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4.Name teacher, title of paper title of book published, title of the proceeding of the conference/workshop/symposia, name of the publisher, year of publication (calendar year), whether in national /international, ISBN number, the proceeding photo with location & function etc, attested by Principal.

Name of the teacher	Title of the paper	Title of the book/chapters published	Title of the proceedings of the conference	Name of the publisher	Year of publication	National/International	ISBN/ISSN number of the proceeding
Dr. S. D. Babar	NA	Data Acquisition and Knowledge Management in IoT: Security Issues, Challenges, and Road Map Ahead	NA	Springer Nature Singapore	2021	International	978-981-33-4996-4_5
Dr. S. D. Babar	NA	Sarcasm Detection in Online Social Network: Myths, Realities, and Issues	NA	Springer Nature Singapore	2021	International	978-981-33-4996-4_15
Dr. D.D. Chaudhary	A Smart Prioritized Ambulance Service With Intelligent Traffic Control System	NA	IEEE TECHNICOKNOCK DOWN-2021	NC-Technically sponsored by IEEE Bombay Section and IETE Pune center	2021	National	978-81-992245-3-6, pp 161-164
Dr. D. S. Mantri	IoT based Thief Detection and Surveillance System using Raspberry Pi	NA	IEEE TECHNICOKNOCK DOWN-2021	NC-Technically sponsored by IEEE Bombay Section and IETE Pune center	2021	National	978-81-992245-3-6
Dr. D. S. Mantri	Design and Development of a Two Wheeled Self Balancing Robot.	NA	IEEE TECHNICOKNOCK DOWN-2021	NC-Technically sponsored by IEEE Bombay Section and IETE Pune center	2021	National	978-81-992245-3-6
Dr.Sharad Gholap	Automatic Sanitization System for Transportation and Auditorium	NA	IEEE TECHNICOKNOCK DOWN-2021	NC-Technically sponsored by IEEE Bombay Section and IETE Pune center	2021	National	978-81-992245-3-6
Ms. D.K.Shende	IOT Based SmartyChef-Automated Electro- Meachanical Chef	NA	IEEE TECHNICOKNOCK DOWN-2021	NC-Technically sponsored by IEEE Bombay Section and IETE Pune center	2021	National	978-81-992245-3-6

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Mr. R.V.Babar	An Automatic Solar Panel Cleaning System	NA	IEEE TECHNICOKNOCK DOWN-2021	NC-Technically sponsored by IEEE Bombay Section and IETE Pune center	2021	National	978-81-992245-3-7
Ms. Vaishali Baste	Intelligent Sanitization Robot	NA	IEEE TECHNICOKNOCK DOWN-2021	NC-Technically sponsored by IEEE Bombay Section and IETE Pune center	2021	National	978-81-992245-3-6
Dr.Sharad Gholap	"Measuring and Monitoring of Chemical Reactor using PLC"	NA	IEEE TECHNICOKNOCK DOWN-2021	NC-Technically sponsored by IEEE Bombay Section and IETE Pune center	2021	National	978-81-992245-3-9
Ms. Vijaya Gopalrao Rajeshwarkar	NA	Text Book on SE (E&TC) SPPU syllabus for "Electrical Circuits	NA	Savitribai Phule Pune University	2021	National	ISBN : 978-93-89889-49-9
Ms. P. P. Ahire	NA	Computer Graphics" for SE Computer of BATU, Lonere ,	NA	Nirali publication	2021	National	ISBN:N-3565
Ms. P. P. Ahire	NA	Computer Graphics" for SE Computer of SPPU Pune	NA	Nirali publication	2021	National	ISBN:N-5499
Ms. P. P. Ahire	Study of Author Identification and Verification Systems Using Statistical and Stylometry Models on Different Languages	NA	International Conference on Future Intelligence in Science and Technology	ICETIS	2021	International	0193-4120 Page No.25467-25472

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Mrs.Anuradha P Kulkarni	4G/5G MIMO Antenna Design and Challenges: A Review with Machine Learning using Flutter	NA	International Conference on Smart Automation in Computer, Electrical, Electronics and Communication Engineering on Innovative Practices in Engg Technology & Business Management(RMDSTIC-2021)	RMDSTIC	2021	International	ISBN: 978-81-953396-0-0 -21-EN103
Mrs.P. P. Ahire	Group Data Sharing Using Cloud Computing	NA	IEEE-International Conference on Computing, Communication and Green Engineering (CCGE21)	CCGE	2021	International	NA
Supriya Jadhav	SOURCE CODE OBFUSCATION: Novel	NA	Springer LNNS		2021	International	
Dr.D.S.Mantri	NA	Published Book on Microcontroller for TE E&TC engineering SPPU Pune , ISBN : 978-93-91567-60-6, Oct 2021	NA	Savitribai Phule Pune University	2021	NA	ISEN 978931957068 6

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Mrs. V.S.Baste	Survey on development of convenient health monitoring system for pregnant women in rural area	NA	NA	IJCAI	2021	NA	E-ISSN: 2707-658X P-ISSN: 2707-6571
Dr.D.D. Chaudhary, S.L. Kurkute	NA	Textbook on Electronic Product design for TE (Electronics) as per Mumbai Univ. syllabus	NA	TechKnowledge Publication Pune	2020	National	ISBN: 978-93-89828-95-5
Dr.D.D. Chaudhary, S.L. Kurkute	NA	Textbook on Electronic Product design for BE (E&TC) as per SPPU syllabus	NA	TechKnowledge Publication Pune	2020	National	ISBN: 978-93-898299-63-3
Dr. Dnyaneshwar Mantri	EEHRP: Energy Efficient Hybrid Routing Protocol for Wireless Sensor Network	Internal Symposium GISFI 32 GSSM	GISFI 32 GSSM	GISFI GSSM	2020	International	**NA**
Mrs V.S.Baste	Smart e-Vehicle System	NA	International Journal of future Generation Communication and Networking	IJFGCN	2020	International	2233-7857
Mrs. V.S.Baste	Smart System to Measuring Quality and Quality of Fuel in Vehicle	NA	Mukt Shabd Journal		2020	Internal	23473150
Mr. Mayur Raut	NA	A miniaturized Printed UWB Antenna with Sextuple Stop Bands on U shaped Slot Resonators and Split Ring Resonators for IOT application(Chapter in Lecture Notes in Electrical Engineering	Springer ,Singapore	Springer	2020	International	Print ISBN: 978-981-15-2925-2 Online ISBN:978-981-15-2926-9

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Ms. P. P. Ahire	Mechanisms for Source Code Obfuscation in C: Novel Techniques and Implementation	NA	2020 International Conference on Emerging Smart Computing and Informatics (ESCI) AISSMS Institute of Information Technology, Pune, India	IEEE	2020	International	INSPEC Accession Number: 19896472
Dr. D.S.Mantri	NA	Textbook on Microcontroller	NA	Technical Publication	2020	National	NA
Dr. D.S.Mantri	Implementation of Multichannel UART Controller Based on FIFO Technique and FPGA	NA	IJSRD - International Journal for Scientific Research & Development| Vol. 8, Issue 3, 2020 | ISSN (online): 2321-0613	NA	2020	Natinal	| ISSN (online): 2321-0613
Mrs.D.K.Shende	CrowWhale-ETR: CrowWhale optimization algorithm for energy and trust aware multicast routing in WSN for IoT applications	NA	Wireless Networks	Springer	2020	International	s11276-020-02299-y(0123456789().,-volV) (0123456789().,-volV)
Mr. Prasad Lokhande	Surfactant free chemically deposited wheat spike-like nanostructure on Cu foam for supercapacitor applications	NA	NA	Elesevier	2019	International	2214-7853

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Dr. Dnyaneshwar Mantri	NA	Layered Network Security for Efficient Data Aggregation in CONASENSE - Book Chapter	Security Within Conasense Paragon, Revier	Security Within Conasense Paragon, Revier Publisher	2019	International	NA
Mr. S.V.Karankoti	NA	Heat transfer for Savitribai Phule Pune University pune	NA	Techanical Publication	2019	National	9.78933E+12
Mr. Prasad Lokhande	NA	Inorganic Electrolytes in Supercapacitor	NA	Materials Research Foundations	2019	National	978-1-64490-049-9
Mr. Prasad Lokhande	NA	Conductive Polymer-derived Materials for Supercapacitor	NA	CRC, Taylor and Francis	2019	International	978-0-36719394-2
Ms. B. L. Dhote	NA	Trust and Security to Shared Data in Cloud Computing: Open Issues (Chapter)	NA	Springer Singapore	2019	International	978-981-13-2673-8
Dr. D. D. Chaudhary	NA	Text book on 'Electronic Product Design'	NA	TechMax Publication Pune	2018	National	ISBN: 978-93-88200-25-7
Dr.D.S.Mantri	Node and Network Level Scheduling Controls in Wireless Sensor Network	NA	GCWCN	GCWCN	2018	International	-
Dr.D.S.Mantri	Secure Scheduling for Cluster-based TDMA Schedule MAC in Wireless Sensor Network	NA	GCWCN2018, SIT	IEEE	2018	International	978-1-5386-5301-5
N.P.Karlekar	Survey on Security and Privacy of Cloud	NA	IFERP	ICASETEM	2018	National	97881932966-8-4
Ms. P. P. Ahire	Perceive Core Logical Blocks of a C Program Automatically for Source Code Transformations	NA	Springer Nature Switzerland AG 2020 A. Abraham et al. (Eds.): ISDA 2018, AISC 940, pp. 386–400, 2020.	ISDA	2020	International	Online ISBN 978-3-030-16657-1

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Prof. P. P. Ahire	NA	Wrote book on "Operating System" for TE IT Students of SPPU	NA	Nirali Publication	2018	National	N4194
Mr.R. S. Badodekar	Novel Genetic Algorithm for Association Rule Mining with Multi-Objective Extraction for Bakery Database	NA	Second International conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC 2018) IEEE Xplore Part Number:CFP18OZV-ART;	IEEE	2018	International	ISBN:978-1-5386-1442-6
Mr.R. S. Badodekar	"Dynamic Simulation of Human Action Perception through the medium of SPREF"	NA	2018 2nd IEEE Global Conference on Wireless Computing and Networking (GCWCN-2018)	GCWSN	2018	International	978-1-5386-5201-5/18/2018 IEEE
Dr.Dnyaneshwar Mantri	Averaging Based Predictive Modelling for Traffic Congestion in IoT	NA	GCWCN2018, SIT	IEEE	2018	International	978-1-5386-5301-5
Dr. D. S. Mantri	NA	Text Book on Microcontrollers	NA	Technical Publications	2018	National	ISBN: 978-93-332-1575-6
Dr. D. S. Mantri	NA	Microcontrollers- Decode	NA	Technical Publications	2018	National	ISBN: 978-93-332-1708-8
Mrs. Dipali Shende	Automation of dry-wet waste collection to support Swachh Bharat Abhiyan and its monitoring over IOT enabled WSN	NA	International Journal of Computer Sciences and Engineering	JCSE	2018	National	E-ISSN: 2347-2693

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Mrs. Dipali Shende	Implementation of MQTT Protocol for smart gas Metering Using Semantic Data Extraction with IOT	NA	World Research Forum for Engineers & Researchers - International conference ICEEE	Proceedings of WRFER International Conference, 09th July, 2017, Pune, India July, 2017, Pune, India	2018	International	Proceedings of WRFER International Conference, 09 th July, 2017, Pune, India
Dr. T. J. Parvat	Implementation of System for Analysis and Prediction of Electric Supply on Home Usage"	NA	IEEE Conference INDIACom-2018,	IEEE	2018	National	ISSN 0973-7529; 978-93-80544-28-1
Mrs.Dipali Shende	IoT Based Geographic Multicast Routing Protocol with DPA through WSN	NA	International Conference DYPatil Lohagaon	IJCRT	2018	International	ISSN: 2320-2882
Ms.Vaishali Sandeep Baste	FPGA based implementation of SDR transceiver	NA	International Journal for Research in Engineering Application & Management (IJREAM)	**ICRTET**	2018	Ntional	ISSN : 2454-9150
V.S.Baste, D.K.Shende	Efficient Utilization of Channel Coding for Wireless	NA	NA	IJEECS	2017	National	ISSN 2348-117X
M.S.Chaudhari	NA	Reliable Data Delivery on the Basis of Trust Evaluation in WSN	NA	Springer Singapore	2017	International	NA
Ms. P. P. Ahire	NA	Book on Computer Graphics" for SE IT of SPPU Pune	NA	Nirali Publication	20[illegible]	National	NA
Dr. D. S. Mantri	NA	Text Book on Microcontrollers	NA	Techanical Publication	2017	National	ISBN: 978-93-332-1575-6

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Dr. D. S. Mantri	NA	Text Book On Microcontrollers-Decode	NA	Techanical Publication	2017	National	ISBN: 978-93-332-1708-8
Mr.Rajendra V. Babar	Design and Analysis of Beacon based SDR Systems	NA	IEEE Xplore, 14 December-2017,	IEEE	2017	National	DOI:10.1109/ICAMMAET.2017.8186728.
Ms. P. P. Ahire	NA	Wrote book on "Operating System" for TE IT Students of SPPU	NA	Nirali Publication	2017	National	N3323
Dr. T. J. Parvat	NA	Human Action Recognotion	NA	Lambert Academic Publishing	2016	International	ISBN-978-3-659-92079-0
Dr. Dnyaneshwar Mantri	Node Heterogeneity for Energy Efficient Synchronization for Wireless Sensor Network	NA	7th International Conference on Communication, Computing and Virtulization (ICCCV-16), in association with Elsevier B.V. Amsterdam	**Springer**	2016	International	978-0-9884925-6-1
Mr. S.B. Gholap	Design of Spectrum Sensing Test Bed Using SIMULINK for Cognitive Radio Application	NA	3rd International Conference on Electrical, Electronics, Engineering Trends, Communication, Optimization and Sciences (EEECOS)-2016	**3rd International Conference on Electrical, Electronics, Engineering Trends, Communication, Optimization and Sciences (EEECOS)-2016**	2016	International	

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Mr. Vilas V. Mapare	Mutual Coupling Reduction in MIMO Antennas",	NA	NIT,Durgapur		2016	Natioanl	
Mr. Vilas V. Mapare	NA	Frequency-Dependent Lumped Model Of Dual Band MIMO Antenna"	NA	Springer India	2016	International	NA
Mr. Vilas V. Mapare	NA	Numerical Modeling Of Twin Band MIMO Antenna	NA	Springer	2016	International	NA
R.V.Babar	Grocery Inventry Automation Using Internet Of Things and BLE Network	NA	NA	IJRSET	2016	National	ISSN(Online)2319-8753 ISSN(Print)23476710
Ms. P. P. Ahire	Addition of Fake Variable to Enrich Secure Linear Programming Computation Outsourcing in the Cloud	NA	2016 International Conference on Computing, Analytics and Security Trends (CAST) College of Engineering Pune, India. Dec 19-21, 2016	CAST	2016	International	DOI: 10.1109/CAST.2016.7915016
Mr. S.V.Karankoti	NA	Heat transfer for Savitribai Phule Pune University	NA	Techanical Publication	2016	National	978-93-332-0300-5
Ms. P. P. Ahire	NA	Worte book on "Problem Solving and Object Oriented Programming".	NA	Nirali Prakashan	2016	NA	NA
Ms. P. P. Ahire	NA	"Text Book on Computer Graphics"	NA	Nirali Prakashan	2016	NA	NA

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Mr. Deepak B. Patil	Semi-automated lession grading in cervix images with Specular Reflection removal	NA	International Conference on Inventive Computation Technologies (ICICT)	IEEE explorer	2016	International	ISBN:978-1-5090-1286-2
Mr.Rajendra V. Babar	Advanced software defined radios for wireless communication with improved power efficiency	NA	ICCASP/ICMMD-2016. Advances in Intelligent Systems Research. Vol. 137, Pp. 719-727. © 2017	Atlantis Press	2016	International	https://doi.org/10.2991/iccasp-16.2017.99
P.C.Latane	Fault Detection in Electric Motors Using Vibration Analysis and DSP Processor	NA	NA	IJRSET	2016	Internationl	ISSN(Online): 2319-8753 ISSN (Print) : 2347-6710

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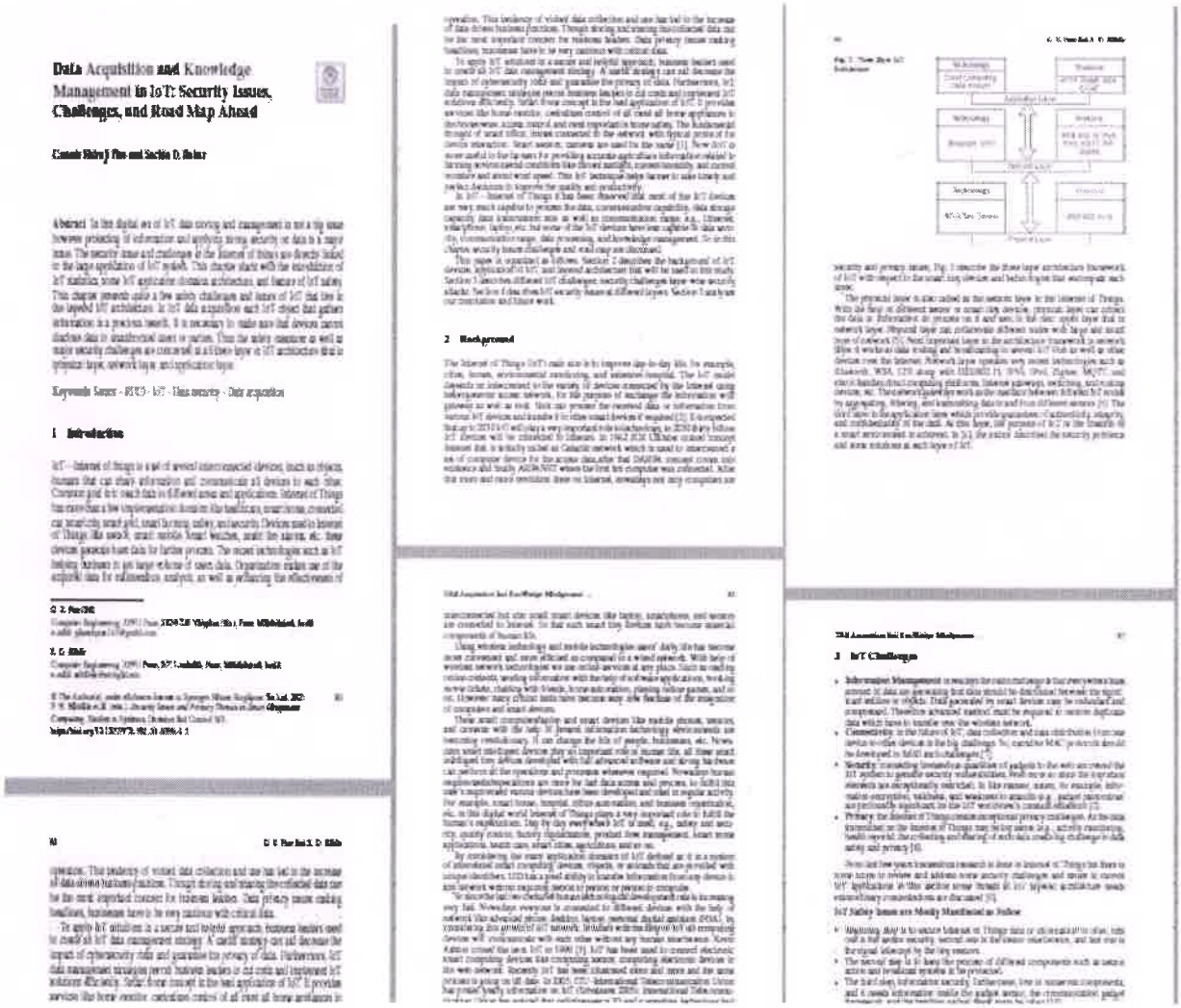
1. Data Acquisition and Knowledge Management in IoT: Security Issues, Challenges, and Road Map Ahead



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2. Sarcasm Detection in Online SocialNetwork: Myths, Realities, and Issues

Sarcasm Detection in Online Social Network: Myths, Realities, and Issues

L. K. Ahire, Sachin D. Babar, and Gitanjali R. Shinde

Abstract Sarcasm is a statement used by sophisticated people on social media and blog-oriented websites. It is used to express the indirect information on the statements which is already making a buzz on social media. It is a platform where the various forms of judgmental or normal statements are shared by millions of people. And it becomes hugely difficult to identify, whether the statements made are a compliment or mockery statements, sometimes too hard for humans to identify. This increases the scope and need for recognizing the sarcastic statements for improving automatic sentiment analysis. Sentiment analysis is referred to as the method of identification and aggregation of the sarcasm statements by Internet users for specific attitudes or opinions. Sarcasm detection systems use different types of techniques such as Rule Based Approach, Pattern-Based Approach, Machine Learning Approach, and Context-Based Approach. The system analyzes sarcasm detection on the Twitter dataset by using Techniques such as Support Vector Machine, Random Forest, Naïve Bayes, and Maximum Entropy.

Keywords Twitter · Sentiment analysis · Sarcasm detection · Machine learning · Classification

1 Introduction

With the rise of Smartphones and very high-speed Internet services, the number of users is rapidly growing up on social media websites like Facebook, Twitter,

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e-mail: gr83git@gmail.com

S. D. Babar
Computer Department, SIT Lonavala, Savitribai Phule Pune University, Pune, India
e-mail: sdbabar@sinhgad.edu

P. N. Mahalle et al. (eds.), *Security Issues and Privacy Threats in Smart Ubiquitous Computing*, Studies in Systems, Decision and Control 341,
https://doi.org/10.1007/978-981-33-4996-4_15

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Instagram, etc. The increased volume of data produced is becoming very huge every day. Nearly 17 percent of users increase yearly, and the mobile users have reached 3.7 billion according to Statistics from GlobalWebIndex [1]. People feel free to open up on a social media platform and place their opinions on the same, for example, about an event or discuss products as well as business strategies. Some people use social media as a platform to set up their business and also exchange their ideas about starting new start-ups and many more things; thus, by using such a great platform people can share their views worldwide. There are 1.39 billion active users on Facebook every month, and each user is a friend of 130 people on average [2]. Also, there are 500 million people using Twitter, among whom 332 million are active [1]. People post 340 million tweets, and 1.6 billion queries are searched each day [1].

As data are growing rapidly, a number of challenges are faced by this sudden rise like storing, processing, and accessing data. Dealing with these huge data and verification becomes a tougher task. Among these huge collected data, most of the data are unstructured. With the developing technology, people are provided with many new ways of interaction, from text messages to images and video sharing. In today's social media world, many manufacturers use social media as a platform for their product marketing and take feedback from customers about their products. Everyone uses social websites to see the latest trend and news about any event or other things. When an event occurs or any new product is launched in the market, people start discussing the same and take an active part in giving their feedback it. On the other hand, many people read the reviews and comments posted by the people about the event or product. These reviews and comments from users on the social media platform also help organizations for improving their product or event. However, it is a very complex task to find and verify the legitimacy of opinions or reviews.

"Sarcasm is defined as a specific type of sentiment where people express their negative feelings using positive or intensified positive words in the text". To understand which opinions or reviews are expressed as sarcastic is a highly difficult task by reading manually all the opinions. Besides, the common user will have difficulty in understanding sarcasm in tweets or opinions about the product which may be misleading to the user. It is an influential statement that represents an important disagreement between the real situation and the content used in the statement. For example, a comment from user, "I feel happy to waste time while waiting for a delayed train!" shows the difference between the real situation of being "frustrated while waiting for a delayed train" and the statement also contains "happy". This shows there is a contradiction in the given sarcastic statement that proves that sarcasm is a special type of sentiment analysis as depicted in Fig. 1. This indicates that sarcasm detection will improve the automatic sentiment analysis of the huge quantity of heterogeneous social data. It is a text classification problem that includes some natural learning techniques like stemming, stop word removing, etc. and feature extraction.

Sarcasm detection is a vital area of research in natural language processing. Fields like sentiment analysis and classification of texts containing sarcastic statements may result in the misleading analysis of data. Generally, sarcasm is very common but

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3.A Smart Prioritized Ambulance Service With Intelligent Traffic Control System

IEEE TECHNICOKNOCKDOWN-2021 (TKD-21)

A Smart Prioritized Ambulance Service With Intelligent Traffic Control System

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Abstract - **With increasing industrialization and population in this fast-paced world, many emergency services get delayed particularly in massive cities. Ambulance service is majorly affected by this and often patient condition worsens before reaching to the hospital to get desired medical attention. This paper proposes a solution to make such services easily available on one tap at doorstep. It consists of a website which includes database of hospitals so that a person can choose a hospital according to their preference and track the booked ambulance. This is achieved by implementing RFID technology which would automatically control the traffic signals in the path of ambulance thus minimizing the time required to reach the destination with implementing intelligent traffic control.**

I. INTRODUCTION

Increase in population is significantly contributing in exponential growth of vehicles which causes traffic congestions. These traffic congestions majorly effects emergency vehicles such as ambulances, fire brigades and etc.We can determine is that smooth and unhindered movement of emergency vehicles is crucial. In such circumstances we look for a promising and smooth system for getting over these difficulties. Therefore, taking this into serious consideration, since trafficcondition affects the Ambulance service, where time being crucial in emergencies as to get the patient to the hospital before severities; hence we are proposing an ambulance service booking and tracking easily available on one tap of patient with providing a green corridor for the ambulance with smart traffic control. Proposed system consists of website through which the user can book and track the ambulance with one tap. we also provide an uninterrupted flow for ambulance to reach the desired destination i.e. by providing shortest path to the ambulance with a traffic and signal free road. The resulted system can be artificially setup using Arduino and LEDs. The system automatically changes the traffic signal to green in the path of ambulance thus minimising the time required to reach the destination with the help of control room and also provides the shortest path available for the ambulance to reach the hospital within stipulated time.

