep learning is a subset of machine learning where artificial neural networks, algorithms inspired by the human brain, learn from large amounts of data. Similarly, how human learn from experience, Deep learning algorithms perform a task repeatedly, each time changing it a little to maximize the result. Neural Network has various deep layers that enable learning. These algorithms are being deployed across various industries such as financial services, Information and Communication Technology (ICT), Life Science, Retail, Healthcare, Industrial Manufacturing, Automotive, Oil & Gas, and Chemicals. AI is also implemented in automotive manufacturing, including design, supply chain, production, and post-production and also playing vital role in driver assistance technology which is widely being used in modern vehicles. The E vehicle is an emerging technology and extensive research is being carried out by the Automotive Industry to make the alternative feasible and commercially viable. There are already some first movers like Tesla who have established their model successfully and are moving ahead. Tesla is forcing the auto industry to rapidly change. Tesla introduced Autopilot driver capability for its model S car. **Tesla Autopilot** is a suite of advanced driver-assistance system features that has lane centering, traffic-aware cruise control, self-parking, automatic lane changes, semi-autonomous navigation on limited access freeways, and the ability to summon the car from a garage or parking spot. This paper highlights the technological histories, Driving features of Autopilot, Safety concerns, Financial plans, Market challenges, different models and how Tesla Accelerating the World to sustainable Energy.

Keywords Artificial Intelligence, Deep Learning, Machine Learning, Neural Network, Autopilot.

Paper 9

BLOCKCHAIN FOR THE SECURE PROCESSING OF IOT TRANSACTIONS -AN ANALYTICAL STUDY

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ABSTRACT

Blockchain technology is evolving as a promising technology for the processing and storage requirements of distributed and secured transactions. The Blockchain is a public and distributed transaction ledger clustered into blocks, promising to improve the speed, efficiency and protection of digital asset ownership transfer, remove the necessity for certify ownership and clear transactions by the central authorities, lessen deception and corruption through the provision of a transparent and publicly auditable ledger and reduce administrative costs through agreements. The need to recognize specific use cases that would benefit from the implementation of blockchain technology is a key challenge associated with the adoption of blockchain. The Internet of Things (IoT) has long been associated with security vulnerabilities and problems, and the use of blockchain to protect the IoT has begun to be explored by analysts and institutions. The IoT is changing customer preferences and business processes in its own right. For processing, distributed edge IoT devices collect and transmit data. To provide advanced services, automation functionality and personalized experiences to end users, IoT systems rely on this data. There are complex and distributed IoT networks. They include smartphones, mobile apps, gateways, cloud services, processes for analytics and machine learning, infrastructure for networking, web services, storage systems, fog layers, and users. All these systems write and read data which can be documented on a ledger as transactions. This paper focuses on recording IoT protection best practices since 2014. Providing the possible benefits to the IoT protection issue associated with the implementation of blockchain technology. As such, this paper discusses two technologies - Blockchain and IoT - at various maturity stages. This paper outlines a high-level overview of blockchain technology and describes a series of architectural patterns that enable IoT capabilities to be used as a technology for blockchain. Relevant use-case examples of IoT protection blockchain are also discussed, although technological implementation of such use cases would differ throughout businesses.

Keywords: IoT, Blockchain, BFT, POW, POS, Consensus, Nodes.

Paper 10

EARLY DIAGNOSIS OF CYSTIC FIBROSIS DISEASE USING ARTIFICIAL NEURAL NETWORKS.

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ABSTRACT

Early diagnosis of any diseases can significantly improve patient survival rates and quality of life and also reduce the cost and complexity of treatment. Cystic fibrosis is a hereditary disease that affects the lungs and digestive system. The body produces thick and sticky mucus that can clog the lungs and obstruct the pancreas. Cystic fibrosis (CF) can be life-threatening, and people with the condition tend to have a shorter-than-normal life span if not diagnosed early. In this paper, we have proposed a prediction model designed by convolutional neural networks (CNN) which diagnosis cystic fibrosis early in patients by reducing mortality rate. CNNs, also known as ConvNets. Predictive model which we have designed in this research work can play a vital role in predicting deadly diseases CF.

Keywords : Cystic Fibrosis, Mucus, Artificial Neural Networks, prediction, Artificial Neural Networks., convolution neural networks.

Paper 11

HOW DATA SCIENCE AND CLOUD SERVICE HELPS IN ONLINE FANTASY SPORTS PLATFORMS FOR WIN PREDICTION AND SPORTS BETTING

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ABSTRACT

Sport result prediction is an interesting and challenging problem from years. In general, making predictions is not an easy problem. Traditionally, some human experts such as sports commentators, television and other media personalities, former players, coaches make predictions on the game results based on their experience, sometimes these predictions vary in accuracy. To reduce this inaccuracy, some professional domain experts make their objective predictions based on historical results. Usually, the longer the historical data, the more accurate are the results. Nowadays, there is a trend in the sports community that seeks to look at this research problem of predicting sports outcomes more analytically. In recent years, simple statistical algorithms have been applied to historical results in the decision-making process for the prediction of results for future games. These algorithms typically consider the two teams competing and compare their respective strengths and weaknesses in order to make a win prediction. In addition to this, a new generation of sports entertainment has occurred through online.ie, fantasy sports platforms. Online gaming sector in a country has undergone a tremendous change in the last few years. One such technological innovation is fantasy sports. Pay-to-play (P2P) fantasy sports have enjoyed immense popularity with fans, and recent technological advancements have bridged the gap between sports and the fan even more. In addition to cheering for their teams, with fantasy sports, fans can be the team owner or manager, making their sports experience more entertaining. Online Fantasy Sports is a skill-based digital entertainment platform that is played using the medium of the Internet, wherein sports fans create their own virtual dream teams made up of original team players for upcoming matches. As this paper focuses on how these fantasy sports platforms can use data science, real time data analytics, mining patterns and various cloud services for online team selection, result prediction and online sports betting. By using these, we can track game statistics to find hidden value in various players and can store it in cloud. So various users' in fantasy sports platform can use these cloud data to create their own team of real life players, to score points, and compete with others.

