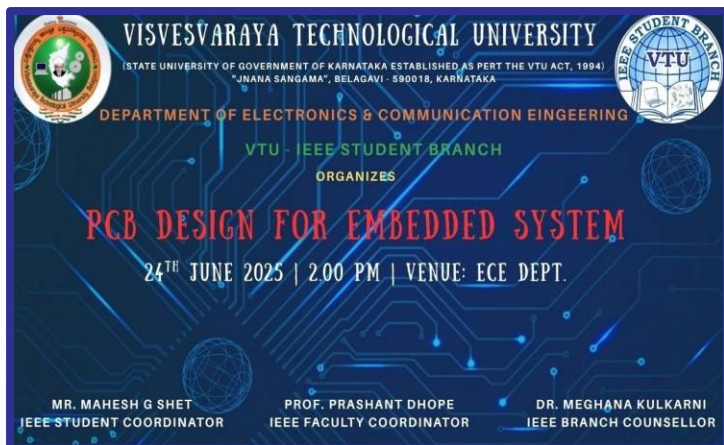


PCB DESIGN FOR EMBEDDED SYSTEMS

The VTU-IEEE Student Branch (STB60136185), under the Department of Electronics and Communication Engineering, VTU Belagavi, organized a hands-on workshop on “PCB Design for Embedded Systems” on 24th June 2025. The workshop was conducted in the ECE Research Lab from 2:00 p.m. to 4:00 p.m. The session was led by Mr. Mahesh G. Shet, a PG 2nd Semester student from the ECE department, who served as the resource person. The event aimed to provide participants with practical exposure to designing printed circuit boards (PCBs) using Proteus software, a critical component in embedded systems engineering, by guiding them through each stage of the design workflow—from schematic creation to layout development.

Throughout the session, students learned about essential PCB design concepts, tools, and techniques. They were introduced to schematic drawing, component selection, netlist generation, layout design, routing strategies, and design rule checks. The hands-on nature of the workshop allowed participants to actively engage with the software and visualize real-time PCB designs. This interactive approach significantly strengthened their understanding of how embedded system hardware is developed. The event concluded with a Q&A session and certificate distribution. Overall, the workshop enhanced students' technical proficiency in PCB design and inspired them to explore deeper aspects of embedded systems development and hardware prototyping.

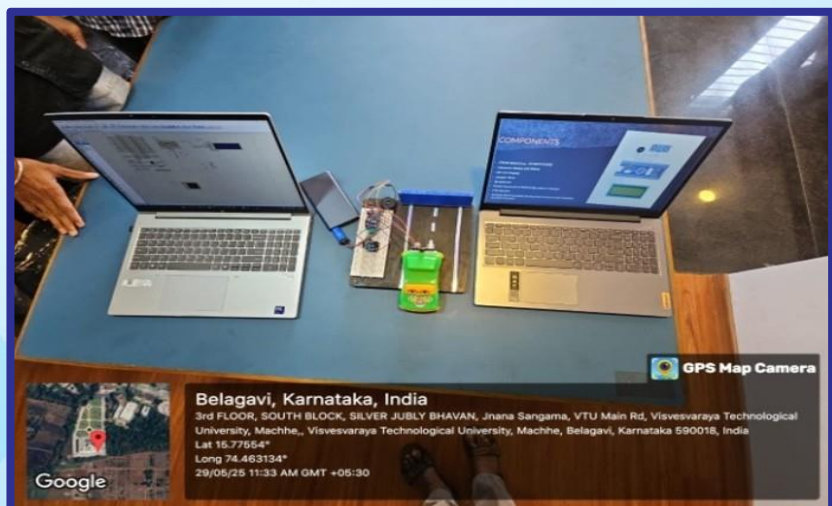


Project Exhibition of Embedded System Design using ARM

The Department of Electronics and Communication Engineering, VTU Belagavi, under Dignito – Students Hub, organized a Project Exhibition on Embedded System Design using ARM for 4th Semester B.Tech students of Electronics & Computer Engineering. The event was held on 29th May 2025 at 10:00 AM of the Silver Jubilee Bhavan, the exhibition aimed to promote project-based learning by allowing students to practically apply embedded system concepts using ARM architecture. This event was a vital part of the curriculum's experiential learning approach, enabling students to transition from theoretical understanding to hands-on implementation.

The showcased projects reflected a wide spectrum of real-time applications such as home automation systems, smart environmental monitors, robotics, and control systems. Through project-based learning, students not only explored technical aspects like circuit design, sensor integration, and microcontroller programming but also developed problem-solving, teamwork, and presentation skills. The exhibition encouraged critical thinking and innovation, fostering a deeper connection between classroom knowledge and industry-relevant practices. Faculty feedback and peer discussions further enriched the learning experience, making the event a meaningful step toward building competence in embedded system design.