II. METHODOLOGY

The following three systems are combined in this system

- *Traffic control*
- *Tracking and booking (website module)*

Both of the systems will work simultaneously. Patient's health parameters are monitored and at the same time driver of the ambulance can request the control room to manipulate the traffic signals. The ambulance first sends a request to the control room, the request consists of the current location of the ambulance accessed using RFID and the location of the desired hospital is sent by the ambulance driver. Now, the server sends all the data of all ambulances that have requested for traffic control to the Control room. The control room side of the application now displays the requests of all ambulances. The ambulances are displayed in order of their distances. The control room operator can now choose which ambulance it chooses to navigate by selecting it. Now a map is displayed which shows the current location of the ambulance as well as the location of the hospital. The route between the ambulance and the hospital and the live data of traffic is displayed on the map. The shortest route between theambulance and hospital is displayed as well as the traffic at various junctions. With the help of this data, the control room can control the traffic signals at various junctions.

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3. IoT based Thief Detection and Surveillance System using Raspberry Pi

IEEE TECHNICOKNOCKDOWN-2021 (TKD-21)

IoT based Thief Detection and Surveillance System using Raspberry Pi

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ABSTRACT:*Security has becomethe most challenging task. In order to keep our property safe from thieves and from getting destructed, it is necessary to safeguard the property. In our absence, we propose the theft detection and monitoring System using IOT and Raspberry Pi to secure and guard our house. The older methods used for surveillanceinclude CCTV cameras but it becomes costly as it needs computers and manpower for monitoring. Compare to the actual System, Raspberry Pi is much reasonable with better resolution and low power utilization features. The system keeps tracking the entire floor for movement. One single step anywhere on the floor is tracked and the user is alarmed through the mail over IoT. The images are captured and sentthrough email to the owner which providing real-time alerting and better security.*

Keywords:IoT, HTTPProtocol,PIR Sensor, Raspberry Pi, GMAIL, Camera.

I. INTRODUCTION

In the current scenario security is one of the most challenging tasks. We keep our capital and other valuable belonging in our house, but there is no assurance of their safety, many systems are designed to keep track of their properties but still, it is difficult to obtain a hundred percent security in real-time [1-3]. The security systems nowadays include CCTV surveillance. Although it is used on a large scale but continuous manpower is required for its secure results. Along with that CCTV surveillance is very costly. To overcome this, we have built IoT based thief detection and alerting system using raspberry pi[4-5], it is a system that tracks the movements in your house in your absence and alerts you through email. By sending real-time images and also provides live video streaming and also reduces the manpower required for keeping a constant eye on the surveillance. The system alsoprovides automatic control over the door which can be done remotely,which provides a highly secure and controlled environment. Some Applications areHome Security, Used at Bank, and Can be used at jewelry shops and Malls. The main objectives of the paper are

A. To create a surveillance system with the leastmanpower.

B. To get real-time alert messages when an intruder arrives.

C. To reduce high storage requirements in CCTVsurveillance systems.

D. To demonstrate HTTP protocol.

The Complete paper has been organized in different sections as

Section 2:introduces the block schematic.

Section 3: proposes the algorithmic flow.

Section 4: explains the hardware requirements with Sensors.

Section 5: Software Requirements are given

Section 6: Discusses implemented result and finally the paper is concluded in section 7

II. BLOCK DIAGRAM

The proposed block diagram of the system is shown in Fig.1. It has a PIR sensor, Servomotor and Camera interfaced to take real time images, which are processed by RPI3B+, and indication is given to the owner using email.

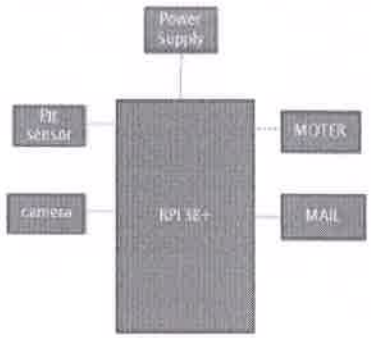

Fig 1. Block diagram.

The surveillance system has a PIR sensor that is used to detect movement. The Camera is interfaced with raspberry pi which captures the images. The PIR sensor is placed at the

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5. Design and Development of a Two Wheeled Self Balancing Robot.

IEEE TECHNICOKNOCKDOWN-2021 (TKD-21)

Design and Development of a Two Wheeled Self Balancing Robot.

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Abstract: ***Two Wheeled Self Balancing Robot is a most popular research topic in the area of robotics and control engineering. This project deals with the theoretical principles and concepts of inverted pendulum which is naturally unstable. The major focus on this paper is the hardware development of a two wheeled self-balancing robot. The main application of the project is to carry objects from one place to another. The modeling of the self-balancing robot is done in terms of the inverted pendulum. As the two wheeled self-balancing robot is unstable and nonlinear different types of controllers like PID are used.***

Keywords: Self balancing robot, Inverted pendulum, PID controller.

I. INTRODUCTION:

Robotics has always been played an integral part in the human life. The dream of creating a machine that replicates human thought and physical characteristics extends throughout the existence of mankind.

Developments in technology over the past fifty years have established the foundations of making these dreams come true. Robotics is now achievable through the miniaturization of the microprocessors which performs the processing and computations.

To make a self-balancing robot, it is essential to solve the inverted pendulum problem or an inverted pendulum on cart. While the calculation and expressions are very complex, the goal is quite simple: the position so that the inclination angle remains stable with in a pre- determined value, when the robot starts to fall in one direction, the wheels should move in the inclined direction with a speed proportional to angle and acceleration of falling to correct the inclination angle. So, we get an idea that when the deviation from and when the deviation is large, we should move more quickly. Self-balancing robot is an inverted pendulum example problem therefore it is difficult to balance[1].

The paper proposes the idea is to keep the robot upright by driving the wheels towards the leaning angle tilted.

The main objectives of this paper are

A. To get the robot to settle at the upright position in the shortest settling time and smallest overshoot.
B. To demonstrate the methods and techniques involved in balancing an unstable robotic platform on two wheels.
C. To move a predetermined distance along the horizontal whilst keeping its upright position.

The Complete paper is organized in different sections as,
Section II: Explanation about block diagram.
Section III: Working of self-balancing robot
Section IV: Flow Chart
Section V: Explore the functionality
Section VI: Hardware requirements
Section VII & VIII: Result is discussed and concluded.

II. BLOCK DIAGRAM:

The design of the system is quite challenging to bring the hardware and software to work together. The main components in the circuit of the two-wheel balancing robot are

The MPU (6050), the Atmega328 controller, the stepper motor, motor driver, ultrasonic sensor, bluetooth and 12V battery.

Fig 1 shows the overall block diagram of the electronic system for the balancing robot. The MPU6050 is used to measure the acceleration and the angular rate of the robot and the output is processed into digital form. The raw inputs from the IMU are further processed to obtain the tilt angle of the robot. This tilt angle is then fed into the PID controller algorithm to generate the appropriate speed to the stepper motor in order to balance the robot. The ultrasonic sensor is used to measure the object distance and help the robot to prevent accident[2].

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6. Automatic Sanitization System for Transportation and Auditorium

IEEE TECHNICOKNOCKDOWN-2021 (TKD-21)

Automatic Sanitization System for Transportation And Auditorium

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Abstract— The case of COVID-19 continues to increase, transmitted directly and indirectly. Hygiene and sanitation approaches are needed for prevention. The purpose of this review is to review how the transmission and the policy of COVID-19 prevention with hygiene and sanitation approaches. High population mobility, if there is a case of COVID19 without symptoms but carrier, then it can spread quickly. Especially in public transportation modes such as planes, trains, markets, religious events, and weddings. Activity in the crowd can transmit COVID-19quickly because droplets can spread and infect others. For this reason, social distancing is needed to reduce crowds, close schools, workplaces, terminals. In times of a global pandemic such as the corona virus (COVID-19), it is critical that social distance guidelines are adhered to and are effectively tracked and traced . These two aspects help significantly in controlling the spread of the virus worldwide. The ability of IoT services in providing remote data collection and monitoring has made it a critical aspect in fighting the spread of virus pandemics , Health workers and authorities need data to manage a rapidly spreading respiratory pandemic.

Keywords: Automatic Sanitization, Face mask detection, temperature monitoring, AI, BOLT IOT, transport, Covid Protocols, community health, cloud computing

I. INTRODUCTION

In the situation like Covid-19 or any pandemic the most difficult task for governance is to maintain public hygiene. This project will simplify this job to some extent. This project is a sanitization set which will ensure that people could travel in healthy and cleaned space without any human efforts. It will be capable of doing sanitization, temperature checking as well as alarming features will help to maintain social distancing and detecting people who are not wearing masks. So basically this project will help country's citizens to maintain basic norms for their healthy life.

People are forced by laws to wear face masks and maintain specific distance in public in many countries. As well as they are being sanitized by frontline workers. These rules and laws were developed as an action to the exponential growth in cases and deaths in many areas. However, the process of monitoring and handling large groups of people is becoming more difficult. The monitoring process involves the detection of anyone who is not wearing a face mask, looking for whether people are maintaining suitable distance or not , checking their body temperature and lastly to disinfect them with means of sanitizer.

Here we introduce a system which will monitor all the mentioned functions above without any human interruptions. It includes firstly mask face detection model that is based on computer vision and deep learning. The proposed model can be integrated with surveillance cameras to impede the COVID-19 transmission by allowing the detection of people who are wearing masks not wearing face masks. The model is integration between deep learning and classical machine learning techniques with open CV. We have used deep transfer leering for feature extractions and combined it with three classical machine learning algorithms. We introduced a comparison between them to find the most suitable algorithm that achieved the highest accuracy and consumed the least time in the process of training and detection.

Secondly this paper also discusses the design and development of a fully automatic, modular system for disinfection that will make a whole body of transportation/auditorium alike a sanitization chamber to disinfect people with high neutralizing efficiency of the COVID-19 virus. In this chamber, the person is disinfected by the spraying of the ionized mist of an approved disinfectant solution for 20s. Process will be performed autonomously, after specific interval of time mentioned in algorithm. This work can be extended to mobile disinfection tunnels for vehicles and auditorium or at all public places. The main objectives of paper are

A. To create a system to handle pandemic without human interference

B. Real time use for temperature detection and sanitization into complete monitoring system.

C. Using technology to reducing management problem and ensuring community health at public space.

D. Reduce wide spread of virus due to public negligence with help of mask detection and temperature monitoring system.

II. HARDWARE OF THE PRESENTED SYSTE

The hardware consist of the following are

1. BOLT IOT Module
2. Temperature sensor
3. Relay

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7. IOT Based SmartyChef-Automated Electro- Meachanical Chef

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IOT Based Smarty-Chef-Automated Electro-Mechanical Chef

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Abstract : ***Today our lives are hurried and busy. We want to experience more and achieve more. This pursuit of fitting more into each day leaves little time for the most important factor which affects our quality of life- the food we eat. Many great innovations have come which help us to monitor our health, sleep, steps, pulse to live better. But the problem of eating fresh & healthy without any hassle is yet to be addressed. Unfortunately, mornings are hectic for most people, especially families with children.***

In the current day situation it is very difficult to cope up with hunger pangs. Most people usually rush through the meal, gobble down whatever's handy in the kitchen, or grab a quick, on-the-go bite. That's where the Automated food Maker comes to the rescue. It's all about making a fresh food that one can grab and go. All it needs is to add the necessary ingredients and then selecting the preset menu of various dishes.

I.INTRODUCTION

Food automation the one among the fast growing technology, today's food making machines are most popular and most of need. The Automated food maker machine is a pioneering concept in food manufacturing since it is designed to cook more than one kind of dishes. In the modern day situation, food maker is the eye catcher of the people who are not able to cook for themselves manually. Automation in food manufacturing has been a primary solution in improving the consistency, safety and accessibility of food in major consumer marketsThis was mainly made by considering present busy life style of the people. Food maker reduces the man power and time to certain extent. The Automated food maker is designed to deliver a whole new set of functionalities that will create a benchmark in the automated food making sector

Objectives

- In this 21st century, women not only have to serve the home but also the corporation where she is working.
- Even just being only a home maker and managing the complete home is difficult for women. Of all the tasks in the home, cooking requires more time .
- It does not use any gas so any hazard can be avoided.
- Quality of food is not compromised.An advanced cooking system would probably reduce the burden
- This machine can be used either on a small scale or even on large scale purpose
- Reduction in wastage of food

Mechanical Parts and its working:

- Bowls: We will put raw food ingredients in this.
- Liquid Containers: For dispensing of water and oil in food preparation.
- Main shaft: It will move the bowl carrying raw food ingredients and dispense it into the cooking pot.
- Motor : It gives water and oil for food preparation into the cooking pot.
- Induction cooker: It is used to provide different heat temperatures to the cooking pot for food preparation.
- Stirrer: It rotates the food ingredients present in the cooking pot so that the food do not get burned.
- Spice dispenser: It will dispense required amount of spices and required spices into cooking pot.
- Cooking Pot: It collects the spices, raw food ingredients, oil and water and prepares the food inside.

Electrical Parts and its working: -

- Wi-Fi module It is used for communicating with the
- machine. AT328 Arduino uno It supervises all the process of the machine and every instruction is loaded in it.
- Power Supply: It gives power to every electrical equipment present in the machine.
- Servo motor: It is used to move vegetables bowls and also in spice dispenser.
- Induction : For providing heat to cooking pot.
- Relay: For operation various switches automatically

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8.An Automatic Solar Panel Cleaning System

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An Automatic Solar Panel Cleaning System

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Abstract *- Renewable sources of energy are solar, wind and geothermal which are inexhaustible. Solar energy is abundant in nature and is proving its existence for many applications like street lighting, house hold appliances, water heating, agricultural and industrial purpose. One of the ways to harness solar energy is done by using solar panels. Limitation of solar energy is its efficiency for any application due to the factors like dust, humidity, temperature etc. Electrical parameters of solar panel are sensitive to accumulated dust density and will affect the transmittance of the solar panel thereby reduce its efficiency. In order to overcome this problem, it is necessary to clean the solar panels regularly. One of the method is to increase the efficiency of solar panel is by removing the dust accumulated on solar panel. Cleaning of solar panels is difficult task. The normal way to clean the solar panels is washing them manually but it is not reliable and economical. In this regard a work is taken up to design and implement the automatic dust cleaning mechanism for solar panel. The designed automatic cleaning mechanism consists of Voltage Sensor, LDR arrangement in order to sense the dust accumulated on solar panel. The efficiency of solar panel is determined by taking the readings of voltage and current of particular panel with and without dust for various days, weeks and months. By the recorded values efficiency comparison of solar panel with dust and without dust is made. The designed automatic cleaning system produces an effective, non-abrasive cleaning and avoids irregularities in the generation of power due to the deposition of dust on the solar panel. From the study it is proved that average efficiency of solar panel increases about 1.6% to 2.2% by regular cleaning. Thus developed model maximizes the efficiency.*

Keywords: Solar panel, cleaning, sensor network, Node MCU, automatic cleaning.

I.INTRODUCTION

The renewable energy industry has been growing remarkably in the last years and the Fukushima event has given a further incentive. In this context, solar radiation represents one of the most accessible and clean energy resources. For this reason the number and size of the photovoltaic (PV) systems is growing and consequently the amount of the investments and the related opportunities and risks are increasing. Therefore, the optimization of electrical performances of PV plants and the assessment of their quality and reliability are important for both the investors and the manufacturers. The sun emits energy at an extremely large rate hence there is abundant availability of solar energy in the nature. If all solar energy could be converted into usable forms, it would be more enough to supply the world's energy demand. However, this is not possible because of conditions in the atmosphere such as effect of clouds, dust and temperature. Solar energy can be converted to more usable energy forms through solar panel. There is unprecedented interest in renewable energy, particularly solar energy, which provides electricity without giving rise to any carbon dioxide emission. Of the many alternatives, photovoltaic method of extracting power from solar energy have been considered has promising toward meeting the continuously increasing demand for energy. The efficiency of solar panel is limited due natural conditions so it is very much essential to take care of parameters like dust, humidity and temperature. In this regard the work has been taken up to study the efficiency of solar panel with and without dust collected on it. The developed project includes design and implementation of microcontroller based dust cleaning system. The main aim of the project is to provide automatic dust cleaning mechanism for solar panel. The arrangement keeps the modules clean and thereby improving its efficiency. Traditionally cleaning system was done manually. The manual cleaning has disadvantages like risk of

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9. Intelligent Sanitization Robot

IEEE TECHNICOINNOCKDOWN-2021 (TKD-21)

Intelligent Sanitization Robot

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ABSTRACT **— This Paper Proposes Compact AI based Sanitation robot there te are lot of fellow disease s which will affect on human health and they are spread very easily so sanitization is important task .there are lot of techniques are available in the market but they are costly, which required human efforts to go there and sanitize manually sometimes there is chances to get that person affected and they are not give high accuracy therefore there is is need to design Artificial intelligence robot Which can be controlled by using a Laptop or Mobile Phone? It will assist the patient in hospital and Help them out by using AI based robots. It achieves high accuracy of killing 99.99% bacteria available in the room. Diabetes is a major Problem in 21st century it will affect vital organs of the body if not diagnosed and treated on time. Regular monitoring of blood glucose i important to avoid complications of diabetes previously it was very tedious task to go hospital and measure the blood glucose senior therefore there is need to develop non invasive monitoring system which can measure the blood glucose without much problems...It also helps to achieve high accuracy for needle less blood glucose measurement.**

Keywords - Artificial intelligence (AI), machine Learning

I INTRODUCTION

The current COVID-19 pandemic is clearly an international public health problem. There have been rapid advances in what we know about the pathogen, how it infects cells and causes disease, and clinical characteristics of disease. Due to rapid transmission, countries around the world should increase attention into disease surveillance systems and scale up country readiness and response operations including establishing rapid response teams and improving the capacity of the national laboratory system. With this concern Paper presents Artificial intelligence based Sanitization Robot

The AI based UV Sanitization Robot uses the power of UV rays to kill the germs and Bacteria. The robot can also give live stream video of its surroundings. With the Help of Wi-Fi. We can control the robot and its GUI allows us to drive the robot inside the room without physically being there. The robot will be having machine learning technology. Therefore by using machine learning it will check the any human intrusion is present or not. Another problem facing the people in 21 St century is Diabetes. It affects the people a lot and causes dangerous diseases, like blindness etc. So for measuring the diabetes into the blood we need to go to the doctor. But with the help of robots you can measure your blood glucose level very easily and painlessly.

II LITERATURE SURVEY

In this paper Raspberry Pi based voice - operated personal assistant by Piyush Vashistha, Jagender Pal Singh, Jitendra Kumar [1] the problem discussed was the current system experiences the downside that just Predefined voices are conversinable and it can store just constrained commands. Subsequently the client can't get data lucidly [3] In this paper O.S Khoh problem discussed was the Non-invasive optical Diagnostic Techniques for Mobile Blood Glucose monitoring people with diabetes need to monitor their sugar level constantly and attain health centers regularly for checkups. It was a painful and time consuming method[3]In this paper Tai-Ping Sun,Ching-Ta hung,Ping-Wing Lui,Yi-Tai Chen,Hsiih-Li Shieh earlier the bandwidth of UV light Was Greener so the accuracy was low

[4]In this paper G. Will J Nelson discussed was the wheeled platform attaches tube on each side and underneath in the orientation

[5]In this paper Abhisheh Pai discussed about the autonomous robot which will sanitize all area around it autonomously but the problem was if some medicines get into the exposure of ultraviolet light then the medicine can get damage as on some medicine there is strongly mentioned keep away from sunlight and keep in cool place

III PROPOSED SYSTEM

block diagram of the proposed system is shown in fig1

The AI Based Sanitization robot uses the voice control system Google Assistant. It will take the input from the user processed with the raspberry pi. And gives output. It is operated on a 15 V battery. Pi camera is used to take surrounding videos to check whether the human beings are present or not. The non invasive blood glucose sensor is used to measure the blood glucose level painlessly. Microphone takes the input from the user and fetches that information and gives desired output. Speaker is used as

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10. "Measuring and Monitoring of Chemical Reactor using PLC"

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Measuring and Monitoring of Chemical Reactor using PLC

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Abstract——Reactor is one of the most important equipment in pharmaceutical industry which requires continuous measurement and monitoring of process parameters like reactor mass temperature, reactor inner volume level and internal mass pressure of reactor. There are possibilities of errors in the measurements various stages involved with human workers. So advanced measurement and monitoring system is required to avoid failures, and are achieved by Programmable Logic Controller (PLC) and Supervisory Control And Data Acquisition system (SCADA). The present work chemical reactor consist of three different types of sensors, one is Resistive Temperature Detector (RTD) for measuring the reactor mass temperature, capacitive type level sensor for measuring the inner substances level and third one is diaphragm type pressure sensor used for measurement of internal pressure of reactor. SCADA is used for continuous visual monitoring of reactor temperature, pressure and Level sensors outputs given to a PLC. Which process all the process parameters of reactor. The SCADA system is conceptualized and developed to generate reports and trends of the data recorders in the SCADA system. The proposed system is capable of performing real-time measurement of industrial physical parameters data that can be efficiently transferred from PLC to a SCADA system which is stored and monitored through MODBUS communication protocol. It can be conclude from the theoretical data and experimental results data that proposed real-time measurement and monitoring achieved for Industrial pharmaceutical chemical reactor system.

Keywords: *Industrial Pharmaceutical Chemical reactor, PLC, SCADA, Level sensor, Pressure sensor, Temperature sensor, MODBUS Comm. Protocol.*

I. INTRODUCTION

The industrial pharmaceutical chemical reactors are extremely important because the output products are different types of drugs, chemicals, tablets, and pesticides have a great usage in our day to day life. Many researchers have studied that the usage of SCADA/PLC system are used in the boiler operation, distillation plants and water distribution plants. Now a day's industrial automation technology is well established in infrastructure systems for chemical processing reaction experiment, leads to heavy use of Programmable Logic Controllers (PLC) which typically are intelligent automation stations forming the core of industrial systems [1] Hybrid wind-PV-battery renewable energy system is connected to PLC and the system is Real-time monitoring and control by SCADA and PLC. The total system consist of two induction generators (IG1&IG2), solar system (PV), a AC-to- DC convertor, a battery unit, and DC to-AC inverter with large number of inputs and outputs signals connected to the CSI series of OMRAN PLC connected with the SCADA system for monitoring system [2] water storage and distribution process are in pharmaceutical industries facing crucial to sustain community health, clean and safe environment purpose applying the SCADA solutions has a positive impact on the operations, maintains , process development and saving from water storage and distribution plants. A SCADA software application is implemented on the plants with interface to the hardware to connect a comprehensive real-time application environment for the modern water storage and distribution plants [3] industrial power plants must have steam boilers, so the boilers require continuous measuring, monitoring and inspections at frequent intervals there it is number of physical parameters like steam level temperature, boiler drum level and pressure of the steam line. The steam level temperature produces electrical power generation and steam water reuse different section at relevant temperatures. In order to automate a boiler plant and minimize the human intervals, there is need to develop PLC/SCADA system, SCADA is a centralized system used to supervise a complete plant. In boiler automation system which consists of PLC/SCADA, resistive temperature detector PT 100 (RTD PT 100) is used to measure the temperature, RT pressure switch is used to measure the pressure inside the boiler and float switch are used to detect the feed water level inside the boiler.