Keywords: fantasy sports, sports betting, pay to play (P2P), Data Science

Paper 12

IMPACT OF COVID-19 PANDEMIC ON INDIAN IT INDUSTRIES - A CASE STUDY

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ABSTRACT

Covid-19 pandemic created a havoc in the world and most of the sectors incurred hefty loss. There were only few Industries which could sustain during pandemic situation. Information Technology (IT) Industry is one of such sector which could withstand the adverse effect of Pandemic. The IT-Business Process Management sector accounted for the largest share of Indian services exports at 45 per cent. Timely implementation of work from home model is the key factor behind successful execution of business continuity plan. The IT and BPM industries account for 7.9% of India's GDP and it employ about 41 lakh professionals. There are more than of 32,000 registered information technology companies operating in the country. There were many supporting factors which played a major role in making work from home reality such as Relaxation in Government policies, employee cooperation, Technology penetration, adoption of international standard management systems etc.. Work from home also invited many challenges such as Information security threat, work life imbalance, psychological disorder etc. In this paper we have analyzed both negative and positive impact of Pandemic on IT industry by conducting Industry Trend Analysis, Financial Performance Analysis, People perception Analysis, Opportunity Analysis and Government Policy Analysis. We have also Analyzed top leading Companies in an Industry & their Strategies. Some recommendations are also made based on the SWOC analysis.

Keywords: Covid-19, pandemic, IT, work from home, BPM, business continuity plan

Paper 13

IMPACT OF DENSITY AND MOBILITY IN MOBILE AD HOC NETWORK ROUTING PROTOCOL USING AD HOC ON DEMAND DISTANCE VECTOR (AODV) AND NS3

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ABSTRACT

The Ad Hoc On Demand Distance Vector (AODV) protocol is popular among Reactive routing protocol for Mobile Ad hoc networks. The AODV protocol considered as more efficient protocol for MANET, due to its ability to increase network lifetime and to decrease energy consumption. The AODV communicates with other nodes using route requests, and tries to form an ad hoc network dynamically. The formation of the network is considered challenging, because a network node can travel in and out of a network at any point of time. So, it is necessary to analyse the mobility rate of a node for a certain period of time in any network to predict the availability and unavailability of a node. Another scenario in MANET is density, it is necessary to evaluate AODV protocol by increasing and decreasing the number of nodes to measure its performance. In this paper the different metrics such as end to end delay, energy efficiency, network lifetime, Packet Loss and throughput are analysed for MANET using AODV protocol. And evaluation of MANET protocol AODV is performed efficiently using NS3. In the proposed study we have analysed the impact of density and mobility in MANET using AODV protocol. In this paper we will analyze the throughput of the network, energy consumption and routing overhead by changing the density and mobility ratio of the network. The proposed paper has coined a contribution for the method of evaluation in networking protocols using NS3.

Keywords: MANET, AODV, Performance, Routing Protocols, NS3.

Paper 14

IMPACT OF DIGITAL LEARNING PLATFORMS ON THE TEACHING LEARNING PROCESS

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ABSTRACT

The concept of e-learning has changed the teaching-learning process especially during the pandemic. E-learning is a technology-mediated learning approach of great potential from the educational perspective. The digital learning platform has tremendously influenced the process of teaching through the use of technologies like the email, WWW and the internet at large. The digital transformation has affected the educational system across all levels. The sudden change in the academic practices has affected the field of education. The teachers had to become learners of the new technology in order to technically understand the know-hows of the platforms. The teachers should integrate technology in their teaching and communication with the students. The learners also had to adapt themselves to use the digital platforms and their learning styles. The students have to accept the new learning methodology and make changes in their learning styles. The correct blend of the teachers, learners and technology will make the process of education meaningful to the community. This paper is intended to address the following issues in digital learning: a) impact on learner's perspective b) impact on teacher's perspective c) interactive learning process. The experiences from the teacher's viewpoint is also recorded in this paper. This paper also highlights the strengths and weaknesses of the education system in this digital transformation.

Keywords: e-learning, digital learning platforms, online education, internet

Paper 15

IMPACT OF LEARNING ANALYTICS TO STRENGTHEN THE TEACHING-LEARNING EXPERIENCE - A SYSTEMATIC STUDY

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ABSTRACT

The evaluation and analysis of the vast set of learner data with contextual information where learning takes place is referred to as learning analytics which is the important area of technology-enhanced learning. In a variety of fields, particularly business intelligence, web analytics, educational data mining and prediction systems, it has strong roots. The learner's actions around the learning environment, the student's participation involved in the teaching-learning experience creates extended data sets and digital footprints. Analytics of learning and its tools may make these data accessible for analysis. This paper analyses the emerging applications of learning analytics and analytical approaches for the identification of learning techniques used in education across the globe. This paper provides a variety of case studies involving teaching and learning about the effects of learning analytics. It also presents evidence of the tremendous potential of learning analytics in the learning experience of students. This study would provide data on the effects of learning analytics by a) illustrating the relevance of the predictive model b) the significant engagement of students in learning. This paper also discusses key areas of education where learning analytics used as a tool are: (i) analysing and acting on differential outcomes within the student population; (ii) increasing retention rates; (iii) facilitating the implementation of customized learning; (iv) quality management and quality enhancement of teaching and learning. Finally, the paper aims to identify ways to strengthen the teaching practices of teachers, improve student experience and analyse the dynamics of the teaching-learning relationship with them by researchers using Learning Analytics.

Keywords: Learning Analytics, Teaching-Learning, personalized learning, Data analytics, predictive analytics, behavioral analysis.

