PES MODERN COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION

E-BUZZ

Busy as a bee.....

Gathering information.....

Edition 18, 2023

OUR VISION

To impart holistic education in Electronics and Telecommunication Engineering to create engineers equipped to meet the challenges of a dynamic, global environment.

OUR MISSION

• To impart quality Education in the field of Electronics, Communications and signal processing. by providing a comprehensive learning expertise.

• To provide avenues to encourage students to continue education in diverse fields.

• To develop competent Engineers, well-versed in multi-disciplinary fields.

• To inculcate ethical and professional values in our students to endow students with responsible citizens.

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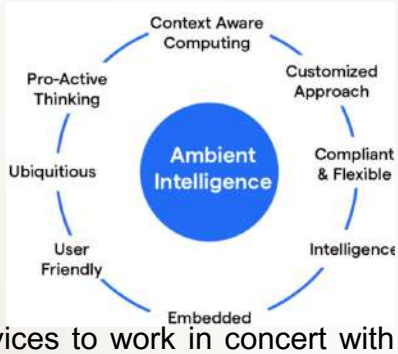
MRS. S. V. THUSE

AMBIENT INTELLIGENCE

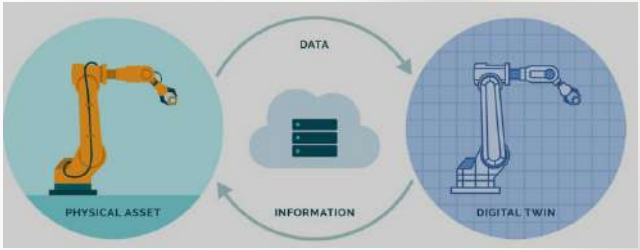


Ambient intelligence (AmI) is a term used in computing to refer to electronic environments that are sensitive to the presence of people. The term is generally applied to consumer electronics, telecommunications, and computing.

Ambient intelligence is intended to enable devices to work in concert with people in carrying out their everyday activities in an intuitive way, by using information and intelligence hidden in the network connecting these devices. An example of ambient intelligence is the Internet of Things (IoT). A typical context of the ambient intelligence environment is the home, but it may also be workspaces, public spaces, and hospital environments.

source :_ https://en.wikipedia.org/wiki/Ambient_intelligence

DIGITAL TWINS



A digital twin is a digital model of an intended or actual real-world physical product, system, or process (a physical twin) that serves as the effectively indistinguishable digital counterpart of it for practical purposes, such as simulation, integration, testing, monitoring, and maintenance. A digital twin is set of adaptive models that emulate the behaviour of a physical system in a virtual system getting real time data to update itself along its life cycle. The digital twin replicates the physical system to predict failures and opportunities for changing, to prescribe real time actions for optimizing and/or mitigating unexpected events observing and evaluating the operating profile system. Digital twins are the result of continual improvement in modelling and engineering.

source :_ https://en.wikipedia.org/wiki/Digital_twin

FROM THE PRINCIPAL'S DESK

I'm delighted and proud to see the launch of the eighteenth edition of the E-newsletter by the E&TC department. I want to extend my heartfelt praise to the editorial team for their hard work and dedication. Wishing them continued success in all their future endeavors!

DR. MRS. K. R. JOSHI

FROM THE HOD'S DESK

E-BUZZ continues to exceed our expectations as an exclusive departmental newsletter, showcasing the vibrant activities of our department. We eagerly anticipate many more editions in the future. Here's to the newsletter soaring to even greater heights!

DR. MRS. R. S. KAMATHE

FROM EDITOR'S DESK:

I am thrilled to present the eighteenth edition of E-BUZZ. This edition represents the culmination of tremendous effort and dedication. A special thank you to my fantastic editorial team for making it possible!

MRS. S. V. THUSE

A

HUGH DUNCAN GRIFFITHS

Hugh has published over 550 research papers in journals and conference proceedings. Books include Modern Antennas (Springer, 2005), Advances in Bistatic Radar (Scitech, 2007), Radar Automatic Target Recognition and Non-Cooperative Target Recognition (IET, 2013), An Introduction to Passive Radar (Artech House, 2017 – also published in Chinese, second edition 2022).

