IKSHA
HALF YEARLY NEWSLETTER
Volume 11 Issue 2, July 2024 - Dec 2024

CANARA ENGINEERING COLLEGE

Department of Information Science and Engineering

DEPARTMENT PROFILE

Established with the vision of transforming students into professionals capable of leading in the fast-evolving IT industry, the Information Science & Engineering (ISE) Department is committed to excellence in education, research, and innovation. The department offers a Bachelor of Engineering (BE) in Information Science & Engineering, integrating advanced academic courses with state-of-the-art laboratories to provide a robust learning environment.

The faculty, a blend of experienced and dynamic educators, are deeply involved in guiding students academically while actively engaging in research activities. They contribute to prestigious journals and conferences, ensuring that the curriculum remains cutting-edge and globally competitive. Faculty Development Programs (FDPs) and seminars in both online and offline modes are regularly conducted to keep the faculty abreast of technological advancements.

To enhance student engagement beyond academics, the department organizes seminars and workshops led by industry experts, as well as industry visits that offer practical exposure and insights into the corporate world. The department also offers additional courses that align with the latest technological trends to prepare students for industry requirements.

DEPARTMENT VISION

The Department of Information Science and Engineering strives to be a center of learning in the field of Information Technology to produce globally competent engineers catering to the needs of the industry and society.

DEPARTMENT MISSION

1. Impart technical skills in the field of Information Science & Engineering.
2. Train and transform students to become technological thinkers and facilitate a quality venture which meets the industrial and societal needs.
3. Encourage students to become well-rounded in their professional competencies.

PROGRAM EDUCATIONAL OBJECTIVES

1. Graduates will succeed in the field of Information Science and Engineering, professional career and higher studies.
2. Graduates will analyze the requirements of the software industries and provide novel engineering designs and efficient solutions with legal and ethical responsibility.
3. Graduates will adapt to emerging technologies, work in multidisciplinary teams with effective communication skills and leadership qualities.

PROGRAM SPECIFIC OBJECTIVES

1. An ability to understand, analyze and impart the basic knowledge of Information Science and Engineering.
2. An ability to apply the programming, designing, and problem solving techniques in building/simulating the applications, solving the problems and guiding the innovative career paths to become an IT Engineer.

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AMMEMBAL SUBBA RAO PAI FOUNDER

Department of Information Science and Engineering

DEPARTMENT PROFILE

The placement guidance workshops, career guidance sessions by distinguished alumni, and motivational talks are part of the department's efforts to equip students for successful careers. Under the student association CiPix, students participate in extracurricular activities that foster leadership, teamwork, and communication skills. Additionally, involvement in various Social Outreach Programs (SOPs) helps students develop a strong sense of social responsibility and environmental awareness.

Through continuous interaction with the industry and a focus on all-round development, the department aims to nurture professionals who are not only proficient in technology but also possess the soft skills necessary for career success.

PROGRAM OUTCOMES (POs)

Engineering graduates in Information Science and Engineering will be able to:

- Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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HOD MESSAGE

Dr. H Manoj T Gadiyar
Professor & HOD, ISE

I am delighted to present this newsletter edition from the Department of Information Science & Engineering. This newsletter encapsulates the essence of our department's progress and accomplishments. It reflects our dedication to academic excellence, innovation, and the holistic development of our students and faculty. The achievements showcased herein, from technical certifications and project exhibitions to faculty development programs and community outreach initiatives, highlight the collaborative efforts that define our department's success.

I extend my heartfelt gratitude to the faculty, students, and editorial team for their unwavering commitment and enthusiasm in bringing this publication to life. As we continue on this journey of growth and innovation, I urge everyone to uphold our mission of fostering technological advancement and societal responsibility, ensuring that our department continues to be a beacon of excellence in the ever-evolving field of Information Science and Engineering.

