DEPARTMENT OF COMPUTER APPLICATIONS(MCA)

NEXUS 2024 - 25

TECHNICAL MAGAZINE

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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 problemsolvers and life-long learners who will contribute positively to the economic well-being of our region and nation.

K.S.R.COLLEGE OF ENGINEERING

An Autonomous Institution

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. Educational Institutions

K.S.R. COLLEGE OF ENGINEERING

An Autonomous Institution

Message from Principal

Dr. M. Venkatesan

Principal - KSRCE

As a Principal 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 best wishes

Dr. M. Venkatesan

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 everchanging world of technology.

With best wishes

Dr. P.Anitha

HoD-MCA

KSRCE

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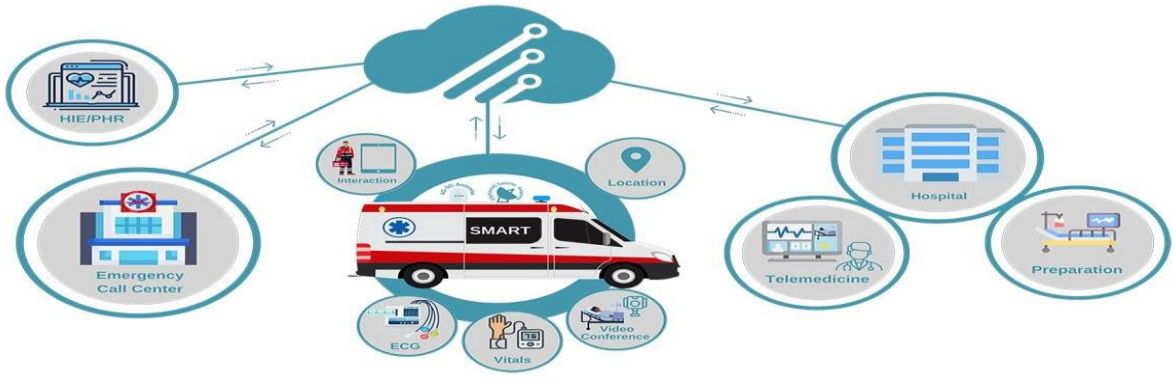
SMART AMBULANCE ALLOCATION AND DISPATCH SYSTEM USING AI AND IOT

The **Smart Ambulance Allocation and Dispatch System using AI and IoT** is an advanced computer application designed to optimize emergency medical response by leveraging artificial intelligence and Internet of Things technologies. This system facilitates real-time ambulance dispatch by intelligently allocating the nearest and most suitable ambulance based on factors such as location, traffic conditions, ambulance availability, and patient severity. Using GPS tracking and live traffic data integration, the system dynamically routes ambulances for the fastest response times. IoT sensors installed in ambulances continuously monitor patients' vital signs during transit and transmit this critical information to the receiving hospital, enabling medical teams to prepare in advance.

Applications:

- Reduce ambulance response time.
- Dynamically allocate the nearest and most suitable ambulance.
- Predict traffic, hospital load, and emergency severity using AI.
- Monitor patient vitals during transport using IoT sensors.
- Notify hospitals in advance to prepare for the incoming case.



S.Arunia, II-MCA

DEEP LEARNING-BASED ANOMALY DETECTION IN MEDICAL IMAGES

A cutting-edge computer application designed to enhance medical diagnostics by leveraging deep learning techniques. This system automatically analyzes medical images such as X-rays, MRIs, and CT scans to detect anomalies like tumors, fractures, or lesions with high accuracy and speed. By training on vast datasets of labeled medical images, the deep learning models learn to identify subtle patterns and abnormalities that might be missed by the human eye. MedScan AI assists radiologists and healthcare professionals by providing preliminary diagnostic insights, highlighting areas of concern, and reducing the time needed for image interpretation. The integration of this technology improves diagnostic precision, supports early disease detection, and streamlines clinical workflows, ultimately contributing to better patient outcomes and more efficient healthcare delivery.

