K.RAMAKRISHNAN COLLEGE OF ENGINEERING

An Autonomous Institution

Permanently Affiliated to Anna University Chennai, Approved by AICTE New Delhi,
ISO 9001:2015, 14001:2015 certified institution, Accredited by NBA and with A grade by NAAC

Samayapuram, Tiruchirappalli – 621 112, Tamilnadu, India.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NEWSLETTER

ISSUE 2024-2025
(ODD SEMESTER)









THE NEWSLETTER TEAM

Head Of Department:
Dr.T.M.NITHYA Ph.D.

Assistant Head Of Department:
Dr.L.AMUDHA
Mr.R.SASIKUMAR

News letter Coodinator:
Mr.V.KUMARARAJA
Mrs.N.NITHYA

Content Organizers:
V.KEERTHI ESWAR
K.KRISHKANTH

Designer & Art:
S.AKASH PRASANNA
V.GURU PRASATH

ABOUT OUR TEAM

Mrs.N.NITHYA
Coordinated with all aspects of Successful Newsletter Release

Mr.V.KUMARARAJA
Coordinated with all aspects of Successful Newsletter Release

Mrs.S.SARANYA
Organized the faculty data

V.KEERTHI ESWAR
Organized the entire flow of newsletter content

K.KRISHKANTH
Proof reader for the section “Student Matters”

S.AKASH PRASANNA
Designed the Newsletter with Creative art

V.GURU PRASATH
Presented the content under the section “student Achievements”

MESSAGE FROM
HEAD OF THE DEPARTMENT



Dear Readers,

Warm Greetings!

As we embark on the academic year 2024-2025, I am delighted to extend my warmest greetings to the entire engineering fraternity at K Ramakrishnan College of Engineering. It is with great pride that I write this message, reflecting on the successes and milestones that the Department of Computer Science and Engineering has achieved.

Department of Computer Science and Engineering continues to thrive with a focus on innovation and excellence. This year, our students have excelled in prestigious events like hackathons and internships, especially in Artificial Intelligence, Web Development, and Cybersecurity. Their achievements reflect their dedication and hard work, while our faculty's ongoing research and contributions strengthen our global reputation in technology education.

Equally important is the holistic growth of our students, shown through their success in sports, technical events, and cultural activities. As we continue to nurture talent, foster innovation, and collaborate with industry leaders, the Department of Computer Science and Engineering at K Ramakrishnan College of Engineering will remain a beacon of excellence. I wish all our students success in their academic and personal pursuits.

With Best Regards,

Dr. TM Nithya

Head of the Department,

Department of Computing Technologies

K Ramakrishnan College of Engineering

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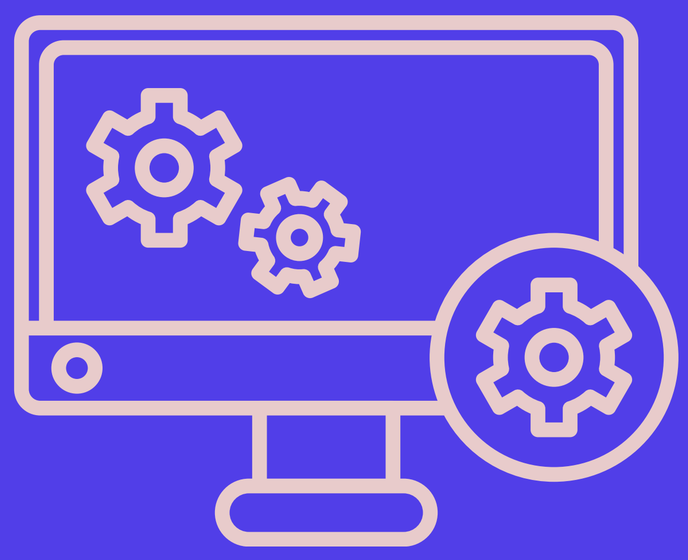
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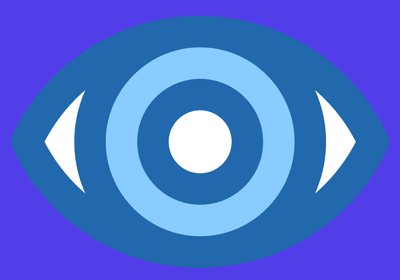
ABOUT THE DEPARTMENT

The Department of Computer Science and Engineering (CSE) at K. Ramakrishnan College of Engineering is dedicated to shaping the future of technology and innovation. Our mission is to impart comprehensive knowledge in Computer Science and Engineering, equipping students with the necessary skills and expertise to contribute effectively to society's technological advancement.

