**KSR**
College of Engineering
(Autonomous)

Approved by AICTE, New Delhi & Affiliated to
Anna University, Chennai.

# Department of
# Computer Science and Engineering

## TECH EXPLORER

**ACADEMIC YEAR 2024-2025**
**ODD SEMESTER**

# K.S.R. COLLEGE OF ENGINEERING

## An Autonomous Institution

**Thiru. R . SRINIVASAN, B.B.M.**
**Chairman,**
**KSR Educational Institutions**

## Message

Education is the foundation of a brighter tomorrow, and this magazine reflects the vibrant spirit of our learners. May it continue to inspire creativity, excellence, and lifelong curiosity in every reader. The college's proactive approach to research and development plays a pivotal role in shaping both students and faculty into intellectuals capable of meeting the challenges of the modern world. Through various initiatives, KSRCE explores new areas of practice and enhances the quality of professional services, ensuring that its community remains at the forefront of innovation and excellence.

The upcoming magazine promises to be a significant milestone in this journey, reflecting the vibrant spirit of KSRCE's learners and their relentless pursuit of knowledge. It serves as a testament to the institution's unwavering commitment to inspiring creativity, excellence, and lifelong curiosity in every reader. As you eagerly anticipate the release of this magazine, it stands as a beacon of the collective efforts and aspirations of the KSRCE community. May it continue to inspire and guide future generations towards a brighter tomorrow.

With best wishes
Mr. R. Srinivasan
Chairman
KSR Educational Institutions

# K.S.R. COLLEGE OF ENGINEERING

## An Autonomous Institution

**Dr. M. Venkatesan,**
**M.E., Ph.D.,**
**Principal,**
**KSR College of Engineerng**

## Message

It is with immense pride and joy that I present to you the latest edition of our CSE Department magazine, a vibrant reflection of the creativity, talent, and achievements of our students and staff. Over the past one decade, KSRCE has served the young engineering aspirants of our nation by providing state-of-the-art facilities and well-knowledgeable faculty members.

The Institute has held high the lighted torch of teaching and learning and has not failed in its duty in the hour of need. The students imbibe qualities of an excellent teacher and researcher to set academic standards. The last couple of years marked several milestones in the history of KSRCE. Technology is constantly evolving, and staying up to date with the latest trends can help us stay competitive in the job market, and give you access to new features and capabilities. I congratulate the editorial team, contributors, and all those who have worked tirelessly to bring this edition to life. Let this magazine serve not only as a record of our accomplishments but also as an inspiration for the journeys yet to come.

With best wishes,
Dr. M. Venkatesan
Principal

# K.S.R. COLLEGE OF ENGINEERING

## An Autonomous Institution

**Dr. V. Sharmila, M.E., Ph.D.,**
**Associate Professor,**
**Head of the Department,**
**Computer Science and Engineering**
**K.S.R College of Engineering**

## Message

    The HOD of CSE takes great honor in congratulating the students who have contributed for the current year's Evolve magazine. I really hope that this would be as useful as the last Evolve editions.

    Acknowledging the fact that the magazine is completely created and designed by the students, I really hope this would kindle a spark in the minds of the students who are yet to contribute towards the progress of the Evolve Initiative in the upcoming years.

**All the best students!**

With best wishes,
Dr. V. Sharmila
Associate Professor & Head
CSE

## Institution Vision & Mission

**Vision of the Institute**

We envision to achieve status as an excellent Educational Institution in the global knowledge hub, making self-learners, experts, ethical and responsible engineers, technologists, scientists, managers, administrators and entrepreneurs who will significantly contribute to research and environment friendly sustainable growth of the nation and the world.

**Mission of the Institution**

**IM 1 :** To inculcate in the students self-learning abilities that enable them to become competitive and considerate engineers, technologists, scientists, managers, administrators and entrepreneurs by diligently imparting the best of education, nurturing environmental and social needs.

**IM 2 :** To foster and maintain mutually beneficial partnership with global industries and Institutions through knowledge sharing, collaborative research and innovation.

## Department Vision & Mission

**Vision of the Department**

To create ever green professionals for software industry, academicians for knowledge cultivation and researchers for contemporary society modernization.

**Mission of the Department**

DM 1 : To produce proficient design, code and system engineers for software development.

DM 2 : To keep updated contemporary technology and fore coming challenges for welfare of the society.

## Programme Educational Objectives (PEOs)

The graduates of the programme will be able to

- PEO 1 : Rational Computing: Figure out, formulate, analyze typical problems and develop effective solutions by imparting the idea and principles of science, mathematics, engineering fundamentals and computing.
- PEO 2 : Professional Excellence: Competent professionally and successful in their chosen career through life-long learning.
- PEO 3 : Social and Ethical Technocrats: Excel individually or as member of a team in carrying out projects and exhibit social needs and follow professional ethics.