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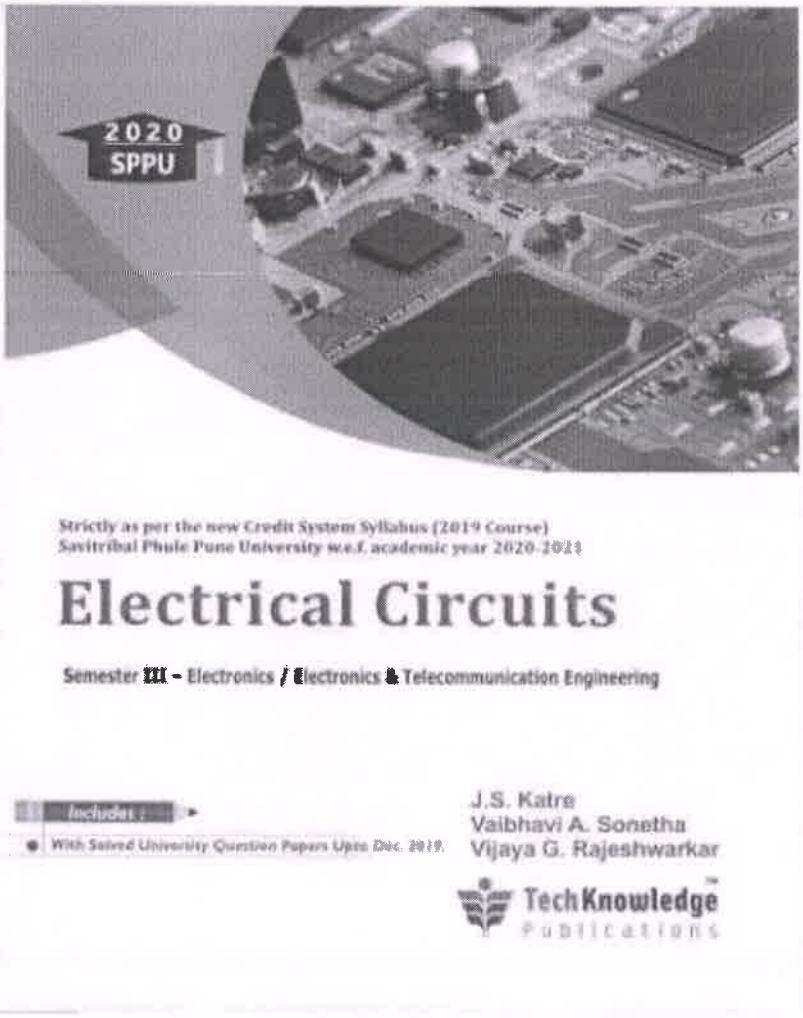
11. Text Book on SE (E&TC) SPPU syllabus for "Electrical Circuits



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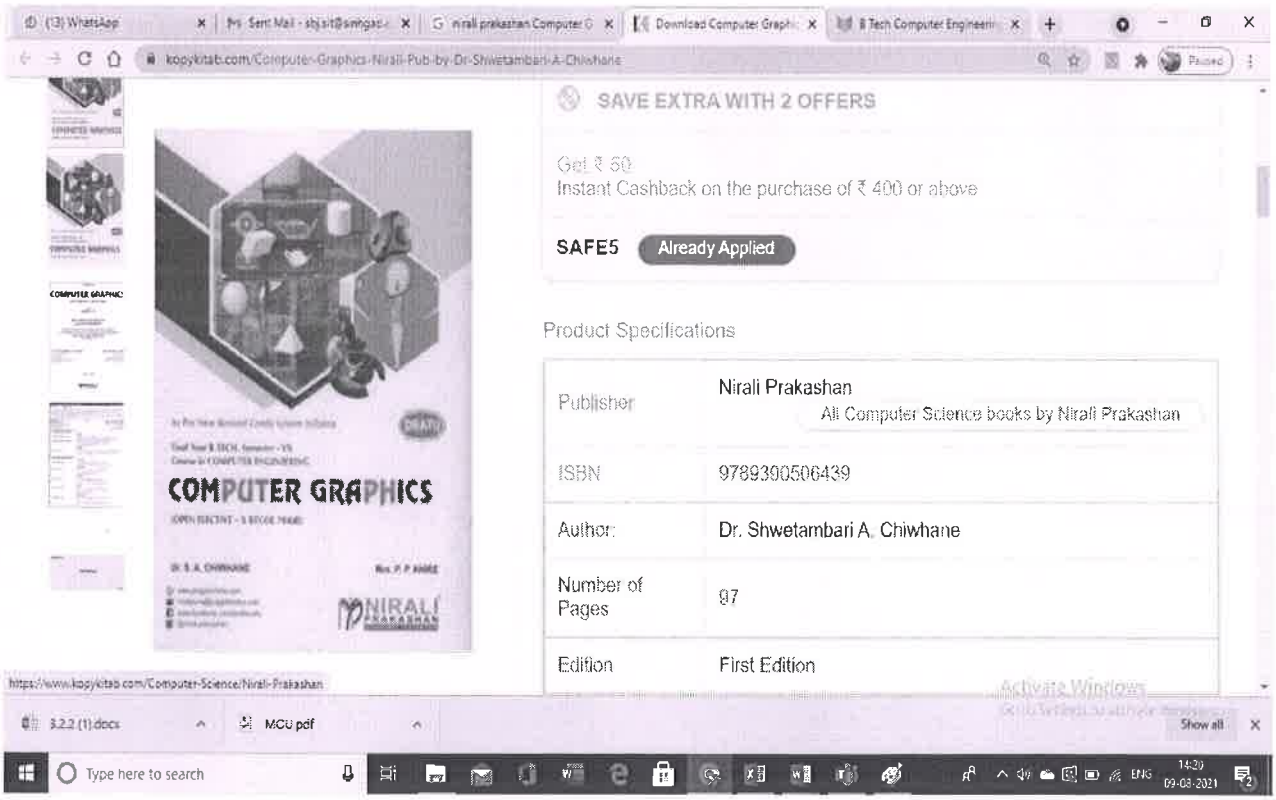
12. Automatic Sanitization System for Transportation And **Computer Graphics" for BE Computer of BATU, Lonere .**



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14.Study of Author Identification and Verification Systems Using Statistical and Stylometry Models on Different Languages

TEST Engineering & Management

May – June 2020
ISSN: 0193-4120 Page No. 25467- 25472

Study of Author Identification and Verification Systems Using Statistical and Stylometry Models on Different Languages

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Abstract:
The process of Authorship Identification and Verification is the process of identification and verification who wrote a given piece of text from Anonymous Text Document set written by different writers or authors. On this system, huge work has been already done for the languages such as English, Japanese, Albanian, Indian, Brazilian, Chinese and Russian and so on.
Comparatively, huge research has been done for Author Identification or Attribution only but not Author Verification for many of Indian languages such as, Punjabi, Bengali, Telugu and Tamil etc, whereas very less work has been done on Marathi Literature and Gujarati language. In this paper, methods and experiments on above languages presented by different researchers have been reviewed. We have also studied about different text features extraction techniques and how that can be applied for better result in Author identification and then verifying the same using soft computing algorithm.

Keywords: Authorship Identification; Authorship Verification; Anonymous Text Document; Text Features.

I. Introduction

Authorship Identification and verification system can be used in multiple application where you need to find out who is the suspect of written documents. Significant amount of research work has been done all over the world for different languages regarding this as it has a biggest role in identifying and verifying who has written a particular document and finding out the suspect. It has been observed from study that research work on Indian regional languages, various types of techniques, methodologies and algorithms has been used for a better author identification and verification system, but still the systems are not full proof and there is tremendous scope for improvement in this area.
In this process of Author Identification and Verification general steps are as follows:

Step I: Collection of documents written by different authors;
Step II: Identify different feature set such as length of sentences, paragraph similarity, phrases, formatting of text, numeric value, paragraph-title similarity and so on. These features can be used to identify stylometry of the author;
Step III: Construct the classifier for applying this testing and training datasets using machine learning algorithms; and
Step IV: By using testing parameters such as Precision, Recall and Confusion Matrix finding the similarity score of training and testing text datasets.

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15. 4G/5G MIMO Antenna Design and Challenges: A Review with Machine Learning using Flutter.

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International Conference on Smart Automation in Computer, Electrical, Electronics and Communication Engineering 10th April , 2021

4G/5G MIMO Antenna Design and Challenges: A Review

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***Abstract*— In this work, we aim to provide an overview design and challenges faced by RF engineers in the LTE/4G implementation from an RF systems design perspective. LTE and LTE Advance, form the next generation of the mobile communication standard. Although, LTE has been already been implemented in various parts of the world, researchers are still coming up new design challenges of such complex systems. Much light has been thrown upon the antenna design aspect of the future LTE/4G based systems. It has been noted that MIMO technology is best suited for the implementation of such robust technology, which aims in providing better channel utilization and reduced signal correlation between the adjacent channels present in the communication link.**

Keywords*— *LTE, MIMO, Reconfigurable

I. Introduction

Over the years with advancements in semiconductor technology, several advanced wireless communication technologies have been introduced to suffix the increasing demands of the customers for better Quality of Service (QoS), which has spurred up an urgent need to design efficient RF systems. With continuous development of communication standards (Figure 1) from the early GSM based systems to the high speed data and voice services using 3GPP configurations, customers access to data has seen a drastic.

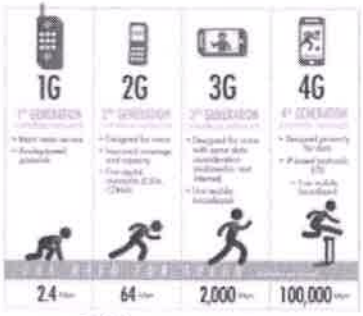

Fig. 1 Evolution of 1G to 4G technology

In order to meet these demands of higher data rates and QoS, reliable infrastructure capable of addressing these challenges is needed, thereby keeping RF engineers under constant pressure to meet these challenges. It is evident that Long Term Evolution (LTE) or 4G technology is the key successor to the current 3G technology.

4G technology has already rooted its roots in commercial applications while 5G technology is gearing up for making space in commercial applications. 4G was introduced to provide a wide area network for internet access. It provided high bandwidth and broadband. 4G networks are projected to provide speeds of 100Mbps while moving and 1Gbps while stationary. 4G technologies is still facing major challenges, specifically in antenna design, which can be addressed by developing new antenna structures to meet these needs.

LTE/4G based systems would primarily focus on:

1. Increasing the capacity and speeds of data and voice services by deploying a different breed of RF Systems which would be based on the existing GPRS and UMTS, and combining the advantages in the said technologies.
2. Provide enhanced voice and data quality services.
3. Provide improved Uplink and Downlink data rates.
4. Increase the channel capacity.
5. Focus on providing services to more number of users in a cell.
6. Use the Multiple Input and Multiple Output (MIMO) configuration to the fullest to meet the demands of the customers.

Multiple-Input Multiple-Output (MIMO) technology is a wireless technology that uses multiple transmitters and receivers to transfer more data at the same time.

II. MIMO Configurations for LTE/4G Systems

With the rapid development of MIMO technology, relevant research on its antenna design has become significant and valuable. For a multi-antenna MIMO wireless system, on the one hand, the antenna elements must have large space between in order to have diversity function which different from the conventional smart antenna; the other hand, the antenna element should be as much as possible to receive the scattered waves in all directions. The

16.Group Data Sharing Using Cloud Computing

Fwd: Paper acceptance confirmation CCGE21 - Track 3-paper id 128

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To: Anuradha Kulkarni <apk.sit@sinhgad.edu>

Paper ID 128
Title:Obscuring Sensitive String using Code Obfuscation in C
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Conference: **IEEE International Conference on Computing, Communication and Green Engineering 2021(CCGE21)** for publication in **IEEE Xplore**

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We would like to inform you that your paper has been accepted in **IEEE International Conference on Computing, Communication and Green Engineering 2021(CCGE21)** for publication in **IEEE Xplore** on the Recommendation of the Editorial Board corrections in the content submitted by the researcher.

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17.SOURCE CODE OBFUSCATION: Novel Technique And Implementation

Supriya Jadhav <sbj.sit@sinhgad.edu>

Fwd: ICT4SD - 2021 : Notification for Paper : 220 : SOURCE CODE OBFUSCATION: Novel Technique and Implementation

Pallavi Ahire <pallaviahire@sinhgad.edu> 3 August 2021 at 20:17
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Dear Krishna Yadav, Rutuja Kamble, Sumit Kale, Yash Pazare, Pallavi Ahire

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Title : SOURCE CODE OBFUSCATION: Novel Technique and Implementation

Congratulations! On behalf of the Program Committee of ICT4SD 2021 – Goa, India, I am happy to inform you that your above mentioned paper has been ACCEPTED for oral presentation in ICT4SD 2021 and publication in Springer LNNS series subject to fulfillment of Guidelines by Springer. An accepted paper will be published in the Springer proceedings LNNS only if the final version is accompanied by the payment information (i.e transaction reference number) subject to quality check as per Springer Guidelines.

Important Notification COVID 19 - As we are passing through unprecedented times, and India is going through a second wave of COVID19, we as organizers understand it well and are trying to monitor the update from the Central and State Governments in India. Also taking into consideration of current government guidelines we are also trying our best to make this conference beneficial for all authors. The conference will be organized in physical Mode during 5 - 6 August 2020 at Goa subject to SOP's and Government guidelines near to the dates. Further for those authors who do not wish to attend the conference physically have been relaxed and can present their papers

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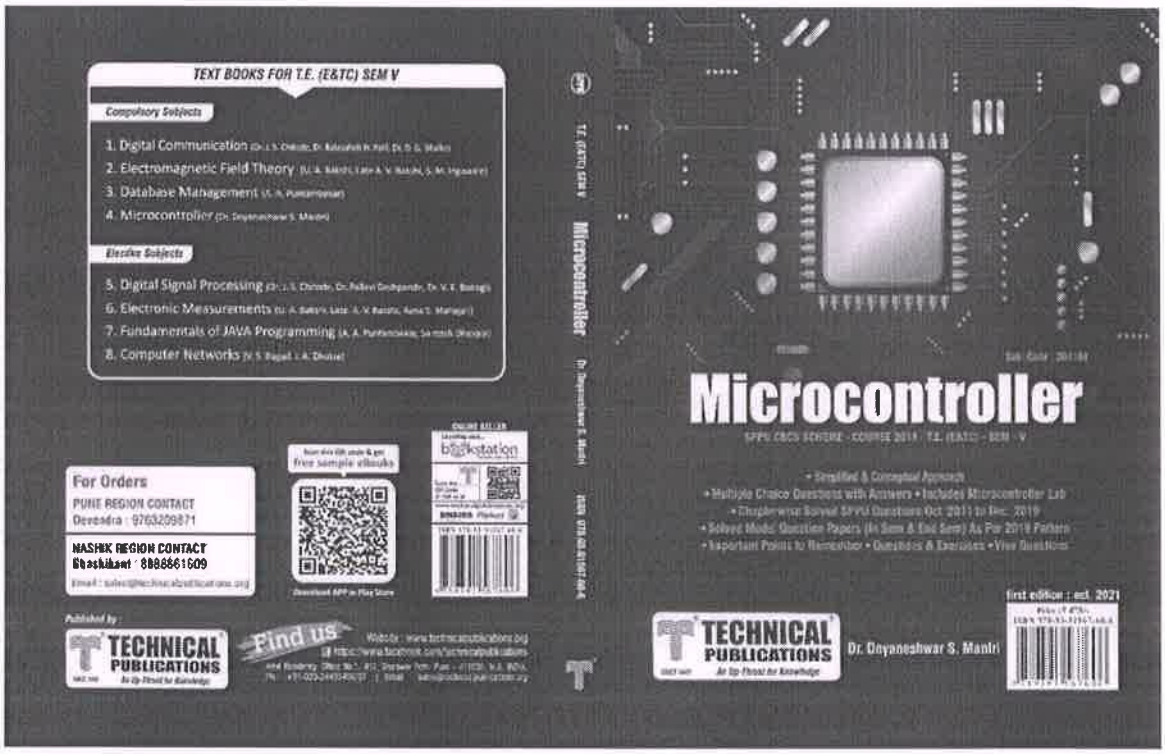
18. Published Book on Microcontroller for TE E&TC engineering SPPU Pune , ISBN : 978-93-91567-60-6, Oct 2021



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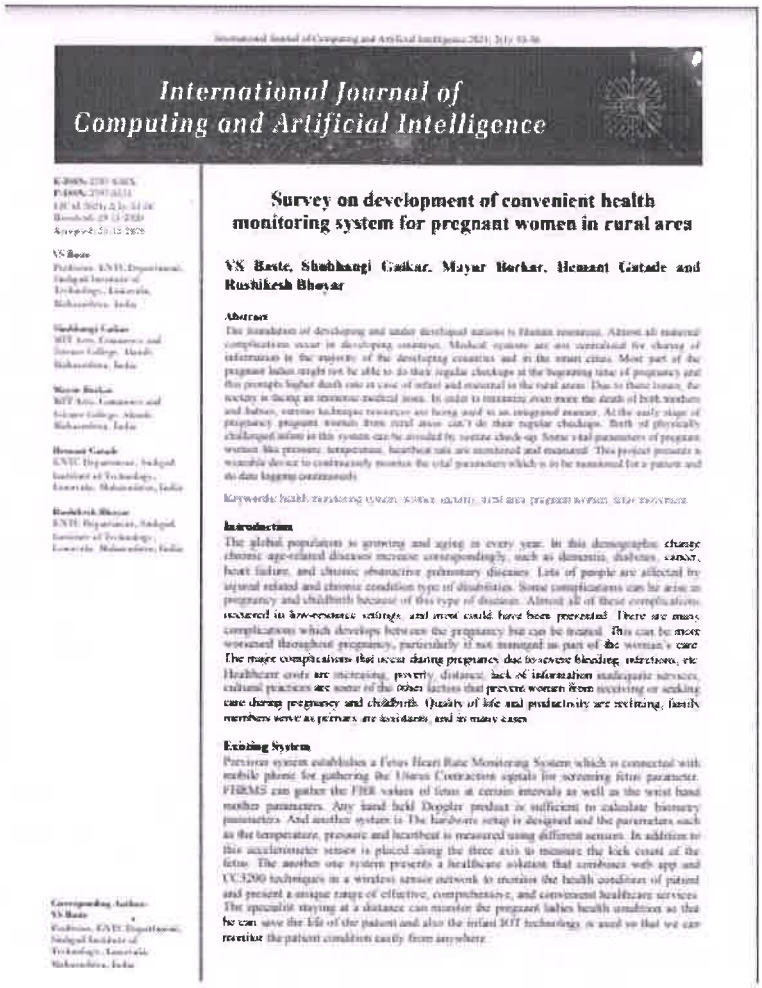
19. Survey on development of convenient health monitoring system for pregnant women in rural area



International Journal of Computing and Artificial Intelligence

Survey on development of convenient health monitoring system for pregnant women in rural area

VS Baste, Shubhangi Gaikar, Mayur Borkar, Hemant Gatade and Rushikesh Bhoyar

Abstract

The foundation of developing and under developed nations is Human resources. Almost all maternal complications occur in developing countries. Medical systems are not centralized for sharing of information in the majority of the developing countries and in the smart cities. Most part of the pregnant ladies might not be able to do their regular checkups at the beginning time of pregnancy and this prompts higher death rate in case of infant and maternal in the rural areas. Due to these issues, the society is facing an immense medical issue. In order to minimize even more the death of both mothers and babies, various techniques resources are being used in an integrated manner. At the early stage of pregnancy pregnant women from rural areas can't do their regular checkups. Birth of physically challenged infant in this system can be avoided by routine check up. Some vital parameters of pregnant women like pressure, temperature, heartbeat rate are monitored and measured. This project presents a wearable device to continuously monitor the vital parameters which is to be monitored for a patient and its data logging continuously.

Keywords: health, monitoring system, sensor, remote, rural area, pregnant women, data transmission

Introduction

The global population is growing and aging in every year. In this demographic change chronic age-related diseases increase correspondingly, such as dementia, diabetes, cancer, heart failure, and chronic obstructive pulmonary diseases. Lots of people are affected by injured related and chronic condition type of disabilities. Some complications can be arise in pregnancy and childbirth because of this type of diseases. Almost all of these complications occurred in low-resource settings, and most could have been prevented. There are many complications which develops between the pregnancy but can be treated. This can be more worsened throughout pregnancy, particularly if not managed as part of the woman's care. The major complications that occur during pregnancy due to severe bleeding, infections, etc. Healthcare costs are increasing, poverty, distance, lack of information inadequate services, cultural practices are some of the other factors that prevent women from receiving or seeking care during pregnancy and childbirth. Quality of life and productivity are declining, family members serve as primary care assistants, and in many cases

Existing System

Previous system establishes a Fetus Heart Rate Monitoring System which is connected with mobile phone for gathering the Uterus Contraction signals for screening fetus parameter. FHRMS can gather the FHR values of fetus at certain intervals as well as the wrist band mother parameters. Any hand held Doppler product is sufficient to calculate biometry parameters. And another system is The hardware setup is designed and the parameters such as the temperature, pressure and heartbeat is measured using different sensors. In addition to this accelerometer sensor is placed along the three axis to measure the kick count of the fetus. The another one system presents a healthcare solution that combines web app and CC3200 techniques in a wireless sensor network to monitor the health conditions of patient and present a unique range of effective, comprehensive, and convenient healthcare services. The specialist staying at a distance can monitor the pregnant ladies health condition so that he can save the life of the patient and also the infant IOT technology is used so that we can monitor the patient condition easily from anywhere

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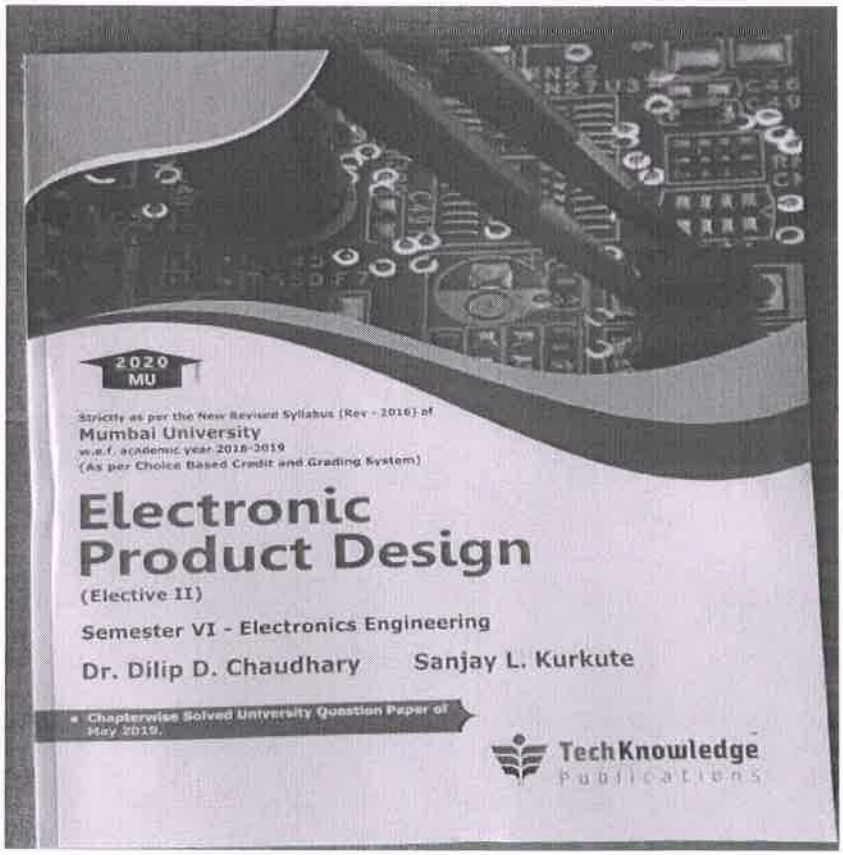

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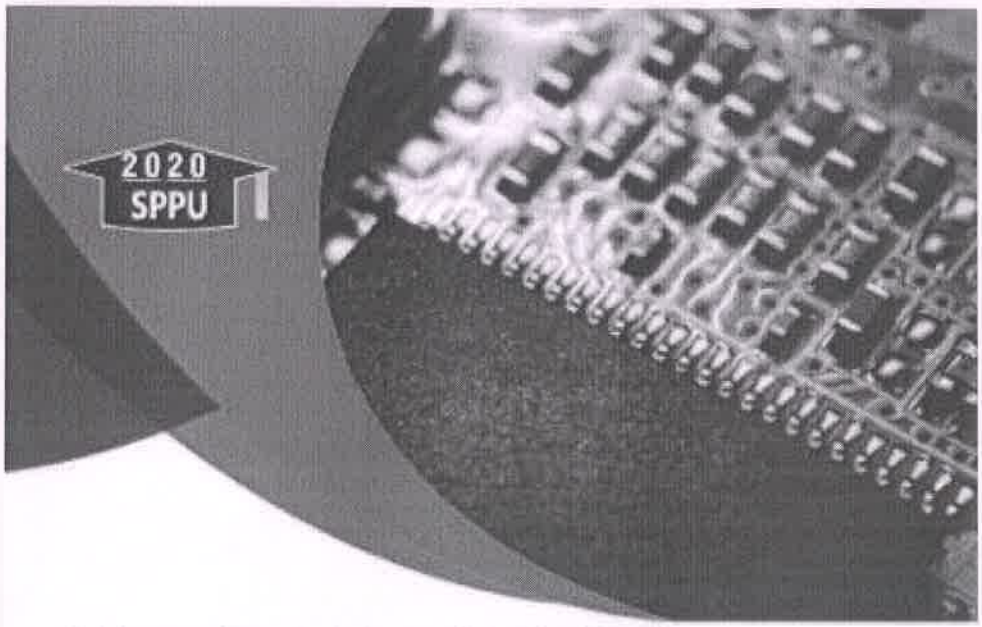

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22..Internal Symposium GISFI 32 GSSM- EEHRP: Energy Efficient Hybrid Routing Protocol for Wireless Sensor Network

EEHRP: Energy Efficient Hybrid Routing Protocol for Wireless Sensor Networks

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Abstract

With Multi-Objective Optimization (MOO) mechanisms, many practical scenarios are imitated in Wireless Sensor Networks (WSNs). In MOO numerous desirable conflicting or non-conflicting objectives contend with one another and the decision has to be done among multiple available solutions. Based on the type of situation, Programme, and issue to be solved, the MOO problem has varied solutions. The solution chosen is a tradeoff solution on several occasions. In WSN, it is possible to identify MOO issues and associated solutions based on network architecture, node deployment, MAC strategies, routing, data aggregation, node mobility, etc. In this context, the paper proposes mobility aware, competent; delay tolerant Energy Efficient Hybrid Routing Protocol (EEHRP). Optimizing several metrics to pick the best route from the source to the target node is the cornerstone of the EEHRP. Multi-Objective optimization from optimization theory is a NP-hard problem. EEHRP seeks to obtain a Pareto optimal solution for the section of best MOO-based route under sensor node. The simulation results demonstrate that, relative to state-of-the-art solutions, EEHRP is efficient in terms of

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23.Smart E Vehicle

International Journal of Future Generation Communication and Networking
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Smart e-Vehicle System

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Abstract

Many ways have been recommended in the course of recent years to diminish carbon outflow and to decarbonize the earth, thus, lessening an unnatural weather change. It has been generally accepted that a major contribution is required to form the transportation sector in the fight for decarburization but it is very hard to do it with conventional means. The making of e- vehicles accompanies numerous difficulties like little battery limit, charging the battery, absence of frameworks as charging focuses, etc. considering all the current challenges there should be a system in place which would take out the need of large infrastructures, the long line of vehicles waiting to charge their batteries and we also have to consider the lack of battery storage capacity. The smart e-vehicle system concept is effective from an economic and environmental point of view, it will help in reducing fuel consumption, reduce pollution, use renewable sources of energy and help create a greener environment. This system is such that it will allow us to charge the vehicle when in motion, so this will not only reduce delay for transportation it will also reduce traffic jams. The aim of this paper is to make long haul transportation more environment-friendly, faster, and more economic.