We aim to stay at the forefront of the rapidly evolving field of computing, continually evolving to meet the demands of the industry. The department fosters a vibrant learning environment for undergraduates, postgraduates, and research scholars, supported by a distinguished and dedicated faculty.

Our vision is to become a world-class department, known for providing high-quality education and offering a unique learning and research experience in Computer Science and Engineering. We strive to nurture not only technical skills but also to instill societal and ethical responsibilities in all our students.

Vision



To create eminent professionals of Computer Science and Engineering by imparting quality education.

Mission



M1: To provide technical exposure in the field of Computer Science and Engineering through state of the art infrastructure and ethical standards.

M2: To engage the students in research and development activities in the field of Computer Science and Engineering.

M3: To empower the learners to involve in industrial and multi-disciplinary projects for addressing the societal needs.

STUDENT ACHIEVEMENTS

Our students have participated in numerous prestigious events and activities that have not only highlighted their academic skills but also their determination to succeed in a variety of fields. Below is a summary of their notable achievements across multiple domains:



Hackathons and Competitons :

- Innovation Challenge 2024 (AICTE & STMicroelectronics, Grater Noida ,New Delhi) Students Agilan A V R, Hemavathi G, Devadharshini K S, and Sanjai R (IV/VII) participated in the “Inventors Challenge 2024 Grand Finale” held on November 14, 2024.





- Smart India Hackathon (Galgotias University, Grater Noida ,New Delhi) Abinaya Sree S, Meikeerthy L, Hamshika S, Kamesh, and Mithun (III/V) participated in the “Smart India Hackathon “held from December 11 to 15, 2024, showcasing their innovation and problem-solving skills.

STUDENT ACHIEVEMENTS

Extracurricular Activities (Sports) :

Our sports teams have showcased exceptional talent this academic year, bringing home accolades from various inter-college and zonal-level competitions. A few notable achievements include:

- Cricket: Akash M represented our college in the Sports Development Authority of Tamil Nadu event in September 2024.
- Mini Marathon 2024: Pranesh S participated in the Mini Marathon organized by the Sri Velu Thevar Ayya Trust in November 2024.
- Volleyball: Poshika KK and Vaishnavi S A clinched the 2nd prize in Volleyball at the Anna University Zonal Meet.
- Basketball: Hamshika bagged the 2nd prize in Basketball at Anna University.
- Hockey: The hockey team, including Arularasan, Selvakumar T, Vetriventhan, Vishnu Shankar, Sanjay E, Sarathy, Pettrus Jeffrey, Manoj Kumar, Guru Prasath V, Ranjith V and Nivasan, secured the 2nd runner-up position at the Kongunadu College of Engineering and Technology event.



STUDENT ACHIEVEMENTS

- Table Tennis: Shaahin T secured the 2nd runner-up position at the Anna University Table Tennis event.
- Badminton: Aravind A bagged the 2nd Prize in Badminton at Anna University Zonal Meet.



These achievements reflect our students' dedication to sports and teamwork, setting high standards for excellence.

STUDENT ACHIEVEMENTS

Paper Presentations & Environmental Awareness:

Students of CSE department have excelled in various technical competitions, hackathons, symposiums, and project expos, demonstrating their knowledge and innovation across reputed institutions.

- At Anna University, Guindy, Sandhiya R (II Year) participated in Submission Round 1 of HACKZ'24, showcasing her problem-solving skills.

- In the NASA International Space Apps Challenge, Antony Godwin S (II Year), Krishkanth K (II Year) and Aadhikesav A (II Year) took part in the Galactic Problem Solver event on 5th & 6th October 2024, highlighting their expertise in space-related problem-solving.

- At Sri Ramakrishna Institute of Technology, Samrithaa K (III Year), Tharshiga C (III Year), and Sriswasthika S (III Year) exhibited their innovative projects in the Project Expo held on 9th October 2024.

- Krishkanth K (II Year) enhanced his technical skills by attending "Master the Art of Full Stack Development" on 10th October 2024 and "How to Build a Successful Career in Digital Marketing Tools & Tactics" on 26th October 2024, both organized by GUVI.

- At J.J. College of Engineering & Technology, Madhumitha N (II Year) participated in the National Level Technical Symposium on 19th October 2024, contributing to knowledge-sharing and technical discussions.

