

Electronics & Communication Engineering News Letter

*** PESITRONICS *** Imagination Becomes Reality

PES Institute of Technology & Management, Shivamogga

Affiliated to AICTE, ISO 9001 2015 Certified Institute, NH-206, Sagar road, Shivamogga-577204.

Vision

To be a leading center of excellence in the field of electronics and communication engineering for learning and research with professional ethics.

Mission

M1: To provide quality technical education for students to develop into globally competent professionals.

M2: To develop a framework for collaboration and multidisciplinary activities to ensure ethical and value based education to address social needs.

Quality Policy

Our Quality Policy is to develop highly skilled human resources with the ability to adapt to an intellectually and technologically changing environment with the participative efforts of the management, staff, students and parents.

PESITM is committed to comply with ISO 9001 :2015 requirements and continually improve the quality of services and quality Management System.

Program Educational Objectives (PEO)

Electronics & Communication Engineering is a branch of engineering that incorporates skills and expertise needed in the industries. Bachelor's program in Electronics & Communication Engineering is aimed at preparing graduates who will.

PEO 1: To develop the ability among students to understand the concept of core subjects.

PEO2: To give exposures to emerging technologies, adequate training and opportunities to work as team on multidisciplinary projects with effective communication skills.

PEO3: To cultivate ethical practices in Professional, Societal & Environmental needs by engaging in life-long learning.

Program Specific Outcomes (PSOs)

ECE graduates will be able to:

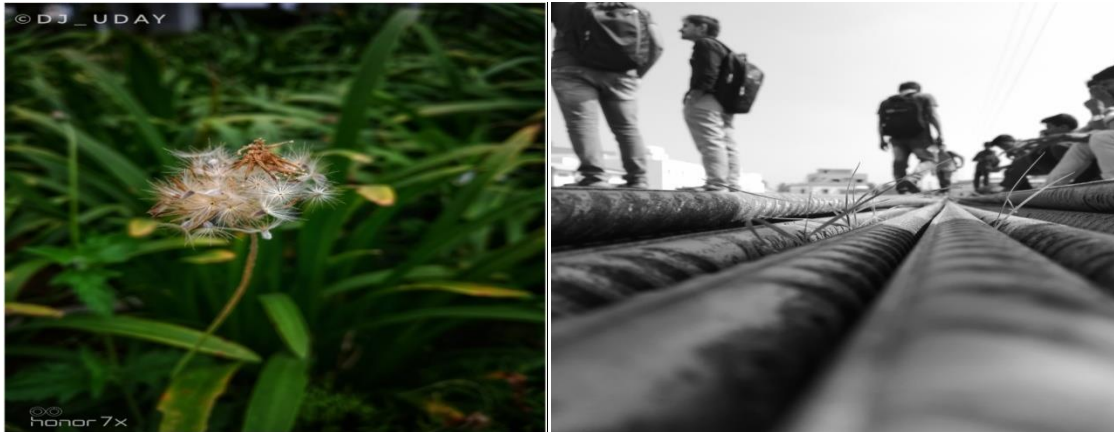
PSO1. Analyze and design analog & digital circuits or systems for a given specification and function.

PSO2. Implement functional blocks of hardware-software co-designs for signal processing and communication applications.

Dept. of Electronics and Communication Engineering became functional with the establishment of the institute in the year 2007. Being the core branch in Engineering, it has a lot of potential in various Sectors such as Telecommunication, IT, Low power VLSI Design, Embedded system & Robotics, and Manufacturing & Testing. The current intake for UG Program is 120.

Dept. of E&CE has highly skilled faculties, well equipped with latest laboratory equipments & industrial software's like CADENCE, MATLAB, Xilinx and more. Department has conducted and organized National Conference, workshops and technical talks related to the current trends and technology.

Staff and Students of E&CE have involved with several research/ curricular and co-curricular activities throughout the semesters and academic year, the PESITRONICS newsletter brings you the foretaste of all the activities in the E&CE Department.