## Programme Outcomes (POs)

**PO1     Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2      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.

**PO3     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.

**PO4     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.

**PO5    Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

**PO6    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.

**PO7     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.

**PO8     Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9    Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10    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.

**PO11    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.

**PO12   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.

**Program Specific Outcomes (PSOs)**

**PSO1 Technical competency:** Develop and Implement computer solutions that accomplish goals to the industry, government or research by exploring new technologies.

**PSO2 Professional awareness:** Grow intellectually and professionally in the chosen field.

# Editorial Board

**Dr.V.Sharmila**

**Dr.E.Baby Anitha**

**Dr.S.Savitha**

**Mr.V.Ramesh**

**Mr.B.Rajesh**

# Students

**V.Yamini - I Year**

**N.Ananthu - II Year**

# Faculty Publications

## Conference Publications:

1) Renugadevi, A. S., R. Jayavadivel, B. Ananthi, M. Ramesh, P. Palanisamy, and M. V. Praveen. "Real Time Dress Code Surveillance of College Students Using Deep Learning Techniques", In 2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT), pp. 1-6. IEEE, 2024.

## Book / Book Chapter Publications:

1) D. Sathiya, Nagarajan, P., Dileep Pulugu, and Revathy Pulugu. "Self-powered wearable implantable smart sensor and medical electronics based on nanogenerator", In Self-Powered Sensors, pp. 59-75. Academic Press, 2025.

2) Dr. V. Vennilla Published a Book titled "The Architecture of Complex Networks", with NTL Publications, 978-81-19762-71-2 in October 2024

3) Sharmila, V., Kannadhasan, S., Kannan, A.R., Sivakumar, P., & Vennila, V. (Eds.). (2024). Challenges in Information, Communication and Computing Technology: Proceedings of the 2nd International Conference on Challenges in Information, Communication, and Computing Technology (ICCICCT 2024), April 26th & 27th, 2024, Namakkal, Tamil Nadu, India (1st ed.). CRC Press. https://doi.org/10.1201/9781003559085

4) V. Vennila, Ahmed, Abullais Nehal, Deeksha Tewari, Ravindra Sarjerao Kolhe, SK Rajesh Kanna, and B. Vishnu Vardhana Naidu. "A kinetic motion-controlled lighting system for improved well-being of the elderly", In Challenges in Information, Communication and Computing Technology, pp. 806-811. CRC Press, 2025.

5) V. Sharmila, Bhardwaj, Indu, Rakesh Kumar Yadav, R. Shashidhar, Krishna Kishore Datti, and Anil V. Turukmane. "Development of efficient spectrum utilization through cognitive radio techniques in wireless sensor networks", In Challenges in Information, Communication and Computing Technology, pp. 220-225. CRC Press, 2025.

# Faculty Publications

**Book / Book Chapter Publications:**

6) A. Rajiv Kannan, Rahman, Md Ziaur, MAY Peer Mohamed Appa, Vikrant Sharma, M. Balaji and T. Aditya Sai Srinivas. "Development and performance analysis of Wolfram Alpha server based on itanium architecture using deep learning in virtual platform", In Challenges in Information, Communication and Computing Technology, pp. 506-512. CRC Press, 2025.

7) S. Savitha, Sivakumar, T. B., T. Venketbabu, B. Vishnu Vardhana Naidu, Y. Rajesh Babu and Murikipudi Nageswararao. "Genetic hyper-parameter rice optimization based capsule network performance enhancement", In Challenges in Information, Communication and Computing Technology, pp. 360-365. CRC Press, 2025.

8) V. Vennila, Jamberi, K., T. Venketbabu, Narender Chinthamu, Rahul Chauhan and Nallam Krishnaiah. "Machine learning based optimization of resource management with control strategies in smart grid using IoT", In Challenges in Information, Communication and Computing Technology, pp. 375-380. CRC Press, 2025.

9) E. Baby Anitha, Priyanka, Muthyala, Gaurav Vishnu Londhe, SK Fakruddin Babavali, Mehul Manu and Badugu Suresh. "Enhancing physics experiment visualization with an augmented reality application", In Challenges in Information, Communication and Computing Technology, pp. 626-631. CRC Press, 2025.

10) Muthusamy, Namasivayam, Keerthana Rajendran, and Thangarasan Thangavelu. "Introduction to smart grid and the need for green solutions", In Green Machine Learning and Big Data for Smart Grids, pp. 1-17. Elsevier, 2025.

## Department Activities

**Programme Conducted by the Department (Seminar/Webinar/Guest lecturer/Conference/FDP):**

Guest lecturer on, **"Smart living: Impact of IoT on Everyday Life"**, has been conducted by the Department of CSE and the session was handled by the chief guest **Mr. K. Ganesan, Product engineer, Codingmart Technologies, Chennai** on 24.10.24. This guest lecture gave a snapshot of the Internet of Things use cases and applications that are currently available or being developed for launch in the near future.