AKADMIA CONNECTUS

Akadmia Connectus a significant academic event organized by Visvesvaraya Technological University (VTU) on 29th April 2025, bringing together principals, heads of departments, and students from various affiliated engineering colleges. The agenda of the event was to build the awareness on the University's Centres of Excellence (CoEs) and the Internship opportunities they offer. The Hon'ble Vice-Chancellor, Prof. Vidyashankar S., inaugurated the event and delivered a keynote address, highlighting the University's commitment to fostering innovation, research, and industry-relevant skills among students. The gathering served as a platform for academic leaders and students to engage in knowledge exchange and explore avenues for collaborative growth.

During the event, Dr. Meghana Kulkarni, Chairperson of the Department of Electronics and Communication Engineering (ECE), addressed the audience and emphasized the importance of leveraging the resources at the Centers of Excellence (CoEs) to enhance student learning and industry readiness. She highlighted the wide range of internship opportunities offered through the CoEs in areas such as VLSI design, Embedded System Design, Hardware Security, etc. catering to students from electrical, electronics, and allied disciplines. Following the session, all attendees were on a guided tour of the VTU campus, visiting the Centers of Excellence (CoEs), the Visvesvaraya Research and Innovation Foundation (VRIF), and various departmental laboratories. These visits were aimed at providing students with insights into available internship opportunities, research exposure, and skill development facilities offered by the University.





WOMEN'S DAY

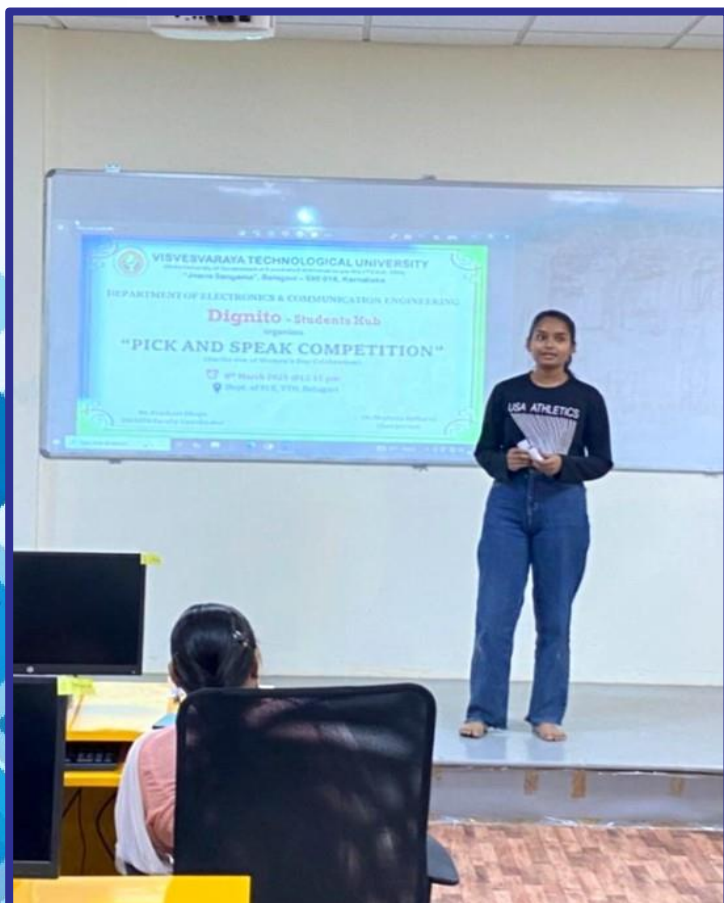
As part of International Women's Day celebrations, the Department of Electronics and Communication Engineering, VTU, Belagavi, under the Dignito – Students Hub, organized a series of engaging events on 8th March 2025. The activities included the Best out of Waste Competition, Pick and Speak Competition, and the Rangoli Competition, aimed at encouraging creativity, spontaneity, and cultural expression among UG and PG students. These events provided a vibrant platform to showcase individual talents and promote awareness on sustainability, gender equality, and personal expression in a fun, interactive environment.

Students actively participated in all three events, each offering a unique experience. In the Best out of Waste competition, participants crafted innovative items from recyclable materials, promoting environmental consciousness and design thinking. The Pick and Speak event tested students' presence of mind and communication skills, as they spoke impromptu on various thought-provoking topics. The Rangoli Competition, rich in color and tradition, saw students present beautiful designs symbolizing empowerment and celebration. Through these activities, students not only gained confidence and teamwork experience but also celebrated the spirit of Women's Day with enthusiasm and creativity.