Keywords— e-vehicles; decarburization; long haul transportation; conservation of natural resources.

1. Introduction

Highways are a necessary part of our society. They're important to quality of life and to native and national economies. At a similar time, by engrossing the most recent technological advances in computing and networking, highways are undergoing a change to an oversized system of systems, whose management and management have become orders of magnitude a lot of advanced. During this project, we tend to put forth some ideas to make this sector more environment friendly and more efficient.

The fact that irreversible climate changes taking place, the government has to look for innovative ideas and programs of decarburization. Potential ways are being thought of from the previous years. It cannot be denied that decarburization road freight sector will prove to be a crucial change to fight global warming. Because road freight vehicles are harder to decarbonize than private vehicles, decarburization strategies show that the amount of greenhouse gas will rise in the future. Generous advancement is made to create increasingly manageable vehicle but they will need a change in working from vehicle segment.

In this project we worked towards looking for new ways to reduces pollution emission that is created by the transportation vehicles, electrification of road transport sector seems like the best route to take. We have elaborated a new innovative idea that can prove

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24.Smart System to Measure Quality and Quantity of Fuel in Vehicle

Mukt Shabd Journal ISSN NO: 2347-3150

Smart System to Measure Quality and Quantity of Fuel in Vehicle

Prof.Vaishali Baste, Mr.Suraj Thigale, Mr.Purushottam Damdhar and Mr.Akash Kadam

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Abstract

Vehicles have become an integral part of human life. They are used for transportation of people and cargo. Transportation facilities are improved in the past decade due to innovations in automation. We have already known that motor vehicles display the availability of fuel in the fuel tank by means of some indication like digital bars running through the E [empty] and F [full] indicators. The manufacturer already decides that each bar maps to the corresponding litters of fuel in the fuel tank approximately. To the contrary every one of us might have experienced the problem with improper estimations of the current fuel level in the tank with the existing bars representation system. Now a day in this digitalized world, if the fuel indicator in the automobiles is also made digital with very high accuracy then it will be very helpful to know the exact amount of fuel availsble in the tank

Index Terms— Fuel adulteration, Petroleum Products, Fuel Quantity Check, Real Time Average Calculation

I. INTRODUCTION

The presented paper is based on the survey to check purity of petroleum. Many consumers complain about the quality and quantity of petroleum products but are not aware of the simple tests which they can demand from every dealer to ensure value for their money. Analog Fuel Meter In all over the world all the vehicle is having an analog fuel meter. This meter indicates three states of fuel level which are empty, half and Full. So, we cannot judge the actual fuel present in the fuel tank. The analog meter, which shows the fuel level by using needle. But due to this we do not get proper idea about fuel level present in fuel tank. Due to improper knowledge of fuel present in the tank we can undergo in trouble due to low fuel. Analog fuel meter as considering previous analog system we are going to implement advanced system. In our system we are doing digital fuel meter.

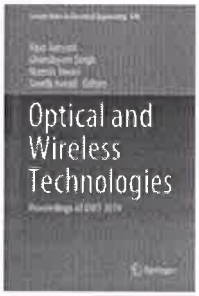
In present day scenario price of fuel continuously changing and there is lot of fuel adulteration in the fuel quality. So many problems are occurred in vehicles. This project, "Smart System to Measure Quality & Quantity of Fuel in Vehicle" is as an automotive electronic project which involves the use of fuel quality check sensor developed with the help of Light transmitter and the LDR, depending upon the contaminants mixed in the fuel he colors of fuel changes and accordingly the quality of fuel is checked.

This system to overcome the problem of fuel adulteration and also shows how much fuel is filled in the tank at the time of filling fuel at fuel pump. the device can detect bulk kerosene in the base of fuel containing vessels by giving an audio signal. The signal when analyzed will provide information on the integrity of the fuel and the personnel using the product. This project consists of sensors which detects quality of fuel weather it is suitable for vehicle engine as well as it consists of fuel level (quantity) sensor which shows how much fuel is filled in fuel vessel and display on screen in milliliter (ml).

25. A miniaturized Printed UWB Antenna with Sextuple Stop Bands on U shaped Slot Resonators and Split Ring Resonators for IOT application(Chapter in Lecture Notes in Electrical Engineering)

2020 | Original Paper | Chapter

Compact Multi-band Octagonal-Shaped Patch Antenna with a Partial Ground for WLAN/Wi-MAX Applications



Authors: Ritesh Kumar Saraswat, Swasti Dubey, Kunal Jeet Singh

Publisher: Springer Singapore

Published in: Optical and Wireless Technologies

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Abstract

A multi-band octagonal-shaped microstrip patch antenna with a compact size of 30 × 26.5 × 0.8 (X, Y, Z) mm^3 is designed on FR-4 substrate, and it operates in the WLAN 2.4/5.2/5.8 GHz bands and Wi-MAX 3.5 GHz band. The compact octagonal shape (split-ring resonator)-based patch antenna with multiple bands is presented in this paper. The proposed design is implemented on FR-4 substrate fed

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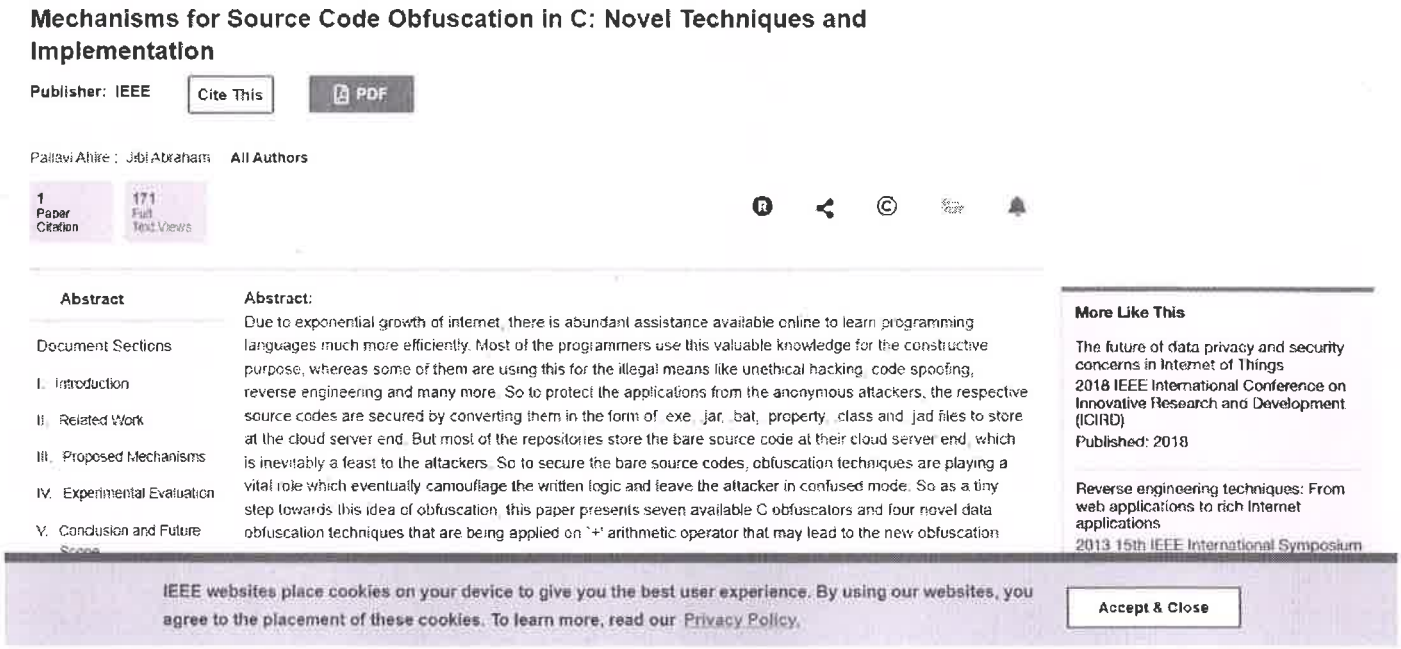
26. Mechanisms for Source Code Obfuscation in C: Novel Techniques and Implementation



Mechanisms for Source Code Obfuscation in C: Novel Techniques and Implementation

Publisher: IEEE | Cite This | PDF

Pallavi Ahire ; Jibi Abraham All Authors

1 Paper Citation | 171 Full Text Views

Abstract

Document Sections

I. Introduction

II. Related Work

III. Proposed Mechanisms

IV. Experimental Evaluation

V. Conclusion and Future Scope

Abstract:

Due to exponential growth of internet, there is abundant assistance available online to learn programming languages much more efficiently. Most of the programmers use this valuable knowledge for the constructive purpose, whereas some of them are using this for the illegal means like unethical hacking, code spoofing, reverse engineering and many more. So to protect the applications from the anonymous attackers, the respective source codes are secured by converting them in the form of .exe, .jar, .bat, .property, .class and .jad files to store at the cloud server end. But most of the repositories store the bare source code at their cloud server end, which is inevitably a feast to the attackers. So to secure the bare source codes, obfuscation techniques are playing a vital role which eventually camouflage the written logic and leave the attacker in confused mode. So as a tiny step towards this idea of obfuscation, this paper presents seven available C obfuscators and four novel data obfuscation techniques that are being applied on '+' arithmetic operator that may lead to the new obfuscation

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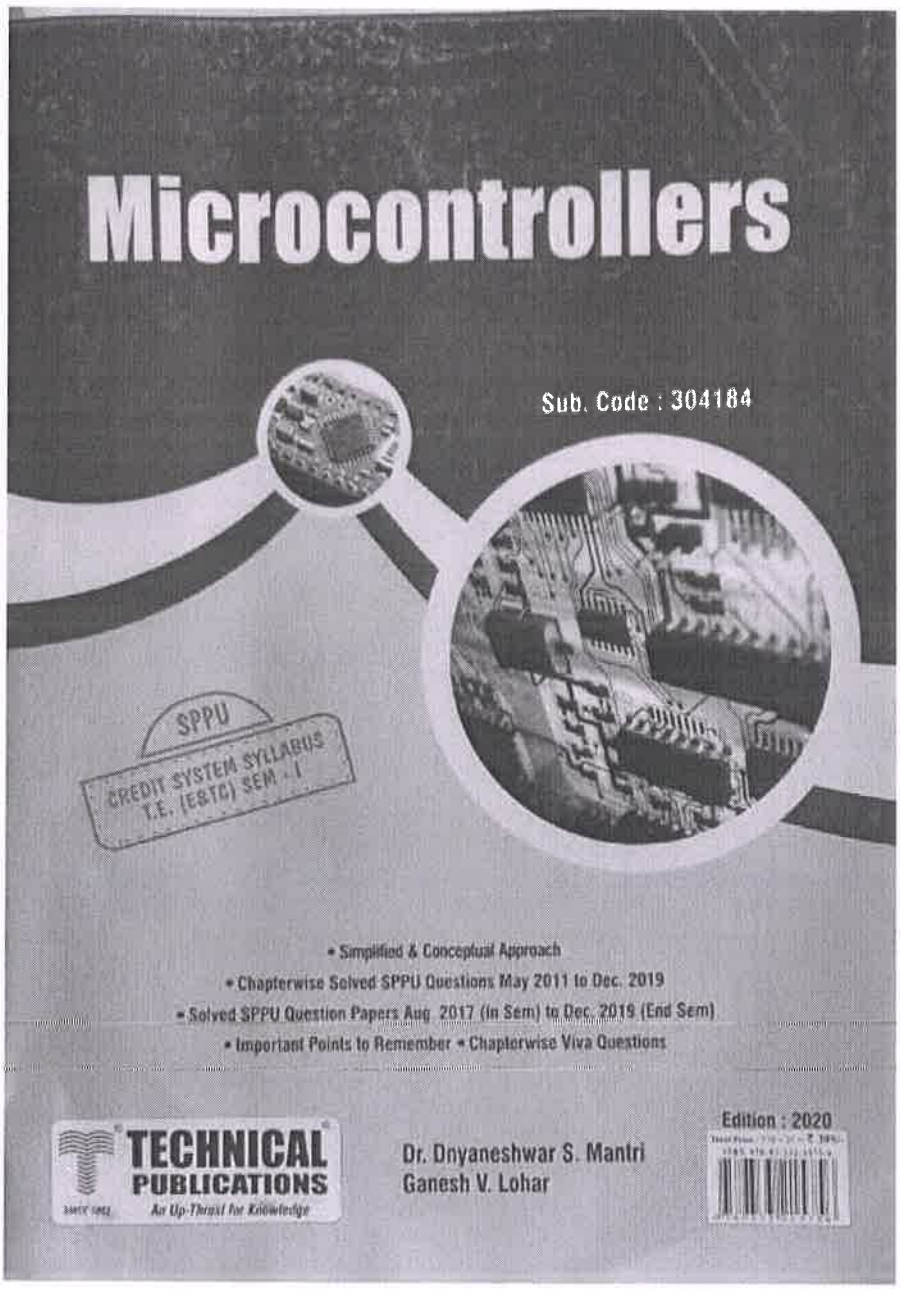
27. Textbook on Microcontroller



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28. Implementation of Multichannel UART Controller Based on FIFO Technique and FPGA

IJSER – International Journal for Scientific Research & Development Vol. 6, Issue 5, 2018

Implementation of Multichannel UART Controller Based on FIFO Technique and FPGA

Dr. Dayaneshwar, S. Mantri[2] Neel Harsha[3] Pranay Gaikwad[4] Pranshu Kumar[4]

[2,3,4]Department of Electronics and Telecommunication Engineering

[1,2,3,4]Sinhgad Institute of Technology, Lonavala, Pune, India

Abstract – In order to transmit large amount of data over a long distance, serial communications are used. If complex systems are running at different baud rate generated by some special baud rate devices, in this condition common serial ports were unable to meet the requirements. In this case without a unique **baud rate** controller one cannot implement multi-baud rate communication system. To take care of this issue, in this paper we have planned a Multi-Channel UART controller which depends on FIFO procedures on FPGA. In M-C UART the data received at certain baud rate to the UART and that data can be transmitted to sub controller at the same or different baud rate. In structure of the computational complex FPGA puts a significant job and it likewise improves the framework **overthrow, power utilization and** unwavering **quality**.

Keywords: **FPGA Spartan-6 UART CUBE**

I Introduction

In modern days due to the advancement in technology complex algorithms are easily implemented by modern multi-controllers and processors in order to achieve the expected system performance. In case of the control system the various factors are affected by the results of the system such as bit error rate, baud rate and also synchronization between the subsystems. UART is one of the most used communication methods in the computer system. Essentially, UART is a sequential correspondence framework and with the assistance of this framework we can overlook both parallel and to sequential information move, yet in some of the communication system, serial or a parallel port are used to control the master and slave system. Parallel communication needs multiple bit address bus so it can be used for a minimum distance data transmission. In order to transmit large amount of data over a long distance, serial communications are used. When the complex systems are running on different baud rates with some special baud rate devices, the common serial ports are unable to meet the requirements. The equipment are set to different baud rates such as 57600 bps, 19200 bps, 9600 bps and some other baud rates, while the PC baud rate is set to 115200 bps, at this case without a unique baud rate controller we cannot implement multi-baud rate communication system.

From Numerous UART these impediments, which respect to proficiency, are examined beneath

- In a standard UART it has just single channel. Used to connect a single device so when the number of the chip increases on the devices which may cost a lot of space and resource.
- In a frame operation of the microprocessor interrupt request are used to notify the operation. When many interrupt requests occur the processor stuck so the processor efficiency will reduce because number of interrupt requests and a few characters are transmitted during each time.
- In processor the data bus is 32 bits but some of the cases only one bit of the data is transmitted by the controller so the processor at a time we receiving bits are unusual properly.

The over 3 expressed issues are comprehended by utilizing many UART inside in a solitary chip. So, in this proposed project we are implementing parallel processing data interrupt control mechanism with the help of MULTICHANNEL UART controller-based FIFO technique and realization is implemented using Verilog HDL in FPGA.

II Motivation

Communication in modern complex control systems can be done quickly and efficiently. To implement communication when master equipment and slave equipment are set at different Baud Rate so it can also reduce the synchronization error between sub-system.

III Objectives

Correspondence in present day complex control frameworks should be possible rapidly and viably. To execute correspondence when set hardware and data rate are set at various Baud Rate so it can likewise assist the synchronization blunder between sub-framework.

IV Block diagram

Fig 1: Block diagram

The UART is commonly a PC equipment gadget used to transmit the information in the middle of parallel just as sequential structure and UART it utilizes TIA and EIA-232 AND 485 correspondence principles. In UART the configuration of the information and speed can be

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29. CrowWhale-ETR: CrowWhale optimization algorithm for energy and trust aware multicast routing in WSN for IoT applications

Springer Link

Published: 25 March 2020

CrowWhale-ETR: CrowWhale optimization algorithm for energy and trust aware multicast routing in WSN for IoT applications

Dipali K. Shende ✉ & S. S. Sonavane

Wireless Networks **26**, 4011–4029 (2020) | Cite this article

153 Accesses | **10** Citations | Metrics

Abstract

WSN serves as a medium for linking the physical and information network of IoT. Energy and trust are the two major factors that facilitate reliable communication in the network. During multicast routing, the BS engages in forwarding the data securely to the multiple destinations through the intermediate nodes, which is the major challenge in IoT. The paper addresses the challenges through proposing an energy-aware multicast routing protocol based on the

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30. Surfactant free chemically deposited wheat spike-like nanostructure on Cu foam for supercapacitor applications

https://www.researchgate.net/publication/335565587_Surfactant_free_chemically_deposited_wheat_spike-like_nanostructure_on_Cu_foam_for_supercapacitor_applications

Article

Surfactant free chemically deposited wheat spike-like nanostructure on Cu foam for supercapacitor applications

January 2019 · Materials Today: Proceedings 18:979-985

DOI:10.1016/j.matpr.2019.06.537

Project: Nanomaterial for energy storage system

Authors:

Prasad Lokhande
Defence Institute of Advanced Technology

U.S. Chavan

Sonal Deokar

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Abstract

The wheat spikes like CuO nanostructured material synthesized by simple, low-cost chemical deposition method under thermal treatment. The copper foam having 3 D network structures was used as the substrate as well as current collector, for binder free electrode material for supercapacitor. The structural and morphological study of nanostructured CuO were carried out by using scanning electron microscopy (SEM), X-ray diffraction (XRD) and Fourier transform infrared spectroscopy (FTIR). The XRD results were revealed the formation of monoclinic CuO, while wheat spike like morphology obtained from SEM images. The specific capacitance, cycle life and energy density of nanostructured CuO were elucidated by means of cyclic voltammetry (CV) and galvanostatic charge-discharge (GCD) using three electrodes in 2 M KOH electrolyte. The prepared electrode CuO exhibited specific capacitance 184.58 Fg-1 at scan rate 10 mVs-1 with excellent cycle life. The experimental results showed that synthesize material would be the potential candidate for the use of supercapacitor electrode.

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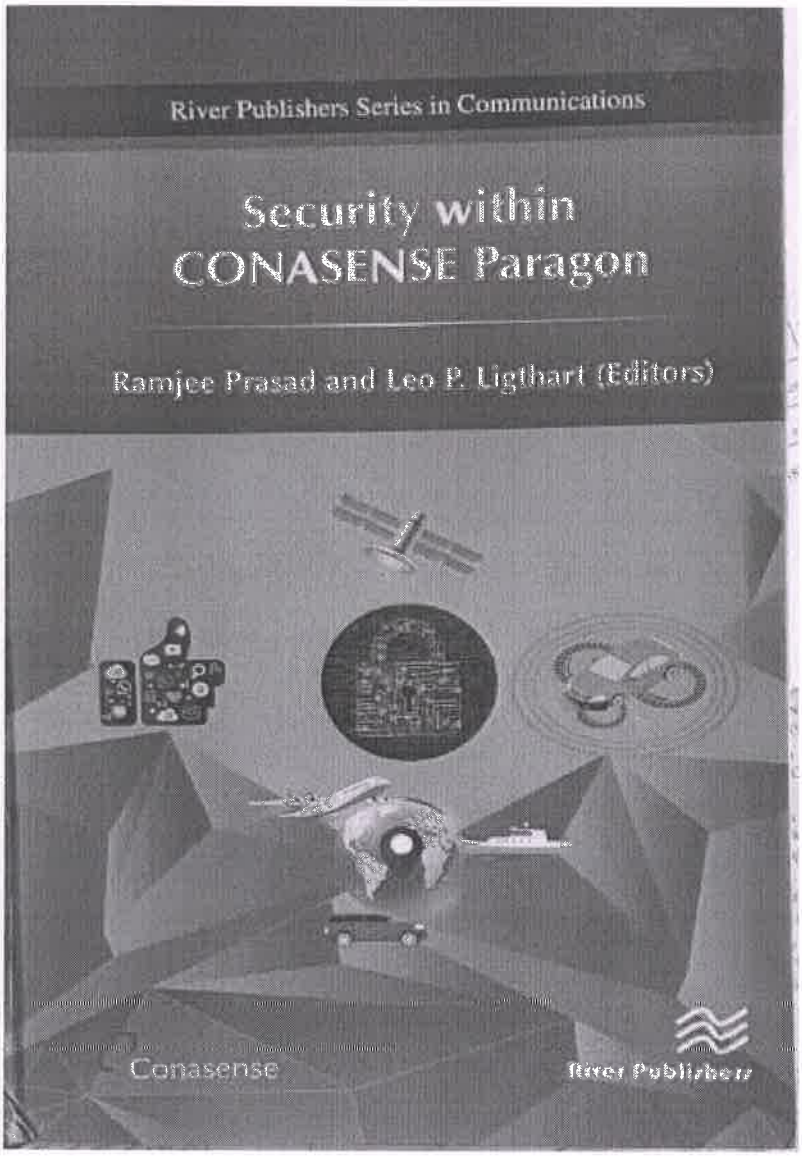

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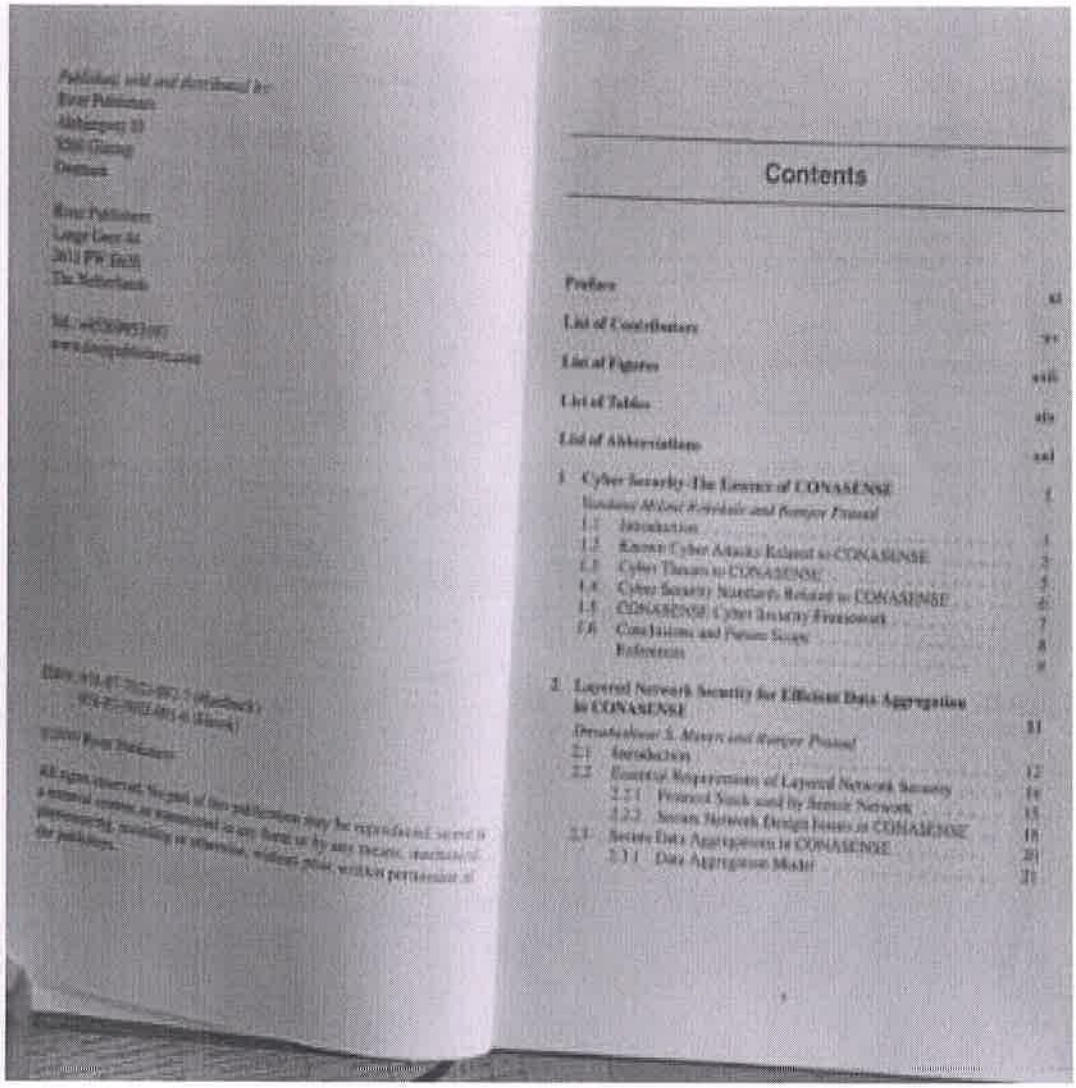