- Students excelled in paper presentations at Sri Bharathi Engineering College for Women on 22nd October 2024, with Siva Suriyan (II Year), MuthuKaruppan P (II Year), and Pranesh S (II Year) showcasing their research and analytical skills.

STUDENT ACHIEVEMENTS

- A team of four students, Aravind A (II Year), Johan Benedict A (II Year), Akash S (II Year), and Jagadeesh V (II Year), participated in an intense 36-hour Hackathon at SRM University, Kattankulathur, on 6th & 7th November 2024, displaying their coding and problem-solving abilities.

- At Care College of Engineering, Pallavi P (II Year), Sherli Joselin S (II Year), and Poojaa T (II Year) showcased their research work in a Paper Presentation event on 9th November 2024, while Nithin A (II Year) and Mithun Chandran S R (II Year) participated in the Debugging event, demonstrating their technical debugging expertise.

Corporate Training & Quiz Game Systems:

- A group of 20 students participated in the Corporate Training Test and Quiz Game System using Python IDE, organized by Code Bind Technologies. This initiative aimed to provide a practical foundation for their future careers in the tech industry.

Internships 2024-2025 ODD SEMESTER :

This semester, our students participated in a range of internships, allowing them to gain valuable industry experience across various fields:

- Data Science & AI/ML: Abinaya K and Gnana Priya K, alongside 10 other students, interned with YBI Foundation, gaining experience in machine learning and data analytics.
- Web Development: Darnia J and Janani P, along with 15 other students, interned with Pacific Creation and Prodigy Infotech, enhancing their skills in HTML, CSS, and JavaScript.
- Cybersecurity: Aventhika K and Asprin T were part of the 7 students who interned with Kaashiv, delving into security technologies and systems.

STUDENT ACHIEVEMENTS

Certifications & Workshops :

- A group of 26 students completed the Artificial Intelligence Elewayte certification
- 20 students completed the Generative AI certification.
- 10 students received certification for The Joy of Computing using Python NPTEL (July-October 2024).
- 70 students earned certifications for Introduction to Internet of Things NPTEL.
- 40 students completed the Programming in Java NPTEL certification(July-October 2024).

Workshops:

- Meikeerthy L and Abinaya Sree S attended the Jigyasa Arivial Thiruvizha event organized by CSIR – SERC, Chennai on October 15, 2024.
- Sandhiya R participated in the Mastering Penetration Testing workshop hosted by SRM Institute of Science & Technology from October 15 to 17, 2024.

Our students' achievements in these diverse activities and events reflect their dedication, hard work, and relentless pursuit of excellence. We are proud of their accomplishments and look forward to their continued success in the coming years!

FACULTY ACHIEVEMENTS



K. Ramakrishnan College of Engineering, Trichy, earned an 'A' rating as a distinguished NPTEL local chapter for July–December 2024. Congratulations to Mr. K. S. Guruprakash (CSE), NPTEL SPOC, for receiving an award at IIT Madras and the Active Local Chapter certificate from Principal Dr. D. Srinivasan.



PATENTS & INNOVATIONS

PATENTS AND INNOVATIONS BY THE FACULTIES :

We are proud to share the recent patents and innovations from the faculty and researchers in the CSE Department. These contributions reflect our commitment to advancing technology and solving real-world problems.

- **Mrs.M. Ruba:** Developed an AI-Based Wearable Health Monitoring Device that tracks real-time health data using AI, such as heart rate and blood pressure.

- **Dr. T.M. Nithya, M. Ruba:** Created a system that uses QR codes to monitor and improve the quality of drinking water, ensuring it is safe.

- **Mr. K.S. Guruprakash:** Designed a Machine Learning System to Enhance Emotional Intelligence, helping individuals improve their emotional awareness for better relationships.

- **Dr. Y. ArokiaJesuraj:** Developed an Automated Device Failure Prediction System for IoT Networks using machine learning to prevent device failures in IoT systems.

- **Dr. Y. ArokiaJesuraj:** Created a system that enhances autonomous vehicle technology with AI to improve real-time decision-making, boosting safety.

- **Mr. Guruprakash Kannan:** Designed an IoT-Based Solar Powered Plant Health Monitoring Device, which ensures solar plants operate efficiently and sustainably.

PATENTS & INNOVATIONS

- Mrs. G. Surya: Created an AI-Based Blockchain Secure Vault for Personal Data and Identity Management, combining AI and blockchain to protect personal information.