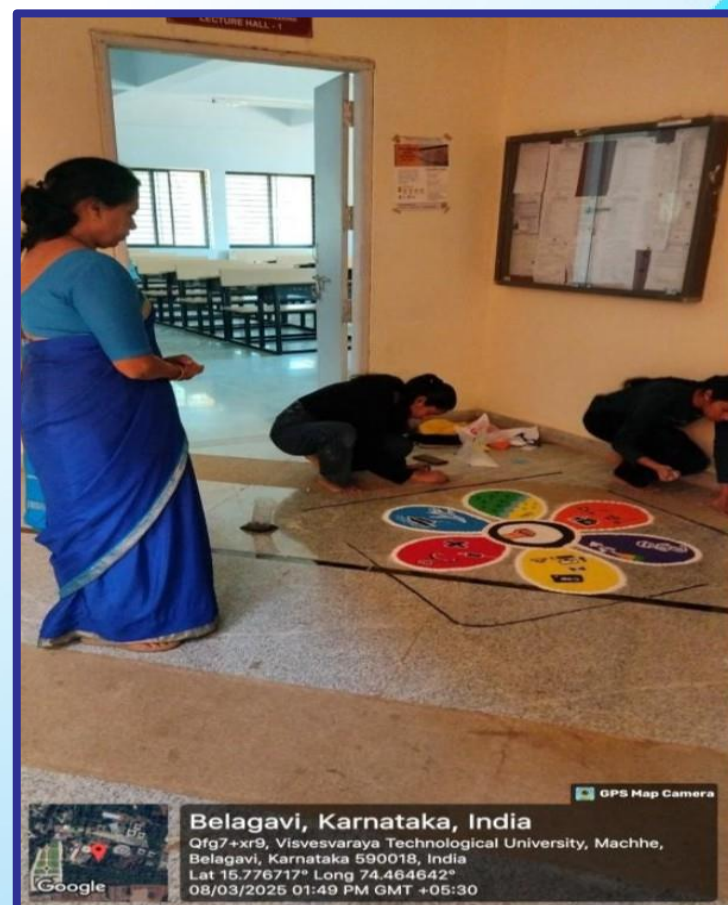
Best out of Waste Competition - 8th March 2025



Pick and Speak Competition - 8th March 2025



Rangoli Competition - 8th March 2025

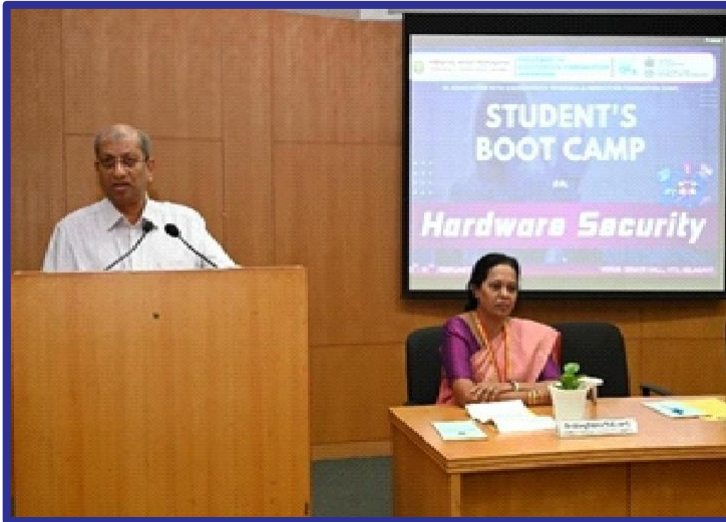


BOOT CAMP ON HARDWARE SECURITY

The Boot Camp on "Hardware Security," held from February 10th to 14th, 2025 at Visvesvaraya Technological University (VTU), Belagavi, aimed to enhance technical awareness and hands-on expertise in addressing current and emerging hardware and software security threats. Organized by the Department of Electronics and Communication Engineering in collaboration with VRIF, the event brought together leading academicians and industry professionals. The inauguration ceremony featured addresses from Dr. Meghana Kulkarni, Mr. Nagaraju N Kodalapura of Intel, and the Hon'ble Vice Chancellor of VTU, who all stressed the importance of proactive security strategies in the era of digitalization.

Throughout the five-day event, participants attended sessions on a variety of cutting-edge topics. Dr. Meghana Kulkarni explored foundational aspects of hardware security and the "chip dilemma." Mr. Vivek K. V delivered two sessions on software security trends, emphasizing Zero Trust, quantum-safe cryptography, and AI-driven defenses. Mr. Nagaraju Kodalapura discussed confidential computing and trusted execution environments. Sessions by Mr. Basavanneppa Musalmari and Mr. Rahul Patil covered hardware threats, aerospace security, and real-world industry applications. Mr. Prasad Anamula addressed AI hardware vulnerabilities and trends, while Mr. Sangamesh G. T elaborated on firmware's critical role. Hands-on sessions included topics like logic locking and Hardware Trojans in Proteus. The camp concluded with engaging design thinking and verification workshops, giving students practical insights into hardware security solutions.