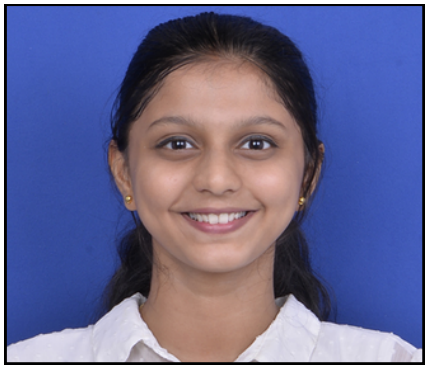
EDITOR MESSAGE

It is my pleasure to present this latest edition of the Department of Information Science & Engineering's newsletter, which captures the vibrant academic and extracurricular culture of our department. This issue highlights the remarkable achievements, events, and initiatives of our students and faculty, highlighting our commitment to technical excellence, innovation, and societal responsibility. From guest lectures and workshops to project exhibitions like "Nirmaan 2024" and "InnoTechX 2024," and faculty-led programs such as the FDP on Quantum Computing, our department has consistently demonstrated its dedication to holistic learning and staying at the forefront of technological advancements.

Mr. Ramesh Nayak
Assistant Professor, ISE

I sincerely thank our HOD, faculty, and students for their efforts in making this newsletter possible. Their enthusiasm and contributions have ensured this publication reflects the spirit of our department. As we move forward, let us strive for greater achievements, embrace innovation, and work collaboratively to reach new milestones in our academic and professional pursuits.

STUDENT MEMBERS



Ms. BHOOMIKA

Mr. SHUBHAM

Mr. AKASH JAVALI

Ms. DHANYASHREE

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BRIDGING THEORY WITH PRACTICAL EXPERTISE

Prompt Engineering

A session on Prompt Engineering was successfully conducted on September 25, 2024, from 2:00 PM to 4:00 PM, led by Mr. Akasha Javali, a 3rd-year ISE student.

The session, attended by 47 participants, commenced with an introduction to the fundamentals of prompt engineering and its applications in AI models. Participants gained insights into key concepts such as crafting, refining, and optimizing prompts, with well-defined distinctions and real-world use cases provided for clarity.

An key highlight of the session was the hands-on activities, where attendees actively participated in practical exercises to reinforce their understanding of the theoretical concepts discussed.

The session proved to be an enriching experience, equipping participants with valuable skills to effectively leverage prompt engineering techniques in AI applications.

CISCO Routing and Switching

The Department of Information Science and Engineering, in collaboration with GeekHub and Industry Connect Club, successfully organized a comprehensive series of sessions titled “CISCO Routing and Switching: Best Practices and Essentials” from October 23, 2024, to December 12, 2024.

Held every Wednesday from 2:00 PM to 4:30 PM, the sessions were led by Mr. Vasanth Nayak, Assistant Professor, Department of ISE, and witnessed the active participation of 60 third-year ISE students.

The primary objective of the program was to bridge theoretical knowledge in computer networks with hands-on practical applications, thereby enhancing both the learning experience and professional growth of students.

The sessions extensively covered CISCO IOS fundamentals, focusing on its pivotal role in managing routers and switches. Key topics included:

- Foundational configuration of routers and switches
- Setup and configuration of routing protocols such as OSPF and RIP
- Real-world scenario exploration through detailed case studies

With an emphasis on a practical approach to network management, the series underscored the significance of protocol efficiency, secure configurations, and robust network design.

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BRIDGING THEORY WITH PRACTICAL EXPERTISE

A Platform for Innovation and Skill Development

The Department of Information Science and Engineering (ISE), in collaboration with GeekHub, Industry Connect Club, and IIC, successfully conducted the technical event "INFOVATION" on 20th November 2024. The event, designed to provide students with valuable technical insights and skill-building opportunities, received enthusiastic participation and was deemed a significant success. The full-day event comprised three engaging sub-events: UI-Battle - Focused on enhancing students' design skills and creative problem-solving. BugHunt - Aimed at developing debugging proficiency and logical thinking. Error Expedition - Encouraged participants to identify and correct coding errors, emphasizing precision and analytical skills. The event concluded with a final round and the announcement of winners, celebrating the participants' efforts and achievements. "INFOVATION" provided a platform for students to showcase their abilities, fostered learning, and contributed significantly to their professional growth. The event was coordinated by Mr. Ranganatha K., Assistant Professor, Department of IS&E.