Paper 16

INDIAN SIGN LANGUAGE TRANSLATION SYSTEM – A PRACTICAL APPROACH

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ABSTRACT

Sign based communication is a language that utilizes outwardly sent sign examples to pass on significance. It is the mix of hand shapes, direction and development of hands, arms or body, and outward appearances. Our System is equipped for perceiving gesture-based communication images can be utilized as a method for correspondence with nearly deaf individuals and hard talking individuals. Our paper proposes a framework to assist those individuals with speaking with ordinary individuals without refined gadgets like force, information gloves, and shaded finger top and so forth. Rather we are utilizing a camera and receiver as a gadget to actualize the Integrated Two Way ISL (Indian Sign Language) framework. The Two Way ISL interpretation framework has two sections, interpretation of gesture-based communication into voice and converse. The Two Way ISL interpretation framework utilizes a webcam or USB camera to get pictures or ceaseless video pictures (from hard talking) which can be deciphered by the application. Gained pictures are thought to be an interpretation, scale, and revolution invariant. Expecting underwriter is the correct edge to the camera. In this cycle, the means of interpretation are procurement of pictures, binarized, arrangement, hand shape edge discovery, and highlight extraction. In the wake of getting the vectors highlight extraction state at that point design coordinating done by contrasting the current information base. The deciphered images (which means – words) can be converted into text data (Words in English or Tamil). Utilizing text to voice combination, the content will be changed over as voice yield or voice document (to a typical individual). The GUI application is showing and sending the message as an instant message or voice message to the beneficiary. The opposite is, getting voice contribution (from a typical individual) changed over to message then it is coordinating with the information base for sign image to show (too the hard hearing recipient). This framework makes hard of hearing/imbecilic individuals to discuss effectively with the ordinary talking individual. Additionally, in video calling or talking this application helps the hard talking and hearing individuals.

Keywords: Indian sign language (ISL), translation, image processing, hard hearing and hard speaking

Paper 17

IOT: COMPONENTS, CHALLENGES& HOW EFFECTIVELY IMPLEMENTED IN INDIA?

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ABSTRACT

Internet of things (IoT), also called Internet of Object (IoE) refers wireless network between objects. It is a system of interrelated computing, mechanical objects, animals etc provide ability to transfer data over network without the help of human. IoT is an important topic in technology, engineering area. It mainly focuses on machine to machine (M2M) communication. IoT paradigm aimed at formulating information system with combination of sensors, networks, artificial intelligence, cloud etc. IoT topics also face several challenges like selecting suitable topics, choosing cost effective platform, identify approach etc. This paper deals with various components and challenges of IoT. Finally this paper also discusses how effectively IoT implemented in India 2020?

Keywords: Internet of Things (IoT), Internet of Objects (IoE), Challenges, Components, Machine to machine (M2M), Interoperability, Authenticity

Paper 18

RETAINING THE POWER BACKUP IN THE BATTERY AND INCREASED LIFE SPAN OF THE BATTERY FOR THE SOLAR SYSTEM- CHALLENGE AND OPPORTUNITY

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ABSTRACT

The battery backup plays an important role in storing the energy from the solar panel during the day time. This energy thus stored can be utilised for daily usage during day and night. Depending on the amount of the power generated from the solar panel the battery bank is selected. The major challenge in deciding the life span of the battery is the charging and discharging cycle. The lifespan of the battery depends on the charging and discharging rate of energy. The life span also depends on the amount of the load connected to the battery. It's very important to note the charging and discharging cycles of the battery to improve the life span of the same. This paper suggests the methods to be followed in improving the life span of the different types of the batteries. The paper also explains the different types of the batteries and the factors effecting the life span of the batteries. The papers propose a model which in turn regulates the charging and discharging cycle of a battery to increase the life span of the battery. The paper analyses the behaviour of the batteries for various input signals including the input from the direct solar panel, converted input from the conventional a source. The paper concludes with the charging cycle, discharging cycle and nature of the load to be given for a given battery backup to maximise the lifespan of the same.

Keywords: renewable, battery, storage, bank, charging

SUPERVISED LEARNING ALGORITHMS IN PREDICTIVE ANALYTICS – AN OVERVIEW

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ABSTRACT

Advancement in technology has made the life of human beings easy and comfortable. Predictive analytics is an emerging technology that makes use of a large amount of historical data to perform future predictions. It intends to analyze specific data to predict the future and uncover the risks associated with a decision. Decisions that were a result of numerous mathematical computations can be made easily by using data-driven predictive models. Technology is extensively used in banking, education, healthcare, entertainment, etc. to enable complex decision-making to predict future trends. The aim of using predictive analytics is to make accurate predictions cost-effectively. The data essential for analysis is gathered from different sources and hence it will be in a structured, semi-structured, and unstructured format. In the process of data analytics classification of a massive amount of data is a challenging task. The goal of classification is to convert the available data into knowledge which is essential for future investigations. Using Machine learning it is possible to learn from the training data set and the knowledge gained this way can be used in effective decision-making. Classification algorithms analyze the training data and classify the test data based on the knowledge gained. Many supervised learning techniques can be used to analyze the data to perform predictions. In this paper, the authors make an effort to give a broad idea of different supervised learning techniques available in machine learning. They also try to explore different application areas where these techniques are used to enable decision-making.

Keywords: Supervised Learning, Machine Learning, Predictive Analytics, Classification

Paper 20

TEXT DETECTION BASED ON FASTER R-CNN ALGORITHM WITH SKIP POOLING AND FUSION OF HINDI HANDWRITTEN CHARACTERS

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ABSTRACT

Significant learning is at present the standard system for object disclosure. Speedier territory based convolutional neural association (Faster R-CNN) has a basic circumstance in significant learning. It has stunning area impacts in standard scenes. Regardless, under unprecedented conditions, there can even now be inadmissible acknowledgment execution, for instance, the thing having issues like hindrance, contorting, or little size. This paper proposes a novel and improved estimation reliant on the Faster R-CNN framework got together with the Faster R-CNN figuring with skip pooling and mix of consistent information. This computation can improve the revelation execution under uncommon conditions dependent on Faster R-CNN. The improvement basically has three segments: The underlying portion adds a setting information incorporate extraction model after the conv5_3 of the convolutional layer; the resulting part adds skip pooling so the past can totally secure the coherent information of the article, especially for conditions where the thing is hindered and distorted; and the third part replaces the area recommendation association (RPN) with a more capable guided anchor RPN (GA-RPN), which can keep up the survey rate while improving the revelation execution. The last can get more positive information from different segment layers of the significant neural association figuring, and is especially centered around scenes with little articles. Differentiated and Faster R-CNN, you simply look once plan, (for instance, YOLOv3), single shot pointer, (for instance, SSD512), and other article revelation computations, the estimation proposed in this paper has an ordinary improvement of 6.857% on the mean typical precision (mAP) appraisal list while keeping up a particular audit rate. This unequivocally exhibits that the proposed methodology has higher ID rate and disclosure efficiency for this circumstance.