- Mrs.M. Kavitha: Developed Context-Aware IoT Applications Using Deep Learning, improving IoT devices by making them smarter and more adaptive to different environments.

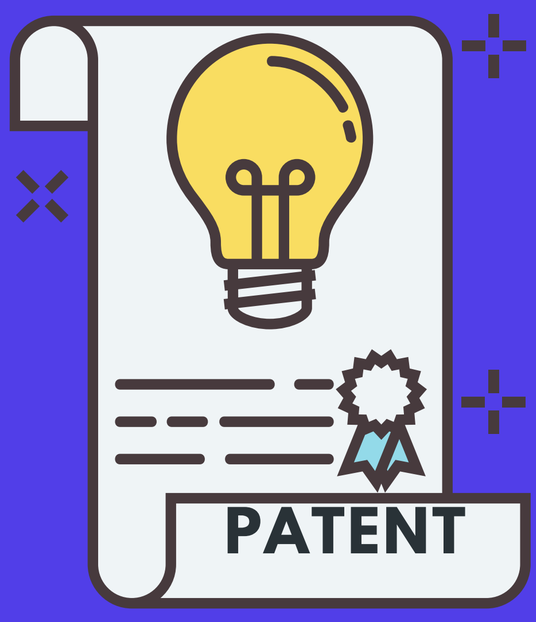
- Mrs. G. Surya: Developed a Secure Payment Gateway for In-App Purchases on Social Media Platforms, using AI and blockchain for safer transactions.

- Mrs. N. Nithya: Designed a Cloud-Based Data Lake for Big Data Analytics, providing an efficient platform for storing and analyzing large data sets.

- Dr. Sridevi R.: Invented an IoT-Based Portable Solar-Powered Charger for Electronic Devices, allowing eco-friendly charging with solar energy.

- Dr. Sridevi R.: Developed a Seed Sorting Machine to automate seed sorting in agriculture, improving efficiency and accuracy.





FACULTY PUBLICATION

PUBLICATIONS :

1. Clustering-Assisted Privacy Perseveration in Data Mining

T.M. Nithya, K.S. Guruprakash

Published in: International Journal of Ad Hoc and Ubiquitous Computing, Vol. 47, No. 2 (2024)

This study explores how clustering techniques can enhance data privacy in data mining, ensuring secure and efficient information processing.

2. IoT-Integrated Arduino System for Smart Homes

Dr. Nithya T.M

Published in: Power System Technology, ISSN: 1000-3673

An innovative approach to home automation, integrating IoT with Arduino systems to monitor and enhance intelligent home environments.

3. Enhancing NLP Robustness with Adversarial Training

Mrs.S. Saranya

Published in: Communications on Applied Nonlinear Analysis, Vol. 31 No. 6s (2024), ISSN: 1074-133X

This paper focuses on improving sentiment analysis and machine translation using adversarial training for robust natural language processing.

FACULTY PUBLICATION

4. AI Derm: Deep Learning for Skin Cancer Diagnosis

Mrs. M. Ruba

Published in: International Neurourology Journal, Vol. 8, No. 2, ISSN: 2093-4777, E-ISSN: 2093-6931

A pioneering mobile-based deep learning solution to empower skin cancer diagnosis with enhanced accuracy and accessibility.

5. Improving Intrusion Detection with Random Forest and Hill Climbing Algorithm

Dr.R. Latha

Published in: Indonesian Journal of Electrical Engineering and Computer Science, Vol. 37, No. 1, ISSN: 2502-4752

This research combines machine learning techniques to bolster cybersecurity at both network and endpoint levels.

6. Power Quality Optimization in Wind Energy Systems

Dr. R. Latha, R. Abirami

Published in: Power System Technology, Volume 48 Issue 4, ISSN: 1000-3673

A novel approach using soft computing and PI control strategies to enhance power quality in weak grid wind energy systems.

FACULTY PUBLICATION

7. Next-Generation Four-Port Isolated PV-EV Charger

Rajeswari S.

Published in: Power System Technology, Vol. 48 No. 3 (2024)

A cutting-edge design that integrates AC and DC charging solutions to optimize electric vehicle charging efficiency.

8. High-Efficiency DC-DC Converter for Renewable Energy Systems

Subashree M.

Published in: Power System Technology, Volume 48 Issue 2, ISSN: 1000-3673

An advanced converter utilizing inductors, transformers, and capacitors to boost voltage for improved renewable energy applications.



