PAPER PUBLISHED BY E&TC STAFF IN ACADEMIC YEAR 15-16

Dr. C.B. Bangal

1) "A New Approach to Determine Tie Line Frequency Bias (B) in Interconnected Power System with Integral Control AGC Scheme", Springer, Springer Science+Business Media Singapore 2017, S.C. Satapathy et al. (eds.), Proceedings of the International Conference on Data Engineering and Communication Technology, Advances in Intelligent Systems and Computing 469, DOI 10.1007/978-981-10-1678-3_20

2) "Integral Control AGC of Interconnected Power Systems Using Area Control Errors Based On Tie Line Power Biasing", International Journal of Innovative Research in Electrical, Electronics, Instrumentation & Control Engineering (IJIREEICE)(ISSN 2321-5526), Vol 2, Issue 4, April 2014.

3) "Use of Dowsing and Geo-Resistivity meter For Detection of Geopathic Stress Zone", International Journal of Modern Engineering Research (IJMER), www.ijmer.com Vol.1, Issue 2.

4) "Z-Source Inverter Solution for grid power quality improvement", CIT International Journal of Research, Chhattisgadh University, India.

5) "Design of an efficient high speed encoder and low power TIQ comparator of 4 bit flash ADC in 45 nm. Technology", Indian Research Review, Chennai, Volume 1, Issue 3, May-July 2010.

6) "Design of Neural Network Controllers based on optimal control strategy for AGC in interconnected Power Systems", CIT National Journal of Research, Chhattisgadh University, India, Volume 1, May 2010.

Faculty	Mrs.Snehal Bhosale
Title of Research Paper	"Model Based Embedded System Development for Automotive Application"
Journal	International Journal of Innovation in Tech. Vol. 2 , Issue 1, June 2015
ISSN No	2349-6002
Abstract	Electronic content within the automotive continues to raise and systems becoming more intellectual. Automotive systems are comprehensively interactive, diverse, and multi-disciplinary by nature. In order to participate effectively in the automotive industry, vehicle manufacturers employ cutting-edge and innovative techniques in their product development. We proposed a flow, on the various stages involved in the development of automotive embedded system. Also focus on the different integrating environments and tools needed for modeling and simulation of sub-components at each abstraction level such as, Model in Loop, Software in Loop, and Hardware in Loop.

Faculty	Mrs.Snehal Bhosale
Title of Research Paper	Automatic Irrigation System Using WSN
Journal	International Journal of Innovations in Engineering Research and Technology
ISSN No	2394-3696
Abstract	Wireless Sensor Network widely used for observing the environmental parameter. An automated irrigation system is developed to improve water use for agriculture crops. Energy preservation is a very critical issue in wireless sensor networks. For controlling the energy consumption MAC protocols plays a very significant role. With the help sensors and simple circuitry this work purposes low cost product, which can be bought even by a poor farmer. The system has a scattered sensor nodes (SN) consisting of soil moisture, humidity and temperature sensors located in the soil and base station (BS).

Faculty	Mrs.Snehal Bhosale
Title of Research Paper	Smart Irrigation System with Plant Diseases Recognition Using Image Processing
Journal	ePGCON
ISSN No	
Abstract	In agriculture research of automatic plant disease detection is essential research topic as it may prove benefits in monitoring large fields of crops.The rate of spread of disease depends on current crop conditions and susceptibility to infection. When plants become diseased, they can display a range of symptoms such as colored spots, or streaks that can occur on the leaves, stems, and seeds of the plant. These visual symptoms continuously change their color, shape and size as the disease progresses

Faculty	Mrs.Snehal Bhosale
Title of Research Paper	Smart Health Care System Using Internet of Things
Journal	IJIERT
ISSN No	2394-3696
Abstract	In today's world the fastest immerging technology is Internet of Things. The Internet of Things is an information network consists of various things connected through internet world like sensor, microcontroller, serial communicator and communication Protocol. It allows to access and monitoring of things from anywhere in this world which is only be possible through internet of things. Internet of thing basically network of various things / object which can exchange and collected the meaningful information from anywhere in world. This paper shows the implementation of smart health care system for automatic monitoring and tracking of patient's health anywhere in the world. These things can only be possible with the help of various sensors and microcontroller.

