



BITS & BYTES

NEWS LETTER FROM CANARA ENGINEERING COLLEGE



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CANARA ENGINEERING COLLEGE

EDITORIAL

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STUDENT **MEMBER**

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VISION

To be a globally competent center in Computer Science and Design committed to produce a pool of knowledgeable engineers to extend solutions for the mankind in the field of software and design.

MISSION

- Provide the environment to become industry ready **Professionals, Researchers and Entrepreneurs by** offering emerging courses.
- Imparting experiential learning to gain proficiency in contemporary software and design tools to meet the current demands of the industries.
- Develop teamwork and problem-solving abilities, foster lifelong learning and instill sense of ethical and societal responsibility among students.





DEPARTMENT PROFILE

The department was started in the year 2021 to offer under graduate degree programme i.e. Bachelor of Engineering (BE) in Computer Science & Design (CS&D). To guide the students with their academics, the department includes enthusiastic, skilled, and experienced teaching members. The faculty members are actively involved in teaching, product development and research. The faculty members have published number of research and review papers/articles in referred International journals and reputed International conferences which archived at IEEE/ACM/Springer and other renowned digital libraries. A course in computer science and design is related to a course in computer science and engineering, which emphasises not only technologies, computing programming, and tools but also various techniques design and interaction approaches.

The program's goal is to provide students with an interdisciplinary skill set that will allow them to succeed in a variety of industries, including the information technology field, animation, virtual reality, augmented reality, multimedia, robotics, game development, entertainment, and digital analytics, among others. The faculty frequently attends staff development programmes (SDP/FDP/Seminar) to update themselves technological advancements and conferences to present research findings. The department aims at building the students' career by placing special emphasis on all-round development continuous interaction with Industry. To increase the opportunity of placements to students. department conducts soft skills training programmes, technical skill development activities and initiatives on self-learning (Spoken Tutorial programmes by IIT Bombay).





PROGRAMME EDUCATIONAL **OBJECTIVES (PEO)**

- Graduates will apply knowledge and skills of computer science and business system to address challenges in various aspects of technology, business and society.
- Graduates will design and develop technologies that will solve real time complex problems by pursuing higher education and research.
- Graduates will engage in lifelong learning by adapting to changing industrial and societal needs.
- Graduates will efficiently work and effectively as computer science and business systems engineers exhibiting team spirit, leadership and ethical qualities.

PROGRAMME OUTCOMES

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

- 1.Engineering knowledge: Apply the knowledge of mathematics, science. engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
- 2.Problem analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated principles conclusions using first mathematics, natural sciences and engineering sciences.
- 3.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.

- 4.Conduct investigations of complex problems: Use research-based knowledge and methods including design experiments, analysis and the interpretation of data and synthesis of information to provide valid conclusions.
- 5.Modern tool usage: Select/Create and apply appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling to complex engineering activities, taking comprehensive cognizance of their limitations.

- 6.The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the the consequent responsibilities relevant to professional engineering practice.
- 7.Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and for need sustainable development.
- 8.Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the relevant scientific and/or engineering practices.
- 9.Individual and team work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.
- 10.Communication: Communicate effectively on complex engineering activities with the engineering community and with the 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.
- 11.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.



PROGRAMME SPECIFIC **OUTCOMES (PSO)**

- Apply designing principles and mathematical concepts to make the students well-versed with full stack applications.
- . Design and develop computer programs/computer-based systems in various areas of Multimedia, Graphics and User Interface.

NEW FACES OF CSD FAMILY



Mrs.Krathika A



Mrs. Sourabha S Rai

STAFF ACHIEVEMENTS



Book Chapter:

Dr. Praahas Amin published a book chapter "Disinformation and the Impact on Democracy" in Data Protection, Springer 2024. https://doi.org/10.1007/978-3-031-76473-8 12

Organizing Chair and Conference Session Chair:

Dr. Praahas Amin was a part of the organizing committee as an Organizing Chair and also Chaired a session at the International Conference on Responsible Artificial Intelligence - 2024 jointly organized by Mangalore University and Cardiff Metropolitan University, with Canara Engineering College having a special session on Trends in Intelligent Computing and Data Science.