PHOTOGRAPHY FROM UDAY DJ

Useful Links

Careers

- 1) http://www.tcs.com/careers/job_opportunities/Pages/default.aspx
- 2) <http://www-07.ibm.com/in/careers/freshers.html>
- 3) <http://www.infosysbpo.com/careers/apply-now/india-openings/default.asp>
- 4) <https://synergyweb.wipro.com/ResumePosting/WiproCareers.jsp?inner=SearchJobs&CompanyCode=WT>

Plagiarism checker-Detector

- 1) <http://plagiarisma.net/>
- 2) www.plagiarismchecker.com

Government Jobs

- 1) www.upsc.gov.in
- 2) www.ssc.nic.in

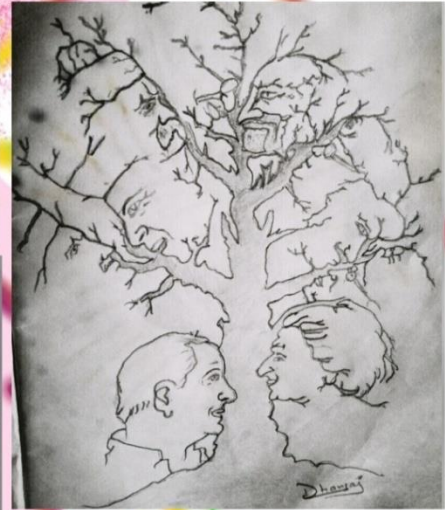
E-Journal and Paper Reference

- 1) www.ieeexplore.ieee.org
- 2) www.elsevier.com
- 3) www.link.springer.com
- 4) <https://www.scopus.com/home.url>
- 5) www.sciencedirect.com

Important websites:

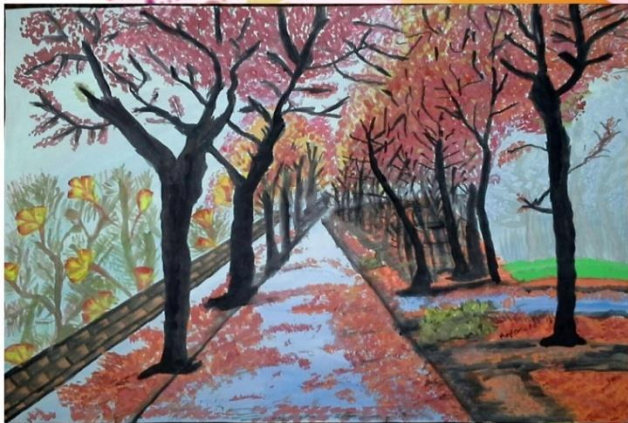
- <http://efymag.com>
- <http://efymagonline.com>
- <http://electronicsforu.com>
- www.howstuffworks.com
- <http://nptel.iitm.ac.in>
- www.opencircuitdesign.com

ART GALLERY..,



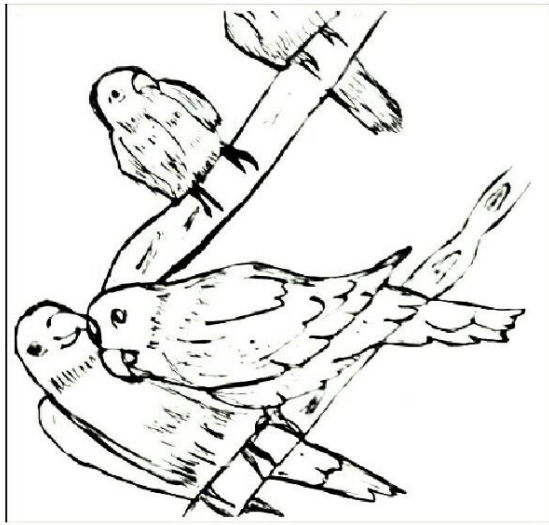
DHANRAJ MURTHY V.

MEGHANA P.S



MEGHANA N.M.





Organized By:
Dept. of Electronics and Communication Engineering

Prerana
STEP OF PESITM - 2016

GROUP

SOLO

(Solo & Group, Folk, Classical or Western only)

CLASSICAL

WESTERN

Staff Coordinators:
Mr. Shrivastava
Mrs. Shrivastava
Mrs. Chacko SM
Mr. Prasad SM

Date: 26-03-2016
Time: 2.00 PM to 5.30 PM
Venue: @ Central Quadrilateral

Dance is the hidden language of soul.



ART FROM BINDU M S

The rise of ETHICAL HACKING...

