

#### INTERNATIONAL CONFERENCE ON

**Internet of Things and Applications for Smart City** 

#### Organized by

Annamacharya Institute of Technology & Sciences, Tirupathi & Institute for Engineering Research and Publication (IFERP)

# **ICIOTAS - 2016**

Proceeding for International Conference
On
Internet of Things
And
Applications for Smart City
At
AITS, Tirupati

18th - 19th March'16

Published by: Institute for Engineering Research and Publication (IFERP)

Organized at: Annamacharya Institute of Technology & Sciences (AITS)

Venkatapuram (village)
Renigunta (Mandal)
TIRUPATI
Chittoor District
Andhra Pradesh-517520.

Publisher: IFERP - Institute for Engineering Research and Publication

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#### **Editorial:**

We cordially invite you to attend the International Conference on Internet of Things and Applications for Smart City (ICIOTAS-16), which will be held in Annamacharya Institute of Technology & Sciences (AITS), Tirupati on March 18<sup>th</sup>-19<sup>th</sup>, 2016. The main objective of ICIOTAS-16 is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities on Internet of things and its application to build up smart city. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face in order to establish business or research relationship and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on software engineering, computational sciences and other fields of Science Engineering and Technology. All accepted abstracts were subjected to strict peer-reviewing by 2-4 expert referees. The abstracts have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results on Electrical, Electronics and Computer Science Engineering but also provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities and research institutes. Many professors plaid an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in the review process, and to the authors for contributing their research result to the conference.

Since January 2016, the Organizing Committees have received 573 manuscript papers, and the papers cover all the aspects in Electrical, Electronics, Mechanical, Civil and Computer Science Engineering, related to Internet of things and its application to construct Smart City. Finally, after review, about 148 papers were included to the proceedings of ICIOTAS- 2016.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of International Conference on Internet of Things and Applications for Smart City (ICIOTAS-16). We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions make this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers especially we would like to thank to organizing committee for their hard work.

Editor-In-Chief

Sulconi p.C.

Dr. P.C. Srikanth Professor and Head

MCE, Hassan, Karnataka, India.

## From the Desks of ....

## ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCE (AITS), TIRUPATI



Internet of Things (IoT) has been considered as an important technological revolution for smart systems, such as smart city, smart transportation, smart home, and smart factories. The ICIOTAS is to address these challenges in order to develop intelligent IoT systems for effectively processing real-time big IoT data and managing future IoT systems in a large scale.

Sri. C. Gangi Reddy, M.Com., LLB., Hon'rary Secretary, Annamacharya Educational Trust





**ICIOTAS** is one of the key academic conferences to present research results and new developments in the area of The Internet of Things (IOT) refers to the use of intelligently connected devices and systems to leverage data gathered by embedded sensors and actuators in machines and other physical objects. IOT is expected to spread rapidly over the coming years and this convergence will unleash a new dimension of services that improve the quality of life of consumers and productivity of enterprises, unlocking an opportunity that the GSMA refers to as the 'Connected Life'

Sri.C. Abhishek Reddy, <sub>B.Tech., MBA(UK).,</sub> Executive Director & Member, Annamacharya Educational Trust





The ICIOTAS conferences discuses Internet of Things (IOT) for individuals, business and societies and particularly the issues that telecommunications and other regulators will need to consider as IoT systems proliferate in developed and developing economies.

Sri. C. Yella Reddy, Vice Chairman, Annamacharya Educational Trust





The purpose of this talk is to familiarize participants with a vision for the future of energy and smart cities. The Smart Grid technology roadmap will discuss the Smart Grid solutions of Distribution Optimization, Transmission Optimization, Asset Optimization, Demand Optimization, Smart Meters and Communications, and Workforce and Engineering Design Optimization and their role in Smart Cities. Three key visionary concepts to be covered are the greater value of the integration of key technology components and the importance of industry standards and interoperability.

Prof S John Prabhakar Professor, Department ECE, AITS, Tirupati





Recent advances in mobile and sensing technologies have facilitated the rapid development of smart wearable devices and Internet of Things (IOT). With the increasing interests from the industries, growing number of new devices have been introduced in the consumer electronics market, particular for fitness, sports and home automation applications.

This conference addresses the technical issues and latest developments in smart wearable devices and IoT technologies for health and wellbeing applications.

Dr. P Satyanarayana Professor, Department ECE, AITS, Tirupati





"The key idea is how we use human wisdom and technology to support smart growth and improve peoples' well-being. I think the initiative comes at the right time and, for a lot of places, at the right stage of development." People who are fascinated by smart cities are leading much of the enthusiasm.

Dr. N C Eswar Reddy Professor, Department ECE, AITS, Tirupati





International Conference on Internet of Things (ICIOTAS 2016) will provide a high-profile, leading-edge forum for researchers, engineers, and practitioners to present state-of-art advances and innovations in theoretical foundations, systems, infrastructure, tools, and applications for the Internet of Things, as well as to identify emerging research topics and define the future.

Dr. A. Ramakrishna Rao Professor, Department ME, AITS, Tirupati





The mission of International Conference on IoT systems (ICIOTAS) is to serve and promote ongoing re-search activities on the uniform management and operation related to software defined infrastructures. It aims to analyze limits and/or advantages in the exploitation of IoT existing solutions developed for Cloud, Networking and IoT, and to present original and innovative contributions. Advances in IOT are changing the way we live and interact with each other, making our daily activities fast, easier and more reliable.

Dr. G. Krishnaiah Professor, Department ME, AITS, Tirupati





Alternative energy sources available in our environment could be used to achieve perpetual functioning without replacing or refilling batteries, such as energy harvesting. On the other side, energy management is also a concern for cloud data centers that need to be managed efficiently regarding power consumption, air conditioning, energy saving, and environmental impact. This conference will address the range of problems related to energy-aware and energy harvesting management when designing software and hardware platforms for the Internet of Things, Cyber Physical Systems and Cloud computing.

Dr. V C Veera Reddy
Professor, Department EEE, AITS, Tirupati





This ICIOTAS will explore the interfaces between the Web, the Web of Data, and the City Smart environment. It will further explore how the Web and the intelligences built on top of, and around the Web, can make the notion of the Smart Connected City possible and realizable. The content of innovation and potential for breakthroughs in 5G networking is becoming an increasingly interesting question as the announcements on different 5G initiatives, projects, and trials are becoming ubiquitous. This will provide an overview of how intelligence at the edge can help overcoming the scalability problem and an outlook of how the future wireless network, i.e. 5G will help making sure that the IOT will be able to scale.

Mrs. Irala Suneetha Head of Department ECE, AITS, Tirupati





The ICIOTAS conference is dedicated to this very active area of applications for smart city envisages a future where most objects and humans are interconnected into a massive intelligent system which is of benefit to our society.

The conference showcased key critical innovation in networking, security, data analytics, digital healthcare, smart cities, autonomous and connected vehicles.

Mr. D Murali Head of Department CSE, AITS, Tirupati





A confluence of many technological advances marks the advent of a new networked systems era. World data volume is growing at an unprecedented pace, much of it is from embedded devices. Smart cities are expected to grow, fed by millions of data points from multitudes of human and physical sources. Cyber-attacks grow more nefarious, bringing down physical systems.

This conference offers an interdisciplinary venue to discuss challenges, technologies, and emerging directions in system design and implementation that pertain to the Internet of Things. Many sub-systems need to come together to address the needs of current and future applications.

K Balaji Nanda Kumar Head of Department EEE, AITS, Tirupati





The motive of ICIOTAS '2016 is to provide a place to present their latest research results and perspectives for future work in the IoT and Cloud Computing field. IoT is recognized as one of the most important areas of the future Internet; enabling ubiquitous computing among global networked machines and physical objects. IoT is a highly distributed and ubiquitous network of seamlessly connected heterogeneous devices that can be fully integrated into the current Internet and mobile networks.

*K Kumar*Head of Department ME, AITS, Tirupati





The conference ICIOTAS is designed to examine key critical innovations across technologies which will alter the research and application space of the future. The Internet of Things envisions a highly networked future, where every object is integrated to interact with each other, allowing for communications between objects, as well as between humans and objects, which enables the control of intelligent systems in our daily lives.

Dr. J Guru Jawahar Head of Department CE, AITS, Tirupati





IoT is a unique event for industry leaders, academics and decision making government officials. It will examine key critical innovations across technologies which will alter the research and application space of the future. The theme of this conference is IoT: Applications for Smart City.

Dr N Chandrika Head of Department MBA, AITS, Tirupati





The international conference on Internet of Things has become the premier gathering place for visionary, academic researchers and practitioners around IoT. This conference on the Internet of Things (ICIOTAS 2016) is the premier place to share, discuss and witness cutting edge research in all areas of development for the Internet of Things.

R DevaRajulu Reddy
Head of Department H & S,
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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Bit Error Analysis of M-ary PSK Modulation Schemes in MATLAB & SIMULINK

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The increase in multimedia services on mobile wireless communication has resulted in great advancement of the wireless communication field in the recent times. One of the widely used techniques is digital modulation technique which allows digitized data to be carried or transmitted via analog radio frequency (RF) channels. We require high data rates in limited spectrum bandwidth to improve the performance of the signal for uninterruptable communication. But with high data rate there will be probability of error. This paper emphasis on the error probability of M-ary PSK modulation techniques in Additive White Gaussian Noise (AWGN) Channel. A simulink based simulation system is also designed for M-ary PSK modulation technique in AWGN and Rayleigh channel for mathematical and simulink analysis. Based on these performances a desirable modulation scheme is suggested that provides low BER at low received SNR, performs well in multipath & fading conditions occupies a minimum of bandwidth and is easy & cost effective to implement in present cellular communication.

<b>Key Words:</b>	AWGN channel,	Bit Error Rate,	M-PSK,	Rayleigh channel.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Advanced Chatting Powered by Cloud – An Analysis

[1] Y Akshobhya, [2] Navin K,

[1]M.Tech Cloud Computing, [2] Assistant professor (OG)

n this paper we are going to explore implementation of Advanced chatting using the herculean powerful technology of the contemporary computing industry which is Cloud Computing. This compares to the traditional method which is used for chatting or instant messaging between mobile devices, whereby an application is installed on the users' device which communicates with a server. In today's world the number of people using these chatting or instant messaging applications follows a trend of exponential growth. To provide a facility capable providing services to the increasing number of users a significant server should be equipped and maintained which is becoming costinconsequential in the current Information Industry. With Technology industry changing its colors day-to-day and providing noteworthy services we can build a robust chat application while lowering the infrastructure cost to implement by moving our server side application to cloud by purchasing cloud services for the server. Using Platform as a Service (PaaS) which is one of the offerings of Cloud Computing we can build a server which will function in the same way as traditional server does. Then we can implement a client application with specialized features, such as marking a read message as unread, forwarding a message or messages to multiple users in the contact list and storing their images into the cloud storage. One important feature of significant importance to this application is implementing a 'balanced Cloud'. If we can balance particular data such as duplicated images or videos without any replications then it could reduce the storage space consumed by the application. Also managing the server using the cloud account from the PaaS service provider will make developers' job much easier. The cloud will not only serve as an application server but can also be utilized to back up the user data which is referred to as Storage Service, an optional facility subscribed along with PaaS. Whenever the user will change their device their data will follow them to the new device, such as Mobile Phone, Tablet, Computer, etc.

**Index Terms**—Cloud Computing, Paas, Cloud Storage, Balancing Cloud.

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### High Speed Performance of Multipliers in VLSI Circuit Design

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typical processor central processing unit devotes a considerable amount of processing time in performing arithmetic operations, particularly multiplication operations. Multiplication is one of the basic arithmetic operations and it requires substantially more hardware resources and processing time than addition and subtraction. In fact, 8.72% of all the instruction in typical processing units is multiplication. In this paper, comparative study of different multipliers is done for high speed. The paper gives information of "Urdhva Tiryakbhyam" algorithm of Ancient Indian Vedic Mathematics which is utilized for multiplication to improve the speed of multipliers. Vedic Mathematics suggests one more formula for multiplication of large number i.e. "Nikhilam Sutra" which can increase the speed of multiplier by reducing the number of iterations

Index Terms—Vedic Multiplier, Urdhya Tiryakbhyam, VLSI Design.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Automatic Scraper of Celebrity Images from Heterogeneous Websites Based On Face Recognition and Sorting For Profiling

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ow a days it has become trend to follow all the celebrities as we consider them as our role models. So instead of searching the images of various celebrities in different websites we can find them in a single website by sorting all the images. Reliable database of images is essential for any image recognition system. Through Internet we find all the required images. These images will serve as samples for automatic recognition system. With these images we do face detection, face recognition, face sorting using various techniques like local binary patterns, haar cascades. We make an overall analysis of the detector. Using OpenCV we detect and recognize images. Similarity matching is done to check how the images are related to each other. Collection of images is based on user defined templates, which are in web browser environment. With the help of this system one can give their requirement and the image of celebrity is displayed based on that.

**Index Terms**— Celebrity Images, Image recognition, Image sorting..

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### A Review on Dissemination of Energy-Efficient Broadcast to Channel Randomness in Mobile Networks

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fficient broadcast in mobile networks is a challenging task due to high dynamic topology and energy efficiency and channel randomness. Based on an in-depth analysis of the popular Susceptible Infectious Recovered (SIR) epidemic broadcast scheme. In this paper a a study on novel energy-efficient broadcast scheme was done through dissemination process. Which is able to adapt to fast changing network topology and channel randomness? Dissemination in mobile ad-hoc networks (MANETs) has to propagate a way of sore carry forward. Analytical results are provided to characterize the proposed scheme, including the fraction of nodes that can receive the information and the delay of the information dissemination process.

<b>Index Terms</b> —Mobile ad-hoc networks, shadowing	ig, fading, connectivity, epidemic broadcast
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Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

A study on role of women in knowledge driven Economy

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ntrepreneurship is becoming a buzzword in different parts of the World. Entrepreneurship has male dominated phenomenon from the very early age, but time has changed the situation and brought Women as today's most memorable and inspirational Entrepreneurs. The women Empowerment has been important role of Governmental& other Non-governmental Organizations. The women are endowed with innate power that can make them successful entrepreneurs. In today's world, women entrepreneurs are playing very vital role and they have become important part of the global business environment and it's really important for the sustained economic development and social progress. Women entrepreneur is a key contributor to economic growth in low and middle income countries like India. Women's level of optimism and self confidence in stating a business is highly influenced by the culture and social norms of their native countries. Women Entrepreneurship and overall participation of Women in the Economy are closely related to each other. And this study aims to give an overall view point of Indian Women Entrepreneurs and giving suggestions to improve their level Another main purpose of this paper is to analyze policies of Indian government for women and also to analyze that are those policies adequate for the growth of women entrepreneurship. On the basis of this study some suggestions are given to encourage spirit of women entrepreneurship to become a successful entrepreneur."Gender sensitive development assistance can be a powerful force for empowering women to compete in land, labor and product markets enabling them to make economic, social and environmental contributions to sustainabledevelopment."

**Key Words:** Women Entrepreneur, Impact of Women Entrepreneurs in Indian Economy, Economic Development, Self-confidence, Economic Growth.

Note:	
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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Video Tracking For Multi Task by Using Hierarchical Features

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To learn the hierarchical features for visual object tracking is the capability of handling complicated motion transformations. In this first learned the offline features as robust to diverse motion patterns from the auxiliary video sequences. The hierarchical features are learned into two-layer convolution neural network, which are important for visual object tracking. The target of the video sequence is used to be domain adaption module to learn online adapt with the pre-learned features according to the specific target object. The adaption is containing the both layers of deep learning features and robust to complicated motion transformation. That capture the changes for specific target objects to learn online adapt with pre-learned generic features used to test video sequence. It will be integrate our feature learning algorithm into three methods. They demonstrate that significant improvements and can be achieved by using learned hierarchical features, especially on the video sequences with complicated motion transformations and usually requires a lot of training data to learn deep structure and its parameters.

Index Terms—	object tracking,	Deep	learning,	and	Domain	adaptat	ion.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Design and Implementation of secure communication between Two Branches of a company using IPSec protocol In CLI and GUI modes

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ow a day's most of the corporate business network infrastructure needs to securely transfer data across the Internet. Data can be a company's top-secret information regarding product designs, product release dates, patent information, HR employee investigations, etc. This project provides insight for a secure solution to this business need using Virtual Private Network (VPN). There are a number of VPN protocols in use that secure the transport of data traffic over a public network infrastructure.

Internet Protocol Security (IPSec) is a protocol suite for securing Internet Protocol (IP) communications by authenticating and encrypting each IP packet of a communication session[1]. IPSec is an end-to-end security scheme operating in the Internet Layer of the Internet Protocol Suite. It can be used in protecting data flows between a pair of hosts (host-to-host), between a pair of security gateways (network-to-network), or between a security gateway and a host (network-to host). A virtual private network (VPN) is a technology for using the Internet or another intermediate network to connect computers to isolated remote computer networks that are inaccessible. A VPN provides security so that traffic sent through the VPN connection stays isolated from other computers on the intermediate network. VPNs can connect individual users to a remote network or connect multiple networks together. For example, a user may use a VPN to connect to their work computer terminal from home and access their email, files, images, etc. Corporate migration to VPN connections across the Internet is beginning to become very attractive because of the tremendous cost savings. VPN remote users get the impression of being directly connected to the central network via a point-to-point link [1].

**Keywords:** Internet Protocol Security (IPSec), Internet Engineering Task Force (IETF), Virtual Private Network (VPN).

Note:



### **Internet of Things & Applications for Smart** City

March 18–19, 2016, Tirupati

A Review on a Novel Approach for Image Segmentation Using Fast Gradient and Nontrivial Transformation

comparative analysis to fast multi label colour image segmentation using Convex optimization techniques were studied. The presented model is in some ways related to the well-known Mumford-Shah model, but deviates in certain important aspects. The optimization problem has been designed with two goals in mind. It represent fundamental concepts of image segmentation, such as incorporation of weighted curve length and variation of intensity in the segmented regions, while allowing transformation into a convex concave saddle point problem that is computationally inexpensive. The nontrivial transformation of this model into a convex-concave saddle point problem, and the numerical treatment of the problem were studied. By applying an algorithm to various images it shows that the results are competitive in terms of quality at unprecedentedly low computation times. This algorithm allows high-quality segmentation of megapixel images in a few seconds and achieves interactive performance for low resolution images.

**Index Terms**—Unsupervised image segmentation, convex optimization.

Note:

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### **Internet of Things & Applications for Smart** City

March 18–19, 2016, Tirupati

Design and Development of NOVEL System for Traffic Congestion.