EVENTS ORGANIZED BY DEPARTMENT

EVENTS :

The IEI (Institution of Engineers India) Students' Chapter – CSE Branch was inaugurated at K. Ramakrishnan College of Engineering (KRCE) on 30th July 2024, marking a significant milestone for the Department of Computer Science and Engineering. The event witnessed the presence of distinguished guests, faculty members, and enthusiastic students, with the chief guest Dr. S. Ravimaran, Chairman of IEI, Tiruchirappalli Local Centre, Trichy emphasizing the importance of professional societies in shaping future engineers. The chapter aims to enhance students' technical knowledge, leadership skills, and industry exposure through workshops, expert lectures, hands-on training, and industrial collaborations. The chapter will provide a gateway for students to participate in IEI-organized competitions, conferences, and industrial visits, fostering a strong connection between academia and industry. The event concluded on an enthusiastic note, with faculty coordinators and student office bearers encouraging active participation in upcoming initiatives.



International Conference

International Conference:

The International Conference on Recent Trends in Artificial Intelligence, Cyber Security, and Embedded Systems (ICRTACES-2024) was successfully held on 19th & 20th September 2024, bringing together researchers, industry experts, and academicians to explore advancements in these cutting-edge fields.

The event featured keynote sessions, technical paper presentations, and panel discussions, highlighting innovations in machine learning, threat intelligence, IoT security, and smart embedded technologies. Renowned speakers shared insights on **AI-driven cybersecurity, deep learning applications, and next-gen embedded systems**, fostering knowledge exchange and collaboration. The conference provided a valuable platform for participants to network, discuss research breakthroughs, and explore real-world applications, reinforcing the importance of interdisciplinary advancements in technology.



QUARTO 2024

Date: 11th September 2024

Organized by: Quaternion Gaming Club

The **Quaternion Gaming Club successfully hosted QUARTO 2024 on 11th September 2024**, bringing together gaming enthusiasts from various colleges for an electrifying esports showdown. The event featured intense competitions across multiple gaming genres, showcasing participants' strategy, reflexes, and teamwork. With a dynamic mix of competitive matches and interactive sessions, QUARTO 2024 created an engaging platform for students to connect, compete, and celebrate gaming culture. The event concluded with the winners being honored, leaving participants with an unforgettable experience of skill, sportsmanship, and camaraderie.



Intra-College Coding Contest 2024

Discovering the Master Minds of Code – Intra-College Coding Contest 2024

The Intra-College Coding Contest 2024 – "Discovering the Master Minds of Code" was successfully conducted, showcasing the programming prowess of students. The event brought together enthusiastic coders to tackle challenging problem statements, testing their logic, efficiency, and problem-solving skills. Participants competed in multiple rounds, solving real-world coding challenges with precision and innovation.



