

VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

(Approved by AICTE, Affiliated to JNTU, Hyderabad) PUR VILLAGE, GHATKESAR MANDAL, RANGA REDDY DISTRICT - 501 301.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CHINNOUATION

Volume - 4

" Genius is one percent inspiration and ninety-nine percent perspiration. " -Thomas Edison

NEWS LETTER

"Engineering is the art of directing the great sources of power in nature for the use and convenience of man"

EDITORIAL DESK

Hello!!! We are happy to welcome you all aboard the fledgling 4th edition for the scintillating year 2016. **TECHINNOVATION** is the newsletter of the ELECTRONICS & COMMUNICATION **ENGINEERING** which aims to bring forward the buzz from the department in the past few months. The edition demystifies the realms of Electronics & Communication Engineering and also provides insight to the latest technology adopted in the field. Hope our deeds would ignite everyone's life!!!

HOD'S DESK

It is a theme of happiness to articulate with all of you Through this 4th newsletter. Within these pages you will Find much news related to Diverse activities from the Whole faculty and students Of ECE department. I am cheerful for the initiatives taken by the faculty to disseminate knowledge by organizing various activities in the department. I hope everyone will find this news letter Exciting and interesting.

ECE DEPARTMENT

Department of Electronics and Communication Engineering was started since the inception of VIGNAN'S Institute of Management and Technology for Women during 2008 with an initialintake of 60. The strength was enhanced to 120 during 2005. The Department had added Post graduate program in VLSI during the year 2012 and Embedded Systems during 2014 with an intake of 18 each. The Department is headed by well qualified

VISION

To transform the students into technologically competent professionals, with abilities to address the societal challenges of the time through innovative technical practices in electronics & ommunication engineering

MISSION

M1: To foster inquisitivedriven advanced knowledge building among students for reinforcing the domain knowledge, develop capabilities, skills and solve complex engineering problems

M2: To prepare industryready graduates for global Electronics as well as communication based engineering companies by conducting training programs, workshops and industry visits.

M3: To build leadership qualities, research aptitude among students for the contribution of economic a n d t e c h n o l o g i c a l development in cutting edge technologies in national and as well as in the global arena.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS) **PEO1:** To develop the student's ability on technical concepts to design, simulate, and synthesize various e l e c t r o n i c a n d communication circuits & systems for their research advancements.

PEO2: To impart analytical skills and to prepare the students excel in applying state of the art hardware and software tools to solve complex engineering problems for R&D, Industry and societal requirements.

PEO3: To prepare students to work in teams, take independent decisions and integrate engineering issues for successful career in multi-disciplinary environment.

PEO4: To promote entrepreneurship among the students to become successful entrepreneurs with professional ethics.

PROGRAM SPECIFIC OUTCOMES (PSOS):

PSO1:1. Professional Skills Ability: Identify, design e l e c t r o n i c s & communication circuits and conduct experiments with e l e c t r o n i c s & communication systems, analyze and interpret data, formulate and solve e l e c t r o n i c s & communication engineering problems.

PSO2: Industrial Skills -Ability: Design digital and analog systems, algorithms, firm ware, modern engineering tools, software, etc. as per needs and specifications and work in l a b o r a t o r y a n d multidisciplinary tasks. **PSO3:** Ethical and Social R e s p o n s i b i l i t y : Communicate effectively in both verbal and written form, will have knowledge of professional and ethical responsibilities and will show the understanding of impact of engineering solutions on the society and also will be aware of contemporary issues

FACULTY TECHNICAL ARTICLE BY

The Article Name: "GESTURE BASED ROBOTIC VEHICLE USING SIXTH SENSE TECHNOLOGY "Written By P.HARIKRISHNA

STUDENT TECHNICAL ARTICLE BY

The Article Name: "AUTOMATIC SUN TRACKING SYSTEM" Written By MADHURI SWAPNA

TECHNICAL EVENT

UNDER THE ASSOCIATION OF PROFESSIONAL CHAPTER ISTE CONVENER DR. A. NARMADA

A TWO DAY WORKSHOPS ON

DIFFERENT TRANSFORMATION TECHNIQUES USED IN VARIOUS APPLICATIONS

Resource Person: **Mr. K. Sai Prasad** Senior Faculty, TIMES EDUCATION on: 22nd & 23rd July, 2016

FUNDAMENTALS OF COMPLEX DIGITAL CIRCUIT DESIGNS AND THEIR APPLICATIONS BY

Resource Person: **Dr. P. Sudhakara Rao** Principal **on:** 19th & 20th Aug, 2016

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TECHINNOVATION

Faculty Technical Article : Title - "GESTURE BASED ROBOTIC VEHICLE USING SIXTH SENSE TECHNOLOGY "Written by P.HARIKRISHNA.

Introduction

Human gesture enhances human-robot interaction by making it independent from input devices. Using gestures provides a more natural way of controlling and provides a rich and intuitive form of interaction with the robot. The main purpose of gesture recognition research is to identify a particular human gesture and convey information to the user pertaining to individual gesture. From the corpus of gestures, specific gesture of interest can be identified and on the basis of that, specific command for execution of action can be given to robotic system.

Conclusion

The gesture controlled robot system gives an alternative way of controlling robots. It makes the user to control smart environment by hand gesture interface. This gesture recognition technique demonstrates the use of MATLAB image processing tools to detect and count the number of centroids of gestural image. Since this technique makes use of gesture as input transmitted through zigbee, it improves the operating range of robot. It eliminates the use of external hardware supports like remote control in navigation of robot in different direction and reduces the human efforts in risky environments.