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33. Inorganic Electrolytes in Supercapacitor

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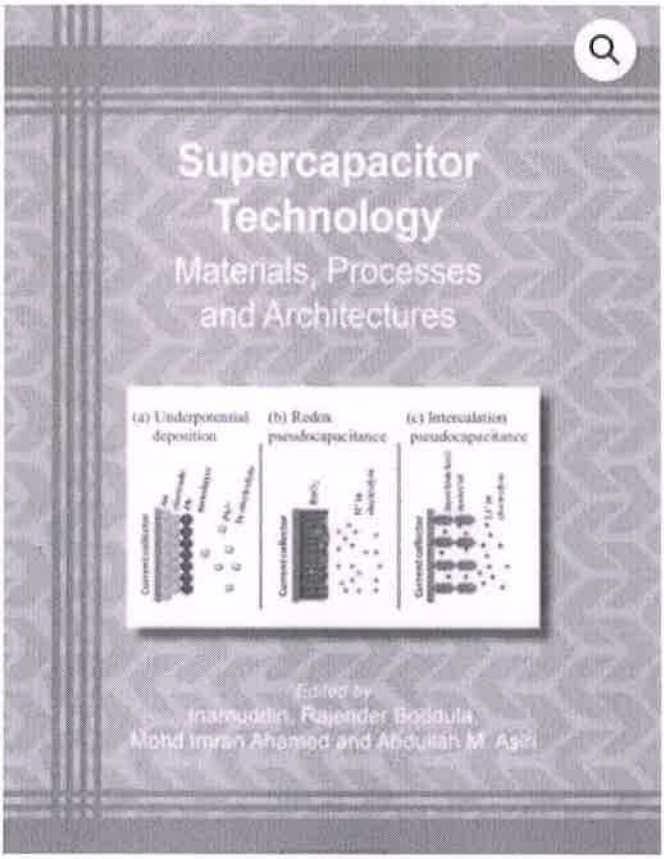

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Supercapacitor Technology: Materials, Processes and Architectures Materials Research Forum LLC
Materials Research Foundations 61 (2019) 11-30 https://doi.org/10.21741/9781644900499-2

Chapter 2

Inorganic Electrolytes in Supercapacitor

P.E. Lokhande*, U.S. Chavan

Department of Mechanical Engineering, Vishwakarma Institute of Technology, Pune, India-411037

*prasadlokhande2007@gmail.com

Abstract

Supercapacitors are considered promising energy storage systems due to their high power density, fast charge-discharge, long service lifetime, wide operating temperature range and excellent capacitance retention. The electrochemical performance of the supercapacitors depends upon numerous factors such as nature of electrode materials, type of electrolyte and separator thickness, etc. Among these factors, electrolyte used in supercapacitor plays an important role in deciding final characteristics of supercapacitors. In recent decades, tremendous research work has been on the development of novel electrolytes and electrode/electrolyte configurations. In this chapter, we aimed to focus on the role of inorganic electrolytes used in supercapacitors.

Keywords

Supercapacitor, Electrolyte, Metal Oxide, Electrolyte, Carbon-Based Material

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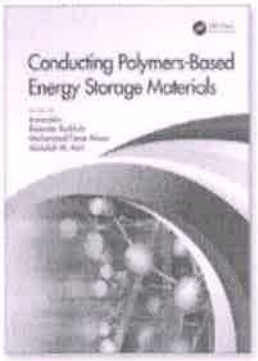

Chapter

Conductive Polymer-derived Materials for Supercapacitor

By P.E. Lokhande, U.S. Chavan

Book Conducting Polymer-Based Energy Storage Materials

Edition	1st Edition
First Published	2019
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Pages	12
eBook ISBN	9780429202261

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35. Trust and Security to Shared Data in Cloud Computing: Open Issues (Chapter)

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2019 | Original Paper | Chapter

Trust and Security to Shared Data in Cloud Computing: Open Issues

Authors: Bharti L. Dhote, G. Krishna Mohan

Publisher: Springer Singapore

Published in: International Conference on Advanced Computing Networking and Informatics

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Published in: International Conference on Advanced Computing Networking and Informatics

Abstract

Cloud computing is encouraging technology to the users, but not satisfactory in trust management, which hinders market growth. While sharing data, owner expected to restrict the authorised or unauthorised users from modification. It is essential to have a robust cryptographic mechanism which can provide fine-grained data access control with confidentiality, authenticity and anonymity at the same time. In addition, framework is needed for analysing trust management systems which can help to develop solutions to challenges such as identification, privacy, integration, security. In this paper, we focus on the data security from the perspective of three stakeholders, i.e. data owner, users and cloud provider. From the surveys analyse, there is still a need for new approach and policies is to be devised for trust, secure data out sourcing, and access policies to be investigated. The first need is to improvise cloud storage service privacy, second is to improvise the cloud data accessing policies and the third need is to integrate of trust computing and access control for identifying cloud reliability.

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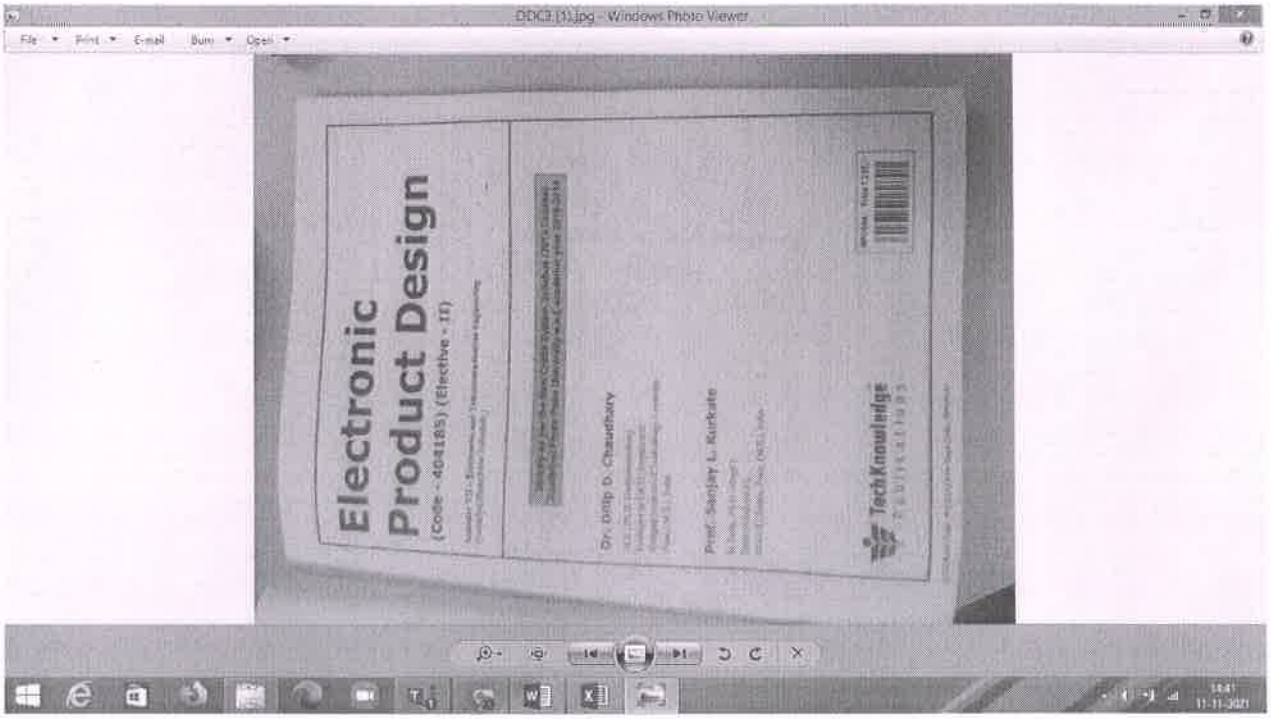

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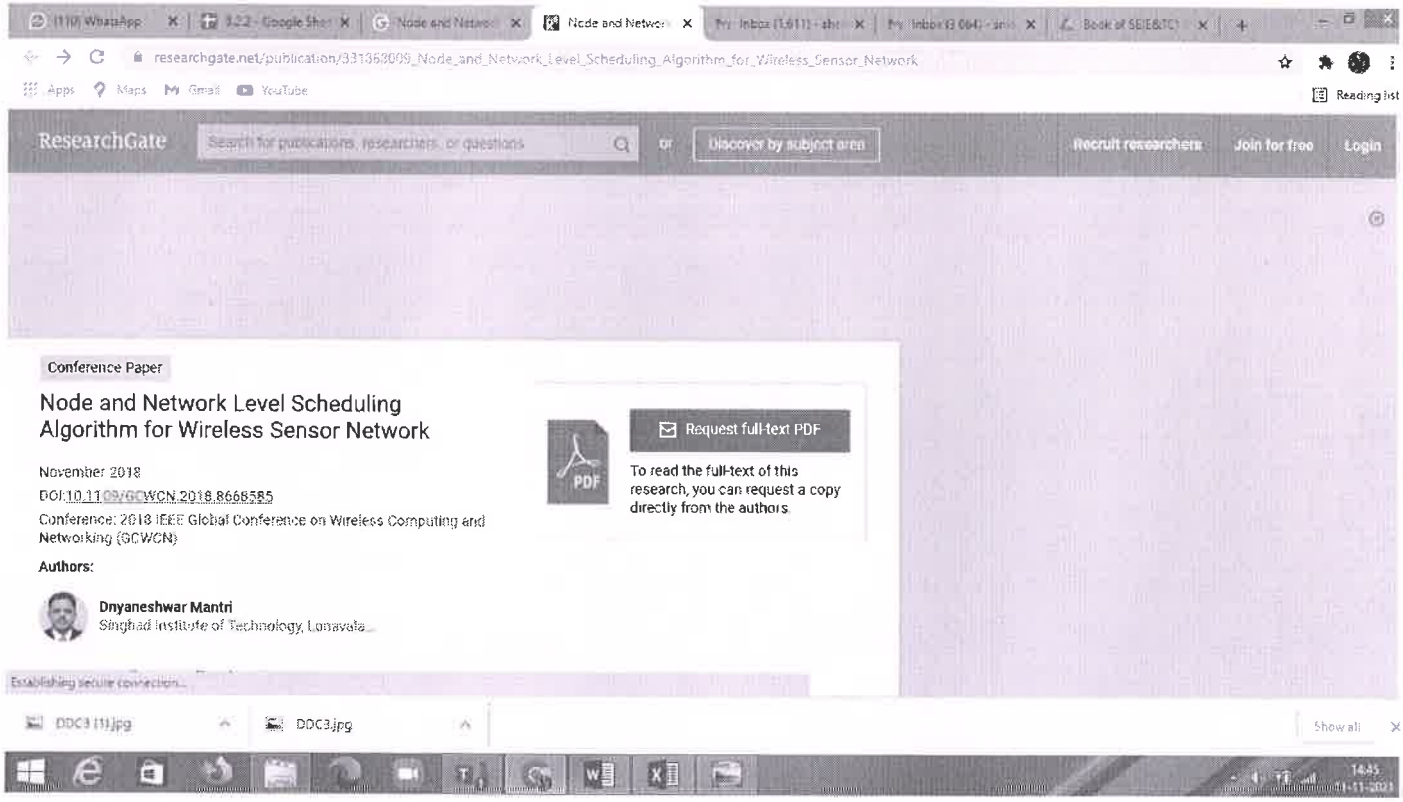
37. Node and Network Level Scheduling Controls in Wireless Sensor Network



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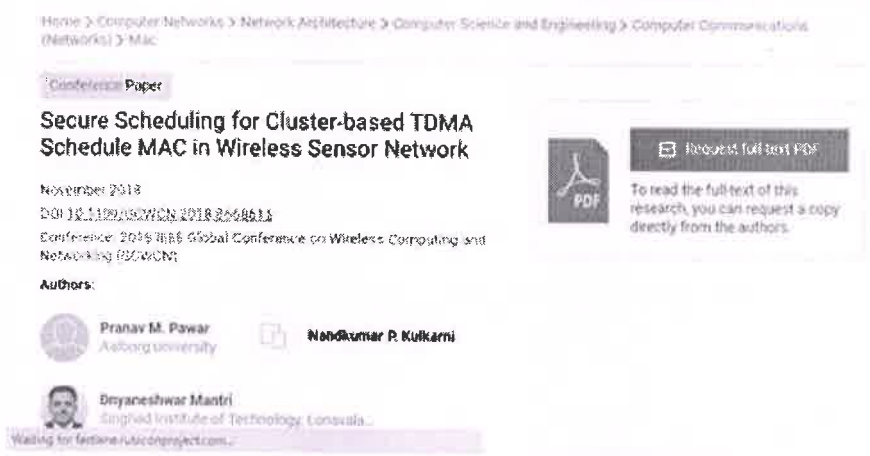
38. Secure Scheduling for Cluster-based TDMA Schedule MAC in Wireless Sensor Network



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Conference Paper

Secure Scheduling for Cluster-based TDMA Schedule MAC in Wireless Sensor Network

November 2018

DOI: 10.1109/ICWCSN.2018.8668513

Conference: 2018 IEEE Global Conference on Wireless Computing and Networking (GCWCN)

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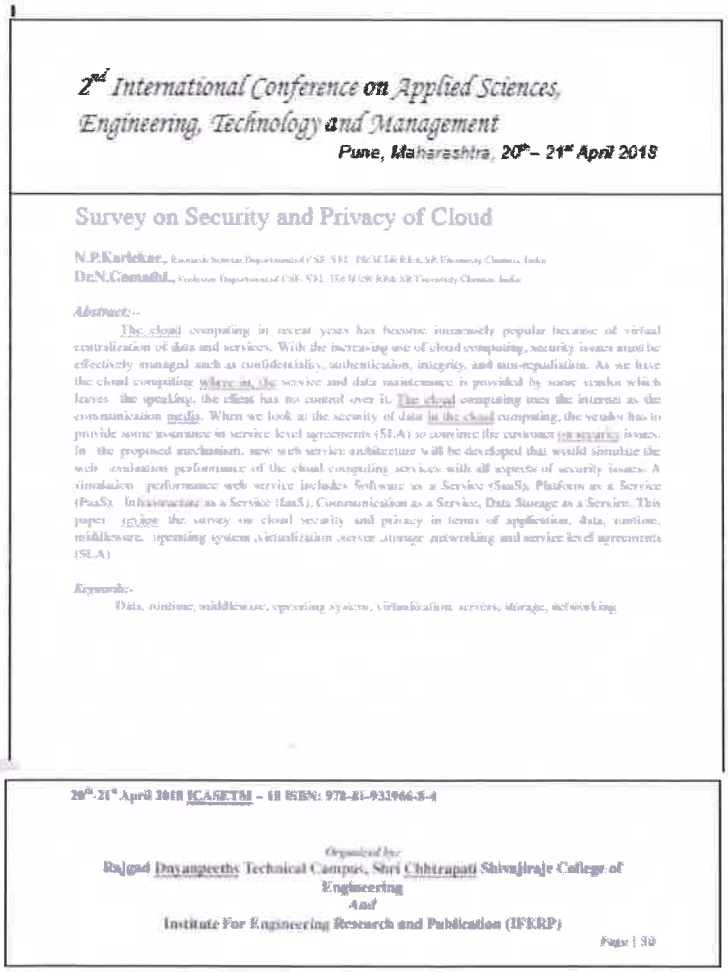
49. Survey on Security and Privacy of Cloud



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Survey on Security and Privacy of Cloud

N.P.Kavitkar, Research Scholar, Department of CSE, VELS INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS), Pallavaram, Chennai, India

Dr.N.Gomathi, Professor, Department of CSE, VELS INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS), Pallavaram, Chennai, India

Abstract:-

The cloud computing in recent years has become immensely popular because of virtual centralization of data and services. With the increasing use of cloud computing, security issues must be effectively managed such as confidentiality, authentication, integrity, and non-repudiation. As we have the cloud computing where in, the service and data maintenance is provided by some vendor which leaves the speaking, the client has no control over it. The cloud computing uses the internet as the communication media. When we look at the security of data in the cloud computing, the vendor has to provide some assurance in service level agreements (SLA) to convince the customer on security issues. In the proposed mechanism, new web service architecture will be developed that would simulate the web evaluation performance of the cloud computing services with all aspects of security issues. A simulation performance web service includes Software as a Service (SaaS), Platform as a Service (PaaS), Infrastructure as a Service (IaaS), Communication as a Service, Data Storage as a Service. This paper discuss the survey on cloud security and privacy in terms of application, data, runtime, middleware, operating system ,virtualization ,service ,storage ,networking and service level agreements (SLA)

Keywords:-

Data, runtime, middleware, operating system, virtualization, services, storage, networking

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40. Perceive Core Logical Blocks of a C Program Automatically for Source Code Transformations.

Perceive Core Logical Blocks of a C Program Automatically for Source Code Transformations

Pallavi Ahire[1] and Jibi Abraham[2(✉)]

[1] Department of Technology, Savitribai Phule Pune University, Pune, India
pallaviahire@sinhgad.edu
[2] College of Engineering Pune, Pune, India
ja.comp@coep.ac.in

Abstract. Tool like Flawfinder, used to identify a security flaw in a source code, is too expensive to be procured for usage but it can also be accessed on public cloud as a software as a service. Since there is possibility of inside attackers in cloud service, to unveil the logical possessions out of the source code, there is a need to transform the source code by altering the semantics. In this paper, we have introduced a novel method to identify the core logical blocks of any C source code. It mainly consists of two steps: (i) source code entity identification (ii) dependency identification. The entities are identified based on programming language constructs like variables, simple entities and control structures. Variable dependency is in deep analyzed by generating a dependency graph using Neo4j graph database software. This graph is further traversed and weighted matrix of the variable dependencies is created from which the core logical blocks could be identified. Algorithms are designed for the above two steps. Cyclomatic complexity analysis and Time complexity analysis are carried out and experimentations are conducted to verify the same.

Keywords: Cloud computing · Source code transformations · Entity identification · Variable dependency identification

1 Introduction

Cloud has the great potential of providing robust computational power at reduced cost. Customers rely on cloud for hiring, computing and managing their input. Customer's input that are consumed and the results that are produced during the computation in cloud are often sensitive in nature. With escalating features like scalability, fault tolerance and metered services, customer use procurable tools available with cloud and obtain the required computation on data. To employ privacy preserving computations by such tools there is need to develop secure transformation techniques.

Tools like Flawfinder [1] and Klockwork [2] find potential security flaws in a source code by using methods like software analysis. Since these tools are capital expensive for individual purchase, they can be procured as and when required from a public cloud as Software as Service. If the original source code is sent to such a cloud service, there will be some perilous chances that inside attackers can unveil the logical

A. Abraham et al. (Eds.): ISDA 2018, AISC 940, pp. 386–400, 2020.
https://doi.org/10.1007/978-3-030-16657-1_36

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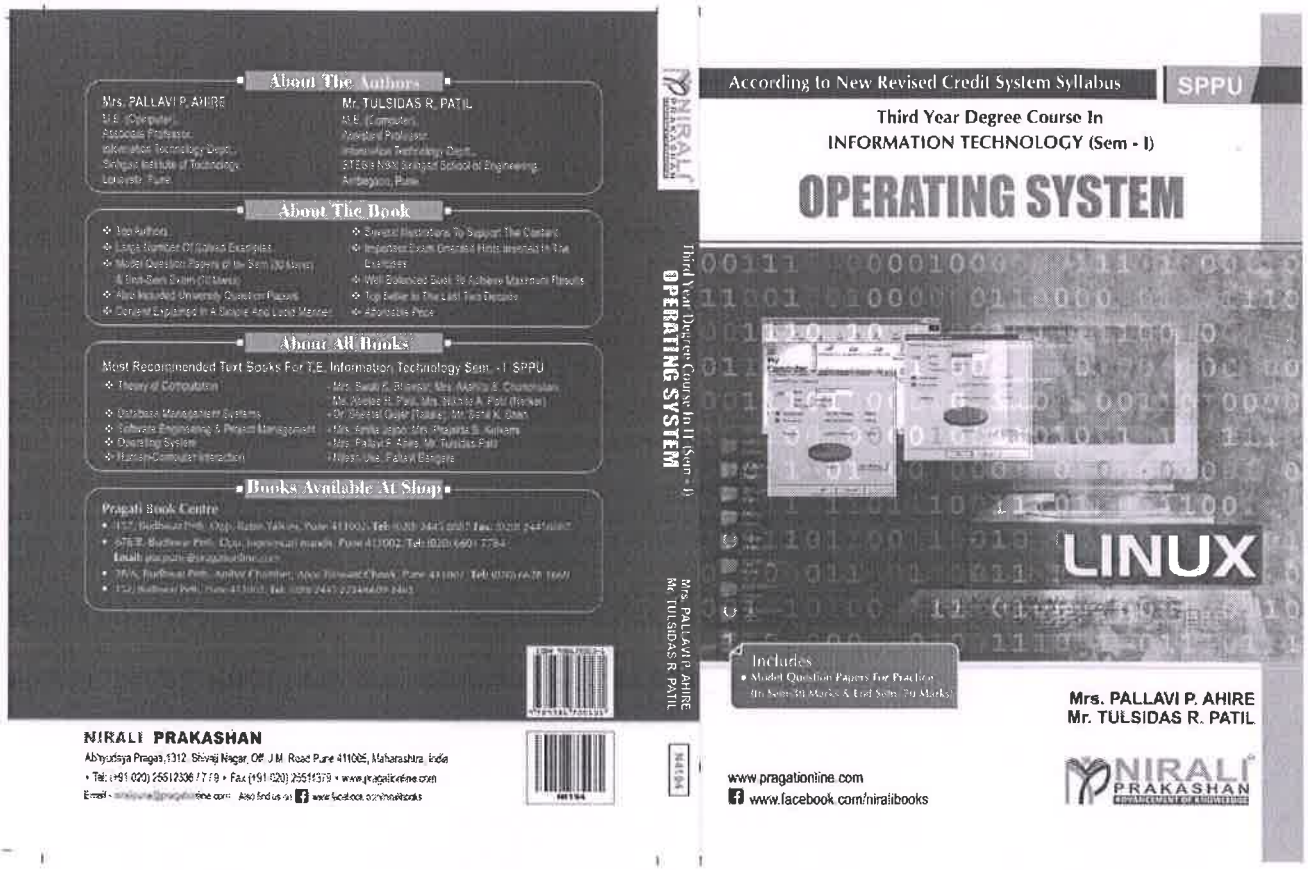
41. Wrote book on "Operating System" for TE IT Students of SPPU.