Since 1982 he has served as Editor-in-Chief of the IET Radar, Sonar and Navigation journal. In 2017 he was appointed Chair of the Defence Science Expert Committee (DSEC) in the UK Ministry of Defence. He is a member of the Home Office Science Advisory Council (HOSAC). In 1996, he was honoured with IEEE AES Nathanson Award 'for advancement of radar, remote sensing, antenna technology, and radar education. IN 2017, he was rewrded with IEEE Picard Medal 'or technology leadership and exceptional contributions to multistatic radar.

source :_ https://en.wikipedia.org/wiki/Hugh_Duncan_Griffiths

WONYONG SUNG

Wonyong Sung (S'84–M'87) received the B.S. degree in electronic engineering from Seoul National University, Seoul, Korea, in 1978, the M.S. degree in electrical engineering from the Korea Advanced Institute of Science and Technology (KAIST), Seoul, Korea, in 1980, and the Ph.D. degree in electrical and computer engineering from the University of California at Santa Barbara in 1987.,He has been a Member of the Faculty of the Seoul National University since 1989. From 1980 to 1983, he was with the Central Research Laboratory of Gold Star (currently LG Electronics), Korea. During his Ph.D. studies, he developed parallel processing algorithms, vector and multiprocessor implementation, and low-complexity FIR filter design. From May 1993 to June 1994, he consulted with the Alta Group for the development of the fixed-point optimizer, automatic word-length determination, and scaling software. His current research interests include the development of fixed-point optimization tools, implementation of VLSI for digital signal processing, and multiprocessor-based

source :_ https://ieeexplore.ieee.org/author/37087154231

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RECENT ADVANCES IN EQUIVARIANT NEURAL NETWORKS

Day & Date: Thursday, 25th January 2024
Session conducted by:Mr. Shubhendu Trivedi(PHD, MS in Comp. vision & science)

Objectives: •To explain about advances in equivarient Neural Network
•To discuss about equivarience in machine learning

Summary: The department recently hosted an enlightening session on the latest advancements in Equivariant Neural Networks. The event covered a range of topics including various types of equivariant neural networks, the conversion between groups and spaces, and their applications in machine learning. Expert speakers delved into how these networks enhance model efficiency and robustness by preserving symmetry properties.

Outcome: As a result, students gained valuable insights into the latest advancements in equivariant neural networks, exploring various types, and understanding the process of converting between spaces and groups. This enhanced their knowledge and equipped them with concepts essential for modern machine learning applications.

TECH UNVEIL : QUIZ AND EXTEMPORE COMPETITION

Day & Date: Thursday, Friday 1st and 2nd February 2024
Session conducted by: TEESA Core Team

Objectives: •To provide a comprehensive overview and analysis of the quiz and extempore competition
•To evaluate the effectiveness of fostering intellectual engagement, critical thinking and public speaking skills.

Summary: A quiz and extempore event was held, featuring two rounds designed to test and enhance participants' intellectual abilities and public speaking skills. During the quiz participants answered questions to showcase their knowledge on various subjects. Extempore, on the other hand, was a speech competition where participants speak spontaneously on a given topic, highlighting their quick thinking and communication skills. In the first round, participants competed, and 10 students advanced to the second round. These 10 students were divided into two groups of five, with each group receiving a topic. One representative from each group was then chosen to speak on the topic.

Outcome: The event significantly enhanced students' knowledge base by covering a wide range of topics through challenging questions. It also improved teamwork skills, as participants collaborated in groups, and boosted their confidence in public speaking. Overall, the quiz and extempore provided an excellent platform for demonstrating knowledge, critical thinking, and eloquence.

PROGRAM SPECIFIC OUTCOMES

•Apply the Knowledge in E&TC engineering to understand, evaluate, design, or implement the electronics, communication, embedded or information systems or subsystems using conventional or modern tools/techniques
•Take up jobs in Government or private sectors, undertake research, create jobs or pursue further studies in any of the fields of E&TC, in India or Abroad.
•Incorporate ethical & social responsibility to complete projects in the E& TC and allied fields and use effective written and oral communication skills to present the work.

GUEST LECTURE ON PROJECT SCHEDULING AND PROJECT MANAGEMENT TOOLS

Day & Date: Friday, 9th February 2024

Session conducted by:Mr. Ganesh Watve, Founder and Director of 'Sarva Shikshan e-Learning and Entertainment Studio'

Objectives: •To give knowledge of Project scheduling techniques ie. PERT and CPM.