Keywords: object detection; Faster R-CNN; context; skip pooling; guided anchor RPN

Paper 21

USING LOGISTIC REGRESSION IDENTIFYING APPLICATION LAYER DDoS ATTACKS

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ABSTRACT

For a decade, a DDoS attack is a challenge to information security, and it will proceed to be in the future. A DDoS attack on the application layer today represents a significant challenge for web servers. The primary goal of Web server is to provide users with continuous application level facilities. However, the Distributed Denial of Service attack application layer prevents the web server's functionality to its existing subscribers that can cause tremendous revenue damage. In addition, the application layer DDoS attack takes few resources to achieve. Identify only a significant subset of application layer DDoS attacks from the alternatives available for detecting the application layer DDoS attacks. Considerable difficulty in approaches that recognize all forms of application layer DDoS attacks. The regular user browsing behaviour must be modeled in such a manner that regular client and intruder can be distinguished to find an appropriate approach for detecting the application layer DDoS attack. In this paper, we introduce a solution for modelling regular web client browsing behaviour to identify application layer DDoS attacks utilizing function design and logistic regression.

Keywords: DDoS, Application Layer DDoS Attack, Feature Construction, Logistic Regression, User Behaviour.

Paper 22

WORLD – WIDE COVID-19 DATA ANALYSIS AND PREDICTION

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ABSTRACT

What will be the global impact of the novel coronavirus (COVID-19)? Answering this question requires accurate forecasting of the spread of confirmed cases as well as analysis of the number of deaths and recoveries. The purpose of this model is to predict the number of COVID-19 cases and deaths. The used methods are Support Vector Machine (SVM), Linear Regression, and Bayesian Ridge Regression predicting cases for the next 15 days in the world where Polynomial regression gives better result for confirmed cases and Bayesian regression gives better result for death cases. The total (cumulative) number of confirmed cases on May 21, 2020 was more than 5102424 across the world. Compared to the prediction with the real data, the approach of this model should be improved to give a better prediction.

Keyword – SVM (Support Vector Machine), Bayesian Ridge, Linear Regression, Prediction, COVID-19

Paper 23

A CASE STUDY ON YOUTH PERCEPTION TOWARDS DIGITAL BANKING USAGE – WITH REFERENCE TO STUDENTS OF MANGALORE CITY

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ABSTRACT

Banking plays an important role in economic development. Information Technology (IT) has evolved over time and has changed the way business is conducted. As Technology changes Banking sectors welcomes Digital Banking which facilitates their customers to use banking services from anywhere at any time. The banks are connecting to their customers using internet. A rapid increase in usage of smart phones in India with banking applications in mobile device has a development in electronic banking. Digital banking is the fastest growing channel of banking. Banks are offering innovative technology-based services to their customers. In recent days customers visiting bank branches has been reduced. Digital banking usage is increasing in due to easy to operate and convenient mode of banking. Digital banking allows customers to check account balances, funds transfer, and payment of bills and to access many other banking products and services from anywhere and at any time. Youth play important role in building our nation more strong. This paper analyses the key factors attracting the youths towards E-banking and problems in adopting E- banking among youths in Mangalore Region.

Key Words: Information Technology (IT), Digital Banking, E- banking

Paper 24

COMPARATIVE STUDY OF CLASSIFICATION MODELS FOR CUSTOMER BEHAVIOR PREDICTION IN BANKING SECTOR

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ABSTRACT

In the current era customers are the most valuable assets of organizations or banking or business field and customer retention seems to be essential basic requirements for any of these. Customer behaviour analysis and prediction play an important role in the potential growth of banking sector by improving bank-customer relationships and thereby maximizing customer loyalty and retention. So prediction of the customer behaviour and thereby taking remedial actions beforehand is the need of the hour. Many prediction models have been presented to analyze customer behavior based on the available customer personal data and transaction data. In this paper we are presenting a comparative study between five different classification algorithms: Naïve Bayes, Decision tree, Support Vector Machine, Multi-layer perceptron and Random forest on bank marketing dataset, which is publicly available for the better performance in predicting customer behaviour in the banking sector and then recorded the performance comparison results. Python is the suitable language we used to evaluate these classifiers. In the second half of the paper workflow along with the matrix is defined. We have not considered training and testing time accurately here. The final output is a binary value and classified into 2 scenarios based on few metrics. At the end we have come to a conclusion that Support Vector Machine, Multi-layer perceptron and Random forest can be used for customer behavior prediction depending on the size of the dataset and the given conditions.

Keywords: Classification, Prediction, Customer behavior, Naive Bayes, Decision tree, Support Vector Machine, Perceptron

Paper 25

ARTIFICIAL INTELLIGENCE – THE FUTURE IN HUMAN RESOURCE MANAGEMENT “BOON or CURSE”

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ABSTRACT

In this competitive world, we are moving towards globalization and technological advancement. One such technological advancement is Artificial Intelligence (AI) and Robotics. Artificial Intelligence refers to an artificial creation of human-like intelligence that can learn, reason, plan, perceive or process natural language. Artificial Intelligence is a software which can think intelligently similar to how an intelligent man thinks. Artificial Intelligence and Robotics is entering in every organisation and every department of an organisation. One such department is Human Resource Management (HRM). The very nature of an organisation is its people. The skill and knowledge of an employee will help the organisation to attain its objectives. Technology has already changed the way an employee works. Applications and software has made the employees work easy. But activities like hiring, retaining, maintaining, supporting and optimising the workforce of an organisation can utilise the full-fledged technological development. Automation in these activities will result in faster, efficient, accurate and simplified data processing. Technology makes it easier to gather and break down data on employee to get an overall picture. This study will help to analyse the current practise and challenges faced by the Human Resource Department. It will help to understand how Artificial Intelligence can replace employees by streamlining and reshaping Human Resource activities and what can be the impact of Artificial Intelligence towards organisation and employees. The study will also include empirical findings done under the Dakshina Kannada District. The core objective of this study is to examine whether Artificial Intelligence and Robotics can be a boon or a curse to the organisation's workforce.