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raffic congestion occurs when slow moving vehicles congregate, causing increased travel time and fuel consumption. Observation and predictive analysis of historical trends in traffic data will provide opportunities to mitigate the adverse effects of traffic congestion by improving the road infrastructure, subways, and other forms of public transportation. The most important information that can be captured from public transportation systems is origin-destination information. This product and service will be of highest interest to civil and traffic engineers working for (or with) municipal and state transportation departments. The primary objective of this project is to collect origin-destination information from busses, and format it into a useable format for use by the customers. The topics covered in this paper are traffic congestion, proposed solution, competition survey, product analysis.

**Keywords**—Origin-Destination, Traffic Congestion

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Design of Micro Strip Patch Antennas for Agricultural Applications

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This paper describes the designs of micro strip patch antennas for agricultural applications. These antennas are designed and optimized by using the HFSS (High Field Structural Simulator). These antennas not only allow the integration of a microchip but also of a sensor commonly used in the agricultural fields such as humidity/temperature sensor. These antennas operate at a resonant frequency of 6.9GHz.

Keywords: micro strip, patch antenna, slot antenna, FID, RFID-enabled sensor, HFSS.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### An Intelligent Robotic Home Security System

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The security needed for humans and their belongings is more important in the day-to-day life. In the growing technological world many automated systems are being developed to alert the user about any hazards taken place in the home environment. Normally this kind of automated system will alert the user within a particular area; this can be made through using Extended Infrastructure Network. Even if user needs to be communicated wirelessly it's more expensive. Considering all these factors we design the smart home security system which can be controlled by Android Application through the Internet. This robot gives live surveillance streaming about the home environment to the user Android Application. Live surveillance streaming is made possible with the help of IP Camera controlled by Arduino board. However, this robot can functioned by two modes either user mode or automatic mode. In addition to Home Security System, the robot can detect LPG gas leakage and fire accident happen in the home environment with minimum cost. Home Security System can alert the user through email and Android App notification. User address will be send to the nearest fire station, if fire accident is occurred.

**Index Terms** - Android, Live surveillance, Trigger, Arduino.

Note:



### **Internet of Things & Applications for Smart** City

March 18–19, 2016, Tirupati

#### Employment Exchange Application for Android Platform

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he prime objective of "Employment Exchange Application" is to create a full-fledged Android Application which would allow the user to register their qualifications and experience with the valid proof and provide employment assistance on the basis of that. Job seekers could search suitable jobs based on their qualification. After registration, a unique user ID will be generated as a reference. So that next time the user could login with the user ID and could make any updates if available. Job seekers could also check their status by the option Status. By choosing SMS option, whenever government vacancies are announced, the registered member with the suitable education profile will be intimated through an SMS/Mail.

This project was done using Eclipse. It also uses Android Software Development kit (SDK) which includes a comprehensive set of development tools that help us to develop mobile Applications on the Android platform.

Keywords- Android SDK, Eclipse-IDE, java, SQLite

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

"Academia" - An Android Application

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Android is a mobile operating system (OS) based on the Linux kernel. In the current scenario, the students are the larger users of Android Applications. The proposed system is an "Android Application for Engineering Institutions" which allows the students to view and download their Question Banks and get notified about both the technical and non-technical events at the college. The Application is developed using Android Studio with the help of Android SDK tools. The MySQL Server is vused for storing the data. It helps the users to know about the most possible questions on each chapter for the Assessments as well as the University Examinations. Key Links are provided, which directs the users to the website where the study materials are available. It also helps in knowing the performance of the students, once the assessment details of each student has been uploaded in the Institution's Academic Portal. This app facilitates the student community to have an easy access to the study materials and it can be extended by various academic institutions in future.

Keywords—Android Application, Android SDK Tools,

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

"Complex Event Processing Application for Smart City"

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mart city is defined as the ability to incorporate multiple technological solutions in secure fashion to manage the city assets. Emerging needs to make cities smarter, as proposed by IMB in Smarter planet program which mention the collaboration between the different city agencies such as health care agencies, transport agencies, various govt. agencies etc. This collaboration in smart cities will generate a huge data set. By applying complex event processing on these data set we can solve the various real time problems related to above mentioned agencies. Event processing is nothing but processing of the past or real time dataset to generate the new conclusion. These conclusions are helpful to find the opportunities or threats about any particular event. Complex event processing uses data mining to process the given dataset and give the essential event pattern as output. There is very less research work in India for calculating required conclusion from multiple dataset. This proposed system will help to propagate the optimum conclusion.

**Index Terms**: Event Processing, data mining, smart city, ID3 Algorithm.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Smart Education for Smart City: A Solution to School Dropout

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Chool dropout is a major factor responsible for low quality education and lack of relevant skills among the students. The findings reveal that both the school and family related factors were responsible for the increase number of dropouts. In order to reduce the dropout rate of the students make education system more efficient the use of modern technology can definitely help using low cost solution that can be even deployed in the Government schools also for Smart City Application. The present study is analysis of dropout rate and the proposed solution to reduce the same.

**Index Terms**: Quality of education, low cost solution, school dropout, smart city application.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Survey on Privacy Preserving Data Mining: Techniques and Application

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ata mining is the process of extraction of data from large amount of database. One of the most important topics is now days in research community is Privacy preserving data mining (PPDM). The goal of privacy preserving data mining is to extract relevant knowledge from large amounts of data while protecting at the same time sensitive information. To solve such problems there are number of methods and techniques have been proposed for protecting sensitive information. This paper provides a wide survey of different privacy preserving data mining algorithms and A tabular comparison of different technique is presented.

<b>Key words</b> —Data Mining; Privacy Preserving; Sensitive Data; Privacy Preserving Technique
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Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### FPGA Based Partial Reconfigurable One Dimensional Median Filter Design

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he median of a set of samples in the word-level sorting network is often computed by first sorting the input samples and then selecting the middle value. The power consumption is reduced by decreasing the number of signal transitions in the circuit. This can be done by keeping the stored samples immobile in the window through the use of a token ring in our architecture. The experimental results have shown that, at the expense of some additional area cost, the power consumption can be successfully reduced. This paper proposes new architecture which is implemented as a two-stage pipeline, the median output, which is the sample with median rank, will also be generated at each cycle. The improvement in power consumption is achieved by utilizing a token ring in our architecture. Since the stored samples in the window are immobile, our architecture is suitable for low-power applications.

Keywords- Low-power, median filter, one-dimensional (1-D), token ring.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Internet of Things as an Approach of Evolutionary Practise In Computer Applications

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he Internet of Things is a paradigm where everyday objects can be equipped with identifying, sensing, networking, and processing capabilities that will allow them to communicate with one another and with other devices and services over the Internet to accomplish some objective. Internet-of-Things envisions a future in which digital and physical entities can be linked, by means of appropriate information and communication technologies, to enable a whole new class of applications and services.

The title of this paper may suggest different networking strategies, but we focus on latest research angles regarding the Internet of Things (IoT). These research angles include all other disciplines and are in the process of being adopted by the IoT. Our paper serves a key purpose: from the perspective of closely connected technologies based on time, to review the evolutionary process of the IoT and depict the relations between the corresponding techniques which are largely missing in current literature in which the focus has been more on the introduction and comparison of existing technologies of the IoT. Through relations of particular focus in different stages of each technology, we get to know the current phase of the IoT and we can face future challenges. This paper aims to provide guidance in terms of the evolutionary process of the IoT and gives readers an overview of the IoT field without repeating what is already available in existing strategies.

Index Terms—	$I_{\Omega}T$	evolution	M2M	architecture	WSN	$\mathbf{W}_{\mathbf{O}}\mathbf{T}$
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### **Internet of Things & Applications for Smart** City

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Gait Analysis Using Iot: A Sensor Integrated Shoe

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he paper is about the work done for gait analysis as an application of IoT (Internet of Things). The method adopted can help the doctor to treat a patient with gait disability (Limped person). Gait analysis deals with study of walking pattern, in order to understand the gait abnormalities. To treat these gait abnormalities it's necessary to analyse gait parameters such as foot angle, stride distance, step distance, step count, cadence, speed, progression line etc. This project presents a shoe device to measure these parameters with the help of various sensors such as accelerometer, ultrasonic sensor, gyroscope, foot pressure sensor, flex sensor etc. These sensors can be placed in the shoe such that sensors can accurately measure these parameters. The digital output of these sensors can be integrated through a controller and Wi-Fi module. The results obtained from patient are sent to the network through Wi-Fi. The doctor can access the webpage and get the data of all his patients. The task involves many numbers of doctors and much number of patients to communicate. IoT helps the doctor to treat the patients from anywhere at any time using the database of results. Hence this wireless shoe device helps to overcome the disadvantages of existing system which is practised in gait motion analysis laboratory. Results of shoe device can be compared with gait of normal person in order to differentiate and study the abnormal and normal gait of a person. The development of shoe device is mainly concerned with features like low cost, portable, ease of use and accurate measurements of gait parameters. The objective of shoe integrated sensor system for gait analysis is to provide better digital output results of the abnormal parameters and efficient way of analysing than clinical gait. This device has various applications in sports for exercise training, medicinally in treating paralyzed patients and in biometric and forensics to identify/improve individual patient by making minor variations. Latest trend of IoT in health care system gives a transformative impact on gait analysis.

Index Terms—Digital Cameras, Gait, Internet of Things, Micro Switches, Programming's.

Note:

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### **Internet of Things & Applications for Smart** City

March 18–19, 2016, Tirupati

Graphics Extraction - Vector Processing XSLT and XML Transformation

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oftware application has reduced many manual related repeated works. Traditional sparse image models treat color image pixel as a scalar, which represents color channels separately or concatenate color channels as a monochrome image (Sharpening the images done by designing team).

In this project, we propose a vector art representation model for images using quaternion matrix analysis. End user will view these images from DOCX or any other form of documentations for example: PDF file, these document files are for example: prepared by various Doctors using chemical theories and published for student reference. If user wants information regarding study materials, student will have links to the website then they need to download the document files and they will refer the images for their studies. To reduce these manual work process called manual image processing (MIP). In this project new approaches got implemented that is vector art graphics extraction. Using this algorithm user will create images and published for the end user for example students. Once published end users will refer these images and user will use it for their own educations study material preparation purpose. Also by separating these images it will reduce the size of storage in the local system disk space. Since if we store the document files it would occupy more space when compare to individual image files with captions.

The images will be in the following order: Horizontal, Vertical and Image inside the image that is small part of the image over the part of main image. Current system will provide only sharpen the image. That is Vector sparse representation, quaternion matrix analysis, color image, dictionary learning, and image restored in a location. Only related images user can extract and prepare with their study materials, instead of depending on the document. These approaches reduce the disk space.

Keywords: DOCX represents Latest Microsoft Office word document Files, DOC is for Microsoft Office word document file, MIP stands for manual image processing, PDF is Portable Document File, IPTS is Image Processing Transformation System, IPGE is Image Processing Generation, XSLT/XSL Extensible Style sheet Language and XML is Extensible Markup Language.

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Prioritized and on Time Safety Critical Message Transmission in VANET

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Vehicles equipped with a wave communication device can establish the wireless communication among them. Vehicular ad-hoc networks provide the communication framework for the dissemination of safety-critical messages such as beacons and emergency messages. Under high-density situations, it leads to a serious scalability problem in VANETs. Congestion in the communication channel results in packet drops, throughput reduction and degradation of channel quality. So, congestion control schemes are necessary to regulate the traffic level at an acceptable level. Proposed system can reserve time slots by dynamically partitioning the beacon interval without the expense of beacons. Dynamic time slots ensure fast and reliable propagation of emergency messages by employing a pulse-based reservation mechanism. Adaptive beacon broadcast overcomes the problem of periodic beacons broadcast that incurs high overhead and congestion in the network. Prioritized On time safety message transmission reduces the congestion in the network and emergency messages are easily transmitted without any delay. Performance of the proposed system is evaluated by delay, throughput, and packet delivery ratio.

**Index Terms**—VANET, Adaptive beacon broadcast, Beaconing, Adaptive congestion control, periodic beacon broadcast.

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### **Internet of Things & Applications for Smart** City

March 18–19, 2016, Tirupati

### Efficient Energy Harvesting for Household Applications Using Hydel **Technique**

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■ he paper describes about generation of electricity in very small scale by same principle. The vital component used in this technique is Dynamo. A Dynamo is electric device that converts mechanical energy into electric energy. By the usage of Dynamo, the armature which is present in the Dynamo can generate the electricity. As we are considering for house hold purposes. Let us consider a multi-storey building or an apartment to implement the operation completely. Usually all multi-storey buildings will be having an over-head water tank at the roof top, the water will flow through the pipe to various houses with different pressure. There will be a large pressure at the outlet of the water tank from the top, so dynamos are placed at different distance to harvest the electrical energy generated by hydel technique. The kinetic energy of water is converted into Electrical energy by rotating small Dynamo inside the water pipe. The harvested energy can be stored in batteries, to utilize for household applications. By using this technique, the energy can be generated at minimal cost, and also store that energy to use it later. For instance the power generated can be used to light up low wattage bulbs at house hold levels in efficient way.

**Keywords**— hydel technique, energy, power generation, Dynamo.

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Data Mining Using Matrix Factorization for Enhancing a Patient's HealthCare

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The mining is used to discover as well as extract data from web documents and service. Social networking sites are used to discuss the current topics and reactions to current happening on the internet. The discussion which reflects the opinion of people, thoughts and their innovative ideas. Detection of current topic and tracking valid data from offline articles is quite difficult. Detection of topic from social networking sites will helps to gather and analyses the huge volume of up-to-the minute. Topics are detected based on vigorously and provides path to various treatments to cure the diseases. The techniques are called as Formal Concept Analysis [3] based on Matrix Factorization are intended to pick up the evolution and issues of current topic in unstructured content which are present in a social media. Extraction and analyses of data based on the user-needed data content. Self organizing maps [16] are used to correlate the data based on positive and negative words present in the user's status. Scores of text will give as numerical value of each user forums. The pictorial representation can be viewed based on the scored values and for easy understanding. It helps to determine the better treatments and least cost medicine to cure incurable diseases can be identified and try to cure by early stage as soon as possible.

**Index Terms**: Cluster Analsyis, FCA, Grid factorization, Neural Networks, NMF, R Console, SOM, Twitter.

Note:			



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Review on Energy Harvesting for Wireless Communications

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In energy harvesting communications, user transmits messages using energy harvested from nature during the course of communication. In energy harvesting introduced the energy cooperation, where the user wirelessly transmits a portion of its energy to another energy harvesting user. where the transmitter sends one signal and receiver receives the received signal into two parts by either power splitting or time switching by using SWIPT (simultaneous wireless information power transmit). The energy cooperation save-then transmit (EC-ST) scheme is employed consider additive white Gaussian noise one-way channels with two-way energy transfer under a deterministic energy arrival rate. In this case, the optimal active ratio and the energy cooperation power are obtained in closed form to achieve the maximum throughput. Next, for Rayleigh block fading channels with a stochastic energy arrival rate, the optimal energy cooperation power for minimizing the outage probability. This paper concentrates on the optimal performance of the P2P wireless communications within T seconds. To begin with, the (EC-ST) scheme to additive white Gaussian noise (AWGN) one-way channels with two way energy transfer under a deterministic energy arrival rate.

**Index Terms**- Energy harvesting, energy cooperation save-then-transmit scheme, throughput maximization, outage probability minimization.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Morphological Component Analysis for Textural Enhancement

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n practice, image segmentation can be performed in many areas like medical and satellite communications to detect objects and regions in the image. The texture enhancement methods representing all texture information using a single image component. In previous texture enhancement methods reduce noise or artifacts in the image to highlight the textures with the help of filters which reduces the quality of the image. In this project propose a new texture enhancement method using Morphological Component Analysis which uses image decomposition that allows different visual characteristics of textures to be represented by separate components. This method is intended to be a preprocessing step to the use of texture based segmentation algorithms. It uses the modification of Morphological Component Analysis which allows textures to be separated into multiple components each representing different visual characteristics of texture. It select four such texture characteristics and propose a new dictionaries to extract these components using Morphological Component Analysis (MCA). This method produces superior results compared to comparator methods for all segmentation algorithms tested. It results the clusters of local texture features of each distinct image texture to mutually diverge within the multidimensional feature space to a vastly superior degree competes the comparator enhancement methods. The motivation for this project is to extract the greater performance from any texture based segmentation method by establishing a general purpose texture enhancement algorithm.

**Index Terms**- Texture, enhancement, segmentation, morphological component analysis, non-linear transform.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

A Review on a Person Cross Domain Re identification Based Adaptive Ranking Support Vector Machines (AdaRSVMs)

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n adaptive ranking support vector machines (AdaRSVMs) method is used for re identification under target domain cameras without person labels. It addresses a new person re identification problem without label information of persons under non overlapping target cameras. Given the matched (positive) and unmatched (negative) image pairs from source domain cameras, as well as unmatched (negative) and unlabeled image pairs from target domain cameras, To overcome the problems introduced due to the absence of matched (positive) image pairs in the target domain, we relax the discriminative constraint to a necessary condition only relying on the positive mean in the target domain. To estimate the target positive mean, we make use of all the available data from source and target domains as well as constraints in person re identification. Inspired by adaptive learning methods, a new discriminative model with high confidence in target positive mean and low confidence in v target negative image pairs is developed by refining the distance model learnt from the source domain. Experimental results show that the proposed AdaRSVM outperforms existing supervised or unsupervised, learning or non-learning re identification methods without using label information in target cameras. Moreover, our method achieves better re identification performance than existing domain adaptation methods derived under equal conditional probability assumption.

**Index Terms**- Person re- identification, domain adaptation, Target positive mean, adaptive learning, ranking SVMs.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### A Health-IoT Platform Based on the Bio-Sensor and mobile application

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n-home healthcare services based on the Internet-of-Things (IoT) have great business potential; however, a comprehensive platform is still missing. In this paper, an intelligent home-based platform, the iHome Health-IoT, is proposed and implemented. In particular, the platform involves an open-platform-based intelligent health analysis system with enhanced connectivity and interchangeability for the integration of devices and services, flexible and wearable bio-medical sensor device (Bio-Patch) enabled by the state-of-the-art inkjet printing technology and system-on-chip. The proposed platform seamlessly fuses IoT devices (e.g., wearable sensors.) with in-home healthcare services (e.g., telemedicine) for improved user experience and service efficiency.

