



K.S.R. COLLEGE OF ENGINEERING
An Autonomous Institution
(Approved by AICTE, New Delhi, Affiliated to Anna University)
K.S.R. Kalvi Nagar, Tiruchengode - 637 215,
Namakkal District, Tamil Nadu



DEPARTMENT OF COMPUTER APPLICATIONS(MCA)

NEXUS 2024 - 25

TECHNICAL MAGAZINE

Vision, Mission of Institution

Vision:

- 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:

- 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.
- To foster and maintain a mutually beneficial partnership with global industries and institutions through knowledge sharing, collaborative research and innovation.

Vision, Mission of Department

Vision:

- To develop professionals having good knowledge, skills and attitude in the field of computer applications for the betterment of industry and society.

Mission:

- To provide high quality education in the field of computer applications and there by create computer professionals with proper leadership skills, commitment and moral values.
- To educate students to be successful, ethical, and effective problem-solvers and life-long learners who will contribute positively to the economic well-being of our region and nation.

K.S.R COLLEGE OF ENGINEERING

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Message from Chairman



Thiru R. Srinivasan BBM., MISTE.,

Chairman,
K.S.R Educational Institutions

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. In the recent times, the role of KSRCE is to carry out proactive research and development activities to make the students as well as faculty member's intellectuals, which are very challenging and demanding. It is of great significance that this magazine is going to deliberate upon It will definitely explore new areas of practice and enhancing quality of professional services. I am sure this magazine will be a milestone in ensuring the highest standards in this profession. I wish the organizers the very best in this and all their other endeavors. I am eagerly looking forward to seeing you and enjoying this magazine in KSRCE Campus.

With best wishes

Mr. R. Srinivasan
Chairman

K S R COLLEGE OF ENGINEERING

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Message from Dean



Dr. M. Venkatesan

Dean - KSRCE

As a Dean of KSRCE, I actively play my role to facilitate students to become best academicians, researchers and policy makers. I provide a diverse and inclusive work environment to my colleagues and drive them wherever necessary to play a role in getting utmost national and international agencies support Institution. A collaborative and integrated approach towards teaching, learning and research will be emphasized. I strongly believe that the KSRCE team will overcome the constraints facing to deliver the best Engineering services to the society and reach the desired goals.

With Regards,
Dr. M. Venkatesan

Dean - K.S.R College of Engineering.

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Message from Principal



It is with immense pride and joy that I present to you the latest edition of our MCA 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-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, 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. P. Meenakshi Devi
Principal
KSRCE

K.S.R. COLLEGE OF ENGINEERING

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Message from Head of the Department



Dr P Anitha

It is a pleasure to present this edition of our Master of Computer Applications magazine. Our department is proud to have a strong track record of placing our students in leading IT companies, and we are dedicated to ensuring that our graduates are well-prepared for their future careers. We encourage all students to take advantage of the numerous opportunities available to them, including internships, research projects, and extracurricular activities. We are constantly working to improve our curriculum and teaching methods, ensuring that our students are equipped with the skills and knowledge they need to succeed in the ever-changing world of technology.

With best wishes

Dr. P. Anitha

HoD-MCA

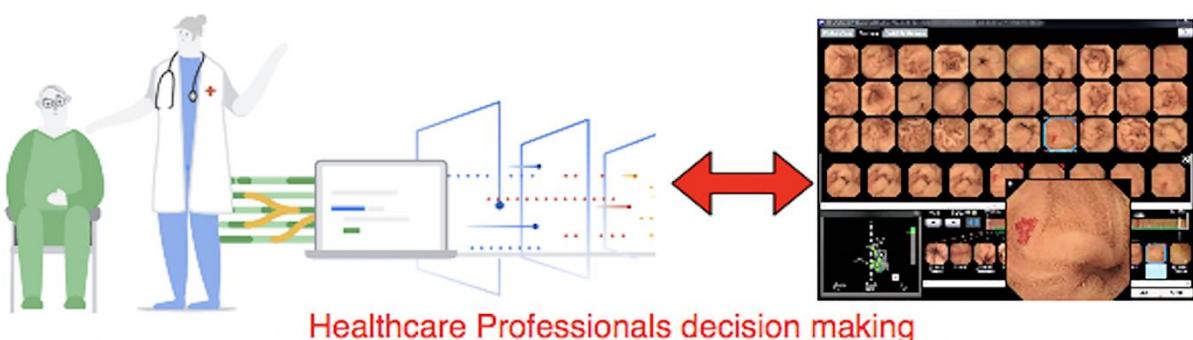
KSRCE

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Explainable AI (XAI) in Clinical Decision Support Systems