Faculty	Mrs.Snehal Bhosale
Title of Research Paper	Smart Irrigation System: Plant Diseases Identification Using IP
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ISSN No	2394-3696
Abstract	In agriculture research of automatic plant disease detection is essential research topic as it may prove benefits in monitoring large fields of crops.The rate of spread of disease depends on current crop conditions and susceptibility to infection. When plants become diseased, they can display a range of symptoms such as colored spots, or streaks that can occur on the leaves, stems, and seeds of the plant. These visual symptoms continuously change their color, shape and size as the disease progresses
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Faculty	Ms. Kalpana Amrutkar
Title of Research Paper	Design aspects for upgrading firmware of a resource constrained device in the field
Journal	e-PGCON
ISSN No	
Abstract	Embedded devices are being used in day to day life activities to heavy applications due to their continual development. Once the embedded device is installed at user end, upgrading its firmware is cumbersome task for manufacturers making in-field firmware update of embedded device necessary. Although some present day systems provide this facility, it involves anumber of issues. Safety and security of update process remain important aspects. In proposed work, system for in-field firmware update of embedded device based on ARM platform is designed. The analysis of available solutions for issues faced is done. Challenges regarding safety and security are addressed by proposed system architecture.

Faculty	Ms. Kalpana Amrutkar
Title of Research Paper	Design aspects for upgrading firmware of a resource constrained device in the field
Journal	2016 IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT-2016)"
ISSN No	
Abstract	Upgrading firmware of a resource constrained embedded device installed in the field is the necessity of the present day embedded systems. Taking device to the manufacturer or manufacturer reaching to the field becomes difficult once the embedded device is installed. The feature of in-field firmware upgrade in the embedded device makes the task of upgrading firmware easy. Although, the process of upgrading gives rise to certain issues related to safety and security. In spite of lot of research to address these problems, safety and security of upgrade process remains challenging. This paper discusses the architectural design aspects to develop an in-field firmware upgrade system for embedded device based on ARM platform using Ethernet medium. Our implementation approach for ARM based device provides solutions to most of the safety issues occurring during in-field firmware update. The security is achieved using lightweight encryption algorithms PRESENT and CLEFIA.

Faculty	Ms. Kalpana Amrutkar
Title of Research Paper	Implementation of Efficient Method For Traffic Flow in Smart City using Dijkstra's Algorithm
Journal	e-PGCON
ISSN No	
Abstract	Today, Traffic congestion Problems are avoid less in road network application such as in smart cities. The traffic density in a city changes from time to time sometimes there are increases huge amount of traffic and sometimes there are very minimum amount of traffic density also traffic profiles describe the time needed to pass the road based on time which also differs for workdays and weekend. So it is very difficult to choose shortest time route form source to destination. For solving above problems here proposed system implementEfficient Methodfor Traffic Flow in Smart City using Dijkstra's Algorithm.

Faculty	Ms. Kalpana Amrutkar
Title of Research Paper	Delay minimization in cognitive radio network using joint routing and resource allocation technique
Journal	e-PGCON
ISSN No	
Abstract	Sudden demand of spectrum may occur in dense and congested cities which stress the communication infrastructure. At these times, identifying an alternate spectrum band through cognitive radio technology will allow users to maintain the connectivity and relieve data congestion in the unlicensed band. In wireless mesh network, the challenging task is delivery of traffic due to primary or licensed user's activities and their traffic characteristics. To overcome this problem, we proposed an algorithm that minimize the end-to-end delay by joint routing and resource allocation of the spectrum. Cognitive radio protocols are cross-layered, which cannot be implemented in off-the-shelf hardware. This paper proposes a framework using the network simulator 3 (ns-3). This approach introduces several cognitive radio capabilities, such as spectrum sensing, detection of primary user and spectrum handoff. It also demonstrates how to minimize the delay occurred during joint routing and resource allocation in cognitive radio network.

