

# TECH TRIP TECHNICAL MAGAZINE 2022 - 2023

Volume -3

*Prepared by*

## Faculty Team

Mr. M. Mohamed Nizarudeen AP/CSE

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## Students Team

G.Gopinath - IV CSE

Subash - II CSE



## VISION AND MISSION

### VISION OF THE INSTITUTION

Transform lives through Education and Research

### MISSION OF THE INSTITUTION

We develop in each member the ability and passion to work effectively for the betterment of humanity with cultural awareness, high ethical and moral values and a sense of social responsibility

### DEPARTMENT VISION

To Create Computer Science Engineers through Quality Education and Research.

### DEPARTMENT MISSION

To impart Problem Solving, Innovative and Entrepreneurship with sound knowledge in Computer Science and Engineering.

To establish a Research Centre where students can present their research ideas.

To develop Moral, Ethical Values and Social Responsibility to the students

## PROGRAM EDUCATIONAL OBJECTIVE (PEO'S)

PEO 1 - To enable graduates to pursue higher education and research, or have a successful career in industries associated with Computer Science and Engineering, or as entrepreneurs.

PEO 2 - To ensure that graduates will have the ability and attitude to adapt to emerging technological changes.

## PROGRAM SPECIFIC OBJECTIVE (PSO'S)

PSO 1 - Analyze, Design and develop computing solutions by applying foundational concepts of computer science and Engineering.

PSO 2 - Apply software engineering principles and practices for developing quality software for scientific and business applications.

PSO 3 - Adapt to emerging information and communication technologies (ICT) to innovate ideas and solutions to existing/Novel problems.

## PROGRAM OUTCOMES (PO'S)

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.

## PROGRAM OUTCOMES (PO'S)

PO5 - Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling 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.

## LEADERSHIP

### CEO'S MESSAGE



**Mr. Prative Chend B.,**  
CEO

I am delighted to introduce the third volume of our Computer Science and Engineering department magazine. This edition showcases the remarkable creativity and innovation that our students and faculty bring to the field of technology.

Each contribution reflects our commitment to fostering an environment of excellence and forward-thinking in computer science.

I encourage all of you to engage with the content and share your insights. Together, we can continue to build a strong foundation for future innovations and discoveries. Thank you for your dedication and passion. Let's continue to strive for excellence as we embrace the challenges and opportunities that lie ahead.

Best regards,

## LEADERSHIP

### PRINCIPAL MESSAGE



Dr. S. Shanthi  
Principal

I am thrilled to present the third volume of our Computer Science and Engineering department magazine. This edition reflects the remarkable achievements and innovative spirit that characterize our vibrant community.

Each contribution demonstrates our commitment to excellence and our passion for pushing the boundaries of technology.

I encourage all of you to explore the content and engage with the ideas presented. Together, let us continue to foster a culture of collaboration, innovation, and lifelong learning within our department.

Thank you for your continued support and dedication. Let us strive to inspire one another as we navigate the exciting challenges and opportunities that lie ahead.

Warm regards,

## LEADERSHIP

### DEAN'S MESSAGE



Dr. A. Pasumpon Pandian  
Dean

I am delighted to present the third volume of our Computer Science and Engineering department magazine. This publication reflects our unwavering commitment to fostering innovation, research, and academic excellence within our vibrant community.

Each contribution showcases the groundbreaking research and collaborative efforts that drive our department forward in an ever-evolving technological landscape.

As we continue to explore new frontiers in computer science, I encourage each of you to actively engage with the content and participate in the ongoing dialogue about the future of our field. Together, we can cultivate a culture of inquiry and discovery that empowers us to tackle the challenges ahead.

Thank you for your enthusiasm and support as we celebrate the achievements of our community. Let us continue to inspire and uplift one another in our pursuit of knowledge and innovation.

Best regards,

## LEADERSHIP

### DEAN'S MESSAGE



Dr. J. Suresh  
HoD

It is with great pleasure that I present to you the third volume of our Computer Science and Engineering department magazine. This publication stands as a testament to the hard work, creativity, and dedication of our students and faculty.

As technology continues to evolve rapidly, our department remains committed to nurturing the skills and knowledge that will empower our students to excel in their future endeavors.