If you were to ask someone what they thought a hacker is, the response would most likely revolve around negative values such as data fraud, identity theft, and maybe even cyber terrorism.



However, not all hacking is necessarily the criminal, destructive act that we see increasingly reported in our media. Indeed, forms of 'hacking' have often been carried out by organizations or institutions as a method of testing defenses. For example, in the 1970s, the United States gave a green light for a team of experts to attack its own computer systems to assess their security robustness. Ethical hacking, also known as penetration testing, intrusion testing or red teaming is used to find loopholes in an IT system and break into it. An ethical hacker is a computer and network expert who attacks a security system on behalf of its owners, seeking vulnerabilities that a malicious hacker could exploit. This work is ethical because it is performed to increase the safety of the computer systems, but only at the request of the company that owns the system and specifically to prevent others from attacking it. With the increasing use of the internet, it has become an essential part

of IT security industry today. Fast-forward to the present day, and we now have a thriving industry that is roughly based around the concept of ethical hacking.

How did ethical hacking come about?

In 2011, there was a breach in the online security framework related to Sony Networks: around 77 million customer records were released online. It goes without saying, then, that alongside the ubiquity of the internet and the inexorable rise of the digital age, quite naturally governments, institutions, and individuals have growing concerns about cyber security. Despite security protocols and rigorously designed information encryption techniques, can the vast realms of data flowing around the globe remain safe?

In order to better protect that information, companies will often bring in ethical hacking experts from outside to test IT security. These experts carry out 'penetration tests' that seek to probe security weak spots, so that companies can rectify the problems, and upgrade their IT security protocols before the 'evil' hackers can infiltrate their systems.

Ethical hacking as a career choice?: Ethical hacking is perhaps a derogatory term for a raft of it specialists better referred to as computer security experts. sought-after skillsets provide forward-thinking companies with access to personnel who are well-versed in code and programming languages, have intimate knowledge of operation systems as well as those experts who can

decipher tcp/ip protocols. There are a growing number of accredited courses wannabe ethical hackers can take

Skill set required: First and foremost is the ability to write programmes in many programming languages like C, C++, Perl, Python, and Ruby. For those working with web applications, Microsoft .NET and PHP are vital. Knowledge of assembly language is also essential for those who want to analyze disassembled binaries. Knowledge of a variety of operating systems (Microsoft Windows, various versions of Linux, etc) is critical. Experience with various network devices, including switches, routers and firewalls is also important. An ethical hacker also should have a basic understanding of TCP/IP protocols such as SMTP, ICMP and HTTP. In addition to technical skills, an ethical hacker needs good soft skills. Perhaps the most important skill, however, is adaptability. When testing software and systems, ethical hackers never know what will come up, so the ability to be resourceful is vital.

Remuneration: A fresher may work as an intern for a couple of months and can start with a minimum of Rs 2.5 lakh per annum. With one year of experience, one can expect upto Rs 4.5 lakh per annum. Those with work experience five years or more can get from 10-12 lakh per annum.

The ethical hacking industry: In the USA alone, ethical hacking represents an industry worth nearly \$4billion. The analyst firm, Frost and Sullivan estimate the industry is growing at 21% per year, with nearly 2.3 million security professionals providing internet security across the globe.

Growth areas: The information security industry is going at a current worldwide growth rate of 21%. Frost & Sullivan have estimated that there are 2.28 million information security professionals worldwide which is expected to increase to nearly 4.2 million by 2015. The need for information security for security compliance in India is mandatory for all companies with an IT backbone. The requirement for such personnel is especially high with organizations in the IT/ITES space. Demand and supply are the two major aspects of any industry. As the demand of ethical hackers is increasing rapidly day by day and there is no supply, this industry provides a great platform for today's passionate hackers. One line to describe this adventurous industry is "EARN WHILE YOU HAVE FUN"!