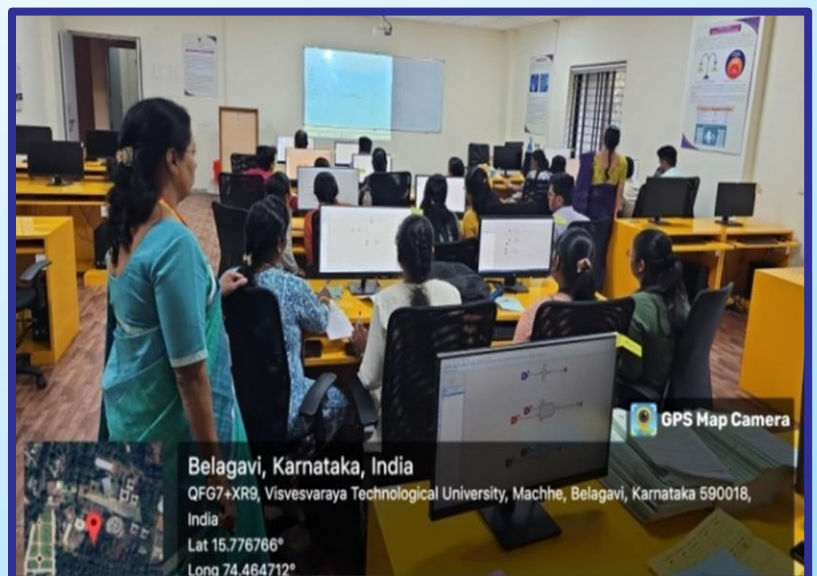
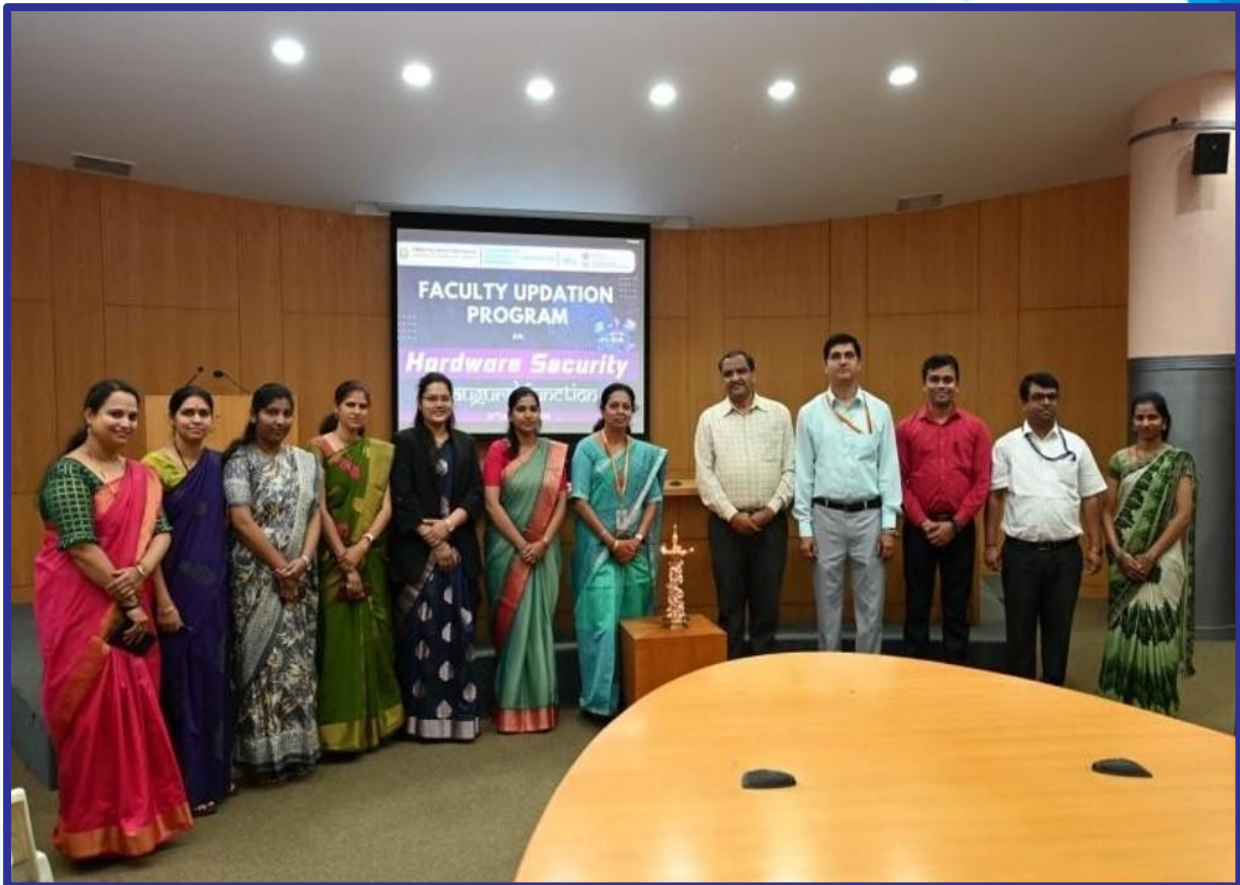