Faculty	Mrs. Nandini Dhole
Title of Research Paper	Physical Activity Recognition using Tri-Axial Accelerometer
Journal	e-PGCON
ISSN No	
Abstract	Recognition of Activity of Daily Living (ADL) has become important aspect of life of people due to increase in health consciousness and increasing risk of diseases due to present lifestyle which involve almost no physical activity. We have devised an "Activity recognition system" which is nearly 99% of accurate. We are using accelerometer sensor, which senses the acceleration in the body then this sensor data is classified in to activities(Running/Sitting/Walking/Lying/Standing) using WEKA applying multiple classification algorithms (J48, *Naïve* Bayes & Random Forest). To arrive at conclusion (which activity happened) results from these classification algorithms is compared and the activity which gets maximum votes is elected as the correct activity.

Faculty	Mrs. Nandini Dhole
Title of Research Paper	An Indoor Visible Light Communication
Journal	e-PGCON
ISSN No	
Abstract	Radio wave frequencies are used for data transmission in Wi Fi. It provide high sensitivity receivers and ability to provide broad coverage area at low frequencies and provide line of sight communication at high frequencies. But, RF can support only a limited bandwidth due to restricted spectrum availability. Therefore radio spectrum is getting congested due to the expanding demand for wireless data communication. A new prototype, Li Fi suggested by Dr. Harald Haas from University of Edinburgh, UK, overcomes the shortcomings of Wi-Fi. Li-Fi uses visible light and is expected to be ten times cheaper than Wi-Fi.

Faculty	Mrs. Nandini Dhole
Title of Research Paper	Offline Signature Verification using Local Binary Pattern
Journal	e-PGCON
ISSN No	
Abstract	Several papers have appeared in literatures which propose features for offline signature verification. In this paper local binary pattern of signature is used as one of the feature for verification purpose. The histograms of original signature and forgery signature are calculated and chi-square distance of them is used as input to the classifier. Before classification signature image goes throw several steps as pre-processing, feature extraction and classification. The pre-processing includes thresholding, in this paper Otsu thresholding is used and skeletonization of the thresholded image is used for feature calculation. The local binary pattern (LBP) of an image is calculated then histogram of the LBP.

Faculty	Mrs. Nandini Dhole
Title of Research Paper	FlexRay Communication Controller for FPGA-Based Automotive Systems
Journal	e-PGCON
ISSN No	
Abstract	With advanced features in modern vehicles, number of control units are increasing with demand of higher speed and reliable communication protocols as the system bus. Conventional protocols like CAN are finding their limitations in features like safety critical applications where protocols like FlexRay are most suitable. System requirements for such applications are deterministic for speed of operation, reliability, redundancy while execution in case of failures. This drives various types of approaches for designing node architecture of FlexRay communication.

Faculty	Mr. Rajesh Shekokar
Title of Research Paper	Human Physiological Parameters Monitoring using Wearable Sensors
Journal	e-PGCON
ISSN No	
Abstract	In the medical field, cost of hospitalization is not always affordable to everyone. Sometimes after the operation or surgery, continuous monitoring of some of physiological parameters of patient is necessary or even the elderly people need monitoring at home. Wearable sensors system can measure different physiological parameters without hospitalization. Therefore, necessary help can be provided in the times of need.This paper reviews wearable system architecture for human physiological parameters monitoring with help of algorithms and suitable methods. Here the system is developed to measure body temperature, blood pressure, and respiration rate and body joint flexion.

Faculty	Mr. Rajesh Shekokar
Title of Research Paper	Real time noise reduction in ambulatory ECG for mobile health monitoring
Journal	e-PGCON
ISSN No	
Abstract	Today heart disease is one of the major causes of deaths worldwide. It is an equal opportunity killer which claims million lives annually. A common problem in ECG interpretation is the removal of unwanted artifacts and noise. Various artifacts get added and change the original signal and therefore the need to remove these artifacts from the original signal is significant. An ECG signal consists of very low frequency signals of about 0.5 Hz -100Hz and digital filters can be efficient for noise removal of low frequency signals. Cardiac monitors are the devices which provide a means to filter the ECG recording. Methods of noise filtering have decisive influence on performance of all ECG signal processing systems. The necessary electronic tags and signal transmissions in mobile devices are susceptible to noise, which can result in false interpretations.