**Index Terms-** Internet-of-Things, Health-IoT, Bio-Patch, mobile application(e-health application).

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Experimental Studies on Partial Replacement of Quarry Dust as Fine Aggregate

uarry dust is powdered material obtained during crushing of blue metal. During the process of crushing fragmentation of stones takes place which results a powered waste material was formed which is termed as quarry dust. As the physical property is fine it can be used as a fine aggregate to replace sand. Now a days natural resources are depleted due to making of concrete for construction. The alternative materials has to be invented in order to replace the natural aggregates and do the same job in making of concrete. Quarry dust is a by-product from of crushed blue metal. Lime stone fines or rock dust is a by-product obtained during crushing of granite rocks and is also called quarry dust so the alternative materials will be used in order to replace the natural resources for same job.The7 days compressive strength and split tensile tests values for 0%,25%,50%,75%,100%, replacement of fine aggregate with quarry dust is carried out and the obtained should compared with the conventional concrete.

**Keywords**—quarry dust; partial replacement..coarse aggregate, fine aggregate

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Independently Driven Double Gate Operation in Junction less-based Tunnel FET Using Numerical Simulation

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Independently Driven Double Gate (IDDG) operation is investigated in Junctionless-based Tunnel FET (TFET) using TCAD device simulations. Junctionless-based TFET operation is achieved using multiple gate electrode workfunction on the device. In the IDDG mode, the characteristics of one gate can be dynamically controlled from the second gate. The parameters, ON current (ION), OFF current (IOFF), threshold voltage (VT) and transconductance (gm), subthreshold swing (SS) are taken for study.

Index Terms—IDDG; Tunnel FET; Junctionless FET; Work Function

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

An Approach to the Development of Smart Village under Virtual Environment

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mart village development is the main objective of this paper. Smartness can be achieved by Wireless Sensor Networks (WSN) and pervasive computing. People in the villages will be able to communicate with the government from any device, any location, anytime and in any format. This paper describes a mobile application by which one can communicate with the mobile server, cloud, every sensor that is connected to another sensor wirelessly to form a wireless sensor network to sense the surrounding environment. The rapid increase in the development of these devices in communicating-actuating network develops the Internet-of-Things (IOT). Sensors and actuators in this environment sense the information and is shared across platforms in order to create a Common Operating Picture (COP). Cloud centric vision is one of the application of this paper.

**Index Terms**— Actuators, Common Operating picture (COP), Internet of Things (IOT), Pervasive computing, Sensors, Wireless Sensor Networks (WSN).

Note:



### **Internet of Things & Applications for Smart** City

March 18-19, 2016, Tirupati

**Background Subtraction for Object Detection Using Fuzzy Colour Histogram Features** 

ackground subtraction is an effective method for object detection. Subtraction using fuzzy logic gives more accurate object detection. It increases the effectiveness of subtracting the dynamic texture. And compared to other algorithm fuzzy color histogram (FCH) has an ability of greatly attenuating color variations generated by background motions while still highlighting moving objects which are distinctive from variations due to noise, are hardly tolerated in this assumption and thus still lead to high-level false positive rates when using previous models.

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Integration of Internet of Things (Iot) and Cloud Computing For Smart Cities

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s the cities are growing with internet of things (IoT), it is necessary to provide flexible and centralized solution for it instead of the distributed and segmented approach. These kind of solution can be brought in the internet of things by using cloud computing and its various services. Cloud computing services provide the facility to work from everywhere, recoverability, less fault tolerance, security and environment friendly. The cloud services can be developed for specially internet. Thus, the internet of things can be integrated with cloud, to make advancements in the existing systems of IoT. In this paper, the various services and the key points of cloud computing and IoT have been discussed.

**Index Terms**—internet of things, IoT, cloud computing, infrastructure, sensing, actuation, green cloud computing

Note:



### **Internet of Things & Applications for Smart** City

March 18–19, 2016, Tirupati

#### Measures for Ensuring Women Empowerment – Conceptual Observation

 $^{[1]}$ T.Sanjeev Kumar  $^{[2]}$ V.Latha  $^{[3]}$ Shaik Khaja Moin  $^{[1]}$ Assistant Professor  $^{[2][3]}$  PG student

mpowerment is an active and multidimensional process, which enables women to realize their identity and power in all aspects of life. The need for empowerment of tribal's women hardly needs justification. Their primitive way of life, economic and social backwardness, low level of literacy, out dated system of production, absence of value systems, spare physical infrastructure in backward tribal areas and demographic quality of tribal areas make the development of tribal and tribal areas essential. Government of Indian launched a lot of Programmers for development of tribal area, viz. Tribal Sub-plan strategy, Panchayats (Extension to the Schedule Areas) Act, 1996, State / UT Minor Forest Produce Act, 2005 including other Development and Employment Programmers etc. Self Help Group - Bank Linkage Programmer of the Government of India is designed to alleviate poverty and empower women of the country.

Women and girls have restricted mobility, access to education, access to health facilities and lower decision making power and express higher rate of violence. The status of women in a society is a significant reflection of the level of social justice in that society. In tribal communities, the role of women is substantial and crucial.

Key v	wards:	NGO	'S, IRDP,	TRYSEM,	WOMEN	ORGAN	NISATION.
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Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Monitoring and Planning of Public Transport for Passengers

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his paper focuses the problem faced by bus bunching and the proposed solution to the problem. The main motive is to consider the number of passengers and to schedule the bus based on the density. The passenger count can be obtained by two ways, which is using a mobile application. The whole system is controlled by a low power, highly sustainable, and secured wireless technology. The outcome of this proposal is to reduce unnecessary running of the buses, due to which the fuel consumption is reduced and passengers need not wait for a longer time for the buses. This system leads to well maintained public transportation in the city by reducing bus bunching.

Key wards: AD-hoc networks, WSN, ZigBee, IOT, public transport, Bus bunching.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Fractal Antenna as a Multiband Antenna for WiMAX Applications

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wide band antennas for wireless communication. Fractal antennas are different from others because of their self-similarity and space filling properties. Fractal micro strip patch antennas have small size, light weight and support multiple frequencies. In this paper, a multiband square fractal antenna is designed and analyzed. This antenna is a direct fed and has truncated ground plane. Antenna properties such as return loss, gain, VSWR, and Bandwidth are analyzed and discussed in this present work. Design and Analysis of fractal antenna is done by using software named HFSS (High Frequency Structural Simulator). This antenna can be used for Wi-Fi and WiMAX applications.

Index Terms- Fractal Antenna, Gain, Multiband Antenna, Wireless Communication.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Design and Simulation of Wlan and Wimax Patch Antennas

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ireless technology has helped to simplify networking by enabling multiple computer users simultaneously share resources in a home or business without additional or intensive wiring these resources might include a broadband internet connection, network printers, data files and even streaming audio and video. In this paper we propose rectangular micro strip antennas with an inset fed. Various slots are cut into the structure which changes the current path and are made to operate at two different bands.

Keywords: hfss, input impedance, inset fed, return loss

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Study on structural behaviour of reinforced concrete beams with partial replacement of fine aggregate by perlite

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his paper explains the comparative studies on partial replacement of crushed perlite as fine aggregate. Perlite is basically the mineral obsidian. It is naturally occurring siliceous volcanic rock. Utilization of natural resources of environment is essence of any development in concrete. Perlite gives excellent insulating properties at temperature varying from very low and very high. Using crushed perlite aggregate in concrete the total amount of cement content 70% and fly ash 30% replacement of cement. The combination reducing the effect of thermal conductivity in light weight concrete. In light weight concrete addition of perlite is reduced the density of concrete. The flexural and compressive response of concrete to be determined and 0% to 30% replacement of fine aggregate using crushed perlite. Optimum percentage of partial replacement of aggregates were obtained by conducting various strength tests such as compression and flexural strength on the casted specimens such as cubes, cylinders, prisms and beams.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Design and Simulation of UWB and PCS-DCS Patch Antennas

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Tireless technology has helped to simplify networking by enabling multiple computer users to simultaneously share resources in a home or business without additional or intrusive wiring. These resources might include a broadband internet connection, network printers, data files and even streaming audio and video. This kind of resource sharing has become more prevalent as computer users have changed their habits from using single, stand-alone computers to working on networks with multiple computers, each with potentially different operating systems and varying peripheral hardware.

Our research is mainly based on designing patch antennas which operates at multiple frequencies. Here our antennas are designed to operate at two different bands UWB (3.1-10.6GHz) and PCS-DCS (1.8-2.1GHz)

<b>Keywords:</b>	hfss, input impedance, return loss

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Simulation of Routing Protocols in Wireless Ad-hoc Networks

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d-hoc networking is a concept in computer communications, which means that users wanting to communicate with each other form a temporary network, without any form of centralized administration. Each node participating in the network acts both as host and a router and must therefore is willing to forward packets for other nodes. For this purpose, a routing protocol is needed. An ad-hoc network has certain characteristics, which imposes new demands on the routing protocol. The most important characteristic is the dynamic topology, which is a consequence of node mobility. Nodes can change position quite frequently, which means that we need a routing protocol that quickly adapts to topology changes. The nodes in an ad-hoc network can consist of laptops and personal digital assistants and are often very limited in resources such as CPU capacity, storage capacity, battery power and bandwidth. This means that the routing protocol should try to minimize control traffic, such as periodic update messages. Two of the proposed protocols are DSR and AODV. They perform very well when mobility is high. However, we have found that a routing protocol that entirely depends on messages at the IP-level will not perform well. Some sort of support from the lower layer, for instance link failure detection or neighbor discovery is necessary for high performance. A large network with many mobile nodes and high offered load will increase the overhead for DSR quite drastically. In these situations, a hop-by-hop based routing protocol like AODV is more desirable.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### RMM Protocol in 10 GEPON Communication With Jitter Supression

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B roadcasting is the high data transmission by a single destination address in wired medium. Data transmission with RMM (Reliable Multimedia Multicast) protocol provides reliable audio, video and data application. It increases the quality of video streams which is transmitted over the PON (Passive Optical Network) network. While comparing with other protocol, RMM protocol gives better performance with aid of Qos (Quality of Service) and it can improve bandwidth of audio, video used in multimedia application.

Ke	ywords:	Droptail,	Reliable	Multimedia	Multicast,	Passive O	ptical	l network, (	Qualit	y of	service
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Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Effective Data Hiding Mechanism Based on Encrypted Image in a Discrete Wavelet Zone of a Carrier Image

ow a day's to keep up secrecy and confidentiality of an information could be a vivacious field with 2 totally different approaches being followed, the primary being encrypting the pictures through cryptography algorithms victimization keys, the opposite approach involves concealing knowledge victimization data concealing algorithmic program to keep up the pictures secrecy.

A content owner use cryptography key to perform the cryptography of original pictures, and employing a information hiding key a data hider will plant further data into the encrypted image although he doesn't recognize the first content, because the encrypted image contains some further information, with the assistance of cryptography key a receiver 1<sup>st</sup> decipher it then extract the embedded information and recover the first image in line with the data-hiding key.

**Keywords**— Cowl image, Knowledge concealing, Knowledge extraction, Image secret writing, Image decoding, Knowledge recovery, DWT.

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## Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Power Generation from Lokomotive Rooftops

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his thesis describes about the modified locomotive roof top that can generate electricity. The new modification of the locomotive roof top is by adding the blade/fins to the horizontal shaft to help it to spin faster and more efficient. Optimum design and performance of the system also discussed. This system is suitable to use for the high speed wind places. The system is containing the combination of the DC generator, roof top wind turbine, batteries. This system managed to produce 12 Vdc to 14 Vdc to charge the 12 Vdc batteries system. The operational concept of the system is the load will use the energy from the batteries that charged using locomotive roof top. The observed performances of system are the voltage and current of the roof top wind turbine, batteries and the load.

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Radar Control Pulse Generation Using FPGA

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he current work is aimed to fabricate a pulse generator to meet the requirements of control and process signals to be applied on to several basic constituting functional units of a radar system. The functional units of Radar system include Exciter, Receiver, Radar Controller, TCSG and Duplexer Antenna. The synchronized pulses generated are operate on functional units is accomplished by generating a reference pulse known as "Inter pulse period". The controlled pulses in the radar systems are categories as Exciter pulse, Transmit pulse, Gating pulse, Blanking pulse and are generated with respect to "Inter pulse period". All these functions of the different control signals generated for the functioning of radar is conveniently done by FPGA system using Spartan 6.Pulsed radar transmits high power, high-frequency pulses toward the target. Then it waits for the echo of the transmitted signal for some time before it transmits a new pulse and it can be used to measure target velocities. Target Range and bearings can be determined from the measured antenna position and time-of-arrival of the reflected signal. Pulse generator is the equipment that are used to generate pulses - normally rectangular pulses, these pulses can be used to generate pulses that can stimulate logic circuit. These different pulses can be generated by using FPGA, it can be programmed to the desired application or functionality requirements.

**Keywords**: Inter pulse period, Echo Signal, TCSG,FPGA.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

DAWN Algorithm for Cellular Data Usage on the Quality of Service (QOS) Requirements of the Applications

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he Wi-Fi offloading with delay-tolerant applications under usage based pricing is the major problem in cellular data usage. We aim to achieve a good tradeoff between the user's payment and its QoS characterized by the file transfer deadline. A general Delay-Aware Wi-Fi Offloading and Network Selection (DAWN) algorithm for a general single-user decision scenario was used. We then analytically establish the sufficient conditions, under which the optimal policy exhibits a threshold structure in terms of both the time and file size. As a result, we propose a monotone DAWN algorithm that approximately solves the general offloading problem, and has a much lower computational complexity comparing to the optimal algorithm. Simulation results show that both the general and monotone DAWN schemes achieve a high probability of completing file transfer under a stringent deadline, and require the lowest payment under a non stringent deadline as compared with three heuristic schemes.

**Index Terms**— Mobile data offloading, cellular and Wi-Fi integration, dynamic programming, threshold policy.

Note:



## Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Experimental Studies on Carbon Fiber Reinforced Fly ash Concrete

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oncrete is a composite construction material made primarily with aggregate, cement, and water with or without admixture. The paper reports on a comprehensive study on the properties of concrete containing fly ash and carbon fibers. Properties include workability of fresh concrete ,compressive strength, split tensile strength and Flexural strength. With increase in the coal based thermal power projects there is increase in production of fly ash as a waste material and disposal of fly ash is hazardous, If it is not disposed well. Carbon fiber is made up of carbon crystals and it is a super strong material extremely light weight also five times stronger than steel and also two-third times less in weight. The replacement of cement with fly ash in carbon fiber reinforced concrete reduces the environmental pollution and improves the compressive strength and flexural strength. Fly ash content was used 10% and 20% in volume basis and fiber content was 0.5% and 0.75% also in volume basis. For each mix standard size of cubes, cylinders, prisms as per Indian standard codes were cast and tested for compressive strength, split tensile strength and flexural strength at the age of 7 days.

**Key words:** Concrete, Fly ash, Carbon fiber, Compressive strength, Tensile strength, Flexural strength.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

An Approach To Identify The Depressed People Using Tweets

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epression exists as one of the most common form of psychological disorder. It is seen in most of the individuals at some point of time in life. People who are depressed will feel sad, anxious, hopeless, sleepless etc. It creates an impact on both physical and mental health. The outcomes of depression can turn out to be severe if it is left untreated. It can lead an individual to risky behaviour such as drug or alcohol addiction. It can also ruin the relationships, affect the life in the work environment and also make it difficult for an individual to return back to the usual lifestyle. In this paper we provide a brief study on the data that is obtained from twitter and analyze whether the person is depressed or not.

Index Terms-	<ul><li>Depression,</li></ul>	outcomes, se	erious, twitter.
Note:			



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### A Review on Anti Spoofing For Face by Using Light Field Camera

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he liability of face recognition systems in biometrics is a growing concern today, as still it remains vulnerable to various sophisticated attacks that undetermine the reliability of biometric systems. In this paper, we present a novel approach to accurately detect and mitigate the Spoofy attacks on the face by introducing light field camera (LFC), also known as plenoptic camera. Since the use of a LFC can record the direction of each incoming ray in addition to the intensity, it also exhibits an unique characteristic of rendering multiple depth (or focus) images in a single capture, also known as refocusing, which provides the high quality artefact face features. Introducing a novel idea of exploring the inherent characteristics of Light Field Camera to detect spoof attacks by estimating the variation of the focus between multiple depth images. To this extent, we first collect a new biometric face artefact database using LFC. We then generate the face artefacts samples by simulating three different kinds of spoof effects including photo print and electronic screen attacks. Extensive experiments carried out on the light field face artifact database have revealed the outstanding performance of the proposed anti spoofing scheme when benchmarked with various well established state-of-the-art schemes.

**Index Terms**—Biometrics, face-recognition, spoofing, security, refocusing, light field camera.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Smart Villages through Information Technology

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uman society is developing with rapid momentum and achieved various successes for making its livelihoodbetter. The civilization is witness for various changes related to it's the development through different catalysts like industrial development, green revaluation, science and technology etc. The present era is augmented on information and communication technology. The driving motivation behind the concept on "smart village" is that technology should acts as a catalyst for development, enabling educational and local business opportunities, improving health and welfare, enhancing democratic engagement and overall enhancement of rural village dwellers. The "smart village" concept aims to realize its goal trough providing policymakers with insightful, bottom -p analyses of the challenges of village development. Specifically,the study intended to address the major issues faced by the community farmers, identify the smart village indicators and put forward a strategic plan for the smart village implementation. Smart communities and smart villages or being developed world wide. Smart communities are defined as a community with a vision of the future that involves the application of information and communication technology in a new and innovative way to empower its, resident institution and reasons as a whole. A smart village is a concept which refers to a set, series or even a bundle of services being delivery to a group of resident inheriting that particular rural area and business effective and efficiently. The concept of smart city or village has become a global phenomenon that exists all over the world.

**Keyword:** Green revolution, social empowerment, smart village ecosystem, industrial development.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Smart Home Energy Management for Elderly & Disabled People

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s home energy use is increasing and renewable energy systems are deployed more, home energy management system (HEMS) needs to consider both energy consumption and generation simultaneously to minimize the energy cost. This paper mainly focuses on featuring smart homes for elderly, disabled & poor people. The smart meter gathers the energy consumption and generation data, analyzes them for energy estimation, and controls the home energy use schedule to minimize the energy cost. By considering both energy consumption and generation, the proposed HEMS architecture is expected to optimize home energy use and result in home energy cost saving.

**Index Terms** — Home Energy Management System, ZigBee, Renewable Energy, Micro controller, wireless sensor network.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Structural Health Monitoring of Splice Joint in Steel Beam

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wing to lesser erection time and higher reliability, the bridges, industrial shades, offshore structures, skyscrapers etc. are constructed using steel structures. The members of those structures are often connected by welding or by bolts. In this present study the degradation of joints in steel structure is addressed. Generally, bridges are of long span. Often splicing is done for continuity of beams. The study of semi-rigid joint for a beam is carried out considering the elastic boundary conditions. We start by considering a structure of two beams which are connected by means of splicing at mid span. Modeling has been done in ABAQUS CAE 6.13. Loosening of bolts at splice section is considered as damage. Response of damaged and undamaged structure is observed. Theoretical validation of this numerical model is done by developing elemental stiffness matrix with semi-rigid connection and matching the responses. Both static and dynamic analysis is carried out on this model. In static analysis it is observed that the difference in displacement parameter between the damaged and undamaged structures. In dynamic analysis, it is noted that frequency change is not much to make difference between damaged and undamaged structure.