•To explain advanced tools required for project management.

Summary: The session began by emphasizing the importance and necessity of schedule management. Detailed explanations of project scheduling techniques, such as PERT (Program Evaluation and Review Technique) and CPM (Critical Path Method), were provided, including real-life examples to illustrate their applications. Additionally, the sessionand drawbacks. This comprehensive overview equipped participants with practical knowledge and tools to enhance their project management skills.

Outcome: The participants gained comprehensive knowledge in schedule management and project scheduling techniques. They also learned about various project management tools, such as Trello, Jira, and Asana. This knowledge is applicable not only to their specific field of study but also to a wide range of technical and professional areas, enhancing their overall project management skills.

A SEMINAR ON ' OPTICAL NETWORK TECHNOLOGIES'

Day & Date : Saturday, 6th April 2024

Session conducted by:Mr. Ganesh Totala, Manager in Cloud and Connectivity Engineering

Objectives: •To make students understand recent trends in Optical Fiber Communication

•To help students understand use of Optical network technologies for different industry applications

•To get aware of different optical networking topologies for industrial applications.

Summary: An expert talk on "Optical Network Technologies" was arranged where guest speaker, a Manager in Cloud and Connectivity Engineering at VODAFONE Shared Services (_VOIS), provided a comprehensive introduction to optical networks and their applications. The session covered various aspects including different topologies, optical amplifiers, WDM (Wavelength Division Multiplexing), types of WDM, SDH (Synchronous Digital Hierarchy), SONET (Synchronous Optical Network), and OTN (Optical Transport Network). The speaker concluded by discussing the latest trends in optical fiber communication, offering valuable insights into the field.

Outcome: The session was highly beneficial for attendees, providing them with valuable insights into optical network technologies and their applications. Participants gained a deeper understanding of the field and its latest advancements, enhancing their knowledge and awareness of this critical area of technology.

SESSION ON 3GPP STANDARDS

Day & Date: Saturday, 13th April 2024

Session conducted by:Mr. Sai Giridhar Prabhu, Ericsson Global India Pvt. Ltd

Objectives: •To describe the features of 3GPP standards.

•To explain the various developments in 3GPP standards. To discuss the research topics related to 3G communication.

•To demonstrate 5G packet tracing.

Summary: The seminar, conducted by our alumnus Mr. Sai Giridhar Prabhu, explored the evolution of mobile communication standards from 2G, 3G, to 4G LTE, with a focus on 3GPP protocols. He also demonstrated 5G packet tracing and monitoring, highlighting the scope for E&TC engineers in the field of mobile communication.

Additionally, Mr. Prabhu shared his personal journey from studying at our college to working at Ericsson, providing insights into the courses and skills beneficial for pursuing a career in the telecommunications domain.

Outcome: Participants gained a comprehensive understanding of the features and developments in 3GPP standards, along with insights into research topics related to 5G communication. They also learned about 5G packet tracing, enhancing their knowledge of advanced mobile communication technologies.

PROJECT EXHIBITION 2K24

Day & date: Saturday, 20th April 2024

Objectives: •To provide open platform for BE students to present their projects.

•To get guidelines and assessment of projects by industry personnel.

•To provide an authentic process for evaluation of understanding of project work.

Summary: A total of 40 groups from the BE program participated in the Project Exhibition 2K24, organized by the Department of Electronics and Telecommunication. The projects were displayed from 10 AM to 1 PM and were evaluated by a panel of eight eminent industry experts. Winners were recognized and awarded prizes and certificates for their outstanding projects.

Outcome: The event provided valuable guidelines for final examinations and offered students the opportunity to compete with peers and interact with industry professionals.

TE PROJECT EXHIBITION 2K24

Day & Date: Saturday, 27th April 2024

Objectives: •To provide open platform for TE students to present their projects.

•To get guidelines and assessment of projects by industry personnel.

•To provide an authentic process for evaluation of understanding of project work.

Summary: A total of 46 groups from the TE department showcased their projects at the TE Project Exhibition 2K24, organized by the Department of Electronics and Telecommunication. The exhibition, held from 10 am to 1 pm, featured a wide range of innovative projects. An esteemed panel of eight industry experts evaluated the projects. Winners were honored with prizes and certificates for their outstanding contributions.