Student Technical Article : Title - AUTOMATIC SUN TRACKING SYSTEM written by MADHURI SWAPNA

Introduction

In remote areas the sun is a cheap source of electricity because instead of hydraulic generators it uses solar cells to produce electricity. While the output of solar cells depends on the intensity of sunlight and the angle of incidence. It means to get maximum efficiency; the solar panels1 must remain in front of sun during the whole day. But due to rotation of earth those panels can't maintain their position always in front of sun. This problem results in decrease of their efficiency. Thus to get a constant output, an automated system is required which should be capable to constantly rotate the solar panel. there are many types of motor can be selected in ASTS design. Currently, several types of motors being used in the area of ASTS around the world are: Step-motor, Servo-motor, AC asynchronous motor, permanent magnetic DC servo motor, permanent magnetic brushless synchronous motor, etc. Generally speaking, as the gear ratio is high for the transmission system, motor control precision has very small impact to the tracking precision. For example, for a system with the gear ratio of 20000:1, the tracker only covers an angle of 0.314mrad when a one complete circle is finished by the motor. Therefore, all kinds of the motor can satisfy the precision of the tracking system. However the feature of each type of motor is different.



Figure3. General Assembly of ASTS

Conclusion

Although ASTS is a prototype towards a real system, but still its software and hardware can be used to drive a real and very huge solar panel. A small portable battery can drive its control circuitry. Therefore by just replacing the sensing instrument, its algorithm and control system can be used in RADAR and moveable Dish Antennas.

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WORKSHOPS

S.no	Topic	Date-Month- Year	Resource Person	No.of students	Fill a Gaps
1	Conducted a workshop on " Various types of radiation patterns"	28-09-2016 29-09-2016	Dr.Hemanth kumar Guptha, Vagdevi Eng College, Warangal	96	Design aspects 3-D weave of Radiation pattern of Antenna
2	Conducted a workshop on " Fundamentals of complex digital circuit designs and their applications"	19-08-2016 20-08-2016	Dr.P. Sudhakar Rao, Professor, ECE,VMTW	92	Designing Large Complex Circuits
3	Conducted a workshop on " Different transformation techniques used in various applications"	22-07-2016 23-07-2016	Mr.Satya Prasad, Times Education	90	Basics of Hilbert Transform

SEMINARS

S.no	Торіс	Date- Month- Year	Resource Person	No.of students	Fill a Gaps
1	Conducted one day seminar on "Data compression techniques"	22-08- 2016	Dr.S.Surya Narayana, GCET, Hyderabad	92	Signal processing techniques used in Communication
2	Conducted one day seminar on "Auto scaling Techniques"	25-07- 2016	Dr.Ch.Srinivasa Rao, ACE Engg College, Ghatkesar	94	Auto scaling

BEST FACULTY AWARDS

S.No	FACULTY NAME	SUBJECTS TAUGHT	ACADEMIC YEAR
1	D. Rani	Electronic Devices and Circuits	2016-17
2	Dr. M.Rakesh	Linear and Digital Circuits Applications	2016-17
3	E. Nagaraju	Telecommunication Switching Systems	2016-17

ENGINEER'S DAY

Engineer's day on 15th September 2016 "Engineering is the art of directing the great sources of power in nature for the use and convenience of man" The department enthusiastically celebrated Engineer's day on 15th September 2016 with active participation from students of all years of B.Tech. Engineering is not merely knowing and being knowledgeable; engineering is not merely analysis; engineering is not merely the possession of the capacity to get elegant solutions to non-existent engineering problems; engineering is practicing the art of the organized forcing of



Salute The greatest INDIAN Engineer Sir.M. Visvesvaraya.

Happy Engineer's Day to all the Engineers of INDIA.

An Engineer is that type of person who always apply his knowledge for the good of Society

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INDUSTRIAL VISIT

- Students of third year visited ELICO Pvt.Ltd. on 25-07-2016, total 40 students along with 2 teaching faculty were a part of this visit.
- Students of fourth year visited ELEGANT EMBEDDED SOLUTIONS Pvt.Ltd. on 16-08-2016, total 80 students along with 2 teaching faculty were a part of this industrial visit to interact with industries.



RESEARCH PUBLICATIONS

S No	List of	Title of the Paper	Journal Name	Year of	ISBN/ ISSN/
5.NU.	Authors	The of the Faper		Publication	Impact Factor
1.	Dr.N.UshaRani	Study of normal and abnormal EEG	<u>3rd International</u> <u>Conference on</u> <u>Advanced</u> <u>Computing and</u> <u>Communication</u> <u>Systems (ICACCS)</u>	2016	978-1-4673- 9206-8
2.	Dr.N.UshaRani	UAV based smoke plume detection system controlled via the short message service through the GSM network	International Conference on Inventive Computation Technologies (ICICT)	2016	978-1-5090- 1285-5
3.	Dr.N.UshaRani	Study on the Impact of Light on Human Physiology and Electroencephalogram	Journal of Biomimetics, Biomaterials and Biomedical Engineering	2016	2296-9845
4.	Dr.N.UshaRani	SER Analysis of Generalized Frequency Division Multiplexing under Various Real Time Fading Conditions	IJCTA	2016	0974-5572

TEACHER'S DAY

5th September is celebrated as Teacher's Day all over the India every year. It is the birth anniversary of DR. SARVEPALLI RADHAKRISHNAN who was a great scholar and teacher. In his later life he became the Vice President of Indian Republic and later on the President of Indian Republic. This day reminds us that teachers are like backbone of our society. They play great role in building up character of students and shape their thoughts to become ideal citizens of the nation. The celebrations in the department began with the cake cutting ceremony by, HOD DR.A.NARMADA, ECE Department in the auditorium packed with smiling faces of students and faculty members.