FACULTY UPDATION PROGRAM ON HARDWARE SECURITY

The Faculty Updation Program on Hardware Security was inaugurated on 7th January 2025 at the Senate Hall, Visvesvaraya Technological University (VTU), Belagavi. The event is a part of the Information Security Education and Awareness (ISEA) Program, an initiative of the Ministry of Electronics and Information Technology (MeitY), Government of India. VTU has been selected to conduct specialized training in this critical area under the expert mentorship of the Indian Institute of Technology, Kharagpur.

The program aims to build academic capacity and awareness in the vital domain of hardware security, which plays a key role in protecting embedded systems and computing devices from malicious threats, counterfeiting, data breaches, and other vulnerabilities. Dr. B.E. Rangaswamy, Registrar, highlighted the increasing relevance of hardware security in the digital era, especially with the rise of interconnected devices and embedded systems. He emphasized that securing hardware is the foundation of trust in modern computing systems. Dr. T.N. Sreenivasa, Registrar (Evaluation), spoke about the necessity of continuous upskilling in emerging technologies such as Artificial Intelligence, Internet of Things (IoT), and cybersecurity, encouraging faculty to proactively engage in such training programs to stay aligned with industry needs. This program reflects VTU's proactive efforts in strengthening national capabilities in hardware-level security and safeguarding the digital infrastructure of the country.





IEEE - RURAL OUTREACH PROGRAM (STEM)

The Rural Outreach Program (STEM) was successfully conducted on 27th November 2024, from 9:30 a.m. to 1:30 p.m., with the enthusiastic participation of 160 students. The event was organized under the expert guidance of Assistant Professor Mr. Mahesh B. Neelagar and IEEE Chair Mr. Karthik Rao. As part of the STEM initiative, the team visited three government high primary schools — Santi Bastwad, Hunchanhatti, and Tilakwadi — with the aim of creating awareness and interest in Science, Technology, Engineering, and Mathematics among rural students. The program focused on interactive and engaging learning experiences, particularly through sessions on robotic cars and Arduino Uno-based projects. These hands-on activities introduced students to the basics of electronics and robotics, encouraging them to think critically and creatively.

A STEM-themed quiz was also conducted to test students' knowledge and spark curiosity, promoting analytical thinking and teamwork. Another highlight was a fun team activity called “Passing the Ball”, which helped break the academic monotony, built companionship among students, and added an element of enjoyment to the program. Throughout the visit, the resource persons engaged with students and teachers, offering guidance and motivation to explore STEM fields and pursue academic goals. The event concluded with a call to action for students to leverage their creativity using the tools and concepts introduced. The outreach emphasized that STEM education is not merely theoretical but a means to solve real-world problems through innovation. The program left a lasting impact, motivating students to think beyond textbooks and embrace a future shaped by curiosity and technology.



POSTER & MODEL EXHIBITION OF EMBEDDED DEVICES

The Department of Electronics and Communication Engineering, VTU, Belagavi, through its student-driven platform Dignito – Students Hub, organized a Poster & Model Exhibition on Embedded Devices for 1st Semester B.Tech students of Electronics & Computer Engineering and Electronics Engineering(VLSI Design & Technology). The event took place on 12th November 2024 at 3:00 PM and aimed to introduce freshers to the foundational aspects of embedded systems through creative expression and hands-on model building. It served as an excellent opportunity for students to begin exploring the exciting world of embedded devices, which are integral to modern applications ranging from smart homes to automotive electronics.

During the exhibition, students displayed posters and working models that illustrated basic concepts of embedded systems, including microcontroller-based designs, sensor integration, and real-time applications. They explained the functionality of their models, the components used, and the logic behind their designs. The event enhanced students' understanding of how theoretical knowledge translates into practical solutions and gave them an early exposure to design thinking, teamwork, and technical communication. It also helped build enthusiasm for deeper learning in embedded systems, setting a strong foundation for future coursework and projects.