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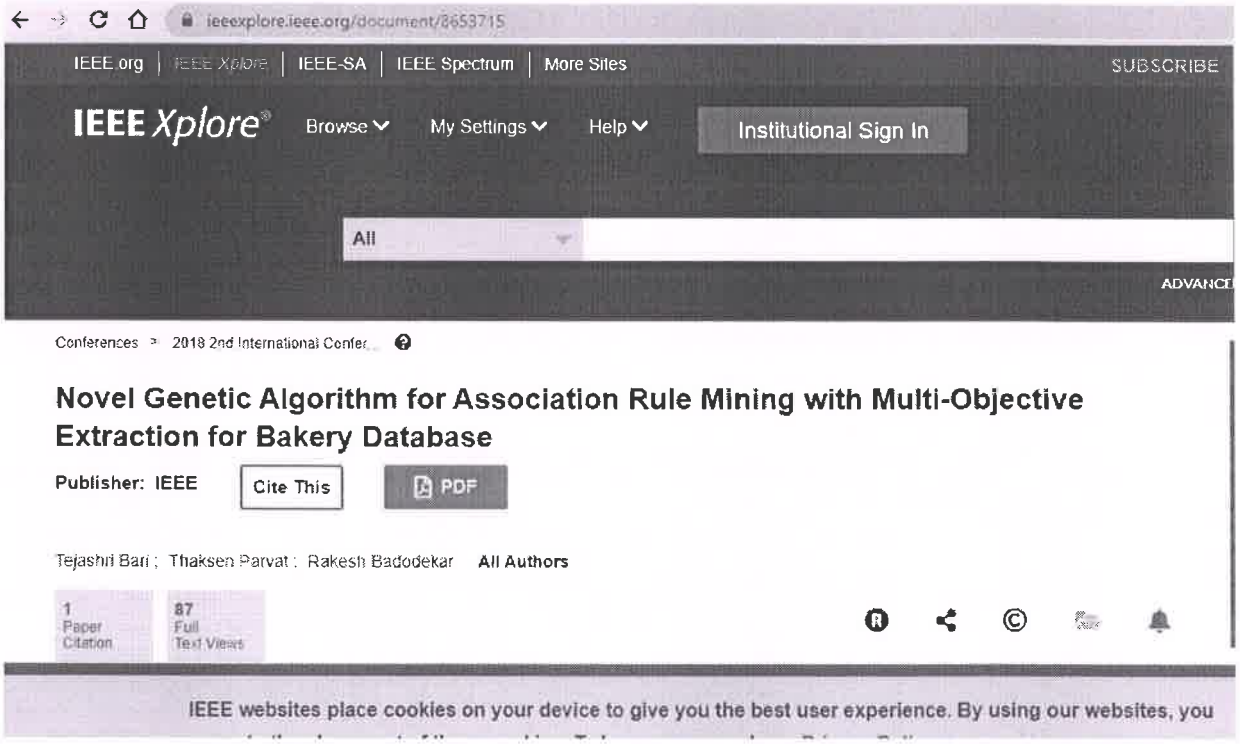
42. Novel Genetic Algorithm for Association Rule Mining with Multi-Objective Extraction for Bakery Database.



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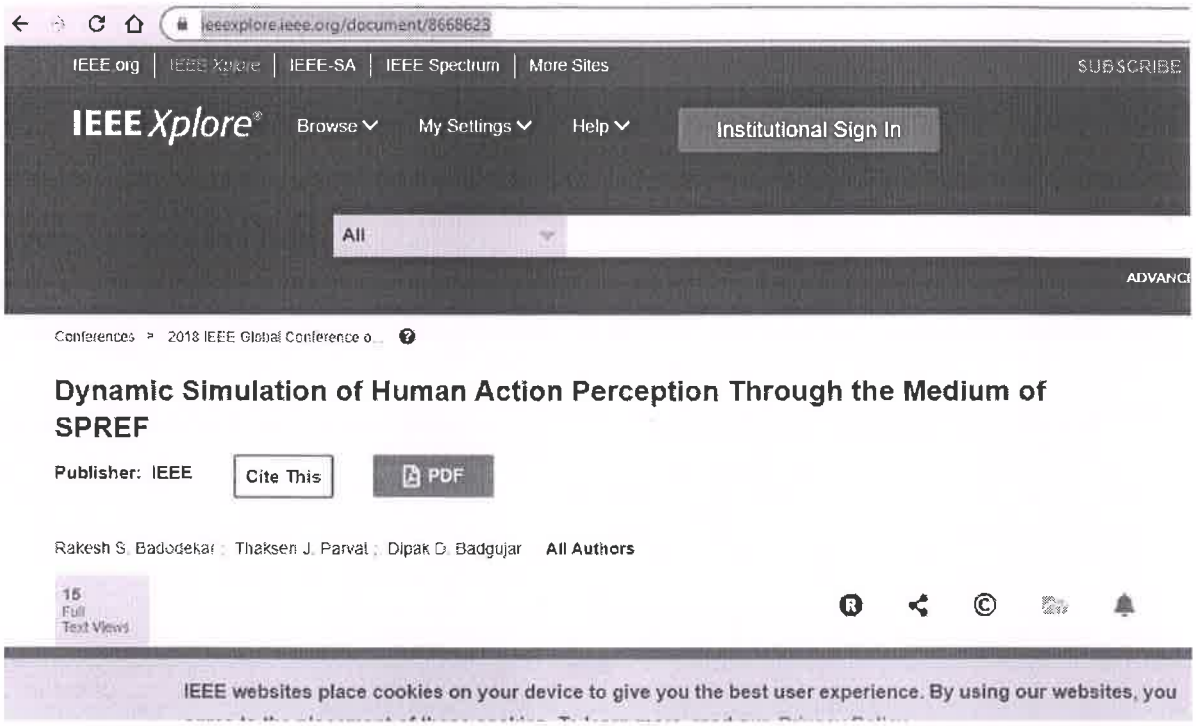
website: sit.sinhgad.edu

43. "Dynamic Simulation of Human Action Perception through the medium of SPREF".



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Tel. : 91 2114 – 673353/355 /356 , **Telefax:** 02114 – 278304 **Email :** principal _sit @sinhgad.edu **Fax.** : 276929

44. Averaging Based Predictive Modelling for Traffic Congestion in IoT

Conferences > 2018 IEEE Global Conference o...

Averaging Based Predictive Modelling for Traffic Congestion in IoT

Publisher: IEEE

Cite This | PDF

Nandkumar Kulkarni ; Dnyaneshwar Mantri ; Pranav Pawar ; Neeli Rashmi Prasad All Authors

Abstract:

The Internet of Things (IoT) is the system of physical devices, vehicles, and other items embedded with electronics, software, sensors, actuators, and connectivity which empower these objects to accumulate and interchange data. IoT allows objects to be recognized or controlled distantly without human involvement. This result in enhanced efficiency, precision and economic advantage. Traffic blocking is bursting as foremost challenge in every established as well as emerging countries and it needs immediate attention. The amalgamation of machine learning and IoT, Vehicular Adhoc Network (VANET) makes the traffic management more intelligent. Many researchers have proposed numerous answers for covering detecting, estimating and avoiding traffic congestion in a handful of established nations. These solutions are not suitable from Indian

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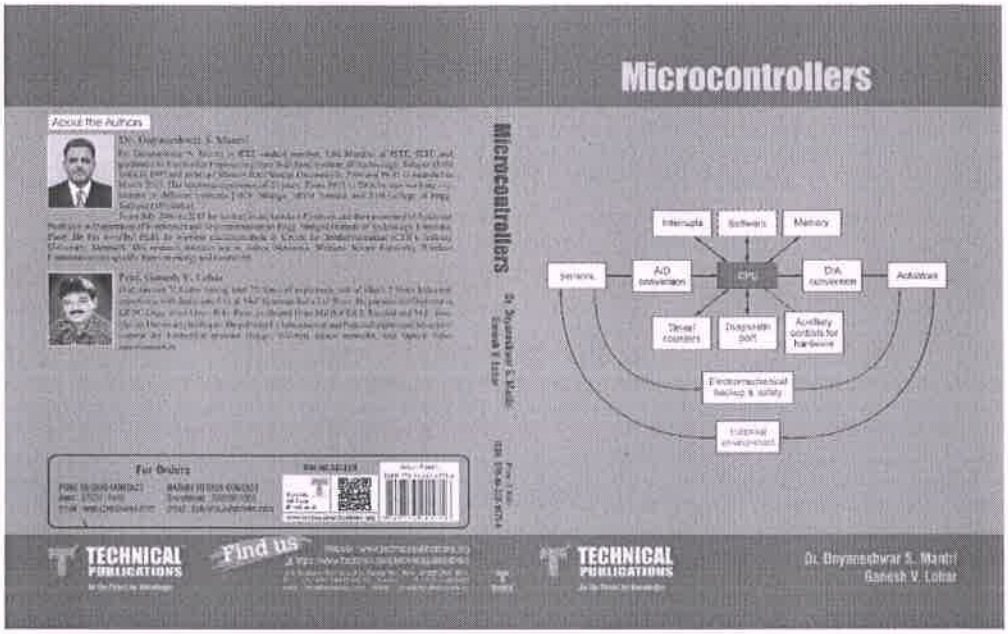
45. Wrote book on "Microcontroller" for TE E&TC Students of SPPU



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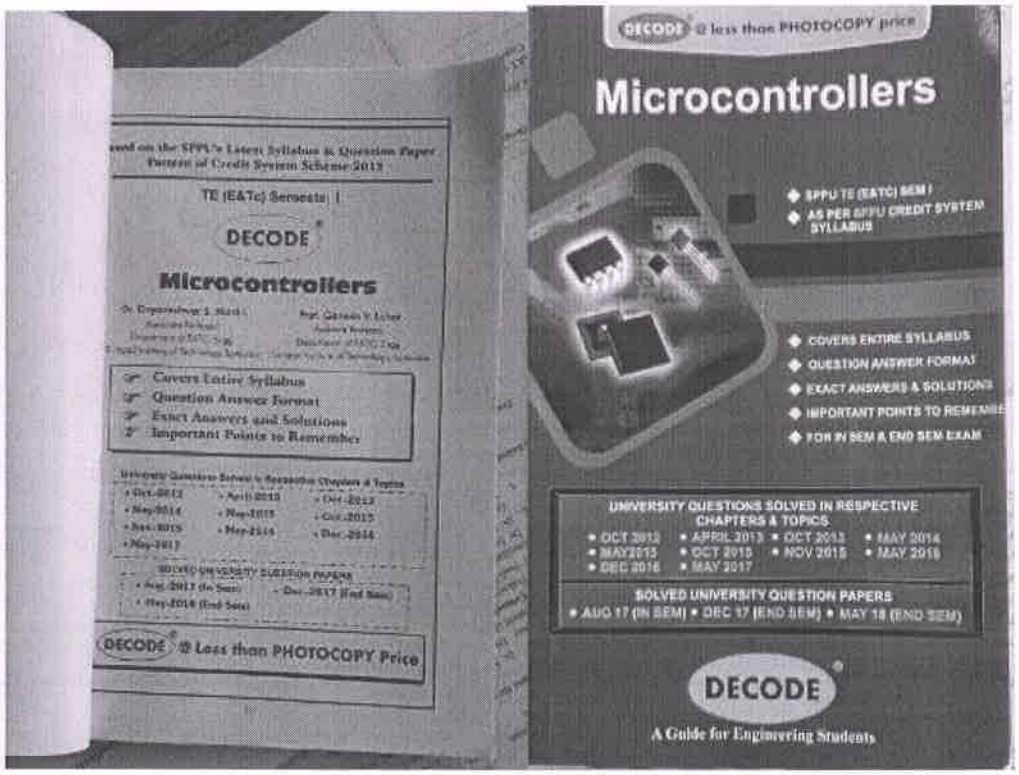
46. Wrote book on " Decode Microcontrollers" for TE E&TC Students of SPPU



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47. Automation of dry-wet waste collection to support Swachh Bharat Abhiyan and its monitoring over IOT enabled WSN

IJCSE International Journal of Computer Sciences and Engineering Open Access

Research Paper Vol-6, Issue-6, June 2018 E-ISSN: 2347-2693

Automation of dry-wet waste collection to support Swachh Bharat Abhiyan and its monitoring over IOT enabled WSN

Sanket Thakre[1]*, Dipali Shende[2]

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[2] Dept. of ETE, Sinhgad Institute of Technology, Savitribai Phule Pune University, Lonavala, India

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Accepted: 17/Jun/2018, Published: 30/Jun/2018

Abstract— with the ever increasing population, urbanization, migration issues, and change in lifestyle, municipal solid waste generation levels are increasing significantly. Waste management directly affects the lifestyle, healthcare, environment, recycling and disposal, and several other industries. Current waste management trends are not sophisticated enough to achieve a robust and efficient waste management mechanism. It is very important to have a smart way of managing waste, so that not only the waste status is notified in-time when to be collected, but also, all the stakeholders are made aware in timely fashion that what type of waste in what quantity is coming up at what particular time. This will not only help in attracting and identifying stakeholders, but also aids in creating more effective ways of recycling and minimizing waste also making the overall waste management more efficient and environment friendly. Keeping all this in mind, we propose a cloud-based smart waste management mechanism in which the waste bins are equipped with sensors, capable of notifying their waste level status and upload the status to the cloud. The stakeholders are able to access the desired data from the cloud. Moreover, for city administration and waste management, it will be possible to do route optimization and select path for waste collection according to the statuses of waste bins in a metropolis, helping in fuel and time efficiency.

Keywords—WSN, IOT

I. Introduction

In recent times, garbage disposal has become a huge cause for concern in the world. A voluminous amount of waste that is generated is disposed by means which have an adverse effect on the environment. The common method of disposal of the waste is by unplanned and uncontrolled open dumping at the landfill sites. This method is injurious to human health, plant and animal life. This harmful method of waste disposal can generate liquid leachate which contaminate surface and ground waters; can harbor disease vectors which spread harmful diseases; can degrade aesthetic value of the natural environment and it is an unavailing use of land resources. In India, rag pickers play an important role in the recycling of urban solid waste. Rag pickers and conservancy staff have higher morbidity due to infections of skin, respiratory, gastrointestinal tract and multisystem allergic disorders, in addition to a high prevalence of bites of rodents, dogs and other vermin. Dependency on the rag-pickers can be diminished if segregation takes place at the source of municipal waste generation. Swachh Bharat Abhiyan (English: Clean India Mission) is a campaign by the Government of India to keep the streets, roads and infrastructure of the country's 4,041 statutory cities and towns and its rural areas clean. Swachh Bharat Abhiyan (or Clean India Mission in English) is a campaign in India that aims to clean up the streets, roads and infrastructure of India's cities, smaller towns, and rural areas.

This research paper was written at Sinhgad Institute of Technology, Lonavala.

II. Related Work

IEEE Xplore is a scholarly research database that indexes, abstracts, and provides full-text for articles and papers on computer science, electrical engineering and electronics. Following papers were used.

1. Automation of Smart waste management using IoT to support "Swachh Bharat Abhiyan" - a practical approach
2. Smart waste management using Internet-of-Things (IoT)
3. A survey of smart environment conservation and protection for waste management
4. Challenges and Opportunities of Waste Management in IoT-enabled Smart Cities: A Survey
5. Cloud-based smart waste management for smart cities
6. Technologies for segregation and management of solid waste: A review
7. Solid Waste Management Architecture Using Wireless Sensor Network Technology

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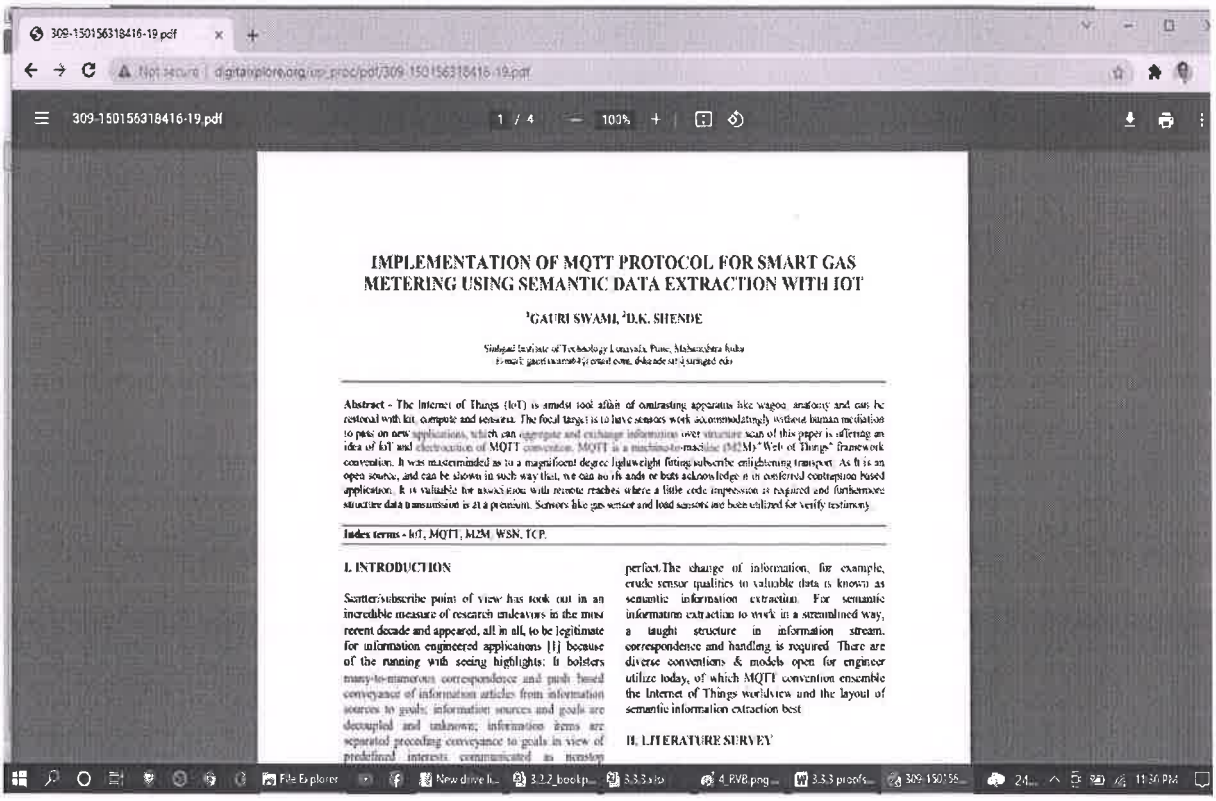
48. Implementation of MQTT Protocol for smart gas Metering Using Semantic Data Extraction with IOT

http://www.digitalxplore.org/up_proc/pdf/309-150156318416-19.pdf



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IMPLEMENTATION OF MQTT PROTOCOL FOR SMART GAS METERING USING SEMANTIC DATA EXTRACTION WITH IOT

[1]GAURI SWAMI, [2]D.K. SHENDE

Sinhgad Institute of Technology Lonavala, Pune, Maharashtra India

Abstract - The Internet of Things (IoT) is amidst took affair of contrasting apparatus like wagon, anatomy and can be restored with kit, compute and sensors. The focal target is to have sensors work accommodatingly without human mediation to pass on new applications, which can aggregate and exchange information over structure scan of this paper is offering an idea of IoT and electrocution of MQTT convention. MQTT is a machine-to-machine (M2M)/"Web of Things" framework convention. It was masterminded as to a magnificent degree lightweight fitting/subscribe enlightening transport. As it is an open source, and can be shown in such way that, we can no ifs ands or buts acknowledge it in conferred contraption based application. It is valuable for associations with remote reaches where a little code impression is required and furthermore structure data transmission is at a premium. Sensors like gas sensor and load sensors are been utilized for verify testimony.

Index terms - IoT, MQTT, M2M, WSN, TCP.

I. INTRODUCTION

Scatter/subscribe point of view has took out in an incredible measure of research endeavors in the most recent decade and appeared, all in all, to be legitimate for information engineered applications [1] because of the running with seeing highlights: It bolsters many-to-numerous correspondence and push based conveyance of information articles from information sources to goals; information sources and goals are decoupled and unknown; information items are separated preceding conveyance to goals in view of predefined interests communicated as nonstop perfect.The change of information, for example, crude sensor qualities to valuable data is known as semantic information extraction. For semantic information extraction to work in a streamlined way, a taught structure in information stream, correspondence and handling is required There are diverse conventions & models open for engineer utilize today, of which MQTT convention ensemble the Internet of Things worldview and the layout of semantic information extraction best

II. LITERATURE SURVEY

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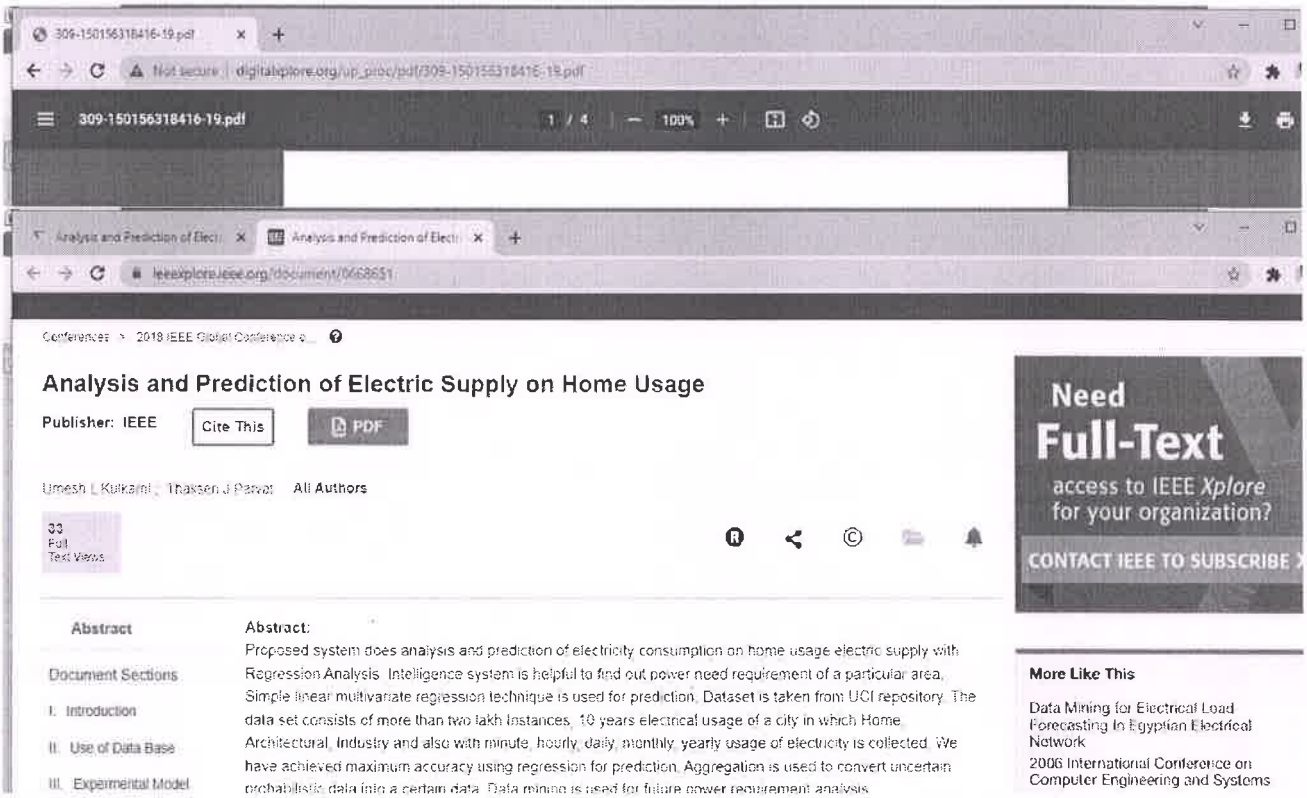
49. Analysis and Prediction of Electric Supply on Home Usage

https://www.semanticscholar.org/paper/Analysis-and-Prediction-of-Electric-Supply-on-Home-Kulkarni-Parvat/3fe123eb0fb4380177bc2d711aec87a5a5be3e46



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50. IoT Based Geographic Multicast Routing Protocol with DPA through WSN

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IoT Based Geographic Multicast Routing Protocol with DPA through WSN

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I. INTRODUCTION

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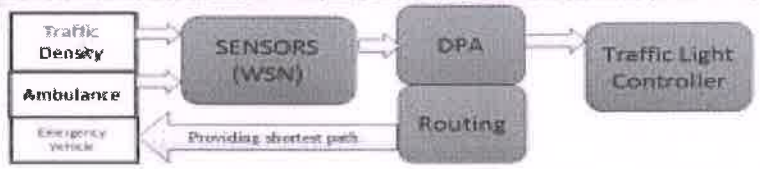

Fig. 1 conceptual block diagram of IoT based multicast routing with dynamic priority assignment (DPA) through WSN

A. Challenges

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51. FPGA based implementation of SDR transceiver

6th International Conference on Recent Trends in Engineering & Technology (ICRTET - 2016)

FPGA based implementation of SDR transceiver

[1]Yogita S Hire, [2]Vaishali Ratre
[1]Assistant Professor, [2]Assistant Professor
[1]Dept. of Electronics and Telecommunication Engg
SNJB's KBJCOE, Chandwad India

Abstract:
Field Programmable Gate Array (FPGA) based transceiver is purely a new kind of digital implementation of transceiver in Software Defined Radio (SDR) platform. This replaces a multiple platform based system with a single platform. It guarantees reliable, reconfigurable, handy transmitter and receiver. A high-level programming language is used to simulate and implement systems in real time.

***Index Terms* - Field Programmable Gate Array (FPGA), Software Defined Radio (SDR).**

I.INTRODUCTION

For a conventional discrete component-based design of transceiver, it is not possible to vary the functionality of the system beyond certain range of specification. But a SDR based on FPGA enhances the capability of the platform so as to design a system with re-configurability and flexibility. It can flexibly alter the radio system by changing software and without changing SDR platform. SDR can be implemented on different platform. Here, SDR based telecommunication operation is realized on FPGA, using high level programming language. The main application of digital transceiver lies in the test facility of newly developed flight vehicle. A newly developed flight vehicle needs testing. Termination of flight vehicle is mandatory if the high speed vehicle deviates from its preset trajectory due to unpredictable failure of onboard system. FPGA implementation of digital transceiver in SDR platform System is used for termination of high speed flight vehicle under test. Hence a test facility, this system is utilized to secure property and human life. In such cases, specific commands are transmitted from transmitter for termination of test vehicle. The command transmitted is received and decoded by onboard command response system in flight vehicle and the commanded operation is done accordingly.