I encourage all of you to engage with the content, reflect on the ideas presented, and continue to contribute to the vibrant culture of learning and exploration within our department. Together, let us embrace the challenges and opportunities that lie ahead, fostering an environment where knowledge thrives and innovation flourishes.

Thank you for your unwavering support and enthusiasm. Let's continue to inspire one another as we pave the way for a brighter future.

Warm regards,

# Blockchain: Revolutionizing the Digital World

In the rapidly evolving landscape of technology, few innovations have generated as much excitement and promise as blockchain. Originally conceived as the underlying technology for Bitcoin, blockchain has grown far beyond its initial application in cryptocurrencies, offering a wide array of possibilities across various sectors.

## Understanding Blockchain

At its core, blockchain is a decentralized ledger technology that ensures secure, transparent, and tamper-proof recording of transactions. Unlike traditional databases managed by a single entity, a blockchain operates on a network of computers (nodes), each holding a copy of the entire ledger. This decentralized nature makes blockchain inherently secure and resistant to fraud.

A blockchain consists of a chain of blocks, each containing a list of transactions. These blocks are linked together using cryptographic hashes, forming a continuous chain. Once a block is added to the blockchain, altering any information within it would require changes to all subsequent blocks, making tampering virtually impossible.

## Conclusion

Its decentralized and secure nature offers solutions to some of the most pressing issues in various industries, from finance and healthcare to supply chain management and digital rights. As computer science students, we are at the forefront of this technological revolution, equipped with the knowledge and skills to shape the future of blockchain.

Madhu Preetha B, IV CSE

# The Impact of IoT Technologies: Real-World Applications

The Internet of Things (IoT) is transforming the way we interact with the world around us. By enabling everyday objects to collect, exchange, and analyze data, IoT technologies are creating smarter, more efficient systems across various industries. Here are a few compelling case studies that highlight the impact of IoT in real-world scenarios. Healthcare: Remote Patient Monitoring In the rapidly advancing world of healthcare, Remote Patient Monitoring (RPM) has emerged as a groundbreaking application of Internet of Things (IoT) technology.

By leveraging IoT, RPM is transforming patient care, making healthcare more accessible, efficient, and responsive. Here's a closer look at how RPM is making a significant impact in real-world scenarios. For instance, in 2022, several hospitals integrated RPM systems to manage diabetes patients. These systems allowed for continuous glucose monitoring, with alerts sent to both patients and doctors if levels deviated from the norm. This proactive approach significantly reduced emergency visits and hospitalizations, improving patient outcomes.

Improving Accessibility in Rural Areas Access to quality healthcare is often limited in rural and remote areas. RPM bridges this gap by providing continuous monitoring and timely medical interventions without the need for frequent hospital visits. In 2023, a pilot program in rural India equipped patients with IoT-enabled health devices to monitor conditions such as asthma and chronic obstructive pulmonary disease (COPD). The program resulted in a marked improvement in patient health and a decrease in the burden on local healthcare facilities.

# The Impact of IoT Technologies: Real-World Applications

## Reducing Healthcare Costs

By enabling early detection and timely intervention, RPM significantly reduces healthcare costs. Preventive care through continuous monitoring helps avoid complications that can lead to expensive emergency treatments and prolonged hospital stays. A case study from 2022 showed that a healthcare provider in the United States saved millions of dollars annually by implementing an RPM program for heart failure patients, reducing hospital readmission rates by 20%.

## Future Prospects

The future of RPM looks promising with advancements in IoT technology. Enhanced sensor accuracy, longer battery life for wearable devices, and improved data analytics are set to further refine RPM systems. Additionally, the integration of artificial intelligence and machine learning will enable more precise predictive analytics, potentially foreseeing health issues before they become critical.

JAYASURYA.A, III CSE

DEPARTMENT OF CSE

# Navigating the Digital Frontier

As technology continues to evolve at a breathtaking pace, it brings with it a myriad of ethical questions and challenges that society must address. From privacy concerns to the impact of artificial intelligence on employment, the ethical implications of technology are vast and complex. As future leaders in the field of computer science, it is crucial for us to engage in thoughtful discussions about these issues and consider the broader consequences of our innovations. Here are some key areas where ethical considerations are paramount.