Keywords: Artificial Intelligence, Robotics, Human Resource Management, Technology, Workforce, Employee.

Paper 26

CUSTOMER ATTITUDE TOWARDS ONLINE SHOPPING – COMPARISON BETWEEN MEN AND WOMEN – A CASE STUDY

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ABSTRACT

The fast growth in technology and increase in the use of Internet by the people in India has led to the development of online shopping. The current pandemic and the days of lockdown have proved to be an added advantage to the E-sellers to expand their customer network. But the availability of numerous shopping websites is a biggest challenge. To attract more customers to the online platform and to increase the sales, the E-sellers have to adopt well developed marketing strategies. This will help them not only to retain the existing online customers but also to attract the potential customers. To develop good marketing strategies it is crucial for the E-sellers to first understand the behavior of online customers. Previous studies have shown that customers compare the prices of the products, study its features and also look at the after sales facilities provided by the E-sellers. There are many more factors which influence the buying behavior of the customers in online mode. One significant factor among all is the gender. Gender plays a very important role in the behavior of customers while they shop online. Earlier research studies show that men are more likely to shop online than women. The study tries to address the role of gender in the attitude of customers towards online shopping. The study is based on an empirical research method. The data will be collected by a self designed questionnaire through convenient sampling method and the population will include online shoppers from Dakshina Kannada district.

Keywords: Online shopping, Customer attitude, Gender, E-sellers.

Paper 27

ENVIRONMENTAL INTERNET OF THINGS (EIOT) TOWARDS HEALTHY ENVIRONMENTAL SYSTEMS DEVELOPMENT—AN OVERVIEW

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ABSTRACT

Information Technology becomes an important tool for the development of the society at large. Initially only Computing were considered as important and after the initiation of Information Technology various components were considered as important and valuable. Information Technology applications in environmental sector is noticeable and today there are diverse areas where IT and Computing is applicable. As far as Environment is concerned there are diverse areas where Information Technology is applicable. The components of Information Technology viz. Web Technology, Database Technology, Multimedia Technology, Networking Technology, Software Technology are applicable in different sub fields and sectors of environment and ecologies including allied fields such as agriculture, horticulture, forestry, disaster management and so on. Internet of Things (IoT) is an emerging technology within Information Technology and it is powered by the internet based solutions to different object, devices and services. As far as Environment and Ecology is concerned there are diverse areas where Internet of Things (IoT) is applicable and due to the rising applications of this technology in environment and ecology the generated another important nomenclature i.e. Environmental Internet of Things or in short EIOT. The applications of IoT in Environment is helpful in environmental monitoring, management, disaster management, and complete sustainable development. This paper is a basic review one where firstly different aspects of IoT is mentioned including features, functions, roles and thereafter particular applications of Internet of Things (IoT) in environment, ecology and allied areas. Paper also mentioned about the challenges and issues in response to Environmental Internet of Things (EIOT).

Keywords: Internet of Things (IoT), Environmental Internet of Things (EIOT), IT, Computing, Digitalization, Ecology, Sustainable Development

Paper 28

IMPACT OF INFORMATION TECHNOLOGY (IT) – EFFICIENCY EFFECTIVENESS AND TRANSFORMATION OF HUMAN RESOURCE (HR) FUNCTIONS OF THE ORGANISATION

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ABSTRACT

In this digitally driven world the functions of Human Resource (HR) department is changing it is well aware that it is impossible for HR to function in a vacuum it requires a collective effort in collaborating and communicating with the Technological evolution. It is a known fact that information technology (IT) not only plays a very vital role in achieving business goals but also in the maximum utilisation of the work performance and this has created an enormous impact on the HR functions of the organisation. With the need and emphasis to improve the efficiency of HR services HR professionals are developing innovative methods in restructuring HR functions. Hence, making use of IT will help the HR department in developing its internal operations, key areas, fundamental competencies, organisational structure and accomplishment of the personal polices of the organisation which will help in creating a change from the traditional HR functions and an opportunity to improve the effectiveness, efficiency and transformation of the HR functions that is a IT based HR functions. Though majority of the organisations are in the process of HR functional transformation organisations are redesigning the HR functions making it more consultative than rules-oriented. This paper identifies the impact of IT on the transformation of HR functions its effectiveness, efficiency, relationship and also on the various support provided by IT towards HR becoming a business strategic partner.

Keywords: Information Technology, Human Resource Function, Efficiency, Effectiveness and Transformation.

Paper 29

POSSIBLE INNOVATIVE PROGRAMS IN ENVIRONMENTAL INFORMATICS AND MANAGEMENT—AN OVERVIEW

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ABSTRACT

The Diversity of the Informatics is noticeable and enhancing gradually. Initially only standalone Informatics programs were popular but with the advent of various technologies and systems Informatics field become an interdisciplinary knowledge cluster with several components. Informatics is very similar with the Information Science; however it is purely associated with the information supported by the technologies. The application and focus of Informatics and IT in Environment and Ecological areas lead the development of new subject called Environmental Informatics and sometimes also called as Ecological Informatics. Since Information Science is an alternative nomenclature, therefore this is may also nomenclature as Environmental Information Science. Academic and training programs in the field of Environmental Informatics are offered as Bachelors, Masters and Doctoral Degrees. Since Environmental Informatics is an important interdisciplinary program therefore it can be offered with concentration of different subjects viz. Science, Technology, Management, Commerce etc. and thus there is a potentiality to offer the program on Environmental Informatics and allied nomenclature with such stream as a specialization or super specialty programs. Environmental Informatics is also focused on Ecology, Agriculture, Forestry etc. and therefore innovative and interdisciplinary program in such areas may also offered. This Paper is focused on Environmental Informatics with reference to the applications, basics and potentiality of new age Environmental Informatics programs in different streams.