**Keywords**—structural, splice joint, steel beam

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Study On Flexural Behaviour Of Polypropylene Fiber Reinforced Fly Ash Concrete Beam

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Concrete is a basic construction material made of primarily with aggregate, cement and water, admixture. There are many types of concrete, which provide varied properties and concrete is being the most used product made by man in the world. Environmental pollution is the biggest threat to the human race on the planet today. It means adding impurity to environment. It has a severe effect on the ecosystem. In our construction industry, cement is the main material for the concrete production. All the stages of manufacturing concrete causing environmental impacts. These include emissions of airborne pollution in the form of gases, dust, noise and vibration when operating machinery and during blasting in quarries and damage to countryside from quarrying. Fiber reinforced concrete (FRC) is concrete containing fibrous material that increases its structural integrity. It contains short individual separate fibers that are uniformly distributed and randomly oriented. Fibers include polypropylene fibers, steel fibers, glass fibers, synthetic fibers and natural fibers, each of them lends varying properties to the concrete. In addition, the character of FRC changes with varying concretes, fiber materials, orientation, distribution, geometries, and densities. The concept of introducing fibers as reinforcement is not new to this world. Fibers have been used as reinforcement since ancient times.

Polypropylene is a versatile and widely used polymer; Polypropylene resins are a general class of thermoplastics produced from propylene gas. Propylene gas is obtained from the petroleum by-products or cracking of natural gas feedstock's. Polypropylene fibers belong to the new generation of large-scale in manufactured chemical fibers, having the fourth largest volume in production after polyamides, polyesters and acrylics. Polypropylene is one of the most successful used fibers, reaching a world production capacity of 4 million tons per year. Due to its high crystalline, low density (0.9 gm. /cc), high stiffness and excellent chemical/bacterial resistance, is tactic Polypropylene is widely used in many industrial applications such as industrial ropes, nonwovens, furnishing products, packaging materials, etc.

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Polypropylene fiber as the suitable fiber which can increase the strength of the concrete when its strength compared with the conventional concrete. Experiments are carried out for M30 concrete with addition of polypropylene fibers. In addition to this the cement content is replaced by fly ash. Concrete cylinders and cubes were casted and tested from 7 days and 14 days and the test results are described in detail. The 0.4% of polypropylene fiber addition along with the 30% replacement of cement content with fly ash showed the compressive strength and split tensile strength increasing from initial stages when compared it to the conventional concrete. But attained 30.22% and 46.40% for 7days and 14 days compression test respectively. Beam of size 1m x 0.15m x 0.2m is tested for flexural strength.

<b>Keywords</b> —Flexural behaviour, Polypropylene fiber reinforced beam, Fly ash beam, PPFRF6	PPFRFCB	y ash beam,	beam, Fly	reinforced	ene fiber	olypropyl	; Po	naviour.	bel	—Flexural	Kevwords	ŀ
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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Identification of the Movements of Human in a Video

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utomatic video surveillance is used for monitoring the behavior of people from distance. Identifying human movement is a major task involved in the process. In this paper the movements of human in a video is identified by using the Global GIST feature. This feature is used to track the corner of the moving body in each frame. The results for various videos involving single or two persons are summarized.

Index Terms— Control Points, GIST Feature, Skeleton Detection

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Greedy Hop Algorithm For Detecting Shortest Path In Vehicular Networks

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ANET (Vehicular Adhoc Networks) is an upcoming research area due to the development in reducing traffic congestion. It has various challenges to adopt on the design of protocols that can serve in different topologies and scenarios. The main motive of VANET (Vehicular Adhoc Networks) is to build a robust network among vehicles so that the vehicles can communicate with each other for the safety of human beings. In case of accidents, the vehicles on the other end should receive the warning message in short time so that they can decide and make a proper decision for diversion. In this paper, we design the network in such a way that the warning messages are sent in shortest path using Greedy-hop algorithm. This will help the vehicles in the environment to be free from congestion. Hence, we evaluate our work with performance metrics like throughput, delay and packet delivery ratio.

Index Terms— Greedy-hop algorithm, shortest path, VANET, warning messages

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Tracking of Change in Database at API Level

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If the rising demand of real time data by modern applications is considered, the traditional techniques of keeping applications in sync with data in database server appears insufficient. Normally in client-server architecture, client needs to check the server frequently for data change. This approach is inefficient and non-reliable as the data may get change at any time irrespective of the time at which client check the server for changed data. As this task needs to be performed frequently it consumes system resources causing performance issues.

Recently, some DBMS vendors are introducing APIs to cope with this issue. Each of the vendors follows different approach. Similarly, in this paper we are looking into Event driven approach of tracking data change. This is another such efficient approach of data change tracking. To implement this approach existing DBMS needs to be added with modules written in native language and client side application also needs to be added with API to register query for data change tracking. In addition we tried to focus solution for performance issues with the previously introduced approaches by different vendors. This approach will help applications which are using DBMS which lack data change tracking functionality to fulfill real time data need.

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Digital Image Protection And Self Recovery Using Source-Channel Coding

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igital imaging has been rapidly developing in last two decades and digital multimedia products are utilized in countless applications. As a consequence popular and low cost access to image editing applications challenges the integrity of digital images. Digital images can be easily tampered with image editing tools. Tampering is intentional modification of images. Forensics applications have been used in digital images. One of the forensics applications is to protect the images against tampering. To fulfill the purpose of image tampering the algorithm should satisfy two cases 1) Detecting the tampered area of the received image 2) Recovering the lost information in the tampered zones. State-of-the-Art techniques perform these tasks by applying watermarks consisting check bits and reference bits. Check bits are used for detecting the tampered area where as information of whole image is stored in reference bits, but the problem of recovery the lost reference bits still exists. To overcome this problem SPIHT technique is used in which if the tampering locations are known then image tampering can be modeled and dealt with as an erasure error. Therefore reference bits are protected against tampering by designing an appropriate channel code. The total water marking bit budget is dedicated into three groups 1) Source-encoder output bits 2) Channel code parity bits 3) Check bits. In watermark embedding phase, the original image is source coded and the output bit string is protected using appropriate channel encoder. For image recovery erasure locations are detected by check bits. Check bits help channel erasure decoder to recover the original source encoded image. This technique significantly outperforms recent techniques in-terms of image quality of water marked and recovered image. The water marked image quality gain is achieved through spending less bit budget on water mark. The quality of recovered image is considerably improved as a result of consistent performance of designed source and channel codes.

**Index terms**— Image watermarking, fragile watermarking, image tampering protection, SPIHT, RS channel codes.

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Verilog Implementation of Reversible Logic Gates

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echnologies day-to-day are becoming smaller, faster and more complex than its previous technologies being developed. Increase in clock frequency to achieve good speed and increase in number of transistors packed onto the chip to achieve complexity of a conventional system results in increased power consumption. All the gates used to perform Boolean algebra based computations by the use of silicon based semiconductor technology in a Conventional logic system are irreversible in nature.

This is due to the mismatch of inputs and outputs. Reversible Logic is gaining interest in the recent past due to its less heat dissipating characteristics. This logic circuit maps to its unique input to the output and ensure one to one mapping and basis for emerging applications like DNA Computing, Bioinformatics, Nanotechnologies, Quantum Computing, Quantum Dot Cellular Data, Adiabatic CMOS, Thermodynamics, Low power Design and Optical Computing to produce zero power dissipation under ideal conditions.

This paper presents the combinational circuit and Verilog code for the basic Reversible Logic gates which are important (Feynman, Double Feynman, Fredkin, Toffoli and peres). Every Logic circuit which is combinational uses all these basic Reversible Logic Gates and can be verified through Simulation using Verilog HDL.

**Keywords**— Reversible Logic gates, Quantum Computing, Reversible Logic, Feynman, Fredkin, Toffoli and peres.



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### A Review on Spectrum Sliced Elastic Optical Path Networks

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Recent developments in the area of technologies, data center networks, cloud computing and social networks have caused the growth of a wide range of network applications. The data rate of these applications also varies from a few megabits/second (Mbps) to several gigabits/second (Gbps) for that reason increasing the burden on the internet. Best solution for this is to utilize the advancement in optical networks. In WDM network bandwidth up to 100Gbps can be utilized from the optical fiber in an energy efficient manner but its not efficient when traffic demands vary frequently. Spectrum sliced elastic optical path networks (SLICE) has been proposed as a long term solution to handle the ever increasing data traffic and the diverse demand range. SLICEs provide abundant bandwidth by enabling sub-wavelength, super-wavelength and multiple-rate data traffic accommodation in highly spectrum efficient manner.

**Keywords:** EON, WXCs, OFDM, optical packet switching, DWDM.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Challenges and Issues in Offline and Online Signature Verification

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his paper presents a survey of various challenges and issues related to offline and verification online signature verification systems. Offline and Online signature verification system is one of most challenging area of pattern recognition. We have discussed the challenges and issues unresolved so far in spite of the research from the past two decades. We present an overview of how the problem has been handled by several researchers in past two decades and the recent advancements in the field.

**Keywords**— Signature verification, Preprocessing, Feature extraction, Matching techniques, Challenges and issues, On-line, Off-line.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Ascii Code To Morse Code Conversion In Real Time For Space Applications

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SCII and Morse code are widely used by communication industry for message transmission. ASCII code is a constant length code (no. of bits per character are constant) whereas Morse code is a variable length code (no. of dashes and dots are varying for each character). So converting the ASCII code to standard Morse code and then converting Morse code into real time electrical pulse compatible of through any wired/wireless medium is a challenging job.

Microcontroller based design is one of the most popular way of interfacing sensors with actuators. In this paper we come up with a unique algorithm which convert ASCII code to Morse code. This algorithm can be interfaced with any micro controller based applications like Morse code RF transmission from small satellites for smart cities, Telemetry transmission

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## Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Optimal Keyword Search for Audio Libraries

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eywords are used to index data, generate tag clouds or for searching. AlchemyAPI's keyword extraction, API is capable of finding keywords in text and ranking them. In this paper addresses the problem of getting the related keywords from conversations, with the goal of using these keywords to retrieve, for each short conversation part, a small number of potentially significant documents, which can be suggested to participants. Moreover, using an automatic speech recognition (ASR) system introduces errors among them. We first propose an algorithm to getting the related keywords from the output of an ASR system, which makes use of topic modelling techniques. Then, we propose a method to obtain multiple topically separated queries from this keyword set, in order to make best use of the chances of making at least one applicable suggestion when using these queries to search over the audio repository.

**Keywords:** Document recommendation, information retrieval, keyword extraction, meeting analysis, topic modeling.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Corporate Social Responsibility In India

 $^{[1]}$  P.Sravan Kumar  $^{[2]}$  S.Gowthami  $^{[3]}$  P.Hima Bindhu

India is a developing economy, here Corporate Social Responsibility (CSR) play significant role in organizations. In Indian industry on e can easily notice a pattern shift from corporate humanitarian to being socially responsible. The importance of CSR is increasing in Indian corporate scenario because organization have realize that ultimate goal is not profit making beside this trust building is viable and assert able with societal relationship. The compulsion of CSR has emerged in last two decades when Indian organization realizes the importance of sustaining in this competitive competition era. Before this Indian industries had money-oriented culture. In the kind and cry of LPG (Liberalization, Privatization and Globalization) companies were only focused toward profit maximization which led social backwash. To overcome this manner CSR play an important role in sustainable development which is only possible when there is a balance between profit and lowering social backwash or eradicating it. The problem with Corporate Social Responsibility is that nobody is very clear about what exactly it encompasses. The Indian government has been trying to make it mandatory for companies to spend at least 2% net profits on CSR. Today CSR to some companies means providing lunch to their employees or tackling global warning issues. Now a day's company have become more transparent in their balance sheet. They are displaying public reporting in their accounting. Companies are incorporating their corporate social responsibility initiative in their annual report. This research paper try to analyze the study of CSR status in India, this can give insight to what extent companies can follow the CSR. I would like to through light on CSR for Indian organization which would be helpful for both economic and social interest which would be ultramodern majors to provide valuable information as well as suggest on their CSR practices and performance.

**Keywords:** Corporate Social Responsibility, Community Development, Corporate Society Relations.

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

An Efficient Density Based Image Clustering Method with P-Trees

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mage clustering analysis plays an important role in data mining applications which groups set of pixels. Traditional approaches of clustering are based on deviation of the Euclidean distance which leads to the clusters of spherical shapes and input parameters are to be specified which are hard to determine. To overcome this, density based clustering techniques like DBSCAN,OPTICS are used to cluster satellite images. Thus, only low-dimensional images can be processed with limited computer memory and computing speed. This paper emphasizes on the implementation of P-Tree which requires very less memory and is very efficient for lossless image representation and compression. Thus a new Peano count tree (P-Tree) method is proposed on DBSCAN and OPTICS clustering techniques on satellite images. The DBSCAN and OPTICS clustering techniques are implemented on satellite images by applying P-tree structure. These techniques are compared and analyzed with accuracy and kappa statistic performance measures. It is ascertained that the performance of DBSCAN and OPTICS clustering techniques with P-tree is efficient than the clustering without P-tree. Further the accuracy and kappa statistic are better for OPTICS method than DBSCAN.

**Keywords:** Image clustering, remote sensing, density based methods, clustering accuracy Peano count tree

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Achieving Energy Efficient Smart Cities through Internet Of Things

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igitally connecting almost every element of a city, being one of the core aspects of a smart city, clearly proves how internet of things plays a voracious role in making one. As the number of smart cities increase drastically in number, it also paves the path for the conservation of energy through Internet of things on a large scale. We divide a city's functioning into three parts-Communication, Energy and Transport. Firstly, we look into the communication between various internet enabled devices, compatibility of various forms of data collected from them and finally finding possible technological solutions like that of an event driven Operating Systems aiming at productivity and mainly, energy efficiency. Secondly, covering surveys and methodologies concentrating on technological approaches in integration of energy generated from not only commercial nonrenewable and renewable energy sources but also In-House generations of green energy at corporate offices and houses. Thirdly, looking deeply into how technology can revolutionize transport sector in the direction of smart environment; Problems of inefficient management of traffic, logistics and public transport services are provided with solutions of automation, algorithmic planning and interrelated digitization of the entire system on one network. Our findings suggest positive impacts to the environment on an 8-10 percentage at a local level and is expected to increase in a global scenario. We conclude that energy efficiency will play a crucial role in bringing positive economic growth, widespread application of internet of things and longevity of smart cities.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### A Unified Metric for Opportunistic Routing in Wireless Mesh Networks

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In wireless mesh networks, the routing of packets from source to destination is crucial and challenging task. The wireless mesh networks find applications in disaster management, video on demand, intelligent, health care systems, etc. Various routing protocols exist in literature to improve the efficiency of the wireless mesh networks calculated in terms of reliability, cost, throughput, error rate, etc. The opportunistic routing proves to be more efficient protocol best suited for wireless mesh networks as it avoids duplicate transmission and improves performance of the network. The routing metrics are essential to evaluate the best possible path for packet delivery. This paper conveys the essence of the existing metrics used for analyzing the routing protocol considered for evaluation. Further we introduce a new opportunistic routing metric called Unified Expected Distance Progress with Successful Transmission Rate (UEDPSTR) which is compared with the characteristics of the network.

**Index Terms** — Metric, Opportunistic Routing, Wireless Mesh Network.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### A Study On Pressure Sensor Based On Photonic Crystal

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Photonic crystal technology is used in many areas of detection and measurement of parametrs like pressure, temperature, displacement etc.MOEMS based micro-sized pressure sensor can be developed to detect even sub-micron range dimension change using the photonic crystal. The applied pressure on the object will change the dimension of the waveguide carved in the photonic crystal. As a result, this change in spacing can alter the propagation feature of electromagnetic waves that pass through them that is changing the transmission spectrum. So, this change can directly be mapped to pressure on the observed object. In this paper, the pressure sensor using photonic crystal has been modeled and analyzed.

**Index Terms**— photonic crystal, pressure sensor, optical ring resonator, PhCs.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Development of Venture Capital In India

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The venture capital industry in India is about two decades old. But it is still not in a development stage, and it requires promotional efforts as well as policy in initiatives for a fast growth. The concept of venture capital was formally introduced in India 1987.when the government announces the creation of venture fund, to be operated by the industrial bank of India (IDBI).the government levied a 5 recent cuss on all Know-how import payments to create the venture fund. The industrial credit and investment corporation of India (ICICI) also started venture capital activity in the same year. Later on, ICICI floated a separate venture capital company —Technology development and information corporation (TDICI). Venture capital plays a strategies role in financing small scale enterprises and high technology and risky ventures. The venture capital activity is quite advanced in the developed countries. It has also taken root in a number of developing countries. Venture capital has potential to become important sources of financing of small-scale enterprises (SSES).

Key words: venture capital, IDBI, ICICI, TDICI, SSES

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Spatial Data Analysis for Knowledge Discovery Using Segmentation Based Clustering

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Spatial Data. Many types of Modern Global Positioning Systems (GPS) and also other data acquisition mechanisms are widely used for collecting huge amount of geographical data, which is expected to grow exponentially. It is observed that Mining of such huge data can extract unknown and latent information from spatial datasets that are characterized by complexity, dimensionality and large size. However, it is challenging to do so. Geographical knowledge discovery through spatial data mining has emerged as an attractive field that provides methods to leverage useful applications. Remote sensing imagery is the rich source of geographical data. Analysing such data can provide actionable knowledge for making strategic decisions. This paper proposes a Novel methodology that is used to perform clustering on remote sensing data. These data sets are collected and used World Wind application, provided by NASA. The images are with .TIF extension. The methodology includes feature extraction, training, building classifier and cluster analysis. We built a prototype application that demonstrates the proof of concept. The implementation has taken native method support from Fiji and Weka to realize the proposed methodology. The empirical results revealed that the spatial clustering is made with high accuracy.