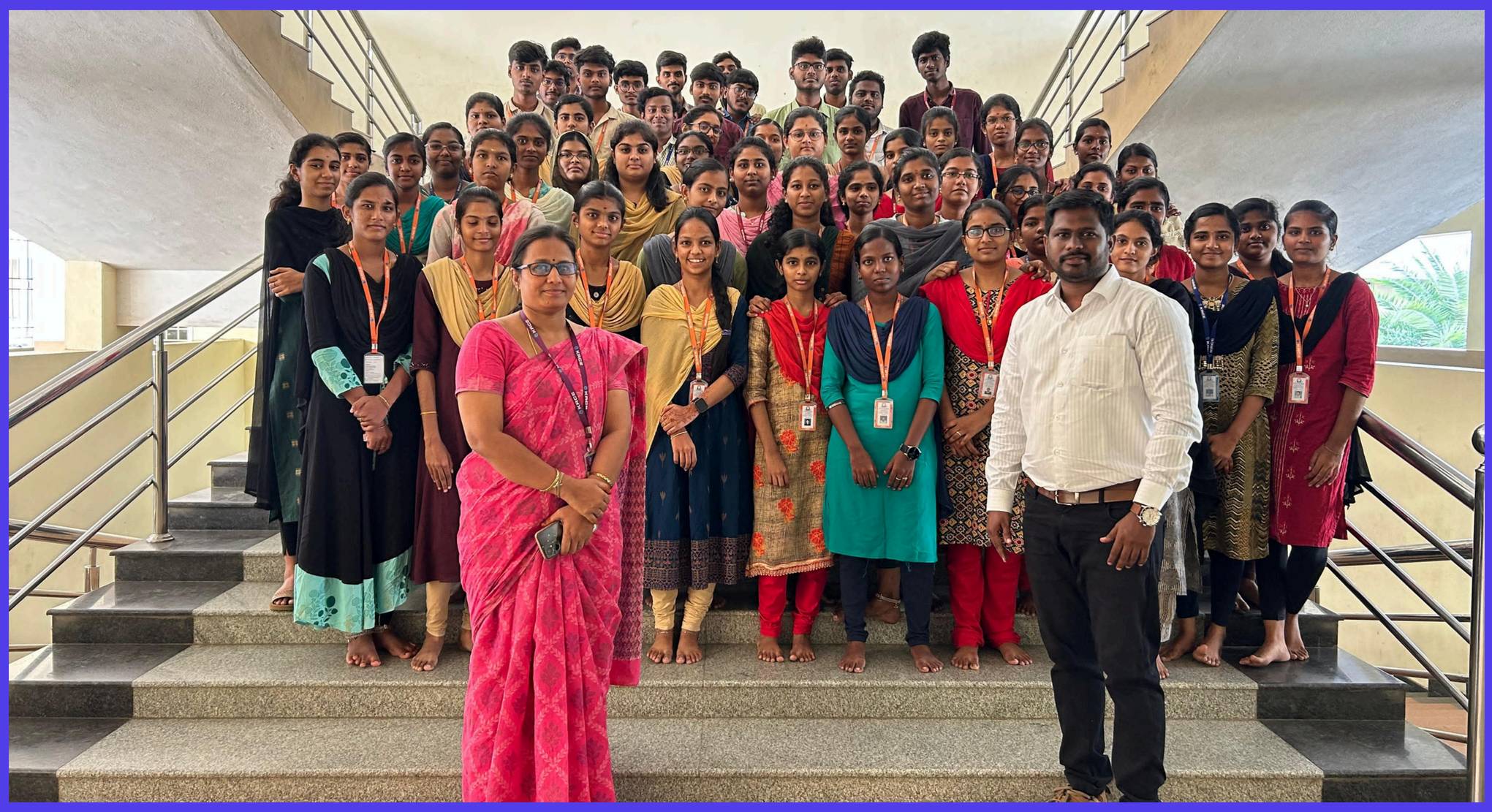
The contest not only fostered **healthy competition and teamwork** but also encouraged students to enhance their **algorithmic thinking and coding efficiency**. The winners were recognized for their outstanding performance, inspiring others to refine their coding expertise and embrace the spirit of competitive programming.

VALUE ADDED COURSES FOR STUDENTS

Value added courses

The Department of CSE successfully conducted a **Value-Added Course on Data Analytics Tools** for second-year students from 20.10.24 to 24.10.24. The course aimed to equip students with essential analytical skills and hands-on experience with industry-standard tools, enhancing their technical proficiency and career prospects.

The Department of CSE successfully conducted a **Value-Added Course on Full Stack Development** for third-year students . The course aimed to equip students with essential web development skills and hands-on experience with industry-standard technologies, enhancing their technical proficiency and career prospects.



GUEST LECTURE ON R LANGUAGE



The **Department of Computer Science and Engineering** at K. Ramakrishnan College of Engineering organized a Guest Lecture on R Language on **8th November 2024**. The session, led by **Dr. S. Anbukkarasi**, Assistant Professor at SRM Institute of Science and Technology, Tiruchirappalli, focused on the fundamentals of R programming, including data manipulation, visualization, and statistical modeling.





Dr. Anbukkarasi's engaging approach helped simplify complex concepts, making the session highly beneficial. The event was graced by faculty members, including Dr. T.M. Nithya (HoD-CSE), Dr. D. Srinivasan (Principal), Dr. S. Kuppusamy (Executive Director), and Dr. K. Ramakrishnan (Chairman), who highlighted the importance of data-driven technologies.

GUEST TALK ON DESIGN AND ANALYSIS OF ALGORITHMS





The Department of Computer Science and Engineering at K. Ramakrishnan College of Engineering organized a Guest Lecture on Design and Analysis of Algorithms on 11th November 2024. The session was conducted by **Dr. C. Gunasundari**, Assistant Professor at the School of Computing, SRM Institute of Science and Technology, Tiruchirappalli.

The event was attended by faculty members, including Dr. T.M. Nithya (HoD-CSE), Dr. D. Srinivasan (Principal), Dr. S. Kuppusamy (Executive Director), and Dr. K. Ramakrishnan (Chairman), who emphasized the significance of algorithmic thinking in modern computing.