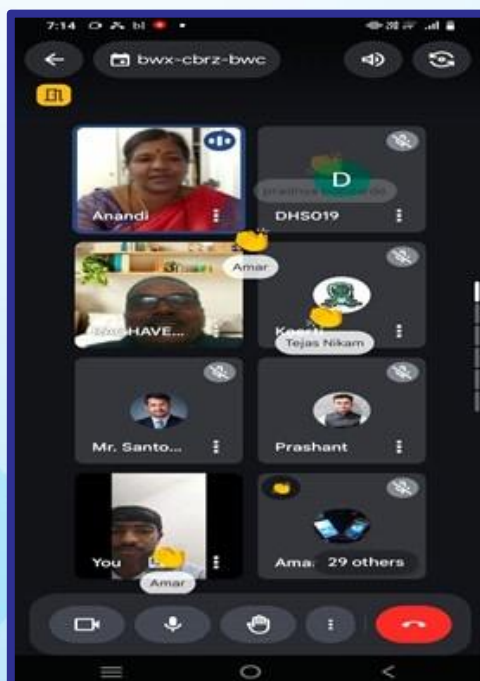




WEBINAR ON IEEE MEMBERSHIP PROMPTS

The Webinar on IEEE Membership Prompts was held on 10th November 2024, from 6:00 PM to 7:30 PM, with the participation of 70 attendees organized by the Department of Electronics and Communication Engineering, VTU, Belagavi, in collaboration with the VTU-IEEE Student Branch. The event aimed to raise awareness about the benefits of IEEE membership and its impact on academic and professional development. The webinar featured two distinguished speakers, Mr. Raghavendra Prasad SG, Vice-Chair of the IEEE Education Society, Bangalore Chapter, and faculty at RVCE Bengaluru, highlighted the global networking opportunities, academic resources, and industry linkages facilitated by IEEE. His session focused on how IEEE serves as a bridge between academia and industry, enabling collaboration and innovation.

Dr. Anandi Giridharan, Professor at IISc Bangalore and Vice Chair of the Membership Development Committee, Bangalore Section, shared her journey with IEEE and emphasized the career development programs available to members. She particularly encouraged women engineers to utilize IEEE as a platform for visibility and leadership. Both speakers also covered access to IEEE Xplore, technical conferences, student chapters, and mentorship opportunities. The event concluded with an interactive Q&A session, where participants actively engaged with the speakers. The session effectively emphasized the transformative role of IEEE membership and motivated attendees to explore its full potential. The positive feedback from participants reflected the webinar's success in promoting IEEE's vision and values.



PROJECT EXHIBITION OF EMBEDDED SYSTEM DESIGN USING ARM

The Department of Electronics and Communication Engineering, VTU, Belagavi, under the Dignito – Students Hub, organized a Project Exhibition on “Embedded System Design using ARM” for the 5th Semester B.Tech students of Electronics & Computer Engineering. The exhibition was held on 25th October 2024 at 2:00 PM and served as a platform for students to showcase their innovative projects developed during the course. The primary objective of the event was to encourage hands-on learning and practical application of embedded systems concepts using ARM-based microcontrollers, which are widely used in automation, IoT, and consumer electronics.

During the exhibition, students presented a range of creative and technically sound projects involving real-time systems, sensor integration, control mechanisms, and communication protocols using ARM architecture. Faculty members and peers interacted with the students, discussing design challenges, implementation strategies, and possible improvements. The event provided students with an opportunity to gain confidence in their technical abilities, enhance their communication and presentation skills, and understand the importance of embedded systems in solving real-world problems. It also fostered teamwork, critical thinking, and innovation, making the exhibition a valuable experiential learning event.



IEEE SPRINGS FOR FIRST YEAR

The VTU-IEEE Student Branch under the Department of Electronics and Communication Engineering, Visvesvaraya Technological University, Belagavi, organized an engaging and interactive event titled “IEEE Springs” on 25th October 2024, from 10:00 a.m. to 12:00 p.m., with the enthusiastic participation of 110 students. The primary objective of IEEE Springs was to encourage technical knowledge, critical thinking, communication, and team collaboration among students through a series of intellectually stimulating and fun activities.

The event featured three major segments:

1. Debate Competition – Students debated on topics such as “Is Technology Making Us Lazy?” and “Should Mobile Phones be Banned in Universities?”. The format included team debates with strong arguments and active engagement.
2. Quiz Competition – A lively quiz infused with general knowledge, technology, science, and meme-based questions was conducted.
3. Housie Game – A social game of chance aimed to bring a fun element to the event.

The event concluded on a high note with increased IEEE awareness and a significant membership growth of over 50 new members. IEEE Springs 2024 successfully blended learning and entertainment, leaving participants inspired and motivated.