By,

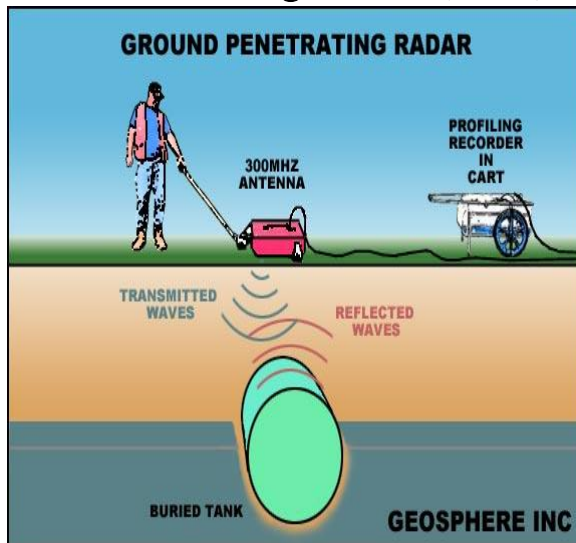
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E&CE Department, PESITM, SHIMOGA

Ground Penetrating Radar (GPR)

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INTRODUCTION: AS we know landmines are very harmful for Landmines and unexploded ordnance (UXO) are a legacy of war, civil disobedience and guerilla activity. If all mines were cased or had substantial metallic content, all that would be required for detection are metal detectors. The widespread use of plastic landmines necessitates development and deployment of additional detection technologies. Because there is no such thing as a perfect plastic detector, other sensors attempt to exploit ancillary disturbances in the background, such as thermal, chemical, or dielectric.

OVERVIEW OF THE SYSTEM: Because of the difficulty detecting tiny amounts of metal in a plastic landmine with a metal detector, technology development has been funded in other areas. Ground penetrating radar (GPR) has been used for nearly

70 years for a variety of geophysical subsurface imaging applications including utility mapping and hazardous waste container location and has been actively applied to the problem of landmine detection for nearly 20 years. When parameters such as frequency range, antenna size, antenna separation and system timing are optimized for detection of minimized objects in the near subsurface, GPR is quite effective in detecting both metal and plastic landmines in a variety of soils. The depth of penetration is a function of both the frequency range produced and the soil attenuation. Lower frequency components penetrate further but it is a higher frequency component that is necessary to image and resolve smaller targets. Both impulse-based and swept frequency GPR systems have been employed in Army-sponsored research programs. Generally a system with a bandwidth of roughly 1 to 4GHz is effective for detection of landmines. Ultimately GPR images the dielectric properties of the soils and any discontinuities appear as a signal. If soil were perfectly homogeneous, a discontinuity caused by a land mine would stand out as an anomaly against the background. Unfortunately, even under near-ideal test track conditions, soil itself is a remarkably inhomogeneous medium and false alarms are easily generated from the background itself. Because of this, automatic target recognition (ATR) algorithms employed by impulse-based GPR systems typically calculate and remove background and try to detect the hyperbolic signatures that are characteristic in size and shape of landmine targets in GEO-CENTERS 400 Series energy in focusing ground penetrating radar (EFGPR), we employ a fuzzy logic-based algorithm that use prototypes, or feature sets, for landmines and prototypes than to clutter.

ADVANTAGES

- GPR locates even small targets.
- GPR operates by detecting the dielectric soils which allows it to locate even non-metallic mines.
- Biological sensors can only operate for limited periods but in GPR has no such limits.
- GPR has been tested in different environmental conditions.

By:

Venu H Y M.Tech 4thsem



GROUP PHOTO OF 2013-17 BATCH OUTPUT STUDENTS (A-SECTION)



GROUP PHOTO OF 2013-17 BATCH OUTPUT STUDENTS (B-SECTION)

We need articles for future additions of Newsletter

Please consider providing a short item of news, or an in depth article for the next edition of the newsletter. We would like to invite everybody to submit a short story/article/announcement that can fit in the following structure.

News items and announcements -

- Short, topical, news oriented technical/ non-technical topics.
- Paintings, sketches, comics, poems, dag-writings, short stories etc.
- Major and minor technical articles are also accepted.
- Jokes, Punch dialogues, quotes of your own could be included.
- All of above said matters could be accepted in English or in kannada formats

Feel free to communicate with the student and staff coordinators for more details.

Editorial Team :

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Mr.Yogeesha G

Mr. Kunjan D. Shinde

Dr. M Manoj Kumar

Ms. Niharika(3rd A)

Ms. Priyanka(3rd B)

Mr. Adithya G. Rao (5th A)

Mr. Prassanna Bhat(5th B)

Ms. Pooja Patil B(7th A)

Ms. Sushma J (7th B)