Applications:

- Early Disease Detection
- Early detection of cancer, stroke, and musculoskeletal disorders
- Screening Programs
- Integration into PACS (Picture Archiving and Communication Systems)

P Jeyan

I-MCA

SMARTLAB AI: VIRTUAL BLOOD DIAGNOSTICS ASSISTANT USING IMAGE PROCESSING AND MACHINE LEARNING

An innovative computer application designed to revolutionize blood test analysis by automating and enhancing the diagnostic process. This system leverages advanced image processing techniques to analyze microscopic images of blood samples, identifying and classifying blood cells, detecting abnormalities such as infections, anemia, or blood disorders with high precision. Coupled with machine learning algorithms trained on vast datasets of annotated blood images, SMARTLAB AI provides accurate and rapid diagnostic insights that assist laboratory technicians and medical professionals. By reducing human error and turnaround time, this virtual assistant streamlines laboratory workflows, supports early detection of diseases, and enables better patient management, especially in resource-limited settings.

Applications:

- Automated detection of blood cell abnormalities for rapid diagnosis.
- Screening for diseases like anemia, infections, and blood disorders.
- Assisting lab technicians by classifying different blood cell types.
- Monitoring patient blood parameters during treatment.

S.SASIKUMAR

I-MCA

GLUCOSENSE: AI-POWERED VIRTUAL ASSISTANT FOR INTELLIGENT DIABETES MANAGEMENT

GlucoSense is an AI-powered virtual assistant designed to support intelligent diabetes management by continuously analyzing glucose data from wearable sensors and providing personalized insights. Using machine learning algorithms, GlucoSense predicts glucose trends, offers timely alerts for potential hypo- or hyperglycemic events, and delivers tailored recommendations for diet, medication, and lifestyle adjustments. The assistant also facilitates seamless communication between patients and healthcare providers by sharing real-time data and reports, helping to improve adherence and optimize treatment plans. By combining continuous monitoring with AI-driven guidance, GlucoSense empowers users to maintain better blood sugar control and enhances overall diabetes care.

Applications:

- Real-time glucose monitoring and trend prediction for proactive care.
- Personalized diet and medication recommendations based on glucose patterns.
- Alerts and notifications to prevent hypo- and hyperglycemic events.
- Remote patient monitoring and data sharing with healthcare providers.

S.Saravajith,

I-MCA

GLUCOAI COACH: VIRTUAL HEALTH COACH FOR DIABETIC LIFESTYLE MANAGEMENT

GlucoAI Coach is a virtual health coaching application designed to support diabetic patients in managing their lifestyle effectively. By analyzing continuous glucose data alongside activity, diet, and sleep patterns, the AI-powered coach offers personalized advice, reminders, and motivation to maintain optimal blood sugar levels. It provides real-time feedback, goal-setting features, and behavioral insights to encourage healthy habits and improve medication adherence. Through interactive communication, GlucoAI Coach empowers users to take proactive control of their diabetes, reducing complications and enhancing quality of life.

Applications:

- Personalized lifestyle recommendations based on glucose and activity data.
- Real-time feedback to improve blood sugar control.
- Medication adherence reminders and support.
- Goal setting and progress tracking for healthier habits.
- Behavioral insights to prevent diabetes-related complications.
- Integration with wearable devices for comprehensive monitoring.

C.DHARANI, I-MCA

MEDTRACK+: AI-BASED MEDICATION ADHERENCE AND BEHAVIORAL ANALYTICS SYSTEM

Medication non-adherence is a significant challenge in chronic disease management, AI-driven application designed to improve medication adherence by monitoring patients' medication intake patterns and analyzing behavioral data. Using smart reminders, sensor integration, and machine learning algorithms, the system detects non-adherence risks and offers personalized interventions to encourage timely medication consumption. Additionally, MedTrack+ provides healthcare providers with detailed analytics and reports on patient behavior, enabling proactive care and reducing complications caused by missed doses. By combining real-time tracking with behavioral insights, treatment effectiveness and supports better health outcomes.

Applications:

- Monitoring patient medication intake in real-time to improve adherence.
- Predicting and preventing missed or delayed doses using AI.
- Sending personalized reminders and alerts to patients.
- Analyzing behavioral patterns to identify adherence barriers.

G .DHANAPAL
I-MCA

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2024 - 2025

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