Event Coordinator:

Dr. Praahas Amin was the convenor for the following events:

- 1. 3D Modelling using Blender organized by Computer Science and Design Department in association with GeekHub/Industry Connect Club and IIC
- 2. Talk On Astrophotography In Commemoration Of National Space Day organized by Computer Science and Design Department in association with GeekHub/Industry Connect Club and IIC
- 3. Talk On Cyber Security Architecture in Al by Dr. Liqaa Nawaf organized by Research and Development Department as a part of the visit from the Cardiff **Metropolitan University**
- 4. Talk On Information Security by Dr. Vibhushinie Bentotahewa organized by Research and Development Department as a part of the visit from the Cardiff **Metropolitan University**



Patent:

Mr.Ravishankara Kulamarva Published a Patent with the title "Assisting the Visually Impaired with Al" on 20-09-2024.

FDP:

- 1. Attended 12 days FDP on "Computer Vision and Gen-Al" Tools organized by Ramco Institute of Technology, Rajapalayam, Tamil Nadu, India from 15th to 27th July 2024.
- 2. Attended 5 days FDP on "Effective Research Writing" organized by Ivarin Publications, Tamil Nadu, India from 23rd to 27th September 2024.
- 3. Attended 8 weeks FDP on "Accreditation and Outcome Based Learning" organized by IIT, Madras from August to October 2024 and secured Elite Silver Badge.
- 4. Won First place in "Valmiki Ramayana Quiz" conducted on 17th October by Arts, Cultural and Literacy Club, CEC, Mangaluru.

Attended Training program on VTU Consortium e-Resources" organized by CEC, Mangaluru on 25th October 2024.

Conference (Proceedings) Paper Publication:

Published a conference paper with the title "Stable Control of Underwater Target Search Robot Support Rescue and Rescue Work" in Springer Nature Switzerland on 16th November 2024.





Conference presentation and publications:

- 1. Mr. Anantha Krishna Kamath presented a Paper titled "Data Mining and Identification of Influencing Factors for Effective Load Forecasting of a Substation Using Machine Learning Regressors" in '2024 IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics (2024 IEEE DISCOVER)', held on October 18-19 2024. The paper is published in IEEE conference
- 2. Mr. Anantha Krishna Kamath presented a Paper titled "Distribution Substation Level Short term load forecasting using an effective forecasting model: combining graphical data processing and machine learning regressors" in '2nd International Conference on Emerging Materials, Smart Manufacturing and Computational Intelligence - ICEMSMCI 2024', held on July 18-19 2024.
- 3. Mr. Anantha Krishna Kamath presented a Paper titled "Hybrid machine learning regressor model for effective short term load forecasting of Talapady substation" in 'International Conference on Responsible Artificial Intelligence (ICRAI - 2024)', held on December 16-17, 2024

Journal Publications:

Mr. Anantha Krishna Kamath published a Paper titled "Hibiscus leaf petiole derived activated carbon as a potential sorbent for basic green 4 and reactive yellow 15 dye exclusion from aqueous solution", in Inorganic Chemistry Communications, Vol 168, October 2024. https://doi.org/10.1016/j.inoche.2024.112903

Won First place in "Valmiki Ramayana Quiz" conducted on 17th October by Arts, Cultural and Literacy Club, CEC, Mangaluru.



FDP:

- 1. Mrs. Chatura V Karadesai was Attended 3 Days FDP "3 day online FDP on Unlocking the Potential of Data Analytics Using Python, Power BI and Tableau", Department of CS&E, Bangalore Institute of Technology Bangalore, 19-21 November
- 2. One week FDP on "Cutting Edge Generative AI: Techniques and Applications in RAG and Agents" held during 26thto 31st August 2024 Organized by Dept. of computer Science & Engineering, SJB Institute of technology, Bangalore



FDP:

- 1. Mrs. Krathika attended 3 Days FDP "Quantum Computing,", Canara Engineering College Bantwal, Karnataka, India, 22 to 24 August 2024
- 2. Mrs. Krathika attended 3 day online FDP on Unlocking the Potential of Data Analytics Using Python, Power BI and Tableau", Department of CS&E, Bangalore Institute of Technology Bangalore, 19-21 November 2024.





FDP:

Mrs. Sourabha S Rai attended 3 day online FDP on Unlocking the Potential of Data Analytics Using Python, Power BI and Tableau", Department of CS&E, Bangalore Institute of Technology Bangalore, 19-21 November 2024.