Research Integration in Engineering Education: Enhancing Innovation and Learning

A session on fostering research integration in engineering education was successfully conducted on October 16, 2024, from 2:00 PM to 4:30 PM, with Dr. H. Manoj T. Gadiyar as the esteemed resource person.

The session witnessed active participation from 40 attendees and focused on the significant role of integrating research into engineering curricula to elevate students' learning experiences and professional development.

Dr. Gadiyar elaborated on effective strategies for promoting research-based learning in engineering education, offering valuable insights into practical approaches for fostering innovation and enhancing problem-solving skills among students.

The session served as an enlightening experience, inspiring participants to embrace research-oriented practices for academic and professional excellence.

Empowering Communities Through Digital Literacy and Food Preservation Awareness

The Department of Information Science & Engineering successfully conducted a Social Outreach Program aimed at promoting digital financial literacy and raising awareness about food preservation techniques.From January 12th to 15th, 2024, the team visited Polali and Mulur Taluk to conduct a digital financial literacy program under the "Digital India Initiative." The activity focused on educating the local community about UPI-based transactions, fostering behavioral change, and encouraging the adoption of digital financial tools. The team also started the day by serving meals to the local community, reflecting their commitment to holistic social responsibility.

On December 6th, 2024, the team visited Prakash Oil Mills in Moodabidri as part of their Food Preservation and Packing activity. Students gained hands-on experience and observed the traditional oil extraction process, includng seed selection and cleaning to the final stages of oil production.

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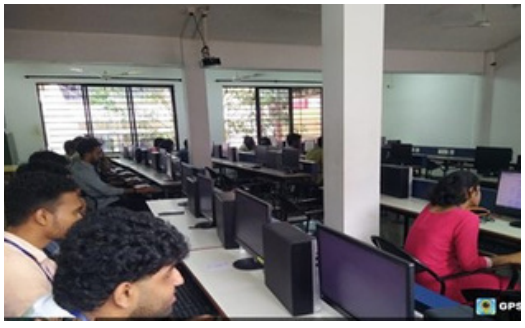
Bridging Engineering and Career Success

The Department of Information Science & Engineering organized two impactful alumni sessions aimed at guiding final-year students in career development and placement preparation.

On October 16, 2024, Ms. Sanjana B. Jain, Team Leader - Online Reputation Management and an alumna of the 2015 batch, delivered an insightful session titled "From Engineering to Business: The Rising Importance of Online Reputation Management in Career Development". She highlighted the importance of building a strong digital presence for engineers transitioning into business roles.

On October 4, 2024, Ms. Chaitra Nayak, Tier 1 Analyst at Riskonnect Inc., Mangalore, and an alumna of the 2024 batch, conducted a session titled "Placement Assistance for the Upcoming Placement Drive". She provided valuable advice and actionable insights to help students prepare effectively for the placement season.

Both sessions were highly informative and well-received by the students, offering them good knowledge and strategies for their future endeavors.



Industrial Visit to MIT Manipal and MUTBI: Exploring Cybersecurity and Innovation

On December 5, 2024, the ISE 3rd-semester students participated in an industrial visit to the Center of Excellence for Cyber Security at MIT Manipal and the Manipal Universal Technology Business Bio-Incubator (MUTBI).

A total of 108 students attended this insightful visit, coordinated by Mr. Ranganatha K, Assistant Professor; Dr. Narayan Naik, Associate Professor; Ms. Shilpa B, Assistant Professor; Ms. Geethalaxmi, Assistant Professor; and Mr. Pradeep Murur, Assistant Professor.

The visit provided students with valuable exposure to IoT (Internet of Things) technologies and an understanding of cybersecurity operations within a smart city model. Additionally, they gained insights into the incubator facility and its role in fostering entrepreneurial opportunities for innovative ideas.

Online Test on “JavaScript” Conducted in Collaboration with IIT Bombay

The Spoken Tutorial Project, IIT Bombay, funded by the National Mission on Education through ICT (MHRD, Govt. of India), successfully conducted an online test on “JavaScript” remotely at Canara Engineering College.

The test was efficiently organized by Mrs. Savitha Acharya, Assistant Professor, Department of ECE, and invigilated by Mrs. Geethalaxmi, Assistant Professor, Department of ISE.