Ind	ex '	Terms–	Spatial	data mining	, remote sensing	g imagery,	clustering, o	classification,	segmentation
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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Retinal Images For Biometric Application

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This paper focuses on vessel extraction algorithm for personal identification of retinal blood vessel. Blood vessel extraction is an important task for biometric application. Here the vessel extraction is done using morphological approaches. Image segmentation is the process of partitioning a digital image into multiple segments (sets of pixels). Segmentation refers to the operation of partitioning an image into component parts, or into separate objects. Segmentation subdivides an image into its constituent regions or objects. The level to which the subdivision is carried depends on the problem being solved. The goal of segmentation is to simplify or change the representation of an image into something that is more meaningful and easier to analyze. The objective of Segmentation is to partition an image into regions. This paper proposes biometric application for retinal images. Each induvidual has unique retinal blood vessels. Thus retinal blood vessels can be used for personal identification, input image is first preprocessed. The pre processed image contain enhanced blood vessels. After pre processing it is taken for vessel extraction followed by feature extraction, finally it is given to the classifier.

**Keywords-** Retina, biometric, image segmentation, personal identification, morphological approaches.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

A Novel Control Strategy Using fuzzy Technique for Single Phase Nine-Level Grid-Connected Inverter for Photovoltaic system

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his paper proposes fuzzy logic controller based a single-phase nine-level inverter for grid-connected photovoltaic systems, with a novel pulse width-modulation (PWM) control scheme. Four reference signals produces from fuzzy logic controller which are identical to each other are going to compare with the amplitude of the triangular carrier signal. The inverter is capable of producing of nine levels of output-voltage levels (Vdc , 3Vdc /4, Vdc /2,Vdc/4, 0, -Vdc , -3Vdc/4, -Vdc/2Vdc/4) from the dc supply voltage. The total harmonic distortion is reduces by this control strategy. The proposed system was verified through simulation The total harmonic distortion is reduces by this control strategy. The proposed system was verified through simulation

**Keywords**— Fuzzy logic Controller, Grid connected, modulation index, multilevel inverter, photovoltaic (PV) system, pulse width-modulated (PWM), total harmonic distortion (THD).

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Securing Smart Meter Devices In Privacy Preserving M2m-Iot Environment

<sup>[1]</sup> P. Devi, <sup>[2]</sup> Dr. K. Komathy

Privacy violation in IOT leads to identity theft and unauthorized data access of credential information. We propose an approach to pertain security techniques in a 24\*7 enterprise environment. In our model; we use Gortis Enhanced Homomorphic Cryptography, differential privacy to achieve IOT security. The Smart Meter in ICS (Industrial control system) connected to M2M environment are based on sensors, actuators, activity of computation and provide support for Smart Meter to monitor scenario of energy consumption. The fault detection analysis was performed through pattern recognition techniques, supervised anomaly detection and we alert by having early warning system (Alarm) when hackers try to access database.

The data restoration done in a proactive way using secured service-centric architecture. The proven record on real data sets shows that security is achieved at a greater extent in enterprise in a cloud and mobile computing platform. The identity of the device needs to be secured during online video surveillance in our data acquisition approach, and we use early warning system (Alarm) when hackers access database. This approach enhances the IOT security in ICS surveillance by monitoring flow of data pattern to Smart Meters.

**Keywords**: Machine-to-Machine, Sensors, Secured Architecture, Internet of Things, Privacy-preserving methods

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Frontal View Human Face Detection and Recognition

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This paper is about an attempt to unravel the classical problem of automated human face recognition. A near real-time, fully automated computer vision system was developed to detect and recognise expressionless, frontal-view human faces in static images. In the implemented system, automated face detection was achieved using a deformable template algorithm based on image invariants. The natural symmetry of human faces was utilised to improve the efficiency of the face detection model. The deformable template was run down the line of symmetry of the face in search of the exact face location. Once the location of the face in an image was known, this pixel region was extracted and the test subject was recognized using principal component analysis, also known as the eigenface approach.

**Keywords:** Classical Problem, Automated Human Face Recognition, automated computer vision system, recognise expressionless, frontal-view human faces, deformable template algorithm, image invariants.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Load Balanced Clustering Algorithm for Mobile Data Gathering and Uploading In Wireless Sensor Networks

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The Architecture consist of three-layer framework which is proposed for mobile data collection in wireless sensor networks, which includes the sensor layer, cluster head layer, and mobile collector (called SenCar) layer. The framework employs distributed load balanced clustering and dual data uploading, which is referred to as LBC-DDU. The objective is to achieve good scalability, long network lifetime and low data collection latency. At the sensor layer, a LBC algorithm is proposed for sensors to self-organize themselves into clusters. In contrast to existing clustering methods, our scheme generates multiple cluster heads in each cluster to balance the work load and facilitate dual data uploading. At the cluster head layer, it is choosen to generate the connectivity among the clusters later, it forwards to SenCar for moving trajectory planning. At the mobile collector layer, SenCar is equipped with two antennas, which enables two cluster heads to simultaneously upload data to SenCar in each time by utilizing multi-user multiple-input and multiple-output (MU-MIMO) technique. The trajectory planning for SenCar is optimized to fully utilize dual data uploading capability by properly to transport the data to tower (sink) by selecting polling points in each cluster, SenCar can efficiently gather data from cluster heads and transport the data to the static data sink. This scheme evaluate the effectiveness of the proposed LBC-DDU scheme. Hence, results show that when each cluster has at most two cluster heads, LBC-DDU achieves over 50 percent energy saving per node and 60 percent energy saving on cluster heads through multi-hop relay to the static data sink, and 20 percent - data collection time compared to traditional mobile data gathering.

**Keywords:** Three-Layer Framework, Wireless Sensor Networks, Sensor Layer, Cluster Head Layer, Mobile Collector.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### A Report on Privacy Data Publishing Using Slicing

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ow a day's privacy preserving has lot of attention as security is required for the data that are published in an organization using internet. In the present world everyone are running after the time with the help of internet in order to complete the work in short span where they give their personal information. The most important thing while publishing is better data utility, the information contains individual records like employees records, patients records etc. Confidential data is preset in large number in some organizations like hospitals, banks etc, where the data should not misuse by third parties. In order to avoid unauthorized persons to access the data there are many techniques for providing security to the data that is published. The different techniques like generalization, bucketization, slicing are used. The data in the database is divided into different categories accordingly the techniques are used for the privacy purpose. Loss of information is the problem in the methods generalization and bucketization which does not provide the membership disclosure. In order to overcome this drawback we added slicing technique where the data is sliced both horizontally and vertically and also provide the membership disclosure. In this paper we are trying to survey the slicing technique and the overlapping slicing.

**Index Terms**— Bucketization, Data publishing, generalization, privacy preservation, slicing.

Note:

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## Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Denail of Service Attacks (DOS) Based On Parallel Ranking Assist against Distributed Ranking

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DoS presents a serious threat to the Internet since its inception, where lots of controlled hosts flood the victim site with massive packets. Moreover, in Distributed Reflection DoS (DRDoS), attackers fool innocent servers (reflectors) into flushing packets to the victim. But most of current DRDoS detection mechanisms are associated with specific protocols and cannot be used for unknown protocols. It is found that because of being stimulated by the same attacking flow, the responsive flows from reflectors have inherent relations: the packet rate of one converged responsive flow may have linear relationships with another. Based on this observation, the Rank Correlation based Detection (RCD) algorithm is proposed. The preliminary simulations indicate that RCD can differentiate reflection flows from legitimate ones efficiently and effectively, thus can be used as a useable indicator for DRDoS.

**Index Terms**— Denial of Services, Distributed Reflection DoS (DRDoS), Rank Correlation based Detection (RCD).

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Discovering Of Neighbor In An Wireless Networks Based On Efficient Algorithm

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eighbor discovery is an important first step in the initialization of a wireless ad hoc network. In this paper, we design and analyze several algorithms for neighbor discovery in wireless networks. Starting with a single-hop wireless network of nodes, we propose a ALOHA-like neighbor discovery algorithm when nodes cannot detect collisions, and an order-optimal receiver feedback-based algorithm when nodes can detect collisions. Our algorithms neither require nodes to have a priori estimates of the number of neighbors nor synchronization between nodes. Our algorithms allow nodes to begin execution at different time instants and to terminate neighbor discovery upon discovering all their neighbors. We finally show that receiver feedback can be used to achieve a running time, even when nodes cannot detect collisions. We then analyze neighbor discovery in a general multihop setting. We establish an upper bound of on the running time of the ALOHA-like algorithm, where denotes the maximum node degree in the network and the total number of nodes. We also establish a lower bound of on the running time of any randomized neighbor discovery algorithm. Our result thus implies that the ALOHA-like algorithm is at most a factor worse than optimal.

Index Terms—	Aloha,	neighbor	discovery

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Effect Of Particle Length And Radius On Movement Of Metallic Particle In Single Phase Gas Insulated Busduct

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he invention of SF6 insulation gas has revolutionized not only the technology of circuit breakers but also the organization of electrical power transmission lines and substations. Gas Insulated Substations have found a broad range of applications in power systems for more than thirty years because of their high reliability, easy maintenance and small ground space requirement. Metallic contaminants are inexorable in GIS systems and most common causes are mechanical vibrations during shipment and service, thermal expansion/contraction at expansion joints. Free metallic particle contaminants in Gas Insulated Busduct adversely affect the insulation performance because they can cause serious deterioration of the dielectric strength and thereby the breakdown voltage of the GIS system is reduced. Research studies reveal that free metallic particles seriously decreases breakdown voltage of Gas Insulated Systems. This paper deals with the effect of particle length on the moment of metallic particle in single phase gas insulated busduct. The simulation of movement of aluminum and copper wire like particles are carried out for various bus voltages 75kV,100kV,145KV. The results of the simulation have been presented and analyzed.

**Key words**: Charge simulation method, Analytical Method, Gas Insulated Busduct,metallic particle and Maximum radial movement

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Privacy Preserving For Cloud Data By Using TPA

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loud computing as a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable processing sources (e.g., networks, servers, storage space, applications, and services) that can be rapid provisioned and released with minimal management effort or service provides interaction, without the burden of local information storage space and maintenance. The customers no longer have physical control of the contracted information makes the information reliability protection in cloud processing a complex task particularly for customers with restricted processing sources. Without worrying about the need to verify its reliability customers should be able to just use the cloud storage space. Users resort to a Third party auditor to discover the reliability of outsourced information and be worry free without allowing public review ability for cloud storage space because it is of critical importance. The Third party auditor (TPA) who has expertise and abilities that users do not, can regularly examine the reliability of all the information stored in the cloud on behalf of the customers, which provides a much more easier and affordable way for the customers to ensure the storage space correctness in the cloud. To safely present an effective TPA, the review process should bring in no new weaknesses toward customer information privacy, and present no additional online pressure to customer. Also enable the TPA to perform audits for multiple users at the same time and efficiently

**Index Terms**— Data storage, privacy preserving, public audit-ability, key generation, secret key, cloud computing, delegation, batch verification, zero knowledge.

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### NFC Enabled Contactless Access Control System

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Technology has transformed the world in all walks of human life. However, lock and key based conventional locking systems have not been completely replaced by smart access control systems due to higher costs and complexity. So, the goal is to create a smart, user-friendly locking system which uses widespread and evolving wireless technologies. "Bluetooth & Nfc Enabled Contactless Access Control System" focuses on exploiting the full potentials of NFC (Near Field Communication) and Bluetooth for implementing an automated door locking/unlocking System, which can be locked or unlocked by holding tiny NFC tags near it. Additionally, the proposed access control system can be controlled by an android app, which is also to be developed. Such an access control system will be a boon not only to the common man, but also for differently able people.

Keywords — Access Control System, Bluetooth, Door Lock, Android, NFC

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Secure Data By Using Biometric And Image Slicing

Secret information needs security in a multi user environment. The users no longer have physical control of the outsourced data that provides the data integrity protection in cloud computing a complex task particularly for users with constrained computing resources. Encryption alone is not sufficient in many cases. In this paper we are providing security to data by using biometric secret image (finger print), secret key generation and image slicing techniques. The encrypted image is shared using image slicing so that the image need not be stored on the single server instead it is stored on multiple servers and assigning the secret keys by splitting key into multiple parts .secret key is necessary to reconstruct the encrypted image and used for the authentication purpose.

Index	x Terms—	Decryption.	encryption.	image slicing.	key generation	. secret image.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

WSN The Suppress Of Predictable DAT For Failure-Aware Networks

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Because of energy constraints on battery- powered nodes, it is critical to minimize communication. *Suppression* has been proposed as a way to reduce communication by using predictive models to *suppress* reporting of predictable data. However, in the presence of communication failures, missing data is difficult to interpret because it could have been either suppressed or lost in transmission. There is no existing solution for handling failures for general, spatiotemporal suppression that uses *cascading*. While cascading further reduces communication, it makes failure handling difficult, because nodes can act on incomplete or incorrect information and in turn affect other nodes. We propose a cascaded suppression framework that exploits both temporal and spatial data correlation to reduce communication, and applies coding theory and Bayesian inference to recover missing data resulted from suppression and communication failures. Experiment results show that cascaded suppression significantly reduces communication cost and improves missing data recovery compared to existing approaches.

**Index Tearms:** Wireless Sensor Networks, Network, Security

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Statistical Analysis Of Difference Profile Of Word Patterns

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pattern, at the same time the relation between patterns are very important while translating document image into equivalent editable form. It is quite interesting that the human learning process starts with word level recognition at the first instance and later improved up to the level of isolated pattern and there relations in between Indic scripts are more specific and also unique due to a large number of convict formations. The inter relations among various syllable may vary from script to script. Another important feature in this regard is identified as zone information model which is adopted in a large number of attempts made by various researches. The present work is aimed at exploring zone information with regard to text line and at the same time the statistical variation among word pattern. The concept of differential profile which is used in the earlier literature will be explored for the analysis of word pattern in southern scripts.

**Keywords**— Pattern; scripts; syllable; segmentation.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Multimedia Mining

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ultimedia data mining is a popular research domain which helps to extract interesting knowledge frommultimedia data sets such as audio, video, images, graphics, speech, text and combination of several typesof data sets. Normally, multimedia data are categorized into unstructured and semi-structured data. Thesedata are stored in multimedia databases and multimedia mining is used to find useful information fromlarge multimedia database system by using various multimedia techniques and powerful tools. This paperprovides the basic concepts of multimedia mining and its essential characteristics. Multimedia miningarchitectures for structured and unstructured data, research issues in multimedia mining, data miningmodels used for multimedia mining and applications are also discussed in this paper. It helps theresearchers to get the knowledge about how to do their research in the field of multimedia mining.

**Keywords**: Data Mining, Multimedia Mining, Architectures, Applications, Models

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Performance Evaluation Of Cloud Task Scheduling Using Buddy Algorithm

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loud computing is one of the shared infrastructure which gives users a collection of storage, networks and other computer resources through internet. One of the fundamental issues in this environment is related to task scheduling. In this paper, a cloud task scheduling policy based on Buddy algorithm compared with Ant Colony Optimization (ACO) algorithm is presented. Our project describes about Buddy technique which we used to allocate the processor to the application running in cloud with less communication cost whereas ACO is random optimization search approach that will be used for allocating the processor to the application with stagnation and overheads as an issue. We use CloudSim toolkit package to compare the performance of these two algorithms and the experimental results shows cloud task scheduling based on Buddy outperformed ACO algorithm.

Keywords: Cloud computing, task scheduling, Buddy, ACO, Cloud Sim, less communication cost.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Opinion Target Extraction Using Word Based Alignment Model

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Thoughts of other people have always been regarded as important information for most of us in case of making several decisions. In case of before the large spread of Web, when any one of the individual require making a decision then he or she asked for opinions taken from friends and families. When the organizations wish in order to find the opinions or reviews from the public regarding its services or products, it conducts opinion polls, several surveys. Now-a-days, lot of work is being carried out in case of opinion mining. One of them is opinion target extraction. In this case, the opinion targets were extracted and it is analyzed by using several methods. These methods will include the use of Word alignment mode. In order to find the confidence of each candidate graph which is based co-ranking algorithm have been used. In addition to this, the candidates having confidence which is higher than the threshold value were extracted as opinion word or opinion targets. When compared to the previous approach the syntax-based method is capable of giving correct results through elimination of parsing errors and can work on reviews which are in informal language. When compared to the nearest neighbor method, this method will give more precise results and it can find the relations present within a long span. Co-ranking algorithm is used to decrease the error propagation graph in order to collectively extract the opinion targets and opinion word.

**Index Terms**—Opinion mining, opinion targets extraction, opinion words extraction.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### **Automatic Pneumatic Press For Making Impressions**

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ost of the small scale industries use manual techniques in processes such as making the impressions like emblem, religious mantras, and even in high security system which involves coding on different metals with the help of pedal. The main reason is high cost of growing technology. So we can automate the process of making impressions on different metal using the principle of pneumatic with the high accuracy and with more efficiency. Our proposed model involves the pneumatic cylinder which mainly works using air pressure. The cylinder includes piston, air inlet within it. Since the pressure to be applied while making impressions varies from metal to metal. We need to decide the pressure to be applied based on the thickness of the metal. So the pressure can be controlled by the pressure regulator using controller programming. As the working of pneumatic cylinder is mainly concentrated using the air, the required air for the functioning of cylinder will be provided by compressor through the solenoid valve, which is used to permit or shut off the air flow.

**Keyword**: Pneumatics, mbed board

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### RF Optimization In GSM Network Area

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This project thesis provides a brief overview about the Radio Frequency optimization in GSM networks. A brief introduction about the GSM technology, Mobile Communication, Wireless communication is given followed by the explanation of various channels used in wireless communication system and cellular structure of urban and rural areas. Configuration for Drive test tool AGILENT E7464A is explained and Drive testing for an urban and rural area is made to obtain the call block and signal strength at various areas to determine the quality of service of the network at different areas. And the result is obtained on a map, which denote the quality of service at particular area of the cell site. This helps to have a clear statistics towards the current quality of service of the network and helps to optimize and increase the quality. As cellular communication has become one of the fast growing communication medium with dynamically increasing usage and users. It requires a constant evaluation towards its parameters to ensure the quality and performance. RF optimization is a way to optimize the GSM network and to evaluate the quality of service. This project also provides a way to increase the signal strength at various areas within a cell thereby increasing the coverage area of the cell and reduce the amount of call dropping and call blocking for both long call and short call and ensure a successful call handoff. This helps the operator to successfully utilize the limited number of available career to produce greater quality. And also effective utilization of the career makes the system more economical.