II.SYSTEM MODEL

SDR Based Transmitter Algorithm: SDR based transmitter include command code generation, encoding, digital modulation, analog modulation and digital up conversion. The command codes are operated from personal computer. The generated commands are a frame of N binary bits. The whole frame is encoded with Manchester encoding scheme and total number of bits in a frame becomes double, i.e. 2N. This Manchester encoded binary data waveform modulates a carrier signal using binary frequency shift keying (BFSK) modulation scheme. In this scheme, commanded signal with higher frequency and lower frequency are generated for bit 1 and 0 respectively. This BFSK modulation is done in very low frequency, i.e., in very low frequency band. This signal is finally up-converted to medium frequency band using frequency modulation (FM) scheme. The basic principle behind FM is to vary the carrier frequency in proportion to the modulating signal. FM modulated signal is the output of commanded code generator. This signal undergoes digital up conversion (DUC). To improve the sampling frequency of baseband signal interpolation is used. The primary reason to interpolate is to increase the sampling rate in the context of one system, so that another system operating at a higher sampling rate can operate the signal.

SDR Based Receiver Algorithm: In the receiving side, the received signal is down converted using digital down conversion. FM signal can be demodulated by applying the signal to the All-Digital Phase Locked Loop (ADPLL).
FM demodulated signal is given to BFSK demodulation block. Finally Manchester decoding is done. Code is received & displayed on PC.

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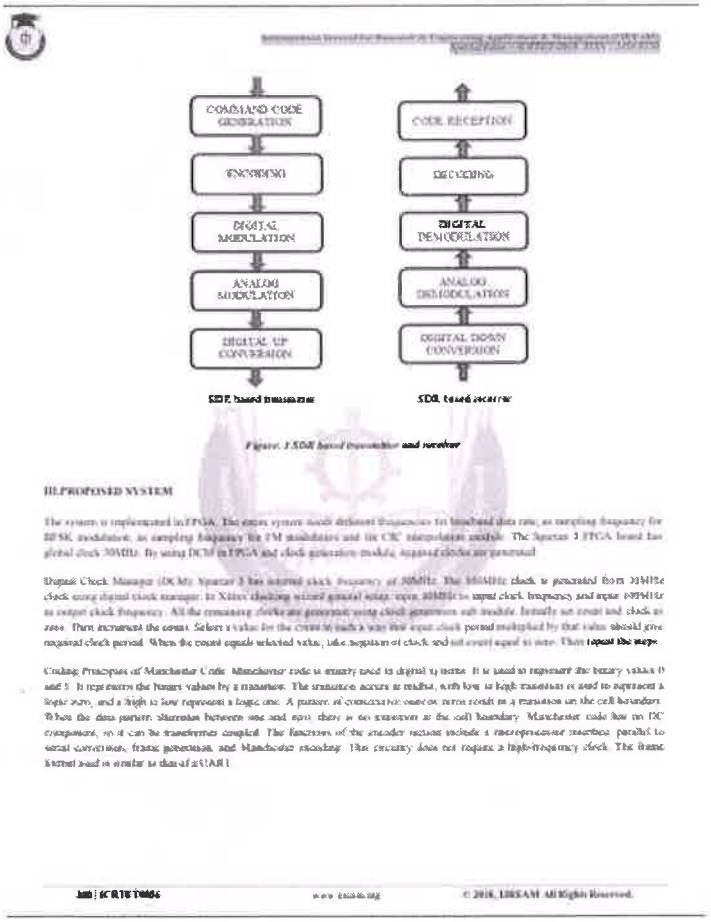

Figure. 1 SDR based transmitter and receiver

III.PROPOSED SYSTEM

The system is implemented in FPGA. The entire system needs different frequencies for baseband data rate, as sampling frequency for BPSK modulation, as sampling frequency for FM modulators and for CIC interpolation module. The Spartan 3 FPGA board has global clock 50MHz. By using DCM in FPGA and clock generation module, required clocks are generated.

Digital Clock Manager (DCM): Spartan 3 has internal clock frequency of 50MHz. The 80MHz clock is generated from 50MHz clock using digital clock manager. In Xilinx clocking wizard general setup, input 50MHz is input clock frequency and input 80MHz is output clock frequency. All the remaining clocks are generated using clock generation sub module. Initially set count and clock as zero. Then increment the count. Select a value for the count in such a way that input clock period multiplied by that value should give required clock period. When the count equals selected value, take negation of clock and set count equal to zero. Then repeat the steps.

Coding Principles of Manchester Code: Manchester code is mainly used to digital to mono. It is used to represent the binary values 0 and 1. It represents the binary values by a transition. The transition occurs in middle, with low to high transition is used to represent a logic zero, and a high to low represent a logic one. A pattern of consecutive ones or zeros result in a transition on the cell boundary. When the data pattern alternate between one and zero, there is no transition at the cell boundary. Manchester code has no DC components, so it can be transformer coupled. The functions of the encoder section include a microprocessor interface parallel to serial conversion, frame generation and Manchester encoding. This circuitry does not require a high-frequency clock. The frame format used is similar to that of AMI.

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52. ' Efficient Utilization of Channel Coding for Wireless

International Journal of Electronics, Electrical and Computational System
IJEECS
ISSN 2348-117X
Volume 6, Issue 9
September 2017

Efficient Utilization of Channel Coding for Wireless Communication

Prof.V.S.Bute
Sinhgad Institute of Technology, Lonavala

Prof.D.K.Shinde
Sinhgad Institute of Technology, Lonavala

Prof.Ms.Shubhangi Gaikar
SIT ACSIC Akurdi Pune

Abstract— In this paper, a trade-off analysis between concatenated codes consisting of a convolutional (CC) followed by a Reed-Solomon (RS) code versus low-density parity-check (LDPC) codes is presented. The analysis is based on a coding gain for a target bit error rate (BER) of 10^{-6} and required decoder hardware complexity for a target data throughput of 10 Gbps. Furthermore, we have investigated relevant parameters which directly impact an efficient hardware implementation as well as the error correction performance of the LDPC decoder. These parameters include an appropriate factor in the min-sum layered (MSL) decoding algorithm, the finite word length of bit information and an early-termination (ET) strategy. The error correction performances are evaluated for 16-QAM modulation over an independent Rayleigh fading channel. The complexity of the RS-CC and LDPC decoders is presented based on synthesis results using an Infineon 40-nm CMOS design kit.

Keywords – Reed-Solomon, LDPC, convolutional code, concatenated code, Rayleigh fading, BER performance, decoder complexity, data throughput

I INTRODUCTION

In wireless communications, reliable and high throughput data transmission is the key feature for the commercial success of new transmission schemes. In order to protect data against transmission errors caused by channel noise, channel coding based on error correction codes is widely used. A large variety of channel codes has been developed in the last few decades including convolutional codes (CC), Reed-Solomon (RS) codes, and most recently turbo and LDPC codes. The concatenated Reed-Solomon convolutional code (RSCC) has been applied in different communication standards, e.g., IEEE 802.16e [1], ECMA-387 [2], and telemetry channel coding [3] (CCSDS standard). On the other hand, LDPC codes have been also utilized in IEEE 802.16e (WiMAX) and additionally in e.g., IEEE 802.11n [4], IEEE 802.15.3c [5] and several digital video broadcasting (DVB) standards [6]. Most of these communication standards and their different generations are typically driven by a request for ever higher data throughput. As a result, the implementation complexity of a state-of-art Forward-Error-Correction (FEC) decoder is one of the most important factors which should be considered in the development of a wireless communication system.

In this paper, we present a trade-off analysis providing performance evaluation and implementation complexity of RS-CC and LDPC decoders for multi-Gbps wireless communications. Since the performance space exploration is very large, we focus on widely used channel codes. For the concatenated RS-CC code, as an inner code, the well-known convolutional (171,133) code with constraint length of $K = 7$ is used. As an outer code, we use RS codes with one byte RS symbol size and a longest codeword length of 255 bytes, [1-2]. In order to further improve performance of this concatenated code, a block interleaver between the RS and CC code is considered. On the other hand, concerning LDPC coding, we adopt structured LDPC codes from the IEEE 802.16e standard. These codes are suitable for high-speed layered decoding. Having in mind that higher order modulations are able to offer higher data throughputs, we omit BPSK and QPSK modulation and only focus on 16-QAM in this paper. We focus on an independent Rayleigh fading channel where no line-of-sight (LOS) signal component is present.

2 SYSTEM MODEL

The system model on which we base the BER performance evaluation is shown in Figure 1. At the transmitter, the input bits after channel coding are converted into QAM symbols, according to Gray-coded constellation mappings. These symbols are

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53.Reliable Data Delivery on the Basis of Trust Evaluation in WSN

2018 | OriginalPaper | Chapter

Reliable Data Delivery on the Basis of Trust Evaluation in WSN

Authors: Deepak Gadde, M. S. Chaudhari

Publisher: Springer Singapore

Published in: Information and Communication Technology for Sustainable Development

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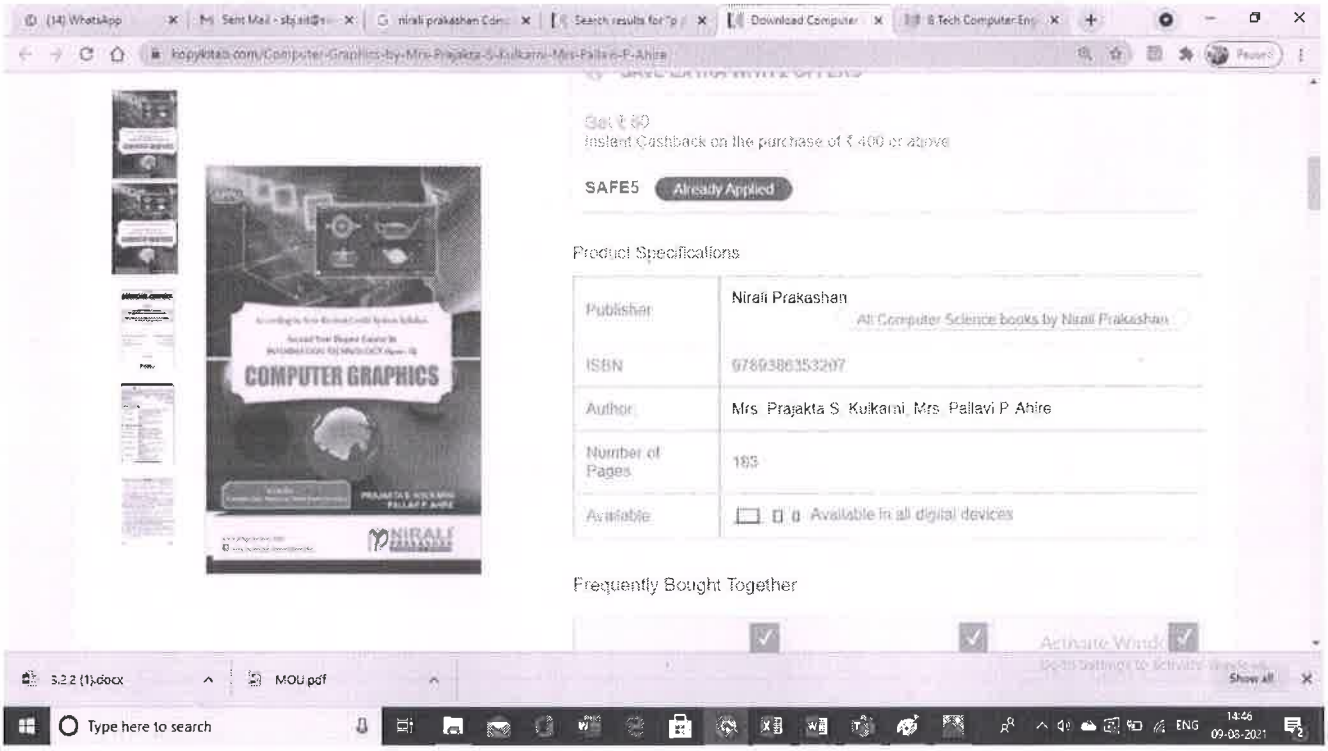
54.Book on Computer Graphics" for SE IT of SPPU Pune.



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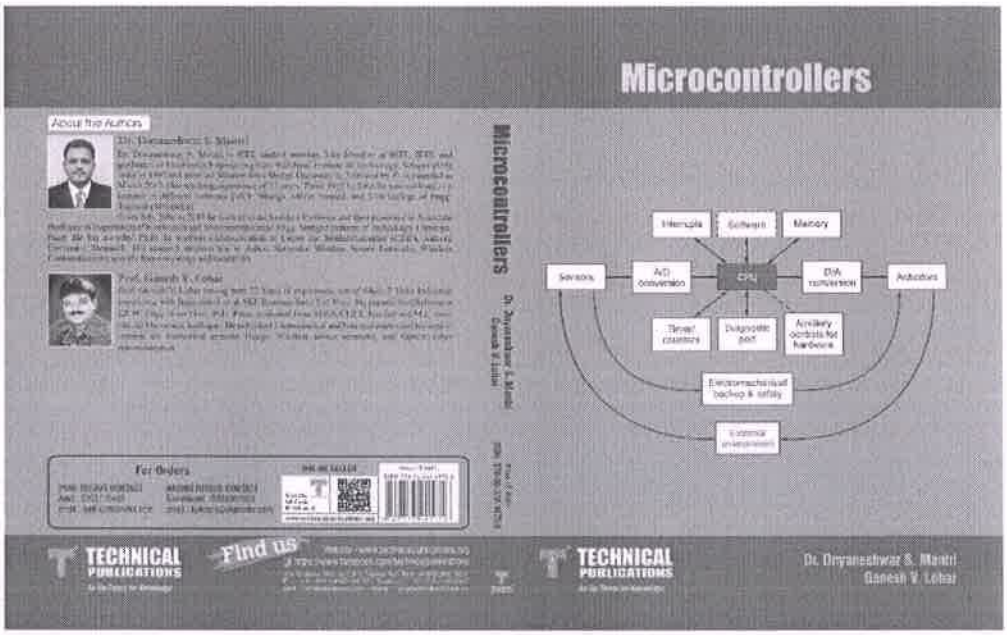
55. Wrote book on "Microcontroller" for TE E&TC Students of SPPU



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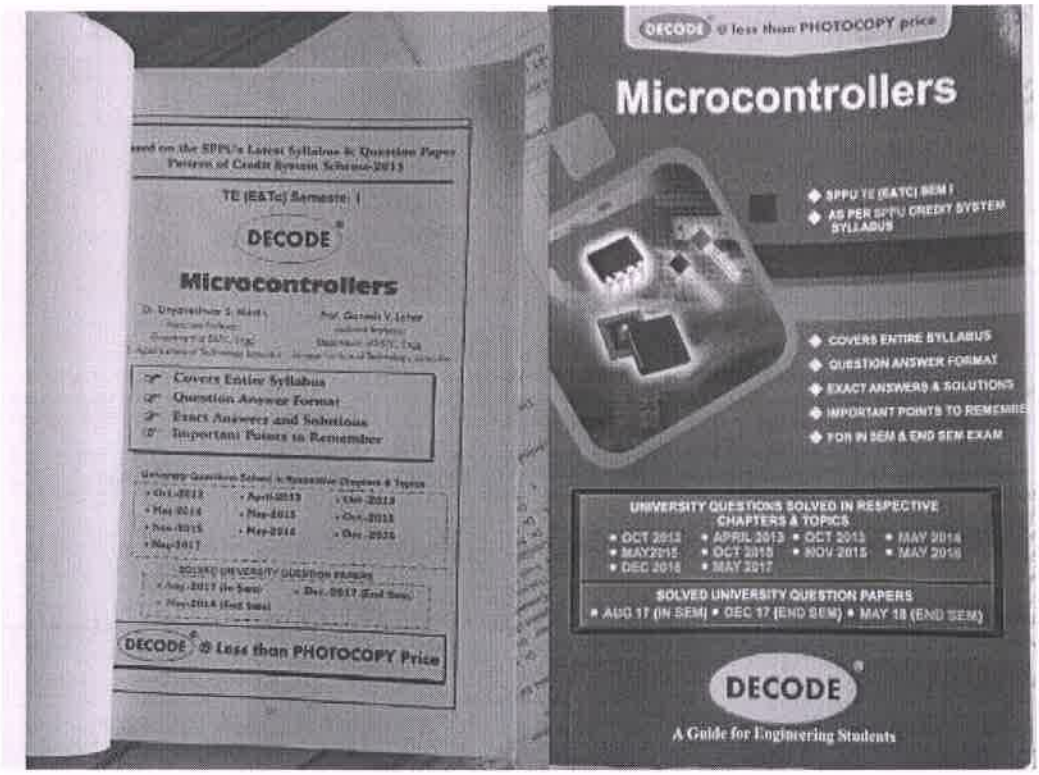

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57. .Design and Analysis of Beacon based SDR Systems

Abstract:
The software defined radio (SDR) is an advance type of radio communication. In this paper we will be researching on three methods which can increase the efficiency of the SDR. The beacon, Multi transmitter and receiver, Pipelining and Parallel Processing are some techniques used for enhancing the system are reviewed in this paper.

Abstract

Document Sections

I. Introduction

II. Software Defined Radio

III. System Design and Description

IV. Analysis

V. Conclusion

Authors

Figures

References

Abstract:
The software defined radio (SDR) is an advance type of radio communication. In this paper we will be researching on three methods which can increase the efficiency of the SDR. The beacon, Multi transmitter and receiver, Pipelining and Parallel Processing are some techniques used for enhancing the system are reviewed in this paper.

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Date of Conference: 16-18 Feb. 2017

Date Added to IEEE *Xplore*: 14 December 2017

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DOI: 10.1109/ICAMMAET.2017.8186728

Publisher: IEEE

Conference Location: Chennai, India

I. Introduction

Software defined radio are also known as software based radio (SBR) or software radio. In

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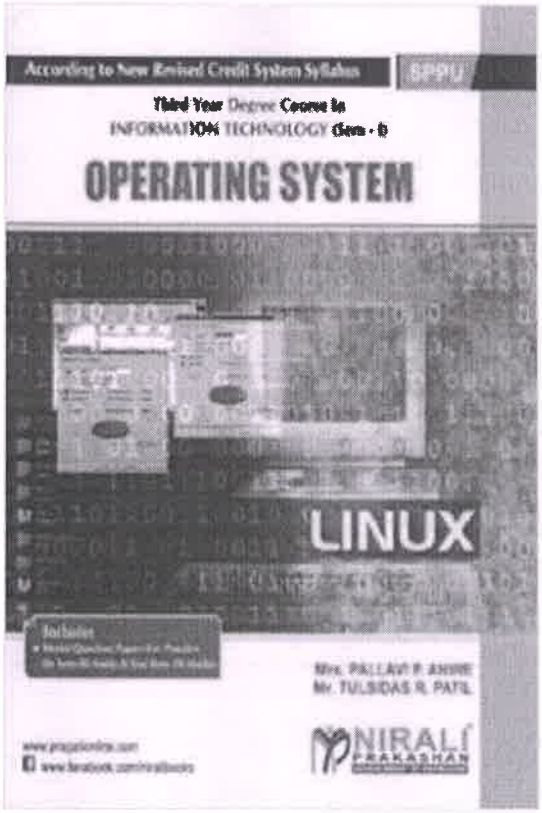
website: sit.sinhgad.edu

58.Wrote book on "Operating System" for TE IT Students of SPPU



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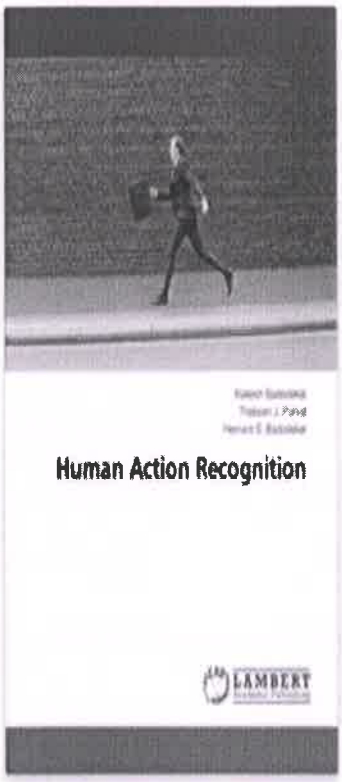

Human Action Recognition Paperback – July 27, 2016

by Rakesh Badodekar (Author), Thaksen J. Parvat (Author), Hemant S. Badodekar (Author)

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Human action recognition,Important area of computer vision research, an automated detection of events performed by humans from video data.An important task of low level video analysis is to extract useful information from a video sequence This book describes a novel feature for apturing information in a spatic temporal volume based on regularity flow, what it is, how it works, and the benefits of using it for action recognition. The regularity flow describes the direction of least intensity change within a spatio-temporal volume. Our feature consists of weighted histograms of the computed regularity flow around selected

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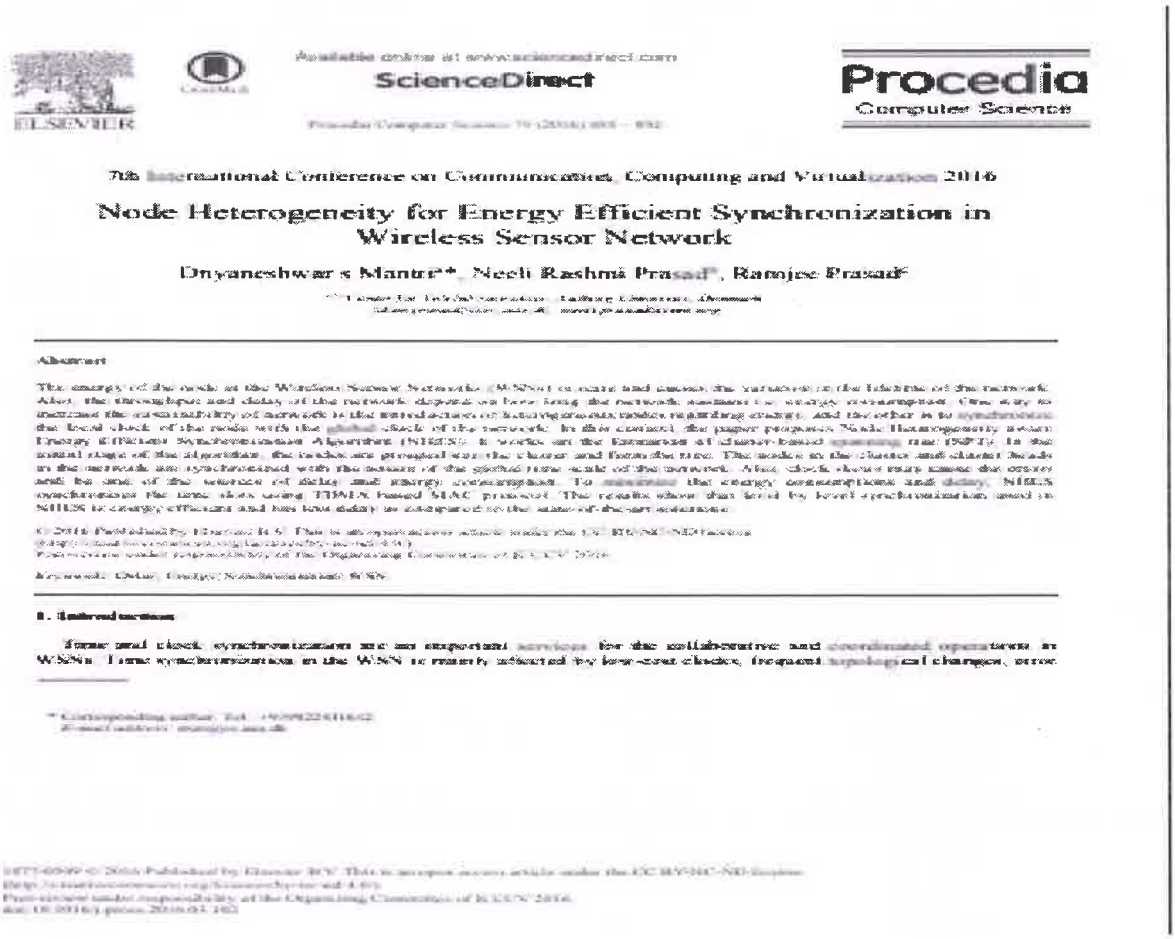
60. Node Heterogeneity for Energy Efficient Synchronization for Wireless Sensor Network



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Node Heterogeneity for Energy Efficient Synchronization in Wireless Sensor Network

Dnyaneshwar s Mantre*, Neeli Rashmi Prasad, Ramjee Prasad

Abstract

The energy of the node in the Wireless Sensor Networks (WSN) is scare and causes the variation in the lifetime of the network. Also, the throughput and delay of the network depend on how long the network sustains its energy consumption. One way to increase the sustainability of network is the synchronization between sleeping nodes. And the other is to synchronize the local clock of the node with the global clock of the network. In this context, the paper proposes Node Heterogeneity aware Energy Efficient Synchronization Algorithm (NHEES). It works on the framework of cluster-based spanning tree (ST). In the initial stage of the algorithm, the nodes are grouped as the cluster and form the tree. The nodes in the cluster and cluster heads in the network are synchronized with the nearest of the global time scale of the network. Also, clock skew may cause the error and be one of the source of delay and energy consumption. To minimize the energy consumption and delay, NHES synchronizes the time skew using TSMA based MAC protocol. The results show that level by level synchronization used in NHEES is energy efficient and has low delay as compared to the state-of-the-art schemes.