FDP:

- Mr. M H Soorajprasad attended 2 week online FDP on "Computer Vision and Gen-Al Tools", Department of Al&DS, Ramco Institute of Technology Rajapalayam, 15-07-2024 to 27-07-2024.
- Mr. M H Soorajprasad attended 2 day FDP on "Inculcating Best Research Practices", Department of CSE, Vivekananda College of Engineering and Technology, 22-08-2024 to 24-08-2024.

PLACEMENT



Mr. Ananth Joshi(4CB21CG009) has been placed in MU Sigma





Ms. Harshini D (4CB21CG021)has been placed in MU Sigma





Ms. Sushma Shenoy (4CB21CG056)has been placed in MU Sigma







Mr. Syed Arbaaz Hussain (4CB21CG057) has been placed in Juego Studios





Mr. Syed Arbaaz Hussain (4CB21CG057) has been placed in Cognizant





Mr. Abhiram Ganesh Hegde (4CB21CG001) has been placed in Cognizant Cognizant



STUDENT ACHIEVEMENTS



Shreya J H (4CB21CG050) and Rakshitha B Bhajentri (4CB22CG034) are Participated in Canara Engineering College Girls Kabaddi team achieved the 2nd Runner-Up position in the VTU Intercollegiate Mangalore Division Tournament, held at Sahyadri College of Engineering and Management, Mangalore, on November 15, 2024.



STUDENT ACHIEVEMENTS



Poorva Kumari(4CB21CG033)Secured 2nd place in the VTU Mangalore Division Badminton Tournament held at SJEC on July 7th, 2024.

B Shashank Kamath(4CB22CG002)has Data Unleashed: Al, ML & Beyond! at NITK Surathkal sponsored by Warrier H.EA.R.T HUB for the project "AquaWISE", organised by Dept. of Water Resources & Ocean Engineering and Dept. of Computer Science Engineering, NITK Surathkal on 26th October 2024.







Sakshi V Moger(4CB22CG039) and Sanjana A(4CB22CG040) attended THE AGNIRVA SPACE INTERNSHIP PROGRAM, 01-08-2024.



STUDENT ACHIEVEMENTS



P Chinmaya Krishna Aithal(4CB23CG035) Data Unleashed: Al, ML & Beyond! at NITK Surathkal sponsored by Warrier H.EA.R.T HUB for the project "AquaWISE", organised by Dept. of Water Resources & Ocean Engineering and Dept. of Computer Science Engineering, NITK Surathkal on 26th October 2024.

Reethu M(4CB23CG041)has Data Unleashed: Al, ML & Beyond! at NITK Surathkal sponsored by Warrier H.EA.R.T HUB for the project "AquaWISE", organised by Dept. of Water Resources & Ocean Engineering and Dept. of Computer Science Engineering, NITK Surathkal on 26th October 2024.



Nishchith(4CB23CG033)has Data Unleashed: Al, ML & Beyond! at NITK Surathkal sponsored by Warrier H.EA.R.T HUB for the project "AquaWISE", organised by Dept. of Water Resources & Ocean Engineering and Dept. of Computer Science Engineering, NITK Surathkal on 26th October 2024.



Aneesh Rao K (4CB23CG005)has Data Unleashed: Al, ML & Beyond! at NITK Surathkal sponsored by Warrier H.EA.R.T HUB for the project "AquaWISE", organised by Dept. of Water Resources & Ocean Engineering and Dept. of Computer Science Engineering, NITK Surathkal on 26th October 2024.





STUDENT ACHIEVEMENTS



Rishab B (4CB23CG042) has successfully completed NPTEL Online certification course on Software Conceptual Design with a consolidated score of 81%

Kratika C Prabhu (4CB23CG022)has Participated in Code meet 2024 at Srinivas University Institute of Engineering and Technology, Mukka, on 20 Oct 2024.