Outcome: The judges appreciated the efforts of the students during the project exhibition. Students have received useful guidelines from industry persons for their upcoming university examinations.

STATE LEVEL UG PROJECT COMPETITION M-EXHIBIT 2K24

Day & Date : Saturday, 20th May 2024

Objectives: •To provide open platform for BE students to present their projects.

•To get guidelines and assessment of projects by industry personnel

•To encourage students to take active participation in various project competitions

•To provide an authenticate process for evaluation of understanding of project work.

Summary: Thirty-six BE project groups participated in the M-Exhibit Competition, showcasing their projects from 10 am to 1 pm. The projects were reviewed by a panel of eight prominent industry experts. The exhibition was open to all students. Three project groups were recognized for their outstanding work and received certificates and prizes.

Outcome: The event provided valuable guidance for final examinations, offered students a chance to compete with peers from across the state, and facilitated meaningful interactions with industry experts.dents from all over the state and interact with industry experts.

M-PULSE XTRONICA 2K24

Day & Date : Saturday, 23rd May 2024

Objectives: •To provide students with hands-on experience with the circuits to increase their knowledge.
•To provide platform for students for exploring and implementing their innovative and creative ideas
•To develop and enhance technical, management and communication skills in the students.
• To add an element of fun and excitement to learning engineering concepts.
•To enhance student's curiosity in electronics and telecommunication with the help of related events.

Summary: M-Pulse Xtronica is known for its diverse range of technical events, workshops, competitions, and guest lectures that attract participants from various colleges and universities. The fest typically covers a broad spectrum of engineering and technology-related fields, providing a platform for students to showcase their skills, learn from experts, and engage in innovative projects. vibrant and engaging experience for everyone involved. It has always been a pleasure to guide students, giving them the opportunity to lead teams and understand the importance of teamwork. The event also offers a valuable learning experience for both students and faculty members.

This year, M-PULSE Xtronica 2K24 was conducted with a wide range of technical and non-technical activities, following the theme "Chronicles of Communication : Unveiling The Tapestry Of Time"." The centerpiece of this year's event was a two-day 'IoT hackathon', and 'Robonexus' followed with technical events namely 'Electroquest' and 'Tech trivia' along with two semi-technical events : ' Aphonic' and 'Blindfold maze' which attracted students from various colleges. Their participation brought a competitive spirit and a wealth of creative ideas. It was an incredible opportunity for everyone to learn and grow, and we are proud of the dedication and enthusiasm shown by all participants.

Outcome: The M-pulse Xtronica built an amazing team bonding activity among the team members. And also, sportsmanship was developed among the participants. The atmosphere at the campus was full of joy and enthusiasm. The technical events built team management, technical skills, and quick thinking among the participants. The semi- technical improved communication skills and teamwork, fostering a vibrant atmosphere of learning and collaboration.

BEST OUTGOING STUDENT :

RITESH CHAUDHARI

As I reflect on my journey as an engineering student in Electronics and Telecommunication, I am filled with gratitude and pride for being recognized as the Best Outgoing Student. This honor encapsulates the culmination of years of hard work, perseverance, and passion for technology. My time here has been marked by countless hours in the lab, engaging in hands-on projects, and collaborating with brilliant peers. These experiences have not only deepened my technical knowledge but also taught me the value of teamwork and innovation.
Participating in various technical events, including hackathons and symposiums, has been particularly enriching. These opportunities allowed me to apply theoretical concepts to real-world challenges and fuel my curiosity. I am also grateful to my professors and mentors, whose guidance and support were invaluable in navigating this journey. From mastering complex concepts in digital communication to designing innovative projects, I've relished every challenge. The department's vibrant culture and the support of faculty members have been instrumental in shaping my skills and perspectives. My internships and practical experiences have further honed my technical abilities, preparing me for the industry. All the technical and non- technical events and clubs that I joined taught me teamwork, leadership, technical skills. Looking ahead, I am excited to carry forward the skills and knowledge I've gained and make meaningful contributions to the field. This award is not just a recognition of my past achievements but also a motivation to continue striving for excellence in the future.