Seminar on, **"Fortifying the Digital Frontier: Advanced Strategies for Web Security"**, has been conducted by the Department of CSE and the session was handled by the chief guest **Mr.A.Surenkumar, Zoho Corporation Pvt Ltd, Software Engineer (Central Security Team), Chennai** on 24.08.24. With interactive sessions and hands-on demonstrations, the seminar enhanced students' understanding of web security threats and inspired interest in pursuing careers in cyber security.

# Department Activities

Workshop on **"Python for AI & ML"** has been conducted by the Department of CSE and the session was handled by the chief guest **Mr. Aravindh Shivalingam, Senior Software Engineer, Optum Inc, Hyderabad** on August 28, 2024. He discussed about Python, Tensor flow and Numpy required to implement machine learning algorithms. Participants gained and were empowered with AI and ML technical skills with hands-on training in Python/ML.



Seminar titled, **"Future Trends in Cyber Security"**, has been conducted by the Department of CSE and the session was handled by the chief guest **A.S.A. Krishnan, Advisor – Cyber Security, SBI Mutual Funds Ltd, New Delhi** on 19.10.24. The event covered key topics like common web vulnerabilities, advanced security techniques, best practices in secure web development, and emerging trends in cyber security, featuring expert speakers from academia and the industry.

# Department Activities

Event on Intra Paper Presentation **"TECHSCAPE-2024"** has been conducted Dept of **CSE** to our students on October 19, 2024 by **CSE** Department Association. The final objective is to present effective computer strategies that organizations can implement to safeguard their data, ultimately reducing vulnerabilities and enhancing trust in digital platforms.



Seminar on **"Offensive Security Services and Digital Forensics"**, has been conducted by the Department of **CSE** and the session was handled by the chief guest by the chief guest **Dr. OoPpSs, Captain of Offensive Services and Digital Forensics, Singapore** on 22.10.2024. Attendees learned practical techniques to identify and exploit security weaknesses within controlled environments, enhancing their defensive knowledge.
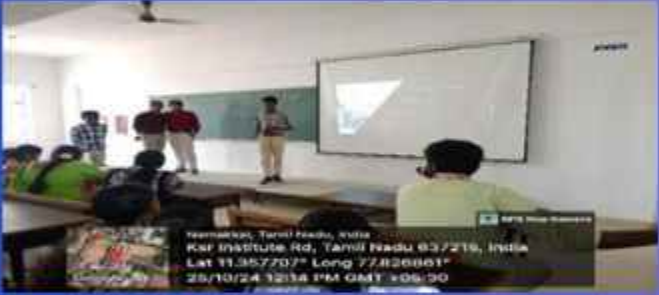
# Department Activities

Hackathon on, **"Frontend Designing"** has been conducted by the Department of CSE for our students on October 25, 2024. The primary objective of the hackathon was to encourage students to develop practical solutions to real-world problems within a limited time frame, providing them with hands-on experience in a high-energy, competitive environment.



Ideathon on, **"Idea Storm"** has been conducted by the Department of CSE and the session was handled by the chief guest Internal Juries Dr. V. Vennila, Dr. R. Banupriya and Mr. B. Rajesh on 19.10.2024. Participants collaborated in teams, engaging in intensive idea development sessions to address topics such as sustainability, and technology. Students refined their ideas and practiced essential skills in critical thinking, creativity, and communication.



Seminar on, **"வரலாற்றுத் தரவுகளும் கருத்தாக்கங்களும்"**, has been conducted by the Department of CSE and the session was handled by the chief guest முனைவர் ந. இராஜேந்திரன், PSG Technology, Coimbatore on 23.10.2024. வரலாற்று தரவுகளின் துல்லியமான கருத்தாக்கங்களும், ஆழமாகப் புரிந்துகொள்ளபுதிய வழிமுறைகளை முன்மொழிந்தது

# Department Activities

Seminar on, **"Massive Opportunities in Healthcare Domain at USA"**, has been conducted by the Department of **CSE** and the session was handled by the chief guest **Mr. Dinesh Sekar, CEO and Co-Founder of Arpina Solutions Pvt. Ltd., Hyderabad** on 09.11.2024. Participants learned about career prospects in fields like health informatics, medical research, and AI-driven healthcare solutions. The session emphasized the importance of upskilling to leverage these opportunities effectively.



Orientation Programme on, **"Role of Global Certification in IT Sector"**, has been conducted by the Department of **CSE** and the session was handled by the chief guest **Ms. J. Ananthi, Rapid Evaluator Analyst, Global Technologies, Coimbatore** on 11.06.2024. The seminar highlighted the importance of industry-recognized certifications in enhancing career prospects and professional credibility.