ACADEMIC TOPPERS

SIXTH SEMESTER TOPPERS



Ms. M. Shridevi Prabhu 4CB21CG025 **SGPA: 9.46**



Ms. Shreya J H 4CB21CG050 SGPA:9.41



Ms. Adithi N 4CB21CG004 **SGPA: 9.27**



Ms. Poorva Kumari 4CB21CG033 **SGPA: 9.27**



ACADEMIC TOPPERS

FOURTH SEMESTER TOPPERS



Ms. Rakshitha B Bhajentri 4CB22CG034 **SGPA: 9.32**



Mr. Shivaprasad Acharya 4CB22CG046 **SGPA: 9.26**



Ms. Mahima U S 4CB22CG022 **SGPA: 9.26**



Ms. Harshitha Pai 4CB22CG012 **SGPA: 9.21**



Ms. Saniana Karanth U 4CB22CG041 **SGPA: 9.21**

DEPARTMENT EVENT



Talk on'Bridging the Gap: from Class Room Industry'

Session to bridge the gap between the classroom and industry was held by computer science and design department on 3rd July, 2024 The session began with a welcome address acknowledging the presence of esteemed dignitaries, including Dr. Praahas Amin, Head of the Computer Science and Design Department. The keynote speaker, Me. Shreesha Kulkarni who is an alumni of Canara Engineering College and an experienced software engineer, provided an in-depth discussion on essential requirements for students aspiring to enter the IT field. This included a focus on foundational skills such as programming, problemsolving, and continuous learning. The speaker also explored various job opportunities available to graduates of Computer Science and Design Engineering, covering roles in software development, data analytics, and other emerging fields within the tech industry. Additionally, the session included practical problem-solving exercises focused on logic building, emphasizing its critical role in software development. The speaker demonstrated how strong logical thinking skills are essential for effectively addressing and solving complex problems in real-world scenarios. These exercises helped students understand the importance of developing robust analytical skills to succeed in the IT field. The session concluded with a token of gratitude presented to the speaker by Mr. Anantha Krishna Kamath, followed by a vote of thanks. Overall, the session successfully bridged the gap between classroom knowledge and real-world scenarios, offering valuable insights and inspiration to the 4th and 6th semester students of computer science and design department. The event is Coordinated by Mr. Anantha Krishna Kamath, Alumni Coordinator and Ms. Chathura V Karadesai, IIC Coordinator.







Session on Achieving Value Proposition Fit and Business Fit

The speaker emphasized the importance of aligning a products value proposition with the needs and desires of the target market. Through engaging real-life examples, students learned how successful companies have effectively identified and addressed customer pain points, creating products that resonate deeply with their audience.

DEPARTMENT EVENT





TECHNOFUSION 2024

The project expo showcased innovative solutions and helped the students to exhibit their talents. The integration of front end and back end technologies helped for delivering the user friendly applications.



Talk on Astrophotograppy - In Commemoration of National **Space Day**

In commemoration of National Space Day, a talk on Astrophotography was organized by the Department of Computer Science and Design in Association with IIC and Geekhub and Industry Connect Club. The resource person introduced the concepts of Astronomy and Astro-Imaging. Students were given an insight into different equipment used for astro-imaging. Students were briefed about concepts of Astroimaging such as Stacking, Light Frames & Callibration Frames, Signal to Noise Ratio. Participants were briefed about different types of Deep Sky Objects and how to choose different filters for imaging them in the city when faced with Light Pollution. Participants were shown different images of Deep Sky Objects, Galaxies and Lunar Surface which was captured from within the city to inspire an interest in Astronomy and Space Sciences.





DEPARTMENT EVENT



INTRODUCTION TO DATA SCIENCE

Data science is a powerful tool for decisiondriving innovation. It blends making and advanced techniques with domain-specific knowledge to uncover hidden patterns in data, enabling more informed, efficient, and strategic decisions.









3D Modelling using Blender

The Session covered basics and fundamentals of Blender, the User Interface of the software and the different features of the tools. Students were briefed about 3D Sculpting, Textures etc. They were given inputs about opportunities available in the niche domain of 3D Modelling and how upskilling with Blender can open up opportunities in Game Development, Architecture Visualization, and VFX and CGI.





Exploring Robotic Process Automation using UI path Studio

The event "Exploring Robotic Process Automation" using UiPath Studio" was an insightful session aimed introducing participants at to the fundamentals of RPA. Attendees learned how to design and implement automation processes using UiPath Studio, a leading RPA tool. The workshop covered key concepts such as creating workflows, using activities. The event concluded with a Q&A session, allowing attendees to clarify their doubts and explore advanced features of UiPath Studio.





Digital Logic Design

The students were briefed about fundamentals of logic design and its necessity in computing systems. Design of components of ALU such as construction of 4-bit adder using full adders and half adders was demonstrated. Students were briefed conversion of number systems. The resource person addressed the students about benefits of digitization and its impact on electronic systems.