Index terms- GSM Networks, Drive testing, RF optimization

Note:



### **Internet of Things & Applications for Smart** City

March 18–19, 2016, Tirupati

An Effective Accuracy Analysis For Different Classification Learning Algorithms Using Weka Tool

lassification is a method where one can classify future data into known classes Classification is a supervised learning approach, Classification is a tree based structure which is a concept of data mining (machine learning) technique There are various classification algorithms proposed in the literature. In this paper authors have used four classification algorithms such as J48, Random Forest (RF), Reduce Error Pruning (REP) and Logistic Model Tree (LMT) to classify the "WEATHER NOMNIAL ANALYSIS DATA SET". Waikato Environment for Knowledge Analysis (WEKA) Data Mining Tool has been used in this paper for the experimental result Analysis and they found that Random Forest algorithm classify the given data set better than the other algorithms for this specific data set. In this paper, the performance of classifier algorithms is evaluated for 5 fold cross validation test. Finally, we can conclude that the Random Forest is an Optimal classification learning algorithm and its compares to J48,REP And LMT Models, it is promising an efficiency of an knowledge discovery and it is reliable. Random Forest have been proved as a Benchmark classification learning algorithm for providing an effective accuracy and error rate analysis based on Confusion Matrix and its TP Rate and FP Rate values.

**Keywords:** Accuracy, Classification, confusion matrix, Decision Tree, Error Rate, FP Rate, TP Rate, J48, Random Forest, REP, LMT, Cross-Validation, Supervised Learning and Performance Measure.

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Internet Of Things For Safter Cities

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ontinuous efforts are being made to make the cities smarter. But the most important aspect of a smart city is how safe it is. This paper focus on the importance of safety for smart cities, the Safe City Index, various aspects of Safe city Index and few examples where IOT can be used to make the cities not just smarter, but also safer. Also applications of IOT in various sectors and also adverse affects of IOT are discussed.

Keywords: IOT, Safe City Index, Telematics

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Data Encoding Techniques For Reducing Energy Consumption In Network-On-Chip

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s technology shrinks, the power dissipated by the links of a network-on-chip (NoC) starts to compete with the power dissipated by the other elements of the communication subsystem, namely, the routers and the network interfaces (NIs). In this paper, we present a set of data encoding schemes aimed at reducing the power dissipated by the links of an NoC. The proposed schemes are general and transparent with respect to the underlying NoC fabric (i.e., their application does not require any modification of the routers and link architecture). Experiments carried out on both synthetic and real traffic scenarios show the effectiveness of the proposed schemes, which allow to save up to 51% of power dissipation and 14% of energyconsumption without any significant performance degradation and with less than 15% area overhead in the NI.

**Keywords:** Coupling switching activity, data encoding, interconnection on chip, low power, network-on-chip(NOC), Power consumption.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Encoding Of Closed Caption In A Video Using Matlab

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LOSED CAPTION Decoder presents the integration of several IPs to produce a system-on-chip (SoC) for digital television STB compliant to the SBTVD standard. The digital television (DTV) transport stream is planned to accommodate NTSC &DTV caption services DTVCC. The project report describes how services are inserted into and transported within the bit stream and the challenges that must be overcome in order to provide properly format and corresponding captioning. These service transmission starts at the caption encoding head end feeding the DTV encoder and ends at the decoding hardware in the DTV receiver. Obstacle to be overcome include ensure system integration, minimize codec latency and maintain synchronization. Consciousness of these concerns is essential for engineers and management in the digital video industry. Besides, those systems are built from heterogeneous processing units designed to perform specific tasks in order to maximize the on the whole system efficiency.

Index Terms: CC Decoder, ATSC, CEA-708,Line 21Closed Caption

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Design, Modeling and Simulation of MEMS based Micro-Pressure Sensor

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The MEMS cantilever Based Micro-pressure sensor is presented in this paper, describes the design and optimization techniques to improve the performance of the sensor by increasing the sensitivity. Here polymer based Micro-pressure sensor is designed and simulated using COMSOL Multiphysics. The design is verified by changing the dimension of the structure to obtain the results approximately near to that of theoretical values. The simulation is carried out considering the membrane geometry (size) and shape of the structure. The applied pressure is transformed into the stress and deflection of the cantilever beam. The sensitivity of the sensor can be enhanced by selecting proper membrane geometry. The simulated results are compared and verified with theoretical results.

**Index Terms:** Piezoresistive pressure sensor, membrane, Sensitivity, polymer, piezoelectric pressure sensor

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Retinal Images For Biometric Application

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his paper focuses on vessel extraction algorithm for personal identification of retinal blood vessel. Blood vessel extraction is an important task for biometric application. Here the vessel extraction is done using morphological approaches. Image segmentation is the process of partitioning a digital image into multiple segments (sets of pixels). Segmentation refers to the operation of partitioning an image into component parts, or into separate objects. Segmentation subdivides an image into its constituent regions or objects. The level to which the subdivision is carried depends on the problem being solved. The goal of segmentation is to simplify or change the representation of an image into something that is more meaningful and easier to analyze. The objective of Segmentation is to partition an image into regions. This paper proposes biometric application for retinal images. Each individual has unique retinal blood vessels. Thus retinal blood vessels can be used for personal identification, input image is first pre-processed. The pre processed image contains enhanced blood vessels. After pre processing it is taken for vessel extraction followed by feature extraction, finally it is given to the classifier.

**Keywords-** Retina, biometric, image segmentation, personal identification, morphological approaches.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Implementation Of Aac Encoder For Audio Broadcasting

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P3 is the popular audio coding standard. But now, a new higher quality audio coding standard Advanced Audio Coding (AAC) is proposed and widely used. The quantization/requantization is essential in both MP3 and AAC. It proposes a new high accuracy estimation algorithm for MP3 and MEPG-4 AAC audio coding. The algorithm can be applied not only for requantization process in decoder, but also for quantization in encoder. The implementation of the multichannel AAC encoder system for digital audio Broadcasting. The encoder system is based on MPEG-2/4 Advanced Audio Coding (AAC) and capable of real time encoding up to 5.1 channel audio. To give a flexible functionality, it consists of multiple DSPs, IEC61937 and TCPIIP interface and 6 channel audio input facilities. The reference AAC decoder was implemented for verification test of the encoder. The encoder system also integrated with AAC streaming system for interoperation test. Through these tests, the encoder system was verified to be a good solution for high quality audio broadcasting.

Index Terms: Audio Codec, MPEG-4, Filter Bank, Bit-rate

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Implementation of H.264/Mpeg-4 Advanced Video Coding Standard

the ISO/IEC Moving Picture Experts Group. The main goals of the H.264/AVC standardization effort have been enhanced compression performance and provision of a "network-friendly" video representation addressing "conversational" (video telephony) and "nonconversational" (storage, broadcast, or streaming) applications.mH.264/AVC has achieved a significant improvement in rate-distortion efficiency relative to existing standards. This article provides an overview of the technical features of H.264/AVC, describes profiles and applications for the standard, and outlines the history of the standardization process. It covers all common video applications ranging from mobile services and videoconferencing to IPTV, HDTV, and HD video storage. This article discusses the technology behind the new H.264/MPEG4-AVC standard, focusing on the main distinct features of its core coding technology and its first set of extensions, known as the fidelity range extensions. In addition, this article also discusses the current status of adoption and deployment of the new standard in various application areas.

Index Terms: H.264, Advanced video codec, MPEG-4

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

A Novel Method of Directly Auditing Integrity on Encrypted Data

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ow-a-days, cloud computing is providinggreater amount of storage space and massive parallel computing at effective cost. Excessive amount of data is being stored in the cloudsince the cloud computing is becoming more prevalent. However, the exponential growth of everincreasing volume of the data has raised more number of new challenges. In this work, the problem with integrity auditing and the secure de-duplication present on cloud data is studied. Particularly, the focusis on achieving both the data integrity and de-duplication which is present in cloud, two secure systems is proposed called SecCloud and SecCloud+. The SecCloud will offer an auditing entity with the maintenance of a Map Reduce cloud that assist clients in order to generate the data tags before they are being uploaded as well as to audit the integrity of data that is being stored in cloud.

**Keywords**: Seccloud, integrity auditing, seccloud+, proof of ownership convergent encryption, secure de-duplication.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### **Smart City**

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smart city is a urban development vision to integrate multiple information and communication technology solutions in a secure fashion to manage a city's assets. – the city, s assets include local departments information systems, schools, libraries, transportation systems, hospitals and many more. Out of these, transportation system is one of the most important assets. Smart car is a car controlled by an app which works similar to smart key. With the app installed in the smartphone the owner can control various functions of the car like lock system and music system. The owner can also track his vehicle, check the tyre pressure and condition of the engine with this app.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Improvement of Contact Fatigue Strength of Gear Teeth on Application of Cuprous Oxide

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In this paper, it combined with the gear with the existence of cuprous oxide conversion coating and the gear tooth fatigue experiment of the system gear was conducted using a basic experiment and automatic shift of gear tooth fatigue of a simple substance gear pair. Consequently, it was proved that the gear which gave the cuprous oxide conversion coating had high pitting proof load capability by improvement in the initial familiarity nature of a gear pair, an improvement of lubricating oil holdout, and direct contact prevention of metal. Analysis of the pitting- proof fatigue characteristics of cuprous oxide conversion coating processing specification and the gear tooth wear characteristic etc. performed the engagement gear by one of the two or both in the experiment.

**Keywords**: Gear teeth, cuprous oxidetreatment, Tribology, Fatigue, pitting, wear

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Social Networking For City Safety - Abilities' And Unattended Challenges In Techniques Foreseeing Safety Value

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Power of Social Conversation" have moved beyond just a passing fed. People spend a staggering 700bn minutes per month on face book, twitter and other social networking sties. This social media has become part of how we lead our lives and the everyday events that are part of it. The maze of pictures, comments, events and social gaming could be our window into a gold mine of insights to predict catastrophic events especially around public security and disaster management. Main responsibility government agencies and municipalities to leverage the power of broadband connectivity to embrace the safe city approach, with centralized emergency response and management in the face of threats, attack, natural disasters, crime or industrial-scale accidents. In other words, effective communications is the groundwork of protecting lives and mitigating damage. This paper studies abilities and unattended challenges of various techniques which forecasts smart, safe cities, by combining the use of personal mobile devices and social networks to make users aware of the safety of their surroundings. And hence Proceeds towards Limitations in the existing techniques and its Research challenges.

Index Terms—ARIMA,, PredPol software, NoVA

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Audio Cryptography

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ryptography secures information by protecting its confidentiality. It can also be used to protect information about the integrity and authenticity of data. Stronger cryptographic techniques are needed to ensure the integrity of data stored on a machine that may be infected or under attack. So far Cryptography is used in many forms but using it with Audio files is another Stronger Techniques. The process of Cryptography happens with Audio File for transferring more secure sensitive data. The Sensitive Data is Encoded with an Audio File and Passed over Insecure Channels to other end of Systems. Here we are using .wav file Format for Encryption and Decryption of Message. The given message will be encrypted with a given audio file using a secret key. The System will then embed the secret message into the audio file. The result will be a new audio file, which has the secret message in it. While decrypting the same key should be given for encrypted audio file to get the secret message from it.

**Keywords:** Cryptography, Secures information, Confidentiality, Encryption process, Decryption process, Least Significant Byte.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Automation Of Information Help Desk System

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a suggestion of general public more easy. This type of retrievals significantly varies in different factors like immediate retrieval and attention of officials and users with one or more public sector entities. Automated help desk systems should retrieve exactly the information required to assist a user as quickly and as easily as possible either for a user who knows little about the system or for an advanced user who requires more specific information. It should be easily maintainable as knowledge in domains changes very rapidly. The main aim was to develop a helpdesk information retrieval process for every user in such a way it should user friendly. Using this automated online help desk system must fulfill every requirement of particular organization. The prototype developed for use over the WWW combines keyword search and case based reasoning to provide both rapid focusing on a part of the help information and guided interaction when the user is unclear about appropriate keywords. The maintenance distributed environment should be created for further issues.

**Keywords:** Automation, Online help desk information system, Public sector entities, Automated help desk systems.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

### Clustering And Content-Based Retrieval For Image Database

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ith the proliferation of image data, the need to search and retrieve images efficiently and accurately from a large image database or a collection of image databases has drastically increased. To address such a demand, a unified framework called Markov Model Mediators (MMMs) is proposed in this paper to facilitate conceptual database clustering and to improve the query processing performance by analyzing the ummarized knowledge. The unique characteristics of MMMs are that it provides the capabilities of exploring the affinity relations among the images at the database level and among the databases at the cluster level respectively, using an effective data mining process. At the database level, each database is modeled by an intra-database MMM which enables accurate image retrieval within the database. Then the conceptual database clustering is performed and cluster-level knowledge summarization is conducted to reduce the cost of retrieving images across the databases. This framework has been tested using a set of image databases, which contain various numbers of images with different dimensions and concept categories. The experimental results demonstrate that our framework achieves better retrieval accuracy via inter-cluster retrieval than that of intra-cluster retrieval with minimal extra effort.

**Keywords:** Content-based Image Retrieval (CBIR), Image Database Clustering, Markov Model Mediators (MMMs).

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### **Detecting Malcious Facebok Applications**

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ith 20 million installs a day third-party apps are a major reason for the popularity and addictiveness of Face book. Unfortunately, hackers have realized the potential of using apps for spreading malware and spam. The problem is already significant, as we find that at least 13% of apps in our dataset are malicious. So far, the research community has focused on detecting malicious posts and campaigns. In this paper, we ask the question: given a Face book application, can we determine if it is malicious? Our key contribution is in developing FRAppE—Facebook's Rigorous Application Evaluator arguably the first tool focused on detecting malicious apps on Face- Finally, we explore the ecosystem of malicious Face book apps and identify mechanisms that these apps use to propagate. Interestingly, we find that many apps collude and support each other; in our dataset, we find 1,App piggybacking example. Finally, we explore the ecosystem of malicious Face book apps and identify mechanisms that these apps use to propagate. Interestingly, we find that many apps collude and support each other; in our dataset, we find App piggybacking example.

**Keywords:** Face book Apps, Malicious Apps, Profiling Apps, Online Social Networks.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Detecting Malicious Entities In Wireless Mesh Networks

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ulti-hop wireless mesh networks provide a community with a communication infrastructure which gives the ability to have a single or few connections to the internet along with each other. The core philosophy is that each node in the network would route each other packets for the benefit of everyone in the mesh network. This can give rise to a malicious node taking advantage of the forwarding nature in the network. A malicious node can drop the packets that should be forwarded and only forward its own packets therefore decreasing the benefits of the network for nodes upstream from the "bad" node. We present a Random Tester Detection Protocol (RTDP) that will detect the malicious node. The protocol leverages the broadcast nature of wireless networks along with anonymous messages to detect the free riding nodes. The protocol is evaluated in a network simulator created using Java.

Keywords: Random Tester Detection Protocol, Multi-hop wireless mesh networks, Dissemination

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Dynamic Search Algorithm For Message Routing In Unstructured Peer To Peer Network

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ach node won't have global information about the entire topology and the position of additional nodes in unstructured nodes. A dynamic feature of unstructured P2P network, occupying global behavior is so tough. Search algorithms to place the resources and to route the communication to the mark node. RW and flooding are two typical examples of blind search algorithm by this query messages are passed to neighbors without any knowledge about the probable locations of the queried resources or any importance for the route to end. The algorithms are not appropriate to route a message to target. The stated algorithm is dynamic research; this is generalizations of RW as well as flooding. Dynamic search uses knowledge – based search procedures. Every node will communicate query messages more sharply to approach the mark node.

**Keywords:** Unstructured nodes, Dynamic feature, Unstructured P2P network, Flooding, Query messages

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Embedded Extended Visual Cryptography Schemes

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visual cryptography scheme (VCS) is a kind of secret sharing scheme which allows the encoding of a secret image into shares distributed to participants. The beauty of such a scheme is that a set of qualified participants is able to recover the secret image without any cryptographic knowledge and computation devices. An extended visual cryptography scheme (EVCS) is a kind of VCS which consists of meaningful shares (compared to the random shares of traditional VCS). In this paper, we propose a construction of EVCS which is realized by embedding random shares into meaningful covering shares, and we call it the embedded EVCS. Experimental results compare some of the well-known EVCSs proposed in recent years systematically, and show that the proposed embedded EVCS has competitive visual quality compared with many of the well-known EVCSs in the literature. In addition, it has many specific advantages against these well-known EVCSs, respectively.

**Keywords:** Visual Cryptography Scheme, Data Compression Algorithm, Encoding Algorithm

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Enhanced Efficient K-Means Clustering Algorithm

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he paper presents a novel algorithm for performing k-means clustering. It organizes all the patterns in a k-d tree structure such that one can find all the patterns which are closest to a given prototype efficiently. The main intuition behind the approach is as follows. All the prototypes are potential candidates for the closest prototype at the root level. However, for the children of the root node, may be able to prune the candidate set by using simple geometrical constraints. This approach can be applied recursively until the size of the candidate set is one for each node. Experimental results demonstrate that the scheme can improve the computational speed of the direct k-means algorithm by an order to two orders of magnitude in the total number of distance calculations and the overall time of computation.

Keywords: Clustering, K-Means, Tree Traversal Algorithm And Pruning Algorithm

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Fingerprint Compression Based On Representation Techniques

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▶ he primary aim of this project is to implement techniques for fingerprint image enhancement and minutiae extraction. Recognition of people by means of their biometric characteristics very popular among the society. But a fingerprint image consists of enormous amount of data. For a given whole fingerprint, divide it into small blocks called patches. Obtaining an over complete dictionary from a set of fingerprint patches allows us to represent them as a sparse linear combination of dictionary atoms. In the algorithm, we first construct a dictionary for predefined fingerprint image patches. Large volume of fingerprint is collected and stored everyday in a wide range of applications. The experiments demonstrate that this is efficient compared with several competing compression techniques especially at high compression ratios. There are many image compression techniques available. Fingerprint images are rarely of perfect quality. There are many image compression techniques available. JPEG, JPEG 2000, Wavelet Scalar Quantization (WSQ) are the existing image compression techniques. The JPEG, JPEG 2000 methods are for general image compression. Fingerprint identification methods are widely used by police agencies and customhouse to identify criminals or transit passengers since the late nineteenth century. ISO standardized the characteristics of the fingerprint in 2004. After the image enhancement construct a base matrix whose columns represent features of the fingerprint images, referring the matrix dictionary whose columns are called atoms.

**Keywords:** Fingerprint images, Wavelet Scalar Quantization, Compression techniques, Matrix dictionary, Atoms

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Forbidden Zone Data Hiding In Video Using Selective Embedding Techniques

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topic. We propose a new video data hiding method that makes use of erasure correction capability of repeat accumulate codes and superiority of forbidden zone data hiding. Selective embedding is utilized in the proposed method to determine host signal samples suitable for data hiding. This method also contains a temporal synchronization scheme in order to withstand frame drop and insert attacks. The proposed framework is tested by typical broadcast material against MPEG- 2, H.264 compression, frame-rate conversion attacks, as well as other well-known video data hiding methods. The decoding error values are reported for typical system parameters. The simulation results indicate that the framework can be successfully utilized in video data hiding applications. Data hiding is the process of embedding information into a host medium. In general, visual and arual media are preferred due to their wide presence and the tolerance of human perceptual systems involved. Although the general structure of data hiding process does not depend on the host media type, the methods vary depending on the nature of such media.