# Department Activities

Orientation Programme, **"Navigating Career Pathways: Adapting to Emerging Trends in the Modern Workforce"**, has been conducted by the Department of CSE and the session was handled by the chief guest **Mr. Gokulraja L P, Founder and CEO, Thiran360AI, Bangalore** on 18.11.2024. The session encouraged adaptability and lifelong learning for sustainable career success. Provided valuable insights into aligning career goals with evolving industry trends like AI, remote work, and green technologies.



Orientation Programme on, **"Introduction to Drones: Technology, Programming and Applications"**, has been conducted by the Department of CSE and the session was handled by the chief guest **Dr.S.Jayasurya, Doctor of Philosophy in Electrical and Electronics Engineering, Universiti Teknologi PETRONAS, Seri Iskandar, Malaysia** on 30.11.2024. The session emphasized practical insights into drone deployment and real-world problem-solving. Participants gained foundational knowledge to innovate and utilize drones effectively.

# Department Activities

MOU signed with **Thiran360AI CEO Mr. L P Gokulraja, Bengaluru, Karnataka** on November 30, 2024. Thiran360AI conducted coding skill test to our students and gave offer to two of our students with 5LPA.



Symposium on **"SPRING FEST 2K24"** by FECTRA Association was conducted to other college students on November 28, 2024 **Mr. Anand Babu, Manager, Design Thinker & Facilitator, School of Design Thinking, Chennai.** The symposium features both technical events, such as paper presentations, ideathons, code hackathons, segfault challenges, and algorithm adventures, as well as non-technical events, including filmography, portraiture, story board sprints.

# Programs attended by Faculty

1.P. Palanisamy, Assistant Professor of the Computer Science and Engineering department, participated in 2 weeks offline FDP on Recent Advancements and Challenges in the Realm of Flexible & Transparent Wearable Electronic Devices for Precision Healthcare Systems Using IoT, AI & ML in ATAL – AICTE from November 11 to November 23, 2024.

2. M. Azhagesan, Assistant Professor of the Computer Science and Engineering department, participated in 2 weeks offline FDP on Recent Advancements and Challenges in the Realm of Flexible & Transparent Wearable Electronic Devices for Precision Healthcare Systems Using IoT, AI & ML in ATAL – AICTE from November 11 to November 23, 2024.

3. M. Azhagesan, Assistant Professor of the Computer Science and Engineering department, completed 12 weeks NPTEL course on Introduction to Industry 4.0 and Industrial Internet of Things and was certified ELITE in Jul-Oct 2024.

4. U. Kasthuri, Assistant Professor of the Computer Science and Engineering department, completed 12 weeks NPTEL course on Operating System Fundamentals and was certified ELITE in Jul-Oct 2024.

5. V. Ramesh, Assistant Professor of the Computer Science and Engineering department, completed 4 weeks NPTEL course on Design Thinking and was certified ELITE in Jul-Oct 2024.

## Programs attended by Faculty

6. P. Palanisamy, Assistant Professor of the Computer Science and Engineering department, completed 12 weeks NPTEL course on Introduction to Industry 4.0 and Industrial Internet of Things and was certified ELITE in Jul-Oct 2024.

7. P. Priyadharshini, Assistant Professor of the Computer Science and Engineering department, completed 12 weeks NPTEL course on Introduction to Industry 4.0 and Industrial Internet of Things and was certified ELITE+Silver in Jul-Oct 2024.

8. Dr. E. Baby Anitha, Associate Professor of the Computer Science and Engineering department, completed 8 weeks NPTEL course on Google Cloud Computing Foundations and was certified ELITE in Jul-Oct 2024.

9. R. Keerthana, Assistant Professor of the Computer Science and Engineering department, completed 8 weeks NPTEL course on Google Cloud Computing Foundations and was certified ELITE+Silver in Jul-Oct 2024.

10. Dr. D. Sathiya, Associate Professor of the Computer Science and Engineering department, completed 12 weeks NPTEL course on Software Testing in Jul-Oct 2024.

# International Conference

Conducted Third International Conference on Optimization Techniques in the Field of Engineering (ICOFE-2024) on 22nd and 23rd October 2024. The event brought together researchers, academicians, industry experts, and students to discuss recent developments, innovative approaches, and real-world applications of optimization techniques across various engineering disciplines. The inaugural session featured a keynote address by Dr.OoPpSs, a renowned expert in Digital Fornsics, who emphasized the growing significance of data-driven and AI-based methods in solving complex engineering problems. The conference included multiple technical sessions, each focusing on a specialized domain such as mechanical design optimization, electrical circuit efficiency, structural optimization, and process control.



# Some Glimpses