Keywords: Environmental Informatics, Environmental Information Science, IT, Ecology, Bio Diversity Management, Educational Programs, Degrees

Paper 30

ZOMATO IN COVID 19: A CASE STUDY

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ABSTRACT

The advancement and use of smart-phones and internet has contributed to the improvement of online services. Zomato is digital platform launched in 2008 that combines restaurant and online food delivery system. Today, it operates across 24 nations, 10,000+ cities with 100 million+ foodies worldwide. The introduction of Lockdown to slow down the spread of COVID 19 pandemic has had a significant impact on tourism, transport, economy, and hotel industry. By binding them together, Zomato eased the pressure on restaurants and customers. By fully disabling cash on delivery, it introduced a cashless process. Through understanding the need for the situation to deliver groceries and took advantage it. Various policies such as Rider Relief Fund, COVID Delivery Partner Insurance, Zomato Gold Support Fund, Restaurant Partner Takeaway, Food Security, Feeding Foundation, Feed the Daily Wager for the underprivileged group have been introduced. While Zomato Dinning out service is in decline, the Zomato Food delivery is rapidly recovering from the impact of COVID 19 with ~80% recovery in metro regions. The revenue in fiscal year 2020 is rose by 105% and expenses by 47%. The main objective of this paper is to understand how Zomato is operating in COVID 19, its effect on culture of hotel industry, the implementation of contactless dinning and challenges it faces.

Keywords: Zomato, Food delivery, Dinning out, Grocery Delivery, Contactless dinning

Paper 31

LEARNING OUTCOME OF ONLINE CLASSES WITH REFERENCE TO SOCIAL SCIENCE GRADUATION STUDENTS –A CASE STUDY

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ABSTRACT

The academic year 2020-2021 has posed a big challenge for all academicians. Beside the changes in external environment for a normal living, enormous changes are happening in the field of education. This revolutionary transformation has long run effect all over the world on education mode. This upheaval has affected the different areas of life of an individual in general and in particular on academicians. It may be the self discipline, accessibility to digital technology, internet connectivity, family support, home learning environment, the ability to cope with the remote learning and teaching, interactions and so on. This study is focused on the learning Outcome of social science graduation students of St Agnes College, Mangaluru. These students are having no practical classes attended only online classes from the month of August and are about to answer their end semester exams in few days. Online classes being the new experience for the teachers and the students, the study is intend to learn the outcome of online classes, its effectiveness and how best teaching methodology could be improved. Data was collected through descriptive qualitative research using questionnaire, online group interviews and through observations

Key Words: Online classes, learning outcome, teaching methodology

Paper 32

ANIMATION FOR LEARNING: ENHANCEMENT OF LEARNING THROUGH ANIMATION- A REVIEW OF LITERATURE

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ABSTRACT

The education system has a dominant role to play in moulding the perceptions and characteristics of learners who will lead the world tomorrow in different capacities. The understanding needs of young people can no longer be fully met by the conventional learning framework because it has not kept pace with the latest pedagogical trends. With the inclusion of animation in classroom teaching, the quality of education can be leveraged. The benefits of animation are well established in education. It is possible to present every idea in a vibrant and visually stimulating manner. It is scientifically proven that, relative to oral memorising, a dynamically illustrated mechanism can be retained in memory for a longer time. Additional animated teaching videos will take boredom away from learning. It is possible to resolve the restricted attention span or loss of focus from which more students suffer. If you objectively observe children's behaviours, you will find that viewing and posting memes, videos on social media, gifs, etc. took great pleasure, suggesting that animated content leaves a deep-rooted impact on children's malleable intellect. The significance of animation for children can also be seen in the field of education. Animated learning content can be leveraged for a range of purposes in classrooms such as:

- *Explaining complicated and difficult concepts in an easy-to-understand way.
- *Make learning a more enjoyable experience for students even with bad results.
- *Presenting concepts from an entirely different angle.

The role of animation in fostering students' interest in learning is crucial. Parents and other stakeholders need to lobby for the inclusion of animation in learning. Animation draws and catches interest because motion is one of the key features of a graph that makes it visible to viewers. Animations, because of their uniqueness, can also boost performance.

Keywords: Animation, Education, Learning, Intellect and Perceptions

Paper 33

THE EFFECTIVENESS OF MOBILE LEARNING IN THE FORM OF PERFORMANCE SUPPORT SYSTEM IN HIGHER EDUCATION

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ABSTRACT

Mobile learning (M-learning) has become an important educational technology in higher education. M-learning makes it possible for students to learn, collaborate, and share ideas among each other with the aid of internet and technology development. The students in higher education need high-quality educational materials and what are the most important, continually up-to-dated courses. The students need a possibility to self-assess their skills and knowledge as the learning steps for improvement - the courses, will provide them knowledge on the newest achievements in the field of education. The complexity of the knowledge and skills, necessary to perform successfully the tasks, determines the learners' needs of "practical learning". The view of learning process, as a performance-centered, is highly effective as a means of providing students in higher education timely and relevant information. Performance-centered educational systems have a strong potential to help students mastering job-related skills. Attitudes towards M-learning technology are an important factor that helps in determining whether or not learners and educators are ready to use M-learning. Such attitudes will serve to identify strengths and weaknesses and facilitate the development of the technology infrastructure. This paper presents M-learning as a form of performance support system for educational and training purposes in higher education and also aims at exploring students and educators' attitudes towards the use of M-learning in higher education. M-Learning solutions integrate mobile devices within the learning process to help students perform a task by providing information, guidance, and learning experiences when and where they are needed.