The test took place on October 14th, 2024, from 2:00 PM to 3:00 PM, in the ISE Department labs. A total of 61 third-year students from the ISE Department participated in the test, and 55 students successfully cleared it and earned their certificates.

The course material for the test was provided by the “Talk To A Teacher” project at IIT Bombay.

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HIGHLIGHTS
SPORTS & NPTEL

Yuva Badminton Tournament

Mr. Suprith Praveer Nayak, a 5th-semester student, secured 2nd place at the Yuva Badminton Tournament held on November 17, 2024, at Golden Shuttle, Kottara, organized by Youth India

Data Structure and Algorithms using Java

- Ms. Asmi S Hegde, Mr. Swasthik Krishna P, Ms. Greeshma, Ms. Lasya T P, Mr. Balakrishna Kini, Mr. Harsha Shyam Bhat, and Mr. Kartik Devidas Nayak from the 6th Semester achieved an Elite Badge in Data Structure and Algorithms using Java (July–Oct 2024).

- Ms. Swathi from the 6th Semester earned a Completion Certificate in Data Structure and Algorithm using Java (July–Oct 2024).

- Mr. M Vignesh from the 6th Semester earned a Completion Certificate in Data Structures and Algorithms using Java (July–Oct 2024)

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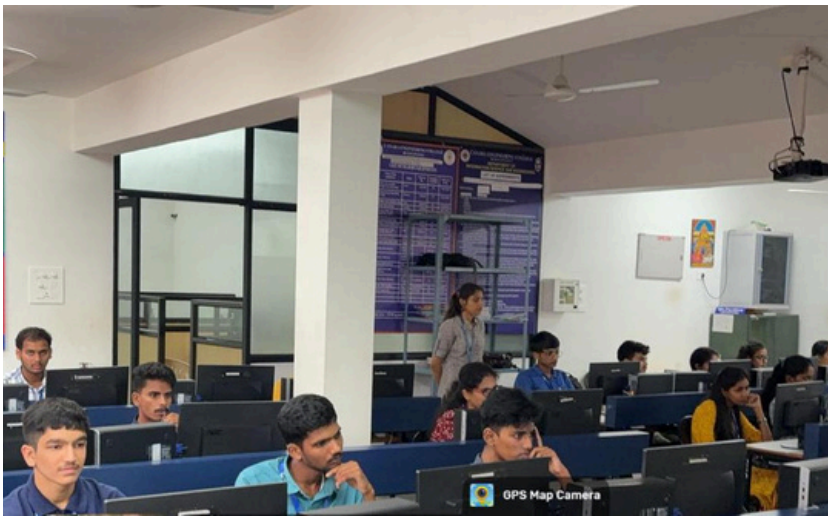
Online Test on 'HTML' Conducted in Collaboration with IIT Bombay



The Spoken Tutorial Project, IIT Bombay, funded by the National Mission on Education through ICT (MHRD, Govt. of India), conducted an 'HTML' online test remotely, hosted at Canara Engineering College.

The test was meticulously organized by Mrs. Savitha Acharya, Assistant Professor, Department of ECE, and was invigilated by Mrs. Geethalaxmi, Assistant Professor, Department of ISE.

The test took place on October 14th & 15th, 2024, from 3:00 PM to 4:00 PM, in the ISE Department labs. All students of 2nd year from the ISE Department enrolled for the test, out of which 114 students successfully cleared the test and were awarded certificates.

The course material for the test was provided by the "Talk To A Teacher" project at IIT Bombay.

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Empowering Educators through Quantum Insights

The Department of Information Science and Engineering at Canara Engineering College, in association with Visvesvaraya Technological University, Belagavi, organized a 3-day Faculty Development Program (FDP) on Quantum Computing from August 22nd to August 24th, 2024. The program was inaugurated on August 22nd at 9:15 AM in Seminar Hall 2.

Glimpses of the FDP

This FDP aimed to provide educators and researchers with a comprehensive understanding of quantum computing, focusing on key concepts such as quantum bits, gates, circuits, and algorithms. Sessions delved into real-world applications, including quantum cryptography, financial modeling, and supply chain optimization.