**Keywords:** Video data hiding, Forbidden zone data hiding, Compression, Frame-rate conversion attacks.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Google Project Loon

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Project Loon is a network of balloons travelling on the edge of space, designed to connect people in rural and remote areas, help fill coverage gaps, and bring people back online after disasters. Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. They are carried around the Earth by winds and they can be controlled by rising or descending to an altitude with winds moving in the desired direction. People connect to the balloon network using a special Internet antenna attached to their building. The signal bounces from balloon to balloon, then to the global Internet back on Earth.

**Keywords:** Stratosphere, Envelope, Equipment, Solar Plates.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Group Key Agreement Efficient In Communication

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rey agreement is a mechanism that allows two or more parties to securely share a secret key (called a session key). Starting from Diffie-Hellman for the two-party case. However, almost all the protocols assume a complete connectivity graph: any two users can communicate directly. In the real world, this is not always true. For instance, in social networks such as Face book, Skype, Wechat and Google+, a user is only connected with his friends. For a group of users (e.g., the faculty union in a university) who wish to establish a session key, it is not necessary that any two of them are friends. But they might still be connected indirectly through the friend network. Of course, we can still regard them as directly connected by regarding the intermediate users as routers. However, this is quite different from a direct connection. First, indirectly connected users may not have the public information of each other (e.g., public-key certificate). Second, indirectly connected users may not know the existence of each other (e.g., in our faculty union example, one professor in one department may not know another professor in a different department). Third, a message between two indirectly connected users travels a longer time than that between directly connected users. We study the group key agreement with an arbitrary connectivity graph, where each user is only aware of his neighbors and has no information about the existence of other users. Further, he has no information about the network topology. Under this setting, a user does not need to trust a user who is not his neighbor. Thus, if one is initialized using PKI, then he need not trust or remember public-keys of users beyond his neighbours.

Keywords:	Diffie-Hellman,	Secret K	key, Session I	Key, Pre-I	Distribution 3	System.
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Note:



## Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Identification of Truthful Packet Dropping In Wireless Ad-Hoc Networks Using HLA Algorithm

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dentification of truthful packet dropping in wireless ad-hoc networks using HLA algorithm's main purpose is to determine whether the is loss of packets are caused by link errors only or by the combined effect of link errors and malicious drop errors that are the two causes in multi-hop wireless ad-hoc networks. It is particularly considered for insider attack case, where by malicious nodes which are part of the route exploit cognition of communication context to selectively drop a small amount of packets that act critical to the network performance. Development of homo\_morphic linear authenticator [HLA] is necessary to ensure truthful calculation of these correlations and to verify truthfulness of the packet loss information reported by nodes. This construction is privacy preserving, collusion proof and provokes low communication and storage overheads. To reduce computation overhead a packet block based mechanism is also proposed to trade detection accuracy for low computation complexity.

**Keywords:** Packet Dropping, Wireless Ad-Hoc Networks, HLA Algorithm's, Link Errors And Malicious Drop Errors.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Information Hiding Within Image File Using Steganography Technique

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steganography is the art and science of sending covert messages such that the existence and nature of such a message is only known by the sender and intended recipient. The process of hiding the information in other information without altering is known as Steganography. It is the art of hiding message inside a multimedia block. Attacks, misuse or unauthorized access of information is of great concern today which makes the protection of documents through digital media is a priority problem. Digital images are widely used in order to store the information. For hiding secret information in images, there exists a large variety of techniques. Some applications may require absolute invisibility of secret information, while some require large secret message to be hidden. This project report intends to give an overview of image Steganography, its uses and techniques. It also attempts to identify the requirements of a good steganography algorithm and briefly reflects on which steganographic techniques are more suitable for which applications.

**Keywords:** Steganography, Hiding secret information, Intruders, Cryptography.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Information Retrieval By Keyword Query Routing

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eyword search is an intuitive paradigm for searching linked data sources on the web. We propose to route keywords only to relevant sources to reduce the high cost of processing keyword search queries over all sources. We propose a novel method for computing top-k routing plans based on their potentials to contain results for a given keyword query. We employ a keyword-element relationship summary that compactly represents relationships between keywords and the data elements mentioning them. A multilevel scoring mechanism is proposed for computing the relevance of routing plans based on scores at the level of keywords, data elements, element sets, and subgraphs that connect these elements. Experiments carried out using 150 publicly available sources on the web showed that valid plans (precision@1 of 0.92) that are highly relevant (mean reciprocal rank of 0.89) can be computed in 1 second on average on a single PC. Further, we show routing greatly helps to improve the performance of keyword search, without compromising its result quality.

Keywords: Keyword Query Routing, Linked Data Sources, Processing Keyword, Queries

Note:



## Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

K-Nearest Neighbor Classification Over Semantically Secure Encrypted Relational Data

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ata Mining has wide applications in many areas such as banking, medicine, scientific research and among government agencies. Classification is one of the commonly used tasks in data mining applications. For the past decade, due to the rise of various privacy issues, many theoretical and practical solutions to the classification problem have been proposed under different security models. However, with the recent popularity of cloud computing, users now have the opportunity to outsource their data, in encrypted form, as well as the data mining tasks to the cloud. Since the data on the cloud is in encrypted form, existing privacy-preserving classification techniques are not applicable. In this paper, we focus on solving the classification problem over encrypted data. In particular, we propose a secure k-NN classifier over encrypted data in the cloud. The proposed protocol protects the confidentiality of data, privacy of user's input query, and hides the data access patterns. To the best of our knowledge, our work is the first to develop a secure k-NN classifier over encrypted data under the semi-honest model. Also, we empirically analyze the efficiency of our proposed protocol using a real-world dataset under different parameter settings.

Keywords: Data Mining, Classification, Mining Applications, Cloud Computing, Cloud Computing.

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Location-Aware And Personalized Collaborative Filtering For Web Service Recommendation

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ollaborative filtering explores techniques for matching people with similar interests and making personalized recommendations on the web. The Collaborative Filtering (CF) is widely • employed for making Web service recommendation. The main aim is to predict missing QoS (Quality-of-Service) values of Web services. Although several CF-based Web service QoS prediction methods have been proposed in recent years, the performance still needs significant improvement. In this the Quality of Service (QoS) prediction methods rarely consider personalized influence of users and services and it consider Web service QoS factors, such as response time and throughput, usually depends on the locations of Web services and users. In this paper, we propose a location-aware personalized CF method for Web service recommendation. The proposed method sways both locations of users and Web services when selecting similar neighbors for the target user or service it also includes an intensify similarity measurement for users and Web services, by taking into account the personalized influence of them. To evaluate the performance of our proposed method, We conducted a set of comprehensive experiments employing a real-world Web service dataset, which demonstrated that the proposed Web service QoS prediction method significantly outperforms previous well-known methods. We also incorporate the locations of both Web services and users into similar neighbor selection, for both Web services and users. Comprehensive experiments conducted on a real Web service dataset indicate that our method significantly outperforms previous CF-based Web service recommendation methods and it improves the QOS prediction performance, we take into account the personal QoS characteristics of the both web service and user to compute similarity between them.

**Keywords:** Web services, service recommendation, QoS prediction, collaborative filtering, location-aware

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Mirror Cast

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hromecast is a small HDMI dongle device which is of 72mm long which provide users to stream online videos, music ,games to the television of high definition or house audio systems. Chromecast which is a digital media player developed by Google it directly streams audio and videos on HD TV via WI-FI or a local internet. Users can also cast personal computers screen as well as cast enabled android devices to HD TV. Chromecast streams content from the cloud, so you get the highest quality 1080p HD video and surround sound. With 2.4 / 5GHz Wi-Fi support built in, which keeps video resolution high definition and buffering at low. Chromecast comes with micro USB cable with source of energy as adapter. Also setting up of Chromecast is also simple and easy. Supported mobile apps for Chrome cast are available for iOS 7.1+, Android 4.0+ and web based apps enabled for Chromecast are available on computers enabled Google Chrome (on Windows xp,7+, Mac OS 10.0+, Chrome OS for Chrome books running Chrome 28+) with the installation of the Cast extension embedded in the Google chrome browser. The application configures Chromecast and connects it to user based Wi-Fi network. Once Chromecast setup and configured successfully, users can use any Chromecast compatible application (such as YouTube, Netflix, HBO Go, Google Play Movies & TV Motion Tennis Cast ), tap the Cast icon, and then the content will play on the TV and provides information about the "Backdrop" images shown on the television. Using Chromecast you can turn your TV screen into a game board, racetrack, dance floor or trivia quiz. With Chromecast, user can also play games using their personal phone as their controller, while watching the action live on the big screen.

**Keywords:** Cast, Casting ,Cast-Enabled Apps, Mirror Cast, Cast Extension, Chrome Browser, HDMI Port, Cast Button, Mirror, Streaming, Streaming Audio, Streaming Video.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Multiple Biometric Features Extraction Using 2-D And 3-D Hand-Geometry

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Performance because the information carried is discriminatory by Two-dimensional (2-D) hand-geometry features. So it investigates a new approach to achieve performance improvement by simultaneously acquiring and combining three-dimensional and 2-D features from the human hand. Two new representations that effectively characterize the local finger surface features are extracted from the acquired range images and are matched using the proposed matching metrics. In addition, the characterization of 3-D palm surface using Surface Code is proposed for matching a pair of 3-D palms. The proposed 3-D hand-geometry features have significant discriminatory information to reliably authenticate individuals. By consolidating 3-D and 2-D hand-geometry features results in significantly improved performance that cannot be achieved with the traditional 2-D hand-geometry features alone.

**Keywords:** Two-dimensional (2-D) hand-geometry features, Hand-Geometry-Based biometric systems, Feature extraction algorithm, Digital scanner.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Online Payment System Using Steganography And Visual Cryptography

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This paper presents a new approach for providing limited information only that is necessary for fund transfer during online shopping thereby safe guarding customer data and increasing customer confidence and preventing identity theft. In recent time there is rapid growth in E-Commerce market. Major concerns for customers in online shopping are debit card or credit card fraud and personal information security. Identity theft and phishing are common threats of online shopping. The approach uses combined application of BPCS Steganography and visual cryptography for this purpose. Payment portal, a channel between consumers and payment processors, use numerous security tools to secure a consumer's payment information, ordinarily card data, during an online transaction. Moreover, not all merchants provide a secure payment environment to their consumers and, in spite of having a standard payment plan, adhere to it. Consequently, this exposes a consumer's payment information to risks of being compromised or misused by merchants or stolen by hackers and spammers.

**Keywords:** Customer confidence, Preventing identity theft, E-Commerce market, Information security, Steganography, Visual cryptography, Payment portal.

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### **Internet of Things & Applications for Smart** City

March 18–19, 2016, Tirupati

Privacy Policy – User Uploaded Images On Content Sharing Sites

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with the increasing volume of images users share through social sites, maintaining privacy has become a major problem, as demonstrated by a recent wave of publicized incidents where users share personal information. In light of these incidents, the need of tools to help users control access to their shared content is apparent. Toward addressing this need, we propose an Adaptive Privacy Policy Prediction (A3P) system to help users compose privacy settings for their images. We examine the role of social context, image content, and metadata as possible indicators of users' privacy preferences. We propose a two-level framework which determines the best available privacy policy for the user's images being uploaded. Our solution relies on an image classification framework for image categories which may be associated with similar policies, and on a policy prediction algorithm to automatically generate a policy for each newly uploaded image, also according to users' social features

Keywords: Publicized Incidents, Shared Content, Adaptive Privacy Policy Prediction, Privacy Preferences.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Screen less Displays – The Emerging Computer Technology

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This report discusses advent of the Screen less display which is an emerging new technology, has become a good prospect in the near future for a wide range of applications. As the name implies it deals with the display of several things without the use of screens using projector. It involves the following 3 different working principles. The Visual image, Virtual retinal display, Synaptic interface. This report mainly illustrates and demonstrates how the screen less displays works and its applications in various fields of science. This technology would bring about the revolution in the field of displays and monitors that are costly, huge and are proven difficult to manage the power requirements and constraints. It is also the futuristic technological innovation.

**Keywords:** Screenless display, Visual image, Virtual retinal display, Synaptic interface.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Secure Data Retrieval - For Military Networks

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suffer from intermittent network connectivity and frequent partitions. Disruption-tolerant network (DTN) technologies are becoming successful solutions that allow wireless devices carried by soldiers to communicate with each other and access the confidential information or command reliably by exploiting external storage nodes. Some of the most challenging issues in this scenario are the enforcement of authorization policies and the policies update for secure data retrieval. Cipher text-policy attribute-based encryption (CP-ABE) is a promising cryptographic solution to the access control issues. However, the problem of applying CP-ABE in decentralized DTNs introduces several security and privacy challenges with regard to the attribute revocation, key escrow, and coordination of attributes issued from different authorities. In this paper, we propose a secure data retrieval scheme using CP-ABE for decentralized DTNs where multiple key authorities manage their attributes independently. We demonstrate how to apply the proposed mechanism to securely and efficiently manage the confidential data distributed in the disruption-tolerant military network.

**Keywords:** Disruption-tolerant network, Cipher text-policy, Attribute based encryption.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Security Constraint System For Android Devices

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he applications that we use in our mobile devices often access sensitive data and resources. But when the user's data has been misused due to some malicious applications which may lead to leakage of sensitive data and also reflect in privacy. An example is a malicious application records user banking details. The problem starts when the user has installed the application by granting all the privileges on which the user have no control on operating the features. To avoid this problem we propose a context based access control system by which a user can activate and deactivate some of the applications that are already present in the user's mobile based on the context that is provided. It can also perform its action in a particular location by using GPS, Wi-Fi etc. Based on the context that is provided by the user. We have preformed many experiments for accessing the data in a particular location based on context.

Keywords: Policy Manager, Policy Controller, Access Controller, End User.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Security Evaluation Of Pattern Classifiers Under Attack

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Pattern classification systems are commonly used in adversarial applications, like biometric authentication, network intrusion detection, and spam filtering, in which data can be purposely manipulated by humans to undetermine their operation. As this adversarial scenario is not taken into account by classical design methods, pattern classification systems may exhibit vulnerabilities, whose exploitation may severely affect their performance, and consequently limit their practical utility. Extending pattern classification theory and design methods to adversarial settings is thus a novel and very relevant research direction, which has not yet been pursued in a systematic way. In this paper, we address one of the main open issues: evaluating at design phase the security of pattern classifiers, namely, the performance degradation under potential attacks they may incur during operation. We propose a framework for empirical evaluation of classifier security that formalizes and generalizes the main ideas proposed in the literature, and give examples of its use in three real applications. Reported results show that security evaluation can provide a more complete understanding of the classifier's behaviour in adversarial environments, and lead to better design choices.

**Keywords:** Pattern Classification, Adversarial Classification, Performance Evaluation, Security Evaluation, Robustness Evaluation.

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### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Tracking Community Strength In Dynamic Networks

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nalysis on dynamic networks has become a popularly discussed topic today, with more and more emerging data over time. In this paper we investigate the problem of detecting and tracking the variation communities within a given time period. We first define a metric to measure the strength of a community, called the normalized temporal community strength. And then, we propose our analysis framework. The community may evolve over time, either split to multiple communities or merge with others. We address the problem of evolutionary clustering with requirement on temporal smoothness and propose a revised soft clustering method based on nonnegative matrix factorization. Then we use a clustering matching method to find the soft correspondence between different community distribution structures. This matching establishes the connection between consecutive snapshots. To estimate the variation rate and meanwhile address the smoothness during continuous evolution, we propose an objective function that combines the conformity of current variation and historical variation trend. In addition, we integrate the weights to the objective function to identify the temporal outliers. An iterative coordinate descent method is proposed to solve the optimization framework. We extensively evaluate our method with a synthetic dataset and several real datasets. The experimental results demonstrate the effectiveness of our method, which is greatly superior to the baselines on detection of the communities with significant variation over time.

Keywords: Dynamic, Social network, Community, Tracking, and Clustering.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Wound Assessment System Patients Of Foot Diabetes Identification

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iabetic foot ulcers represent a serious health issue. Today clinicians and nurses produce wound assessment by observing the wound size and healing status visually. Here the patients also have an opportunity to play an active role. This method enables the patients and clinicians to take a more active role in daily wound care which can quicken wound healing and also saves the travel cost, reduce healthcare expenses. As the pervasiveness of Smartphone's with a high-resolution digital camera, assessing wounds by analyzing the images of constant foot ulcers. A wound image analysis system is implemented on the android smart phone. The wound image is occupied by the camera on the smart phone with the help of an image capture box. Later that, the smart phone performs wound segmentation by applying the accelerated mean-shift algorithm. The outline of the foot is identified based on skin color, and the wound boundary is recognized using a simple connected region detection method. The healing status is beside assessed based on red–yellow–black color evaluation model with in the boundary of the wound. Further, the healing status is significantly assessed, based on the analysis of patient's time records. The test results on wound images collected in UMASS—Memorial Health Center Wound Clinic (Worcester, MA).

**Keywords:** pervasiveness, Smartphone's, wound segmentation, accelerated mean-shift algorithm.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Sound Controlled Appliances

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with the help of this circuit you can control your home appliances without getting off from your bed. You have to just clap or puff in front of the microphone and the device connected to it become "on" or "off".

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Soil Moisture Irrigation Syste

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ow -a-days, water management has become the most difficult and primary task faced by the farmers of any area. Due to improper seasonable rains, deforestation, industrial gases, the rains are affected either directly or indirectly. Due to which fortunately farmers are effected pre dominantly.

This project aims to solve the farmers' problems in the aspect of water management. This gives flexibility to farmers from the following

- A. Regular operation of water pumps in their farms
- B. Saves their time which is been wasted in farms for water supply they spend.
- C. Yields good profits due to proper water management.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Multifocal Image Fusion Based on NSCT

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o overcome the difficulties of sub-band coefficients selection in multiscale transform domain-based image fusion and solve the problem of block effects suffered by spatial domain-based image fusion, this paper presents a novel hybrid multifocus image fusion method. First, the source multifocus images are decomposed using the nonsubsampled contourlet transform (NSCT). The low-frequency sub-band coefficients are fused by the sum-modified-Laplacian-based local visual contrast, whereas the high-frequency sub-band coefficients are fused bythe local Log-Gabor energy. The initial fused image is subsequently reconstructed based on the inverse NSCT with the fused coefficients. Second, after analyzing the similarity between theprevious fused image and the source images, the initial focus area detection map is obtained, used for achieving the decision map obtained by employing a mathematical morphologypostprocessing technique. Finally, based on the decision map, the final fused image is obtained by selecting the pixels in the focus areas and retaining the pixels in the focus region boundary as their corresponding pixels in the initial fused image. Experimental results demonstrate that the proposed method is better than various existing transform-based fusion methods, including gradient pyramid transform, discrete wavelet transform, NSCT, and a spatial-based method, in terms of both subjective and objective evaluations.