Faculty	Mr. Rajesh Shekokar
Title of Research Paper	Co-operative Collision Warning by using Vehicle-to-Vehicle (V2V) Communication
Journal	e-PGCON
ISSN No	
Abstract	Road accidents cause a severe threat to human lives from both an injury as well as a financial perspective. Given that vehicles are designed to provide a smooth means of transportation, manufacturers have long been in the process of designing the vehicles that are based on principles of efficiency, reliability and safety. However, due to reasons such as human-error, circumstantial error, poor vision and negligence, accidents occur. Today, special attention is focused on the technologies that can reduce traffic collisions. Hence, Vehicle-to-Vehicle (V2V) technology is proposed which are simple to implement. The main objective of this paper is to alert the driver when he closes to the front vehicle by using camera and ultrasonic sensor and to communicate mutually for information exchange by using Xbee.

Faculty	Mr. Rajesh Shekokar
Title of Research Paper	A Review of Speed Control Techniques Using PMSM
Journal	International Journal of Innovative Research In Technology
ISSN No	17June2015 P-ISSN 2349-5979; E-ISSN:2349-4182, Vol-2,issue-6 Part -c PP- 163-166
Abstract	The aim of this paper is to present the study of various speed control techniques using permanent magnet synchronous motor (PMSM). The PMSM is increasingly used in high-performance applications in industry. Such applications require speed controllers with high accuracy, high performance and flexibility and efficiency in the design process and implementation. The several speed control techniques are available and these control techniques vary from the type of controller used for PMSM to the type of software/hardware implementation. A review of various control techniques is highlighted in this paper with respect to speed control & implementation of a speed controller.

Faculty	Mr. Rajesh Shekokar
Title of Research Paper	Context-Dependent Product Recognition for Visually Impaired People
Journal	e-PGCON
ISSN No	
Abstract	In this paper, we propose a method for recognizing and matching product cover. A camera-based assistive product cover reading framework is to help visually impaired people to read product packaging from hand-held objects in their daily lives. There are many algorithms that works on it. Context Dependent Similarity Algorithm is proposed to design novel variational framework that is able to match and recognize multiple instances of multiple reference product cover in image archives. Headphones used are help to understand the exact product matched to visually impaired people. Reference product covers and test images are seen as group of local features (interest points, regions, etc.) and matched by minimizing an energy function by mixing a fidelity term that measures the quality of feature matching, and a neighborhood feature co-occurrence/geometry, and a regularization term that is used to controls the smoothness of the matching solution.

Faculty	Mr. Rajesh Shekokar
Title of Research Paper	Driver Assistance System Based on Symbol Recognition using MSER and SVM Algorithm
Journal	e-PGCON
ISSN No	
Abstract	Driver Assistance Systems is in-vehicle systems that are designed to increase road traffic safety. It helps drivers to gain better awareness of the road and its potential hazards. Research in this area can efficiently give better traffic planning and encourage better use of public transport rules. This paper proposes a system for the automatic detection and recognition of traffic signs. Many algorithms are available for detecting and recognizing road signs. The realization of a real-time traffic sign recognition system is divided into three stages: detection, tracking and classification. The proposed system detects candidate regions as maximally stable extremal regions (MSERs), which is beneficial for variations in lighting conditions. Recognition is based on support vector machine (SVM) classifiers. SVM requires features which are gained by generating histogram of oriented gradient (HOG). This system is useful to prevent hazards, accidents happening due to unawareness of traffic rules..