INDUSTRIAL VISIT

The Department of Electronics and Communication Engineering, VTU, Belagavi, organized an enriching industrial visit for 3rd semester B.Tech students of Electronics and Computer Engineering on 15th October 2024. The visit was coordinated under the student-driven initiative Dignito – Students Hub and took place at Creintors Automation Solutions Pvt. Ltd., located in Waghwade, approximately 12 km from the university. Creintors is known for its innovative automation solutions, specializing in designing and manufacturing customized industrial automation systems. The company plays a pivotal role in the automation sector, catering to clients across manufacturing and process industries, offering them precision-driven, tech-enabled solutions.

During the visit, students had the opportunity to observe live demonstrations of automation processes, understand the working of control systems, and interact with industry professionals to bridge theoretical knowledge with real-world applications. They gained insights into the design and development of automation equipment, exposure to PLC programming, and saw firsthand how multidisciplinary engineering concepts are applied in an industrial environment. The visit not only enhanced their technical understanding but also encouraged them to think innovatively and explore future career paths in automation and embedded systems. Overall, the industrial visit was a valuable experience that helped students connect with academic learning and industrial practices.



IEEE - SMART INDIA HACKATHON

The VTU-IEEE Student Branch, in collaboration with the Department of Computer Science Engineering, VTU Belagavi, organized a 24-hour Smart India Hackathon on 17th and 18th August 2024 at the Silver Jubilee Bhavan, VTU Belagavi. The event brought together over 200 participants from various VTU-affiliated colleges across Karnataka, including Mysuru, Kalaburagi, Davangere, and Bangalore, to collaboratively solve real-world problems through innovative coding solutions. The primary objective of the Hackathon was to enhance students' problem-solving abilities and coding proficiency by addressing real-life challenges across domains such as traffic control, agriculture, and education.

The event was formally inaugurated in the presence of the Hon'ble Registrar of VTU and other senior university officials. Participants were pre-assigned problem statements and worked intensively for 24 hours within the venue. Throughout the Hackathon, jury members including professors and industry experts visited the teams, providing guidance and evaluating their progress. Participants also engaged in fun activities organized by the core committee to manage stress and maintain energy levels during the overnight session. On the second day, teams presented their solutions via PPT to the jury. Shantveer and team from Department of Computer Science Engineering, VTU, Belagavi were the winners and was also selected for National Level. The Hackathon successfully fostered innovation, collaboration, and resilience, providing a dynamic platform for young technocrats to showcase their skills and creativity.



INTERNATIONAL WORKSHOP ON “THE ROLE OF GENERATIVE AI IN ACADEMICS AND RESEARCH”

The Department of Electronics and Communication Engineering, VTU, Belagavi, in collaboration with the Visvesvaraya Research & Innovation Foundation (VRIF), organized a two-day International Workshop on “The Role of Generative AI in Academics and Research” on 6th August 2024 at the VTU Campus in Belagavi and on 8th August 2024 at RV Teachers College, Jayanagar, Bengaluru. The workshop aimed to explore the growing influence of Generative AI in education and research, focusing on its applications, challenges, and future prospects. It attracted over 350 participants, including faculty, research scholars, and industry professionals from VTU's affiliated and autonomous institutions.

The sessions featured distinguished speakers such as Mr. Shivakumar Mathapathi (CEO, Xtrans Solutions, USA), Dr. Farid Farahmand (Professor, Sonoma State University, USA), and Dr. Martin Serrano (Head Scientist, University of Galway, Ireland), who shared insights on topics ranging from IoT convergence with AI, privacy and security in AI applications, to the role of generative AI in teaching and research. A special fireside chat with Dr. S.D. Sudarshan (Executive Director, CDAC Bengaluru) and panel discussions involving eminent academicians further enriched the event. The workshop provided participants with a comprehensive understanding of generative AI, real-world case studies, and research opportunities while promoting collaboration across academia and industry. The event was convened by Dr. Meghana Kulkarni and co-convened by Mr. Mahesh B. Neelagar.

At VTU, “Jnana Sangama”, Belagavi on 06-08-2024



At RV Teachers College, Jaya Nagar, Bengaluru on 08-08-2024



IEEE - CBSE SCHOOL PRINCIPAL VISIT

The Department of Electronics and Communication Engineering, in collaboration with the VTU- IEEE Student Branch, hosted a visit for CBSE School Principals on 4th July 2024, from 2:30 p.m. to 4:30 p.m., at the Innovation Lab, VTU Belagavi. The event aimed to showcase practical electronics applications and foster industry-academia interaction by demonstrating innovative projects developed by students and faculty. The session featured a series of demonstrations beginning with simple breadboard-based experiments such as LED, fan, and buzzer control presented by IEEE student members, highlighting foundational circuit knowledge.