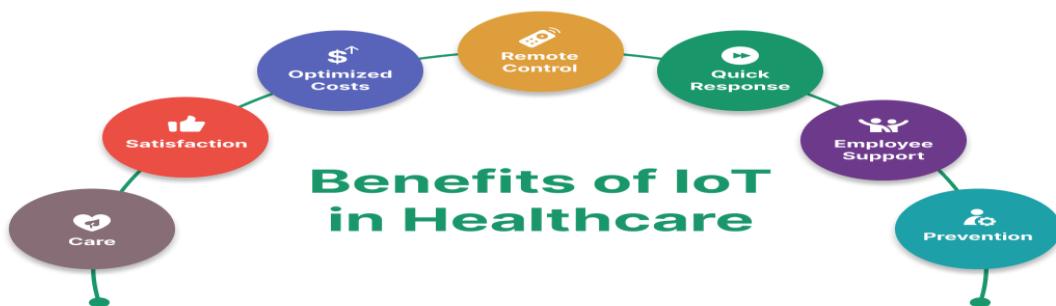
An emerging field that focuses on making the decisions and predictions of artificial intelligence models transparent and understandable to medical professionals. In healthcare, where decisions can directly impact patient lives, it is critical that clinicians trust and comprehend the outputs of AI systems. Traditional black-box models, such as deep neural networks, often deliver highly accurate predictions but lack interpretability, making them difficult to adopt in sensitive clinical environments. XAI techniques—such as SHAP (Shapley Additive Explanations), LIME (Local Interpretable Model-agnostic Explanations), and Grad-CAM (Gradient-weighted Class Activation Mapping)—help reveal how specific features influence model predictions. By integrating these methods into CDSS, clinicians can gain insights into why a model recommends a certain diagnosis or treatment, improving both trust and decision-making. Ultimately, XAI not only enhances the reliability of AI tools in medicine but also bridges the gap between data science and clinical expertise, leading to safer, more transparent, and patient-centered healthcare.



S.Arunika
II- MCA

BLOCKCHAIN-ENABLED SECURE IOT FRAMEWORK FOR HEALTHCARE DATA INTEGRITY

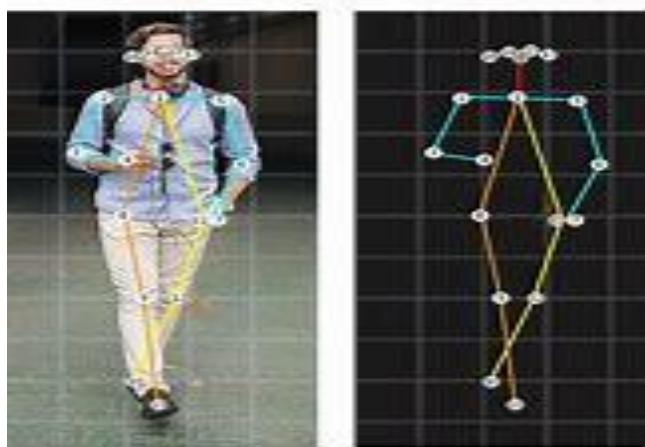
Blockchain-Enabled Secure IoT Framework for Healthcare Data Integrity focuses on enhancing the trustworthiness, security, and traceability of healthcare data collected through Internet of Things (IoT) devices. With the growing use of wearables and remote monitoring systems, massive volumes of sensitive patient data are continuously generated and transmitted. However, traditional centralized storage and communication models are vulnerable to tampering, unauthorized access, and single points of failure. Integrating blockchain technology into IoT healthcare frameworks offers a decentralized and immutable ledger for storing and verifying data transactions. This ensures that once patient data is recorded, it cannot be altered or deleted without detection, thereby preserving data integrity and accountability. Smart contracts can further automate access control and enforce privacy policies across stakeholders like hospitals, insurers, and researchers. By combining the transparency and security of blockchain with the real-time