Faculty	Mr. Ashish Kadlag
Title of Research Paper	Review on FPGA based on VGA controller
Journal	IJESRT
ISSN No	ISSN no. 2277-9655 23 Feb. 2016
Abstract	These days devices produced in companies must be highly robust in order to compete with the ever changing demands in products for modern day era. Field-programmable Gate arrays (FPGAs) is best suitable to achieve its basic functioning. FPGAs are efficient, cheap, and portable, according to their implementation specified in hardware description language. Hence, VHDL is best suited in order to accomplish this goal. Programming the gates and counters for FGPA blocks and developing an internal logic, VGA is used. The main purpose of the proposed work is to design and implement VGA Controller on FPGA. VGA controller is designed and VGA controller program is written using VHDL and the corresponding code is executed and implemented on FPGAs chip of Spartan-3A FPGA Development and Educational Board.

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Faculty	Mr. Ashish Kadlag
Title of Research Paper	Comparative study of add and shift , Wallance tree , radix 2 and radix4
Journal	IJESRT
ISSN No	ISSN no. 2277-9655 23 Feb. 2016
Abstract	Smaller region and less power waste play an essential role not only in the manufacture of digital signal processing systems but also in higher performance systems. The greater design issue is make optimal the speed and area of the multiplier in any digital signal processing however, area and speed are usually conflicting constraints. Major concern issue is how to better speed in larger areas. The capable implementation of high speed multiplier using Radix_4, and compare with add and shift, wallace tree and Radix_2 algorithm using FPGA.

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Faculty	Ms. Rupali Patil
Title of Research Paper	Remote Robotics vechical control over internet
Journal	IJESRT
ISSN No	ISSN no. 2277-9655 23 Feb. 2016
Abstract	Security is the need of the day. Terrorist attacks are on a rise throughout the world. This has led to an increasing need for surveillance, which is a very intimidating task. There are surveillance cameras in Abstract – Security is the extremity of the day. Terrorist hit are on a rise throughout the Earth. This has led to a crescent need for surveillance, which is a very inhibiting study. There are supervision cameras in some areas, but they have a very narrow vision. This is not of much custom as the survey can get retard conveniently, which has provided us an propension to construct a robotic vehicle for supervision purposes. There are other ways to control these robots, but suppose if we can control a robot miles and miles on through the internet. The notion of web supported robots is recent and it does not have the limitations of the ramble of operation.

Faculty	Ms. Rupali Patil
Title of Research Paper	FPGA based MP3 decoder
Journal	IJESRT
ISSN No	ISSN no. 2277-9655 23 Feb. 2016
Abstract	The goal this project is to design an MPEG Layer III (MP3) player using a Xilinx Virtex 5 FPGA board. Hardware description language such as VHDL is used through drive external peripherals, including the stereo AC97 codec and LCD controller. The increasing density and capacity of these devices make it possible to implement an entire embedded system on a single chip. The system will read an MP3 from a compact flash memory, decode the MP3 bit stream to 16 bit pulse code modulated (PCM) outputs using a standard MP3 decoding algorithm, and play the output into an external speaker. The software and hardware designs are integrated on the Xilinx Embedded Development Kit platform. In this project, data compression techniques are used in MP3 encoding and decoding are explored and tested on hardware. Digital design using a Field Programmable Gate Array (FPGA) devices is a rapidly evolving field. The AC97codec converts the digital PCM outputs through an analog sound wave, and the LCD controller displays the title and author information of the selected song. C programming language is used towards run on a Micro blaze 32 bit processor.

Faculty	Ms. Rupali Patil
Title of Research Paper	Remote Robotics vechical control over internet
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Faculty	Prof. ANANT R. MORE
Title of Research Paper	MOBILITY Management scheme for advance wireless network
Journal	e-PGCON
ISSN No	
Abstract	Cognitive radio network is an encouraging wireless network where smart system having the power to opportunistically used the spectrum holes as well as rearrange the comprehensive radio spectrum. In this paper, we present a flexibility scheme; allow cognitive radio users to aimlessly divert nearly the best obtainable spectrum band when moving from one to another network. Also we present conserves the frequency and also the bandwidth required for users' application. It permits users to access the better band with a better price. Simulation results show that the system conserve users' continuity of service during their mobility as well as ensures high service for primary as well as subjective radio users