Several faculty members showcased advanced application-based electronics kits such as:

- TV Remote Operated Appliance Control and Auto Intensity Street Light System.
- Solar Powered LED Street Light, emphasizing sustainable technology.
- RFID-based Attendance System, showcasing automation in institutional settings.
- Energy Meters used in homes and businesses.
- Line Following Robotic Vehicle, illustrating real-time motor control and robotics.

The event highlighted how electronics education can be made interactive and application- oriented. It also offered an opportunity to understand the practical integration of theoretical knowledge. The visit concluded on a positive note, with the dignitaries appreciating the initiative and expressing interest in future collaborations for knowledge sharing and educational innovation.



IEEE - IOT WORKSHOP

The IEEE Branch of the Department of Electronics and Communication Engineering, Visvesvaraya Technological University, Belagavi, organized a two-day workshop titled "IoT – Connecting the World" on 3rd and 4th July 2024, from 10:00 a.m. to 4:30 p.m., at the Computer Lab, ECE Department. The workshop aimed to introduce students to real-world applications of the Internet of Things (IoT), emphasizing standardized data formats, cloud integration, and IoT architecture. The session was inaugurated in the presence of Dr. Meghana Kulkarni, Chairperson of ECE Department and Branch Counsellor of VTU-IEEE Student Branch, along with other faculty members. The resource person, Mr. Sai Charan Teja from Xtrans Solution, Bangalore, led the workshop with both theoretical and hands-on sessions.

Day 1 focused on an introduction to IoT and embedded systems, followed by practical implementation using Raspberry Pi, enabling students to explore programming, DIY electronics, and automation. Day 2 included hands-on sessions with Arduino for rapid prototyping and concluded with a session on cloud computing and IoT integration, highlighting real-time data processing, scalability, and advanced analytics. The key highlights of the workshop included real-life IoT applications like temperature monitoring and home automation, team-based competitions, AI integration at the sensor level, and development of working prototypes, fostering innovation and entrepreneurship among students. With the participation of 35 students, the event successfully enhanced their technical competencies and inspired future innovators.



IEEE HACKATHON EVENT

The Department of Electronics and Communication Engineering at Visvesvaraya Technological University (VTU), Belagavi, in collaboration with the VTU-IEEE Student Branch, organized an engaging Hackathon on 17th May 2024, from 2:00 PM to 4:30 PM in the Department's Computer Lab. A total of 15 enthusiastic teams, comprising of undergraduate and postgraduate students from various disciplines, participated in the event. The hackathon aimed to enhance participants' coding skills, foster innovative thinking, and encourage collaborative problem-solving. The competition was structured into two rounds: the first round, titled "Error Finding," tested the teams' debugging skills through pre-written code containing intentional errors. The second round, "Code Building," challenged the qualifying teams to develop a working application or solution based on a theme-specific problem statement using any programming language of their choice.

The teams were judged on creativity, functionality, and efficiency of their solutions. After intense competition, Team HEKUR (Sameed, Arvind B, and Shreyas), from the Department of CSE, VTU Belagavi, secured the first place, while Team RCB (Shreyas, Tayyab Sirkaz, and Pradeep K H), also from CSE, won the second place. Winners were awarded trophies, medals, and certificates, and all participants received participation certificates. The event was well-received and appreciated for its organization and the learning opportunity it provided. It served as a platform for students to apply their knowledge in a practical setting, collaborate with peers, and gain valuable hands-on experience. The success of the hackathon has inspired plans for similar events in the future, reinforcing the department's commitment to fostering technical excellence and innovation among students.



AWARENESS TALK ON IEEE AND ITS BENEFITS

An Awareness Talk on “IEEE and Its Benefits” was conducted on 31st January 2024 for the B.Tech Electronics and Computer Engineering students with the aim of introducing them to the vast opportunities offered by IEEE. The session was led by Mr. Ayush Tamannavar and Ms. Shreelaxmi, student representatives from SGBIT, Belagavi, who shared their knowledge and personal experiences with IEEE. They elaborated on how IEEE plays a crucial role in the academic and professional development of engineering students by providing access to a global network of professionals, vast technical resources, research publications, and skill-building opportunities.

The speakers highlighted the significance of participating in IEEE events, workshops, conferences, and student branch activities, which help students gain leadership experience, enhance technical competencies, and build a strong professional profile. Significant emphasis was placed on the IEEE Xplore Digital Library, along with volunteering opportunities and mentorship programs that promote innovation and facilitate professional development. The talk motivated students to consider IEEE membership to stay updated with emerging technologies and to engage actively with the global engineering community.