Keywords: M- Learning, Learners, Educators, and Higher Education

Paper 34

AGRICULTURAL ROBOTS AND ROBOTICS— ASPECTS, EMERGENCES AND CONCERNS

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ABSTRACT

Robot is a machine which is powered by the Artificial Intelligence and allied fields. This is run with the programmable computer and do the task and performance, activities automatically. The robotics systems are normally considered as integrated systems built inside of the systems and also associated with the external controlling mechanism. It is important to note that it is not like that a robot always looks like a human being. It is applicable in diverse areas and among these important are healthcare, business, agriculture, transportation, manufacturing, etc. In the field of agriculture Robotics is dedicated in various pre and post production activities of agriculture and similar sectors. Previously only harvesting considered as important regarding the robotics applications in agriculture but currently there are many concerns where robotics and artificial intelligence (including similar systems) can be adopted such as drone for the applications in weed controlling, plant seeding, environmental assessing and monitoring, soil mapping and analysis, etc. Information Technology in agricultural practices are also supported with various allied technologies viz. Cloud Computing, Big Data, HCI, Usability Engineering, Robotics and AI, etc. According to the market this growth of the robotics is increasing and will be high very soon. This paper is a kind of review on robotics including role in the field of agriculture. Paper discussed the issues and challenges of AI and Robotics in the context of developing countries.

Keywords: Agricultural Informatics, Robotics, AI, Artificial Intelligence, Agricultural Sciences, Development, Sustainable Growth in Agriculture

Paper 35

ENVIRONMENTAL, AGRICULTURAL & SOCIAL INFORMATICS SPECIALIZATIONS AND ITS POTENTIALITIES AT ENGINEERING DEGREES— *AN INDIAN CONTEXT*

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ABSTRACT

Informatics is an important field of practice and study. It is very similar and also close with the Information Science. Informatics initially only were considered as a branch of advanced applied science but gradually it has become a domain centric field for the information and technological solutions. Among the most common and available Informatics nomenclature important are Health Informatics, Bio Informatics, Geo Informatics etc. The advent of IT and Computing in the field of Environmental Sciences and whole sector leads Environmental Informatics as an important interdisciplinary field of studies and practice for the environmental monitoring and solutions leading to the environmental management, disaster management, agricultural management. Therefore, universities and educational institutions are moving towards academic program on environmental informatics and allied fields. Similar to Environmental Informatics another sub field also gaining popularity i.e. Agricultural Informatics and this is incorporated with the technology and management also. The subject is being offered at different level for the best environmental solutions. Moreover, another important domain centric Informatics field is also become important i.e. Social Informatics which is dedicated in social applications using Information Technology and allied systems. Social Informatics is also concern about the Urban and Rural Development with the Urban and Rural Informatics. This paper is a theoretical study on Environmental, Agricultural and Social Informatics with reference to basic features, functions and applications.

Keywords: Informatics, IT, Environmental Informatics, Emerging Technologies, Agricultural Informatics, Educational Systems

Paper 36

COMPREHENSIVE ANALYSIS OF IOT SECURITY: CHALLENGES AND SOLUTIONS

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ABSTRACT

Internet of Things (IoT) has found great role in controlling and surveilling of various connected embedded devices. IoT applications include healthcare, industry, campuses, home appliances, smart cities, farming, transportation, vehicles and much more. The IoT can't be considered not only as a system to connect many devices for communication but as a platform which provides supporting environment to them. IoT is transforming our life and it is integrated with almost all of our day today activities. IoT obtain its popularity in recent times due to its flexibility, usability, applicability and ease of deployment. But issues related to security are less explored. Besides making our lives better and easier these devices are vulnerable to many threats and security challenges. Therefore, a powerful security mechanism is necessary to overcome these attacks, vulnerabilities, security, and privacy challenges related to IoT. Recent research focuses on addressing security issues by looking inside platform. In this research, a systematic literature review has been conducted to analyze the security of IoT devices and to provide the solution in response to security problems and challenges. This paper explores the requirement for strong security mechanism in IoT applications and also tries to analyze various challenges faced by IoT applications now a days. Finally, some future research directions IoT security technologies are discussed.

Keywords: Internet of Things (IoT), Security, Challenges, Interoperability, Software Defined Security

Paper 37

APPLICATIONS OF NATURAL LANGUAGE PROCESSING IN HEALTHCARE

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ABSTRACT

In clinical computer science, the importance of integrating Natural Language Processing (NLP) has increasingly been recognized in recent years and has resulted in transforming advances. Health databases are exponentially and the importance of this data are converted into text analytics and natural language processing (NLPs). All of them use text analytics and NLP to boost their patient efficiency, streamlines operations and manage compliance with regulations. Clinical NLP systems have usually been developed and assessed based on word, phrase or document level annotations modeling specific attributes and features, like document content, section types, entities and concepts or semantic attributes. Clinical studies on the other hand usually model and analyze study studies at the patient or population level, such as predicting how a group will respond to particular therapies or track a patient over time. While some NLP tasks take account of individual or group-based user predictions, these tasks are still a minority. There is no strong alignment between these assessment methods in the light of the gaps between scientific goals in individual fields and the variations in methodological assessment priorities. There is a more general discussion of the two main approaches to the interpretation of medical terminology. Here we give a detailed overview and description of the challenges associated with identifying adequate intrinsic and extrinsic NLP testing methods for evaluation, and vice versa. The research on mental health is a particular subject, a field which the clinical research community NLP still relatively understudies, but which has notable significance to the NLP methods. Recent progress has been important in the development of the clinical NLP process, but we propose to put more emphasis on rigorous assessment to advance the field. In order to do so we have feasible proposals including a minimum protocol to be used for the development and evaluation of clinical NLP methods. In this paper we are going to address the outline of the challenging issues involved in defining appropriate intrinsic and extrinsic evaluation methods for NLP research that is to be used for clinical outcomes. Also identify the emerging applications of text analytics and natural language processing (NLP) in healthcare.