Faculty	Prof. ANANT R. MORE
Title of Research Paper	Analysis of Cognitive Radio Networks For Opportunistic Multiple Access
Journal	e-PGCON
ISSN No	
Abstract	In the period of such developed wireless communication technology, frequency reuse or frequency utilization is a matter of concern, limited band of frequency should be utilizing full efficiently so that along with primary user PU (licensed user), secondary users SU (unlicensed user) can also take part in transmission of data in frequency spectrum. This paradigm is allowed in cognitive radio network. Cognitive radio is advanced system of designing wireless communications systems which decides to develop the use of the radio frequency (RF) spectrum

Faculty	Prof. ANANT R. MORE
Title of Research Paper	Microcontroller implementation of C-Mantec Neural Network algorithm for changing environments
Journal	e-PGCON
ISSN No	
Abstract	Conventional techniques to design and develop embedded applications are being used successfully. Recent study has revealed that advanced techniques involving Artificial Neural Network can be used to further enhance the performance of the applications. Conventional Neural Network algorithms require higher processing speed; that's why usually neural network is being implemented on higher end devices. But, advancement in the field of neural network has led to development of new techniques and algorithms. In this work, we have proposed an alternative method involving neural network to enhance the performance especially in changing conditions. We have selected C-Mantec, a constructive neural network algorithm. It generates compact architecture suitable for microcontroller implementation. To demonstrate the effectiveness of this alternate approach we have selected two case study which is implemented on PIC and Atmega series of 8 bit controllers. The results shows that neural network can be alternate method to develop embedded applications with desired performance.

Faculty	Ms. Sayali Begumpure
Title of Research Paper	Performance Comparison of LMS algorithms for Acoustic Noise Cancellation
Journal	Imperial journal of interdisciplinary Research (IJIR)
ISSN No	Vol-2, Issue-6, 2016 ISSN: 2454-1362
Abstract	This paper is intended to provide overall measures – object detection and real time assistance using a Global Positioning System (GPS) module. This paper aims at the development of system to the blind people to find obstacle free path. When an object is detected in front a blind persons stick, it alerts them speakers or head phones. The system consists of an IR sensor, GPS Module, GSM Module and speakers or head phones. The location of the blind is found using Global System for Mobile communications (GSM) and Global Position System (GPS).

Faculty	Ms. Sayali Begumpure
Title of Research Paper	Touch Screen Based Character Interpretation Plotter
Journal	IJMTER
ISSN No	ISSN:2347-2820In ACCET-2016
Abstract	Touch screen Based Character Interpretation Plotter is a device that propounds the fastest scheme to effectively produce very large and complex drawings. The Touch screen Based Character. Interpretation Plotter is basically simple two axis deer stratagem stir a pen draw out anything . This been implemented in the current work wherein the X-Y plotter plots the input given from the touch screen on the drawing board using ATMEGA 16 microcontroller on a any paper or material. The X-Y plotter has a two axis control and a distinctive clockwork to heighten and lower the pen. Each axis is powered using a single stepper motor. Pen control is achieved using a servo. This instrumentation allows the plotter to perform tasks at a faster pace and with increased accuracy.

Faculty	Ms. Mrunali Makwana
Title of Research Paper	Performance Comparison of LMS algorithms for Acoustic Noise Cancellation
Journal	IEEE Conference
ISSN No	Yet to be published
Abstract	An acoustic noise cancellation (ANC) is a technique for removing additive noise from corrupted speech signal. This paper introduces a new Error Normalized Least Mean Square (ENLMS) algorithm in which the step size varies inversely with the squared norm of the error vector. The signed version of Normalized LMS (NLMS) algorithm requires a priori knowledge of a bound for the error magnitude, which is unknown in most applications. A very simple algorithm Signed Error Normalized LMS (SENLMS) is proposed which uses both these features- normalization by error function and a signed error. The proposed algorithm gives lower adjustment and improved convergence speed, Mean Square Error (MSE), Signal-to-Noise Ratio (SNR), compared to LMS, NLMS and ENLMS algorithm.