Eminent speakers such as Dr. Thyagaraju G S from SDMIT, Ujire, Mr. Durai Karthi Ganesh, CEO of Kwantum Research Labs, and Mr. Prashanth Kumar A of 7EDGE Private Limited enriched the event with their expertise. The program also included hands-on sessions using tools like Python/Qiskit and Cirq, enabling participants to translate theoretical knowledge into practical skills.

The Faculty Development Program (FDP) was coordinated by Dr. Usha G. R., Associate Professor, and Mr. Ranganatha K., Assistant Professor, from the Department of Information Science & Engineering (IS&E). The event fostered collaboration and knowledge exchange between academia and industry, providing participants with valuable insights and practical tools to integrate quantum computing into their academic and research endeavors.

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Nirmaan 2024 - Idea to Innovation

Project presentation in Nirmaan 2024

The Department of Information Science & Engineering, in association with the Institution's Innovation Council (IIC), organized a project exhibition titled "Nirmaan 2024 - Idea to Innovation" on December 10, 2024, as part of the college's "Innovations Showcase" exhibition.

The project titled "Real-Time Collaborative Code Editor for Seamless Tech Interviews," led by Ms. Amulya Jois, was selected as the Best Project. "HealthHub-Rapid Diagnosis Model," led by Mr. Pradyumna D. Bhat, and "Advanced Browser Extension for Dark Pattern Detection and Mitigation," led by Mr. Kartik Girish Pai, secured the second and third places, respectively.

Seventeen project teams, consisting 66 students, participated and presented their innovative projects to judges, faculty members, and students from lower semesters who attended the event.

The projects were evaluated by external judges Mr. Harish Neermarga (Accolade Tech Solutions Pvt. Ltd.) and Dr. Dinesh Naik (NITK Surathkal), along with internal judges Ms. Sowmya K and Ms. Saritha Suvarna from the Department of CSE.

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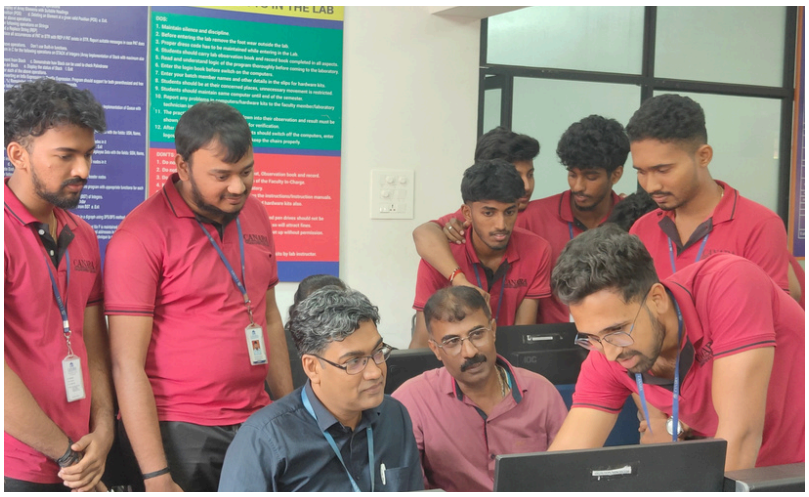
InnoTechX 2024: Mini-Project Exhibition



Glimpses of InnoTechX 2024

The Department of Information Science and Engineering (IS&E), in association with Institution's Innovation Council, successfully organized InnoTechX 2024 – A Mini Project Expo on December 11, 2024.

The event was meticulously evaluated by internal judges Mr. Ramesh Nayak, Assistant Professor, Department of IS&E, and Mr. Ajay Shet, Assistant Professor, Department of CSE. A total of 16 teams, comprising 62 students, enthusiastically participated in the expo, presenting innovative projects that showcased technical expertise and creativity.

The judging panel highly appreciated the efforts and ingenuity displayed by all the participating teams. Among the remarkable projects, the following emerged as the Top 3 Projects:

1. "Mind-care: A Sentiment Analysis Framework for Mental Health Detection"
2. "Women Shield – A Secure and Safety Device"
3. "IoT-based Irrigation Pump Automation"

The expo highlighted the technical prowess of the students but also underscored the department's commitment to fostering innovation and practical learning.