Peer-review under responsibility of the Organizing Committee of ICCVC 2016

Keywords: Delay; Energy; Synchronization; WSN

1. Introduction

Time and clock synchronization are an important services for the collaborative and coordinated operations in WSNs. Time synchronization in the WSN is mainly affected by low-cost clocks, frequent topological changes, error

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61. Design of Spectrum Sensing Test Bed Using SIMULINK for Cognitive Radio Application

Design of Spectrum Sensing Test Bed Using SIMULINK for Cognitive Radio Application

S.B. Ghodgy[1], Dr. R.V. Kshirsagar[2], Amrut M. Nadgouda[3]

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[3]Principal, Priyadarshini Indira Gandhi College of Engineering, Nagpur, Maharashtra State, India
[4]Sinhgad Institute of Technology, Lonavala, MPET Pune, India

Keywords: Cognitive Radio, Dynamic Spectrum Access, Emulator, Prototype, Simulator, Spectrum Sensing, Test bed, TV, Wireless Microphone, White Space, WRAN.

Abstract

1 Introduction

2 Cognitive Radio and Spectrum Sensing

62. Mutual Coupling Reduction in MIMO Antennas",

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Multiband MIMO Antenna by Mutually Coupling Non-radiating Edges for 4G

Vilas V. Mapare[1], Dr G.G.Sarate[2]
[1]Sinhgad Institute of Technology, Lonavala, Pune, India
[2]Government Polytechnic Amravati

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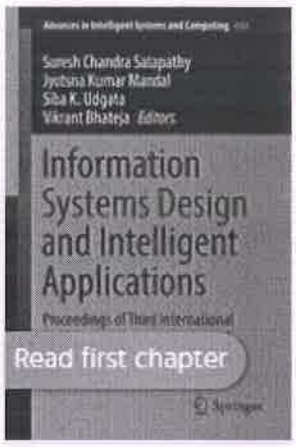

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65. Grocery Inventry Automation Using Internet Of Things and BLE Network

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Grocery Inventry Automation Using Internet of Things and BLE Network

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Dept. of Electronics and Telecommunication, Sinhgad Institute of Technology, Lonavala, India

ABSTRACT: Goal of any innovation and development is to provide comfort and ease to human life. The rise of the term Smart Homes in recent years is due to the possibility of applying Internet of Things (IoT) for the home automation. But currently main focus of the IoT is limited towards controlling different home activities. Most of the proposed IoT based solutions is not focusing on one main part of the home, kitchen, where actually large amount of data exists and which is need to be updated day to day. Through this paper we have proposed IoT and Bluetooth Low Energy (BLE) based connected kitchen which will not only be connected to all family members of that house but also to the grocery stores, milkman, medical stores, family physician, etc. The proposed solution will provide ease of life to the families in metro cities. The proposed solutions uses the Bluetooth Low Energy (BLE) protocol for development of low cost and low power consuming nodes. The WSN is formed using these BLE nodes with the help of low power sensors, IoT, MCU with integrated BLE, Cloud Storages, Android Applications, WiFi, etc.

KEYWORDS: Internet of Things (IoT), Wireless Sensor Network (WSN), Cloud Storage, Bluetooth Low Energy (BLE), Android, Smart Homes, Connected Homes, etc.

I. INTRODUCTION

The Smart Home term coined in the recent years due to the advancement in the IoT concept. The possibilities of applying the IoT concept to the home to turn it into a smart home, making the IoT more popular in the domestic market rather than industrial market. Smart home is nothing but the home automation. Such automated homes would be connected to the user all the time through the wireless technologies like Bluetooth, ZigBee, WiFi or the big word wide web. Thus we can say that wireless communication technologies plays a key role in the smart homes. It has been observed that the current focus of the smart homes is towards controlling the home appliances remotely through the internet. Sometimes it has been used for the remote data logging like used in the smart meters. Generally speaking the IoT approach is used in smart homes to control domestic activities such as home entertainment system, houseplant and yard watering, pet feeding, changing the ambiance "scenes" for different events, lighting control, domestic robot control, different domestic security systems, etc. Thus through integration of information technology with the home environment, systems and appliances can communicate in an integrated manner which results in convenience, energy efficiency, and safety benefits. Hence broadly speaking IoT and smart home concepts is get applied to the activities in the leaving room, study room, garden and yards of the house. But the kitchen cooking activity, food habits get neglected though it is one of active and busy part of the homes. Cooking habits and food are also directly related to the health of the family. It would be not only improve the comfort but also improves the health of the family if integration of IoT to this part of the home. The developed system tracks the grocery in the house hold day to day. Depending on the stock of the grocery, it takes decisions to inform the family members about the grocery stock on daily basis. If needed it automatically informs the grocery shop, milkman, vegetable and fruit shop. It places an order for the groceries which are ending. Through the analysis of the daily data, it can also give health tips and suggestion about food habits of that family. If the daily collected data put on to the open cloud, the retail shops can suggest the products depending on the data analysis. They can put different offers as per family habits. This collected data will be very much useful for the marketing and advertising activities and other big data analysis as well.

Realization is done through the components BLE WSN network, which forms the wireless sensor nodes along with connected sensor, Smart Home Central Controller, which will collect all the data for analysis and decision making, cloud storage and User mobile application, etc.

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66.Addition of Fake Variable to Enrich Secure Linear Programming Computation Outsourcing in the Cloud

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Addition of fake variable to enrich secure linear programming computation outsourcing in the cloud

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Abstract

Document Sections

1. Introduction

Abstract:

Cloud computing plays a vital role in today's IT industry, as it offers tremendous computing and storage facilities for the tasks and outsourced data respectively. The major security concern during the computations is to protect customer's confidential data. The mechanism of this paper decomposes widely applicable linear programming (LP) computation outsourcing into public LP solvers running on a cloud. Efficient privacy preserving problem transformation techniques allows customers to transform original LP into some random LP by keeping private LP

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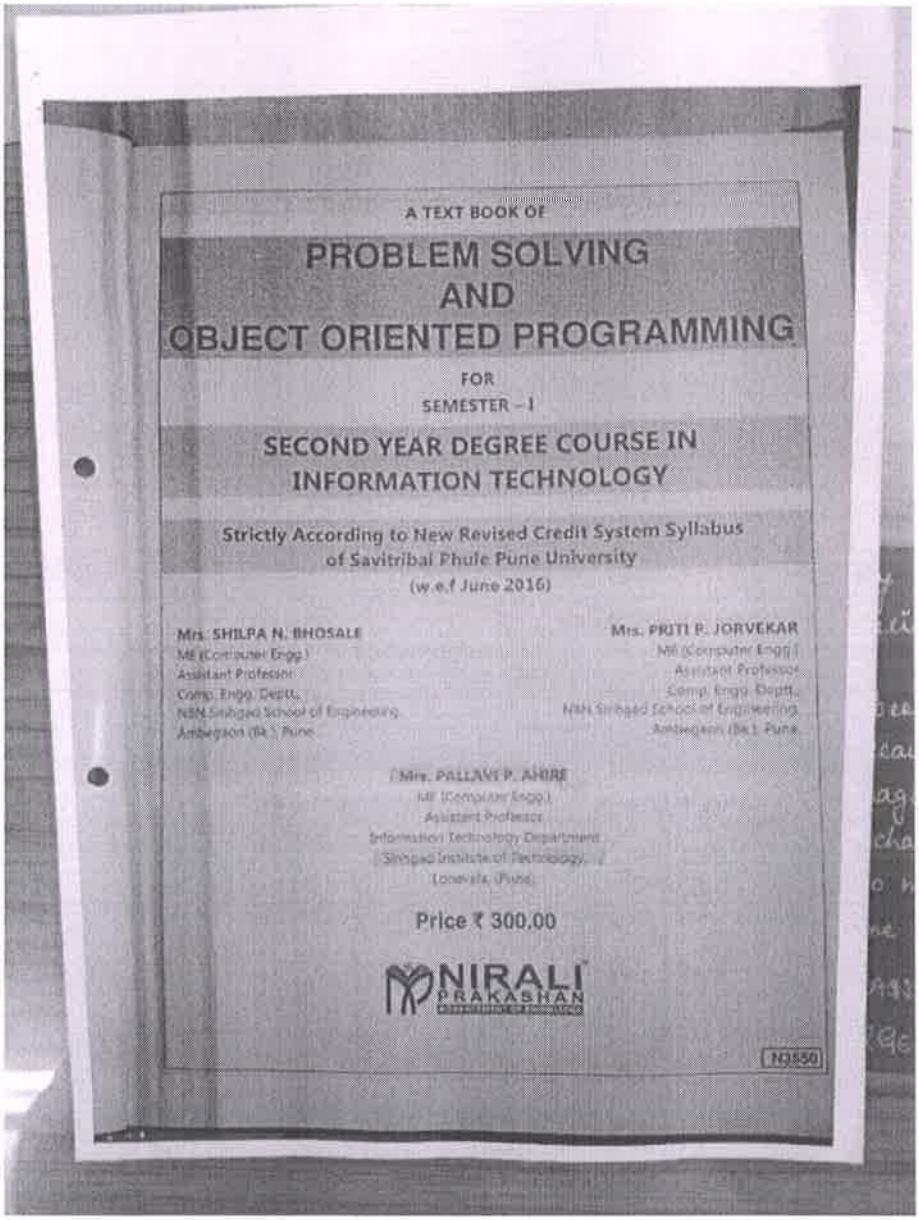

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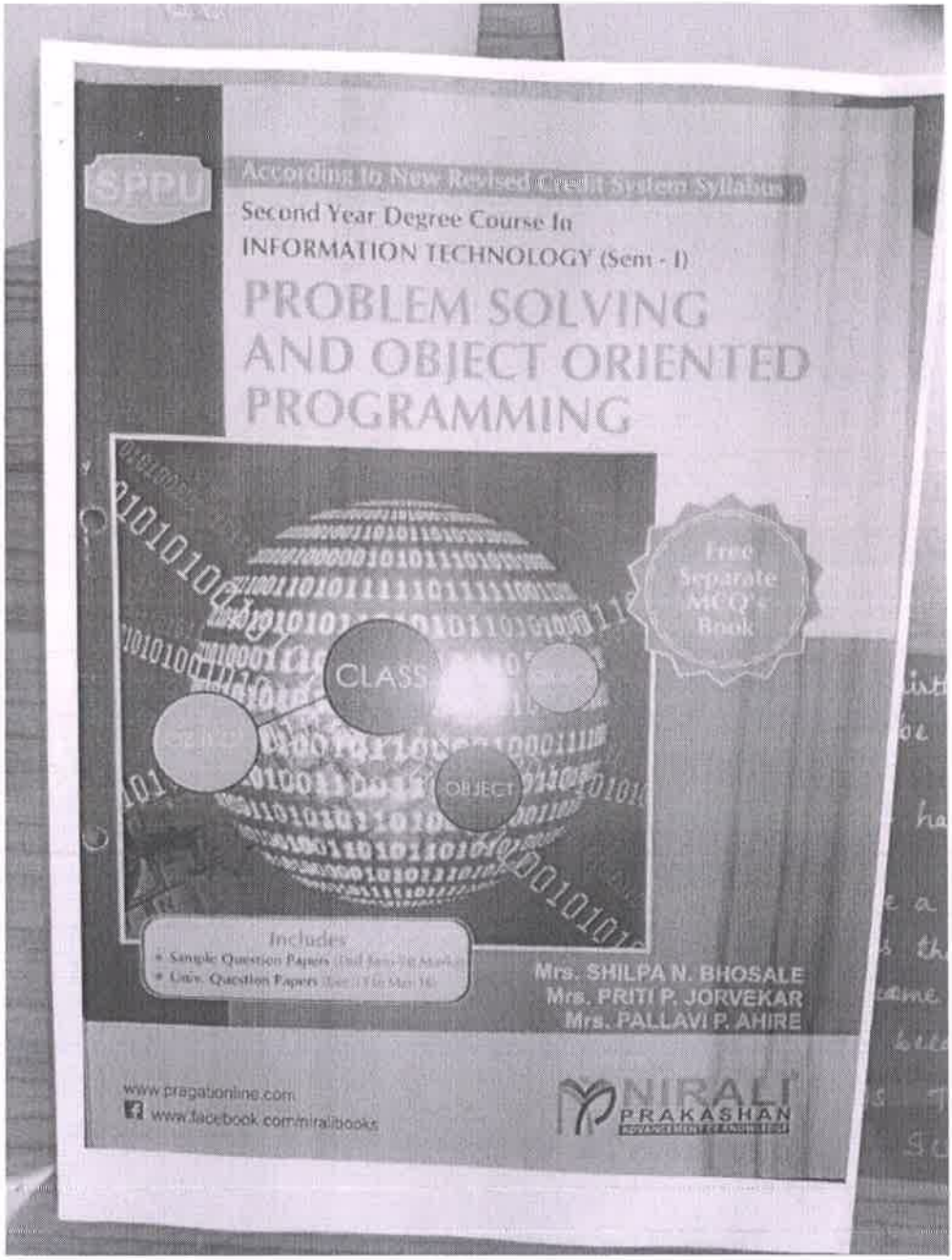

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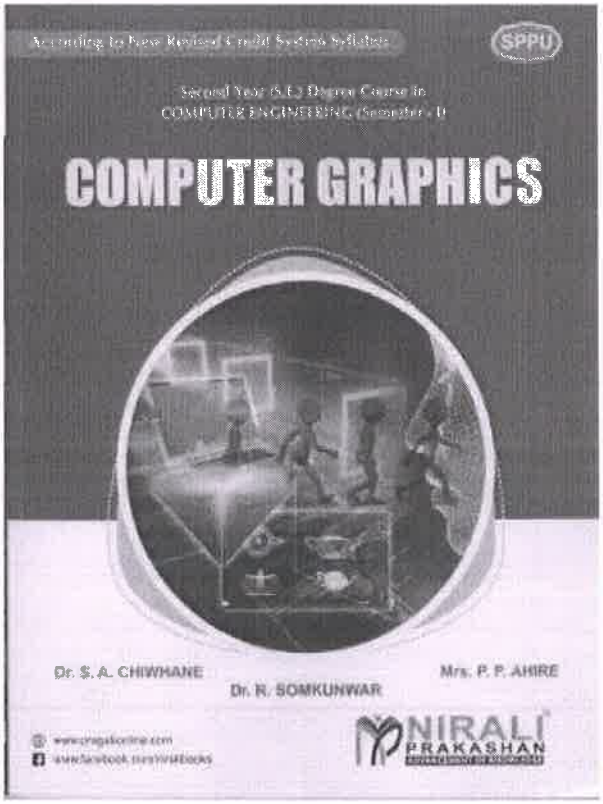
69."Text Book on Computer Graphics"



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70. Semi-automated lession grading in cervix images with Specular Reflection removal

Abstract:

Colposcopy is the method for cervical cancer detection at early stage which is examined by colposcopist based on the changes in the color of cervix tissues. When gynecological exam is done, over the uterine cervix surface 3 % acetic acid is applied for two minutes, the method is known as visual inspection with the application of acetic acid (VIA), which causes whitening of precancerous tissues known as malignant regions of the epithelium; these regions of tissue are called acetowhite lesions (AW). During the treatment of cervical cancer colposcopic image is obtained with a specialized camera outfitted with a colposcope with green filters. Due to illumination of light on

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cervix tissue image preprocessing is required prior to applying AW lessions detection algorithms on colposcopic images to remove Specular Reflections (SR) and to differentiate the cervix region-of-interest (ROI) from other image regions which are not relevant to the analysis. In this work by preprocessing SRs are identified and then SRs are removed. After preprocessing to identify the malignant regions a texture segmentation is used by applying k-means clustering for automatic separation of non-cancerous and precancerous regions of cervix tissue. This algorithm would help the gynecologist during the treatment of cervical cancer.

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I. Introduction

The lower part of the uterus of female body is cervix. Maximum cervical cancers start developing in the cells lining the cervix. These cells gradually changes into cancer. Apart from this cancerous cells the normal cells of the tissue of cervix gradually develops as pre-

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71. Advanced software defined radios for wireless communication with improved power efficiency

Advanced Software Defined Radios for Wireless Communication with Improved Power Efficiency

R. Itakar[1], M. Gaikwad[1] and R. Kshirsagar[2]

[1] Sinhgad Institute of Technology, Lonavala, India
[2] Priyadarshini ICET, Nagpur, India
[illegible]

Abstract. Radio is one of the most common things that people use around the world. Marconi developed it in 1895 and since then there is no stop in its development, some of the domains like the cognitive radio and Software defined radio have seen great advancements in communication. In the following paper, we will explore the software defined radio and various techniques to implement the radio. When we talk about the Software defined radio every aspect of its operation is performed by controlling software SDR transmitter and Receiver which are used. In this paper, we will focus on the discussion to examine the reconfigurability and low power trade-offs. We will be building dedicated functional modules providing high performance at a high cost (Valeru approach explained below), versus parameterizable function blocks used in FPGA-based system development, and lastly dynamic partial reconfiguration which is the ability to reconfigure a portion of the FPGA while still remaining in operation.

Keywords: Low power consumption, software defined radio, convolutional encoder, dynamic and partial reconfiguration, power gating

1 Introduction

Software-defined radio (SDR) has revolutionized the total radio system as it has its application over a variety of systems like the communication, data acquisition, and signal processing. It is considered as an emerging technology for processing radio signals by means of software Techniques. The new mobile applications in the mobile devices uses a lot of radio standards than ever before, so to meet up the demands the radio system should be upgraded since the software techniques are considered as solutions to quickly design flexible mobile applications. Such an SDR is also called as the ITS (information transfer systems) that combines the technology of the mobile and the radio to make it more efficient and flexible. With an excellent future in wireless communication, there'll be an excellent demand of good instrumentation that may operate underneath many communication situations. Software Defined radio (SDR) is one in every of the technique which may fulfill the increasing demands with associate ease. SDR once employed in a communication system is nothing, however, a system wherever a number of its perform blocks square measure enforced exploitation versatile software package routines instead of some hardware assembled thereto thanks to that multiple operations are often platform freelance and therefore the potency and therefore the would like of significant hardware is additionally reduced by the system. The SDR adapts to the condition and changes consequently to suit the strain of the condition by ever-changing the operation performed. This idea is incredibly fascinating, exploitation reconfigurable computing, it's been unfeasible for the instant as a result of its tight power budget and its high demand on computation capability.

When such a tool is employed for industrial purpose then the ability allowed for baseband signal process ought to be not up to many hundred mW. Reconfigurability required by the execution core of varied wireless protocols tends to extend the full power consumption of the hardware thus the coming up with the digital baseband process of such terribly an especially versatile system could be a very difficult task since there's solely a restricted battery on the hardware of the wireless system gift to be employed by the system. Thus it's terribly crucial to style SDR.

To implement software Defined radios, varied technologies will be used, like the applying specific computer circuit (ASIC), the digital signal processor (DSP), the sector programmable gate array (FPGA), and therefore the general purpose processor (GPP). The GPP offers the upper flexibility, however, has very cheap performance. However, the ASIC is that the least versatile one, however, has the very best performance. ASIC is em-

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Receiver initiated communication is required to save the power. At the receiving end if and only if receiver requires data from transmitter then only it sends otherwise not. In the simulation results it is shown that depending upon device (means the receiver is ON or OFF) status, transmitter gets the acknowledgement and accordingly it acts.

7 Conclusion

In this paper, we analysed three techniques namely Velcro, Parameterization and DPR. As the paper suggests that DPR performs best in terms of all the parameters mentions like delay, power, and total power consumption. The DPR performances can be amplified which is the field of research, the performance consideration of Velcro and Parameterization are kept in mind while designing the final system. The power of DPR can be optimized using different communication system likewise the transmitter and receiver can be amplified.

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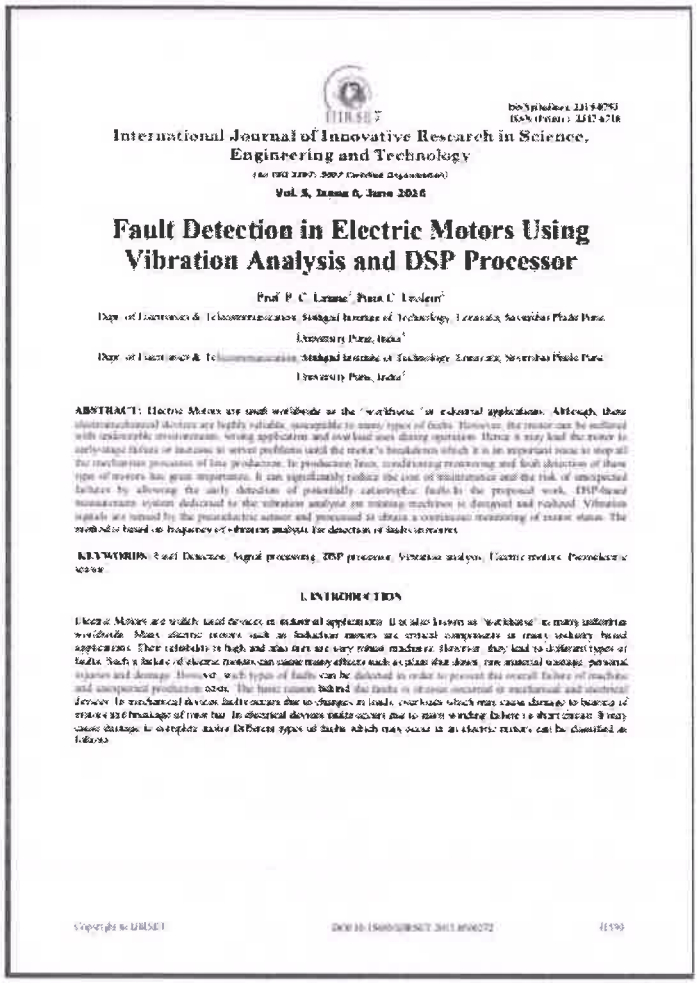
72. Fault Detection in Electric Motors Using Vibration Analysis and DSP Processor



International Journal of Innovative Research in Science, Engineering and Technology

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Fault Detection in Electric Motors Using Vibration Analysis and DSP Processor

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ABSTRACT: Electric Motors are used worldwide as the 'workhorse' in industrial applications. Although, these electromechanical devices are highly reliable, susceptible to many types of faults. However, the motor can be stressed with undesirable environments, wrong application and overload uses during operation. Hence it may lead the motor to early-stage failure or increase to severe problems until the motor's breakdown which it is an important issue to stop all the mechanisms prevention of line production. In production lines, conditioning monitoring and fault detection of these type of motors has great importance. It can significantly reduce the cost of maintenance and the risk of unexpected failures by allowing the early detection of potentially catastrophic faults in the proposed work, DSP-based measurement system dedicated to the vibration analysis on rotating machines is designed and realized. Vibration signals are sensed by the piezoelectric sensor and processed to obtain a continuous monitoring of motor status. The methods based on frequency-vibration analysis for detection of faults in motors.

KEYWORDS: Fault Detection, Signal processing, DSP processor, Vibration analysis, Electric motors, Piezoelectric sensor.

I. INTRODUCTION

Electric Motors are widely used devices in industrial applications. It is also known as 'workhorse' in many industries worldwide. Many electric motors such as induction motors are critical components in many industry based applications. Their reliability is high and also they are very robust machines. However, they lead to different types of faults. Such a failure of electric motors can cause many effects such as plant shut down, raw material wastage, personal injuries and damage. However, such types of faults can be detected in order to prevent the overall failure of machine and unexpected production stops. The basic reasons behind the faults is of most occurred in mechanical and electrical devices. In mechanical devices, faults occurs due to changes in loads, overloads which may cause damage to bearings or rotors or breakage of motor bar. In electrical devices main occurs due to main winding failure i.e short circuit. It may cause damage to complete motor. Different types of faults which may occur in an electric motors can be classified as follows.

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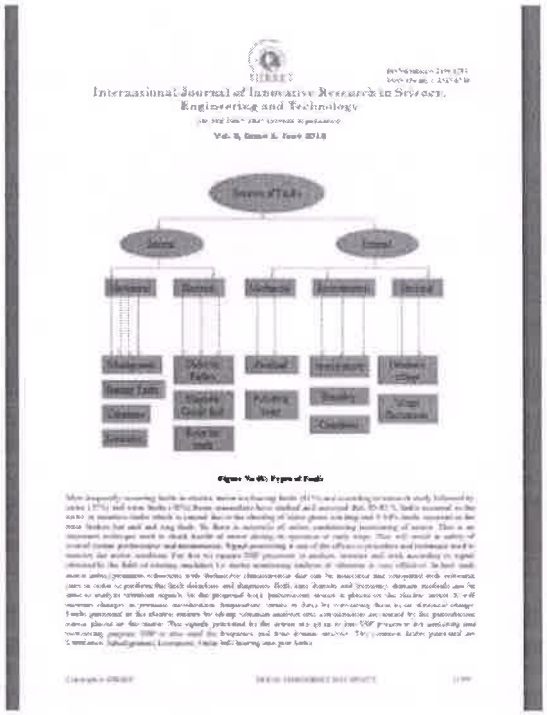

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