Fundamentals of Latex:Beginner's Workshop

Latex is a typesetting system widely used for academic and technical documents due to its powerful handling complex mathematical of formulas, scientific notations, and references. It allows users to focus on content while LaTeX handles the formatting, making it ideal for students preparing reports, theses, and papers.





Ayudha Pooja

On the day of Ayudha Pooja, a designated area within the college campus is set up for the Puja ceremony. Faculty members, students, and staff gather to participate in the rituals, which are conducted by a priest . Mantras and prayers are recited, invoking the blessings of the divine for wisdom, knowledge, and success in academic





Time Management

A Talk on Time Management was organized by the Department of Computer Science & Design for the 3rd semester students on 30th October 2024 in association with Department of Student Welfare, CEC, Mangaluru. This talk was arranged exclusively for the 3rd semester CS&D students. The resource person was Ms. Sandhya Poojary, Assistant Professor & Counsellor, Canara Engineering Mangaluru. During the session, the College, resource person conducted a group activity to make them learn about the different parameters involved in time management techniques. A total of 32 students attended the session











Exposure Visit to Incubation Units and CoEs

Department of CSD in association with IEEE student branch and IIC had industrial visit to Manipal incubation center for 3rd semester, "Exploring options for Entrepreneurship-discussion with startup eco system enablers and for SOIS lab, Innovation Centre and Cybersecurity center at MAHE. Students gained insights into how incubator centers operate, including the resources they provide, such as mentorship, funding opportunities, office space, start up and networking. Students had a enriching experience, offering valuable insights into the forefront of technological and scientific development.

Branch entry and Freshers Day

The fresher's day and Branch entry was filled with excitement, joy, music, enthusiasm, laughter and happiness. It is the day where seniors and juniors finally bond and unite to celebrate being part of the college. Students were welcomed with the so much of enthusiasm.







Techsplosion-EX 2024:Igniting Innovation, Showcasing Brilliance

The Department of Computer Science and Design (CSD), in collaboration with the Institution's Innovation Council (IIC), successfully organized "Techsplosion-EX 2024: Igniting Innovation, Showcasing Brilliance" on December 10, 2024. The event was scheduled from 9:00 AM to 4:30 PM and served as a platform to showcase the innovative talents of students and foster technical skill development. Inaugural Ceremony: The event commencedwith an inaugural ceremony held at Seminar Hall-1 from 9:10 AM to 9:40 AM. Chief Guest: Mr. Harish Neermarga, CEO of Accolade Tech Solutions, inaugurated the event and delivered an inspiring speech on the importance of innovation and engineering in driving societal growth. Participation: A total of 16 project teams from the CSD department actively participated in the competition, showcasing their technical expertise and creativity. Project Evaluation: The project evaluation took place from 9:45 AM to 12:15 PM across the designated venues. Four judges—two external industrial experts and two internal faculty members—evaluated the projects based on innovation, technical complexity, societal impact, and presentation skills. Judges Panel External Judges: Mr. Krishna Kumar U: Architect, Cognizant Technology Solutions, Mangalore. Mr. Nagesh Shenoy A: Senior Software Engineer, Robosoft Technologies, Udupi. Internal Judges (from CEC): Mr. Arjun K: Faculty from the AIML department. Dr. Vinay P: Faculty from the CSE department. Event Coordination The event was meticulously coordinated by the department project coordinator, Mrs. Pooja N S, ensuring its seamless execution. Prizes and Recognition The Top 2 teams from the department will be awarded prizes and certificates during the upcoming College Fest as recognition for their outstanding contributions and innovative ideas. Objectives of the Event To demonstrate the role of engineers in addressing societal and environmental challenges. To enhance technical skills and foster innovation. To cultivate interpersonal, teamwork, and time management skills among participants. Outcomes Achieved Successfully demonstrated the use of modern engineering tools in solving real-world problems. Participants developed individual and interpersonal skills. Projects showcased commitment to societal and environmental responsibility. Effective time management and ethical practices were demonstrated throughout the event.



Computer Science and Design Department of Canara Engineering College has exchanged an MoU with Juego Studios. The collaboration aims to bridge academia and industry through faculty and student upskilling sessions, workshops, hackathons, curriculum enrichment and innovation driven initiatives to enable students to be industry ready game developers.