P Jeyan
I MCA

AI-POWERED YOGA POSE RECOGNITION AND FEEDBACK SYSTEM FOR DIABETIC PATIENTS

AI-Powered Yoga Pose Recognition and Feedback System for Diabetic Patients is an innovative solution designed to promote safe and effective physical activity tailored to individuals managing diabetes. Using computer vision and machine learning algorithms, the system can accurately detect and evaluate a user's yoga poses in real time through a camera-enabled device. By comparing the user's posture with predefined ideal poses, the system provides instant, personalized feedback to correct alignment and optimize the therapeutic benefits of yoga. This is particularly valuable for diabetic patients, as regular and properly guided yoga practice can help regulate blood sugar levels, improve circulation, and reduce stress – factors crucial in diabetes management. The integration of AI not only enhances user engagement and safety but also makes at-home, low-cost diabetes care more accessible. This technology represents a step forward in personalized wellness, combining physical health monitoring with intelligent coaching for holistic chronic disease management.



S.Ramya
I-MCA

Generative AI for Automated Medical Report Generation

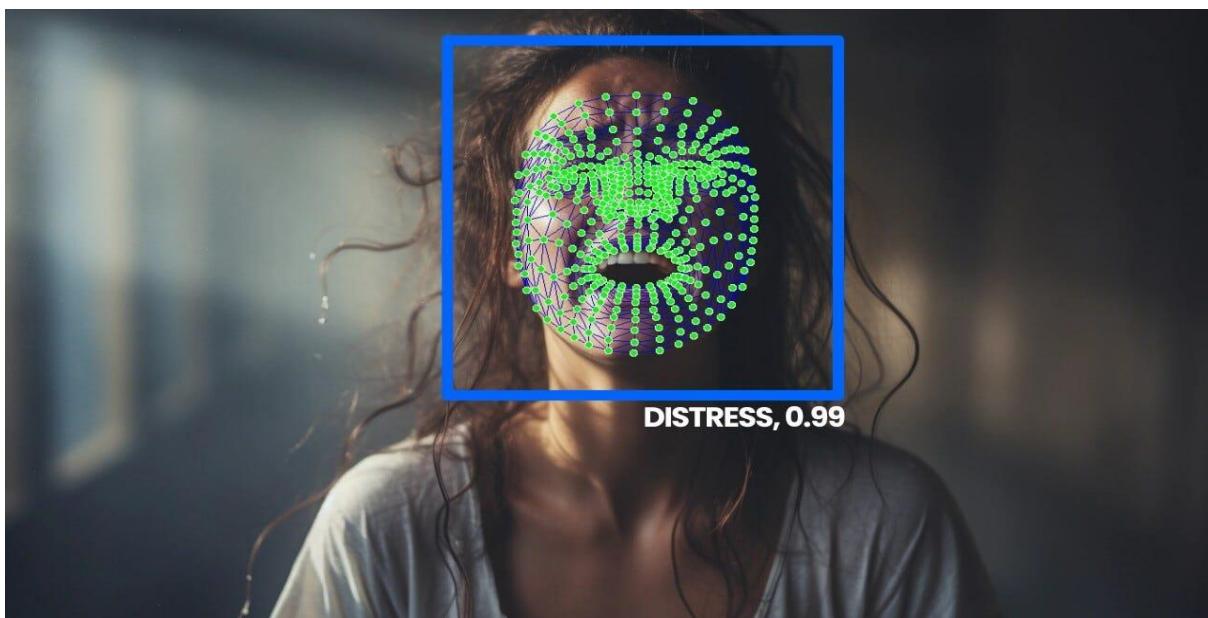
Generative AI for Automated Medical Report Generation leverages advanced natural language processing models, such as GPT and transformer architectures, to automatically create comprehensive and accurate medical reports from raw clinical data, including medical images, lab results, and physician notes. This technology aims to reduce the documentation burden on healthcare professionals by transforming unstructured data into structured, readable, and clinically relevant narratives. Automated report generation not only speeds up the workflow but also minimizes human errors and inconsistencies in record-keeping. By integrating generative AI into hospital information systems, healthcare providers can ensure faster diagnosis, improved patient care, and enhanced communication among medical teams. This innovation stands to revolutionize clinical documentation by combining AI's language capabilities with domain-specific medical knowledge.