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### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Efficient Binary Adders Using QCA

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n this paper, a novel quantum-dot cellular automata (QCA) adder design is presented that decrease the number of QCA cells compared to previously report designs. The proposed one-bit QCA adder design is based on a new algorithm that requires only three majority gates and two inverters for the QCA addition. A novel 128-bit adder designed in QCA was implemented. It achieved speed performances higher than all the existing. QCA adders, with an area requirement comparable with the cheap RCA and CFA established. The novel adder operates in the RCA fashion, but it could propagate a carry signal through a number of cascaded MGs significantly lower than conventional RCA adders. In adding together, because of the adopted basic logic and layout strategy, the number of clock cycles required for completing the explanation was limited. As transistors reduce in size more and more of them can be accommodated in a single die, thus increasing chip computational capabilities. However, transistors cannot find much smaller than their current size. The quantum-dot cellular automata approach represents one of the possible solutions in overcome this physical limit, even though the design of logic modules in QCA is not forever straightforward. As transistors decrease in size more and more of them can be accommodated in a single die, thus increasing chip computational capabilities. However, transistors cannot get much smaller than their current size. The quantum-dot cellular automata (QCA) approach represents one of the possible solutions in overcoming this physical limit, even though the design of logic modules in QCA is not always straightforward. In this brief, we propose a new adder that outperforms all state-of-the art competitors and achieves the best area-delay tradeoff. The above advantages are obtained by using an overall area similar to the cheaper designs known in literature. The 64-bit version of the novel adder spans over 18.72 µm<sup>2</sup> of active area and shows a delay of only nine clock cycles, that is just 36 clock phases.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

A Framework For Traffic Control System Based On Moving Objects By Using Spatial Datamining

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In a real world data base system spatial database store a large amount of moving objects data and there objects travel into different routes to spatial locations, each moving object may contain their own object ID, object type, object locations and time stamps. Spatial data mining refers to the extraction of knowledge, discovering spatial relationships and relationships between spatial and non-spatial data. In these manner travelling objects may create traffic, pollution (i.e, air, sound, temperature etc..) into geographical locations, by using multidimensional index structure to access the traffic databases and to overcome such problems to find the pattern based objects (i.e., cars, trucks, buses etc..) and we propose a novel algorithm is called shortest and multi path routing algorithms for these purpose, we implement spatial databases may use topological and multidimensional database system we use.

**Index terms**: spatial databases, topologies and multidimensional databases, moving objects.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

A Fully Digital ECG with 0.5v Supply

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This paper is to present a new power-efficient electrocardiogram acquisition system by using a fully digital architecture that reduce the power consumption and chip area. The architecture is compatible with digital CMOS technology and is capable to operate with a low supply voltage of 0.5 V. In this architecture, no analog blocks (e.g., LNA and filters) and no passive elements (e.g., coupling capacitor) are used. A voltage-to-time converter is used, which behaves instead of the LNA and antialiasing filter. A digital feedback loop is used to cancel the impact of the dc offset on the circuit, which can eliminate the need for coupling capacitors. The circuit is implemented in 0.18-um CMOS process. The simulation results have shown that the front-end circuit consumes 274 nW of power.

Note:



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Load Balanced Clustering Algorithm for Mobile Data Gathering and Uploading In Wireless Sensor Networks

The Architecture consist of three-layer framework which is proposed for mobile data collection in wireless sensor networks, which includes the sensor layer, cluster head layer, and mobile - collector (called SenCar) layer. The framework employs distributed load balanced clustering and dual data uploading, which is referred to as LBC-DDU. The objective is to achieve good scalability, long network lifetime and low data collection latency. At the sensor layer, a LBC algorithm is proposed for sensors to self-organize themselves into clusters. In contrast to existing clustering methods, our scheme generates multiple cluster heads in each cluster to balance the work load and facilitate dual data uploading. At the cluster head layer, it is choosen to generate the connectivity among the clusters later, it forwards to SenCar for moving trajectory planning. At the mobile collector layer, SenCar is equipped with two antennas, which enables two cluster heads to simultaneously upload data to SenCar in each time by utilizing multi-user multiple-input and multiple-output (MU-MIMO) technique. The trajectory planning for SenCar is optimized to fully utilize dual data uploading capability by properly to transport the data to tower (sink) by selecting polling points in each cluster, SenCar can efficiently gather data from cluster heads and transport the data to the static data sink. This scheme evaluate the effectiveness of the proposed LBC-DDU scheme. Hences, results show that when each cluster has at most two cluster heads, LBC-DDU achieves over 50 percent energy saving per node and 60 percent energy saving on cluster heads through multi-hop relay to the static data sink, and 20 percent - data collection time compared to traditional mobile data gathering.

Note:

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### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Frontal View Human Face Detection And Recognition

This paper is about an attempt to unravel the classical problem of automated human face recognition. A near real-time, fully automated computer vision system was developed to detect and recognise expressionless, frontal-view human faces in static images. In the implemented system, automated face detection was achieved using a deformable template algorithm based on image invariants. The natural symmetry of human faces was utilised to improve the efficiency of the face detection model. The deformable template was run down the line of symmetry of the face in search of the exact face location. Once the location of the face in an image was known, this pixel region was extracted and the test subject was recognized using principal component analysis, also known as the eigenface approach.

Note:

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### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Implementation of Automation Code for Calibration Constant For MST Radar

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ur proposal aims at the **Implementation of Automation Code For Calibration Constant For Mst Radar.** This calibration is developed following the working of the **MST RADAR** in transmission and reception paths. The present calibration encompasses generation of transmission signal which is 53MHz pulsed and its reception, which employs signal processing in analog and digital domains. Finally the calculations of Doppler shift are done.

Here in real time analysis RADAR operation is based on some defined input parameters like number of range bits, inter pulse period with coding. MATLAB is special purpose computer software optimized to perform engineering and scientific calculations. The MATLAB program implements the MATLAB programming language, and provides an extensive library of predefined functions those technical programming tasks easier and more efficient unlike most other computer language. MATLAB has many integral plotting and imaging commands. This capability makes MATLAB an outstanding tool for visualizing technical data.

In our proposal depending on the inputs Doppler shifts are calculated using FFT proceeding.



# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Testing and Evaluation of High Power Yagi-Uda Antenna with Circular Polarization Technique

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n "Antenna" is a conductor that can transmit, send and receive signals such as microwave, radio signals. For meteor observations generally circular polarization technique will be used to reduce polarization mismatch. Yagi-Uda Antenna with crossed dipole configuration will be employed at 30-MHz frequency. Circular polarization refers to an electromagnetic wave in which either the electric or magnetic vector executes a circular perpendicular to the path of propagation with a frequency equal to that of the wave.

In this project, realization and testing of circular polarization by using crossed Yagi-Uda Antennas will be demonstrated. These Antennas will operate at 30MHz frequency. A total of 2 Antennas are used to generate a high power Transmitter Antenna system. The Feeder Network is a Low loss RF cable, which distributes the high power to the Antenna system. RF coaxial cables and high power SPDT switches are used to realize the feeder networks (LMR 600 RF cables). Two numbers of high power 30-MHz pulsed signals are fed to the two diploes and the phase calibration will be carried out to achieve the 90° phase difference between the two diploes.

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### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### ICAN-An Intelligent Trash Can

[1] Dr.M.Premkumar [2] R.Aswin [3] A.Asif Iqbal [4] T.Akash Salow [1] Assistant Professor, [2][3][4][5] Final year Department of Electronics and Communication Engineering, Panimalar Engineering College, Chennai.

wing to a paradigm shift toward internet of things (iot), researches into iot services have been conducted in a wide range of fields. As a major application field of iot, waste management has become one such issue. The absence of efficient waste management has caused serious environmental problems and cost issues. Therefore, in this paper, an iot-based smart garbage system (sgs) is proposed to implement efficient waste management. This paper hence provides a comprehensive way of the enabling technologies, protocols, and architecture for an urban IoT in Smart Grabage System(sgs).

**Index Terms**— Graphical user interfaces, Internet of Things, Open wireless architecture, Publish subscribe systems, Software defined networking, TCPIP, Temperature sensors, Ultrasonic sensor, Wireless sensor networks.

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### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Investigation of Pull-in Voltage in Artificial Hair-Sensor

Ahmad Dagamseh Electronics Engineering Department, Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid-Jordan

Recently, engineers have been working in developing highly-sensitive artificial hair sensors, mimicking the hair sensor in crickets using MEMS technology. In such structures, the pull-in voltage is a limitation to achieve highly-sensitive sensors. Although higher bias voltages result in further increased sensitivity, there exists a trade-off between increased sensitivity and stability, because of the pull-in effect. In this paper, we investigate the effect of pull-in voltage in artificial hair sensors. The theoretical modelling results show that the pull-in voltage occurs at bias voltage of  $\approx 1.6$  volts. These results assist in determining the maximum excitation voltage that can be utilized. Once the pull-in voltage is identified for a specific design parameter the sensor sensitivity, robustness and reliability can be controlled.

Index Terms—Artificial hair sensor, Pull-in voltage, sensor characterization, sensitivity.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Cultural Issues Affecting The Operation Of Commercial Transportation In Ibadan Metropolis, South-West Nigeria

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This paper investigates the cultural issues affecting the operation of commercial transportation in Ibadan metropolis. In the investigation, issues such as age, education, religion, years of driving, awareness of use charms, how effective is the use of charm etc of the respondents were looked into. Some of the cultural issues identified on the field are basically on ducks, sheep, carrying mortals and corpse. The Ducks and sheep posses a spirit that you must not cheat whatever may be the case, therefore money must be given to ducks and sheep whenever any accident happen that involves taking their life. Finally, from the study it has been established that most drivers use charms for protection against accident in the course of operation. Furthermore, some of the opinion concerning carrying of corpse do not ensure or promote safety, an example is the closing of side mirrors when transporting corpse.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

ICT Network assessment framework For Healthcare service

[1] Astrid Oddershede, [2] Rolando A. Carrasco,

Technology (ICT) network system in health care service to improve QoS is presented. Integrating the planning process, Information Technology (IT) provision and simulation with network modeling, through Optimization Network Engineering Tool (OPNET) platform, data analyses techniques and interactive multi-criteria approaches permitted the design and development of a methodology to evaluate the QoS of ICT and communications resources. Through a case study for Chilean hospitals, the user interface perception and resources for ICT network support are investigated. New guidelines for identifying the high-priority issues of QoS management in a healthcare IT system are provided. The model will assist in obtaining client perception of QoS related to the communications system in a Health Care institution, identifying critical areas for QoS, providing a decision making tool as guidance for analyzing and evaluating a networked system for health related activities, compare different requirements and to enable tradeoffs in accordance with the institution's requirements.

Index Terms— ICT Healthcare, network, Multicriteria, QoS

Note:

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### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Automation of Blender Reclaimer Using PLC in Visakhapatnam Steel Plant

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utomation of industries is essential for improving production. The existing trends in automation at **Visakhapatnam Steel Plant**, are conventional relay logic panels, servo motor controls etc.

In Visakhapatnam Steel Plant Raw Material Handling Plant is one of the major departments. It receives all the raw materials Iron Ore, Lime Stone, Dolomite, Sand, Quartzite, Coking Coal and Non Coking Coal etc. required for steel production, stores them in yard, reclaims the same and dispatches to the user departments as per requirements.

The Blender Reclaimer of Ore Handling Plant are used for reclaiming IronOre and Flux material. It consists of many drive interlocks between them and comprises of many safety interlocks. Presently relay logic system is used for all interlocking and protection circuitry. This system requires complicated wiring and is not flexible for modification and troubleshooting is also difficult. This project aiming at installing a PLC based system which has advantages like minimum maintenance requirement, easy troubleshooting and flexibility for modification.

In this thesis an attempt is made to adopt Programmable Logic Controller for Automation of BLENDER RECLAIMER in Raw Material Handling Plant.

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### **Internet of Things & Applications for Smart** City

March 18–19, 2016, Tirupati

Cartoon-Texture Image Decomposition Using Block Wise Low-Rank Texture Characterization

 $^{[1]}$  P.Suneetha,  $^{[2]}$  N.Mahesh $^{[3]}$  N.Janardhana  $^{[4]}$  M.Narayana  $^{[5]}$  N.Lokeswara [1] Assistant Professor, [2][3][4][5] Student,

re propose an Image decomposition method that can viably deteriorates a picture into its cartoon and composition segments by utilizing a portrayal of surface. The portrayal rests on our perception that the surface segment appreciates a block wise low-rank nature with conceivable cover and shears, on the grounds that composition, all in all, is universally different however by regional standards decently designed. We set up a cartoon composition disintegration demonstrate as a raised improvement issue, where the synchronous estimation of the toon and surface parts from a given picture or debased perception is executed by minimizing the aggregate variety and BNN. Moreover, the model can deal with different sorts of corruption happening in picture handling, including smear + missing pixels with a few sorts of clamor. By revising the issue through variable part, the supposed rotating heading strategy for multipliers gets to be relevant, bringing about an effective algorithmic answer for the issue. Numerical illustrations outline that the proposed model is exceptionally particular to examples of composition, which improves it deliver results than cutting edge disintegration models.

Note:

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### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Load Balancing in Content Delivery Networks Using Distributed Control Law

The challenging issue of interpreting and applying an effective law for controlling fill in Content Distribution Systems (CDNs). We propose on a official research of a CDN system, performed through the exploitation of a liquid circulation design depiction of the system of web servers. Beginning from such depiction, we obtain and confirm a lemma about the system lines stability. This result is then lever-aged in order to develop a novel allocated and time-continuous criteria for fill controlling, which is also reformulated in a time-discrete edition. The distinct ingredients of the suggested controlling law is gradually mentioned in regards to its real implementation in a real-world situation. Lastly, the overall strategy is verified by means of models.

**Index Terms**— Content Delivery Network (CDN), control theory, request balancing.

Note:

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# Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Big Data Analytics for Designing Music Recommendation System

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ith the growth of the World Wide Web, a large amount of music data is available on the Internet. When a user search for a track, the existing system displays a vast amount of relevant data. In that displayed data, there may be irrelevant data which do not match user's interest. Hence, user has to search rigorously for the track which is a time taking process. So, here we design music recommendation system using big data analytics by performing content-based, collaborative and statistic-based filtering, which are of the user's favorite music groups.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

Real Time Multi Parameter Monitoring Using Internet of Things (IOT)

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The multi parameter monitoring is a medical equipment life supporting machine used extensively by patients in the Intensive Care Unit(ICU). The patients in the ICU ward needs special care than the other patient's .So; it is a must to monitor the patient's condition. But the doctors cannot always stay with the patient checking their condition. To overcome this problem, in this paper we developed a device called multi parameter monitoring which can continuously monitor patients vital science using the concept of INTERNET OF THINGS. This device consists of three sensors to monitor the patient. One sensor will be monitoring the patient's blood pressure level another one will be monitoring the amount of blood getting diluted and the third sensor will be monitoring the pulse rate. These sensors will be fixed with some value at the initial stage. So there will be no problem until the patient's condition is below that level. If the sensor detects the pulse rate or blood rate above or below the threshold value that has been set at the initial stage then it means the patient has gone into the abnormal condition. Once the sensor detects something abnormal in the patient's condition then this information will be automatically sent to the micro controller which converts the along signals into digital signals. Then this information will be sent to the doctor's mobile phone in the form of a notification message and an alarm will be generated to alert the doctor. The information is transferred using the TCP/IP protocol. The alarm will be off only if the patients pulse rate becomes normal or nil. This could save more people and could easily drive the doctor's attention more easily. Since the concept of Internet of things is being used the transfer of data will be more faster and accurate. And it also can cover a larger area compared to the other existing system. This device is not so expensive so hence it could be used in every hospital to reduce the work of doctor and to care the patients in a more effective way.

Index Term- WI-FI M03, IR Pulse Detector, SPO2 Probe, Temperature Sensor, Microcontroller ATMEGA 2560

Note:



## Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### A Review on Error Correction and Object Removal for Videos Based On In Painting with Short-Term Windows

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Tideo inpainting is the process of repairing missing regions (holes) in videos. Most automatic techniques are computationally intensive and unable to repair large holes. To tackle these challenges, a computationally-efficient algorithm that separately inpaint foreground objects and background is proposed. Using Dynamic Programming, foreground objects are holistically inpainted with object templates that minimize a sliding-window dissimilarity cost function. Static background are inpainted by adaptive background replacement and image inpainting. In this propose a new video inpainting method which applies to both static or free-moving camera videos. The method can be used for object removal, error concealment, and background reconstruction applications. To limit the computational time, a frame is inpainted by considering a small number of neighboring pictures which are grouped into a group of pictures (GoP). This drastically reduces the algorithm complexity and makes the approach well suited for near real-time video editing applications as well as for loss concealment applications. Experiments with several challenging video sequences show that the proposed method provides visually pleasing results for object removal, error concealment, and background reconstruction context.

Index Terms—Inpainting, registration, homography, camera motion.

Note:



### Internet of Things & Applications for Smart City

March 18-19, 2016, Tirupati

#### Modeling Techniques for MMC Employed on VSC-HVDC Schemes

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odular multilevel converters (MMC) are presently the converter topology of choice for voltage-source converter high-voltage direct-current transmission schemes due to their very high efficiency. These converters are complex, yet fast and detailed electromagnetic transients simulation models are necessary for the research and development of these transmission schemes. Excellent work has been done in this area, though little objective comparison of the models proposed has yet been undertaken. This paper compares for the first time, the three leading techniques for producing detailed MMC VSC-HVDC models in terms of their accuracy and simulation speed for several typical simulation cases.

*Keywords*— accelerated model, electromagnetic transient (EMT) simulation, HVDC transmission, modular multilevel converter (MMC), voltage-source converter (VSC).

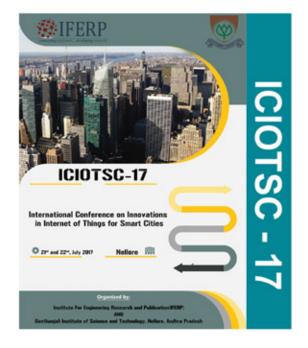
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