Keywords: Natural Language Processing in Medicine, Computational Linguistics, Medical Language Understanding, electronic health records; clinical notes; chronic diseases; natural language processing; machine learning; deep learning; heart disease; stroke; cancer; diabetes; lung disease

Paper 38

FUTURE TECHNOLOGIES OF IT, MANAGEMENT, EDUCATION, AND SOCIAL SCIENCE -ARTIFICIAL INTELLIGENT

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ABSTRACT

This paper will review certain approaches to artificial intelligence research-mainly work done since 1960. In the future, intelligent machines will replace or enhance human capabilities in many areas. An important area of research involves designing a machine that can adequately improve its own performance as well as solve other problems normally requiring human intelligence. Artificial intelligence is the intelligence exhibited by machines or software. It is the subfield of computer science. Artificial Intelligence is becoming a popular field in computer science as it has enhanced the human life in many areas. Artificial intelligence in the last two decades has greatly improved performance of the manufacturing and service systems. Work in heuristic programming that seems most relevant to this goal will be discussed at length. which provides a foundation to explain the mechanisms of advanced natural intelligence such as thinking, learning, and inferences. This paper gives an overview of this technology and the application areas of this technology. Important subproblems are devising techniques for self-improvement, the general problem of deciding what task to best work on next in a network of tasks, and the general problem of how to mechanize learning or inductive inference. A measurement framework of intelligent capability of humans and systems is comparatively studied in the forms of intelligent quotient, intelligent equivalence, and intelligent metrics. On the basic the compatibility of natural and machine intelligence is revealed in order to investigate into a wide range of paradigms of such as natural, artificial, machinable intelligence, and their engineering applications. This paper will also explore the current use of Artificial Intelligence technologies in the PSS design to damp the power system oscillations caused by interruptions, in Network Intrusion for protecting computer and communication networks from intruders, in the medical area medicine, to improve hospital inpatient care, for medical image classification, in the accounting databases to mitigate the problems of it and in the computer games. Some work in linguistics and pattern recognition is directly concerned with the induction problem. Another area of research that will be treated is simulation of organic evolution.

Keywords: Inductive inference, simulation, Artificial Intelligence, Intrusion Detection Systems, Neural Networks (computer), interruptions, Power System.

Paper 39

FUTURE TRENDS & TECHNOLOGIES IN COMPUTER SCIENCE

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ABSTRACT

Today we can find faster change and progress because of rapid evolvement of technology. Not only trends and technologies have changed, a lot of changes have happened due to COVID-19 pandemic. This has made Software and IT professionals to understand that their role will be changing day by day. So, in order to accommodate these changes in 2020-21 they must enhance their skills by learning new trends in technology required in near future. They must keep them updated with new skills and technologies which are required to safeguard their job and to get a new job. Due to pandemic majority of IT professionals are on Work from Home. They can learn the future technologies in their free time. Some of the technologies that are required to secure a new job are: Artificial Intelligence (AI) and Machine Learning, Robotic Process Automation (RPA), Edge Computing, Quantum Computing, Virtual Reality and Augmented Reality, Blockchain, Internet of Things (IoT), 5G, Cyber Security. These technologies are giving promising career and helpful in future also.

Keywords: AI, RPA, VR, AR, IoT.

Paper 40

ANALYSIS AND DESIGN OF PLAGIARISM SOFTWARE FOR ALL LANGUAGE IN A SINGLE PLATFORM

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ABSTRACT

Copying and pasting ideas or data across languages have created many challenges in copyrights. Though many methods have been developed to detect plagiarized content in English and English related language, however, detecting all language it is like left to right (Ex: English) and right to left (Ex: Urdu) language plagiarism is still a challenge. This study uses advanced Encrypted Text Matching (ETM) and Text Encryption Indexing (TEI) to build all language semantic space, from which it checks the contextual similarity in indexed data and internet data. Still there is no plagiarism detection software for providing single platform checker, as we studied in a major plagiarism detection software's in a world like 'Turnitin' providing 30+ language, 'Urkund' Providing 20+ languages and 'DrillBit' Supporting 20+ Languages majorly English related. Here we are working for single platform to show all language text matching process by using UTF-8, 16 and Unicode text encryption and decryption technology.

Keywords: Text Matching, Indexing, Internet Data, Encryption, Decryption.

Paper 41

TECHNICAL INSIGHTS ON DEVELOPMENTAL CHALLENGES OF ANTI-PLAGIARISM SOFTWARE

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ABSTRACT

Detection of Plagiarism has been the biggest challenge of the decade as it is been very difficult to track the progress of each student very closely. Taking this into account a Plagiarism Detection Software must go through lot of quality checks to ensure the work done by student is devoid of Plagiarism in a very genuine way. DrillBit Anti Plagiarism Software on one hand is providing the service across many universities in India, there are many technical challenges faced in developing the Algorithm that works best in detecting Plagiarism. Some of the very distinct challenges include – ‘Data Management’ which is very closely related to Big Data, ‘Content Analysis’ which is based on Natural Language Processing (NLP), ‘Document Manipulation’ a common practice by students follow to cheat the Software in detecting Plagiarism.

Keywords: Plagiarism, Data Management, Content Analysis, Big Data, Natural Language Processing.

Paper 42

USING MACHINE LEARNING CLASSIFIERS DEVELOPING A FRAMEWORK FOR MULTI-LAYER BOTNET IDENTIFICATION

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ABSTRACT

In recent days, as it uses numerous malicious files such as a worm, Root kit, Trojans, botnets became the most major issues to computer security. The risk of Botnets is that unlike the notification of the device user, a device may have been under the regulation of a botmaster and conduct suspicious attacks. Botnets magnitude and prevalence are, thus, coordinated by network security researcher to conduct dedicated efforts using a range of strategies to recognize and characterize botnets. The malware will be used to deliver phishing connections to specific potential and to provide net with fraudulent facilities. Particularly compared to IRC, HTTP and other botnet forms, it is difficult to distinguish peer-to-peer botnets since P2P communication has standard centralized control and delivery characteristics. This study proposes a Peer to Peer Bot identification approach based on a combination of decision trees on efficient multi - layer feed forward neural network. To choose significant attributes, a regression and classification tree are implemented as a performance metric. A multi - layer feed-forward neural network model is generated with such characteristics using a robust optimization technique for back-propagation.

Keywords: Botnet detection, Network traffic identification, Machine learning, Cyber Security, Anomaly detection



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