S.KABALIA
I MCA

Real-Time Emotion and Stress Detection via Wearable AI

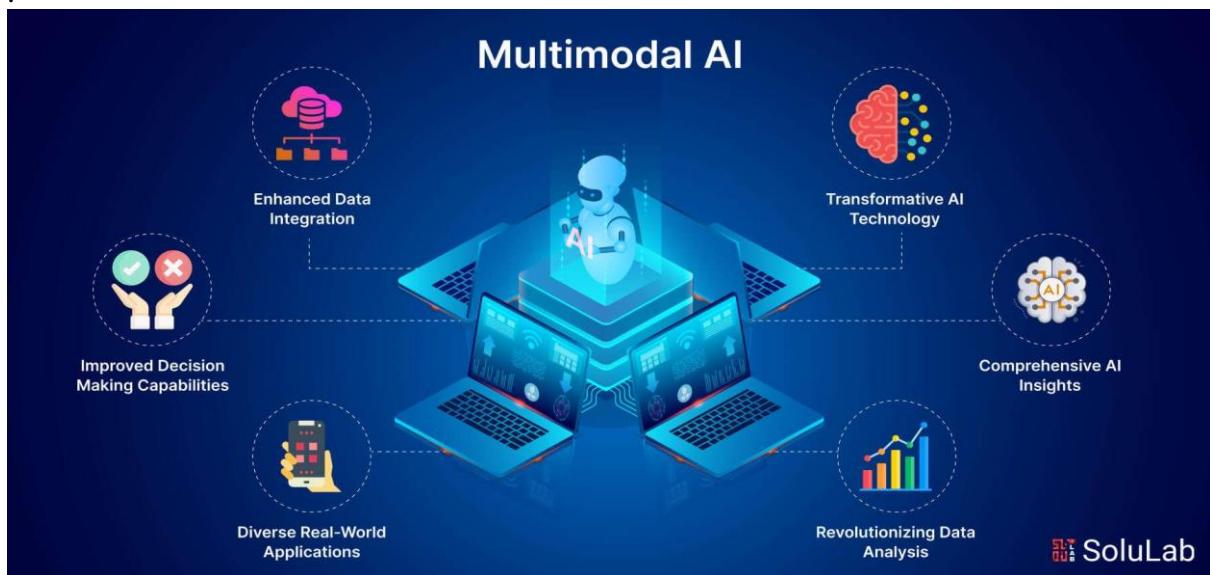
Real-Time Emotion and Stress Detection via Wearable AI involves using wearable sensors—such as heart rate monitors, galvanic skin response (GSR) sensors, and accelerometers—combined with machine learning algorithms to continuously monitor physiological signals indicative of a person's emotional and stress states. By analyzing patterns like heart rate variability, skin conductance, and movement, AI models can detect stress or emotional changes as they occur, enabling timely interventions. This technology is particularly valuable for personalized healthcare and mental well-being, as it provides users and clinicians with actionable insights that can trigger stress-relief activities, mindfulness exercises, or alerts before stress escalates into serious health issues. Integrating this real-time emotional awareness into wearable devices enhances preventive care, supports mental health management, and empowers users to maintain better overall wellness through AI-driven feedback.



C. DHARANI
I MCA

AI-Powered Multi-Modal Medical Image Fusion for Diagnosis

AI-Powered Multi-Modal Medical Image Fusion for Diagnosis involves integrating and analyzing data from different medical imaging modalities—such as MRI, CT, PET, and ultrasound—using advanced machine learning and deep learning techniques. By combining the complementary information from these diverse sources, AI models can generate a more comprehensive and accurate representation of a patient's condition, enhancing diagnostic precision. This fusion approach helps overcome the limitations of individual imaging techniques by highlighting both structural and functional abnormalities simultaneously. Utilizing neural networks and attention mechanisms, the system can align and merge images effectively, providing clinicians with richer insights that support better-informed decisions. Ultimately, this technology improves early disease detection, treatment planning, and patient outcomes by leveraging the full spectrum of imaging data through intelligent AI fusion.



G .DHANAPAL
I MCA

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