## Ethical Use of Emerging Technologies

Emerging technologies such as genetic engineering, autonomous vehicles, and deepfakes present new ethical dilemmas. For example, the use of CRISPR technology for gene editing raises questions about the potential for unintended consequences and the ethical limits of genetic modification.

Autonomous vehicles, while promising to reduce accidents and improve traffic efficiency, must be programmed to make complex ethical decisions in life-threatening situations. Deepfakes, which use AI to create hyper-realistic but fake videos, pose risks to truth and trust in digital media.

As technologists, we must engage with these ethical questions, collaborate with policymakers, and contribute to the development of guidelines and regulations that ensure the responsible use of emerging technologies.

# Navigating the Digital Frontier

## Environmental Impact

The environmental impact of technology is another critical ethical consideration. The production, use, and disposal of electronic devices contribute to environmental degradation, including e-waste and energy consumption.

Promoting sustainable practices in technology development, such as designing energy-efficient algorithms, using recyclable materials, and supporting green initiatives, is essential. As responsible engineers, we should strive to minimize the environmental footprint of our innovations.

## Conclusion

The ethical implications of technology are multifaceted and require ongoing dialogue and reflection. As computer science students and future professionals, we have a responsibility to consider the broader impacts of our work and to advocate for ethical practices in the tech industry. By fostering a culture of ethical awareness and accountability, we can ensure that technology serves the greater good and contributes to a just and equitable society.

SHAMRIN NISHA H, II CSE

DEPARTMENT OF CSE

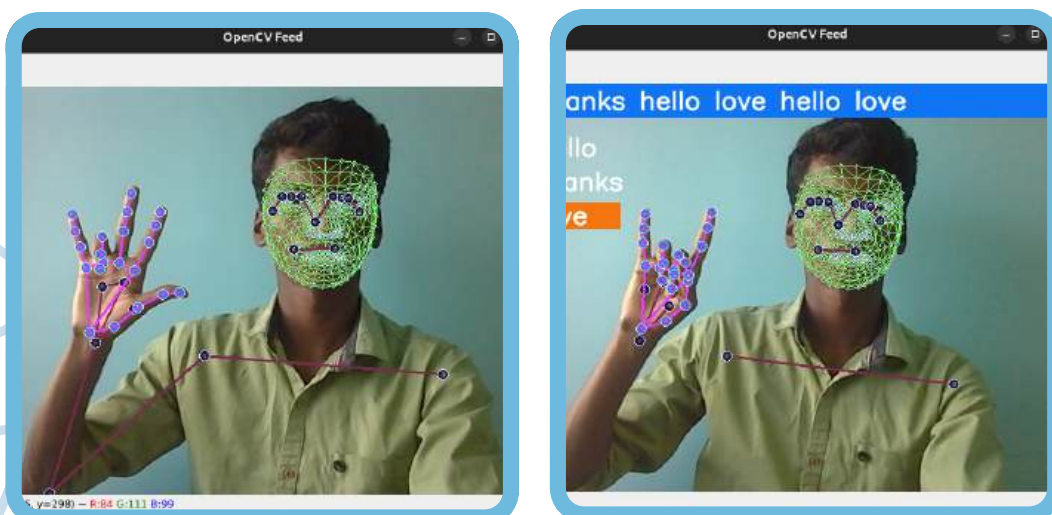
# PRODUCT DEVELOPMENT

## SIGN LANGUAGE recognition

My project proposes a video-conferencing application that integrates Indian Sign Language recognition using MediaPipe, WebRTC, and LSTM. The proposed system is aimed at facilitating communication for hearing-impaired individuals who use Indian Sign Language as their primary mode of communication.

The system recognizes and translates sign language gestures in real time, enabling seamless communication between hearing-impaired individuals and non-sign language users.

The system's implementation involves using MediaPipe's pose estimation model to capture hand gestures, converting the captured data into a sequence of feature vectors, which are then input into an LSTM-based neural network for classification. The WebRTC technology is used for real-time video and audio communication between the two individuals.



Shreehar K.E, - IV CSE

## Nalaiya Thiran-PROJECT College Admission Management System

My presentation was focused on addressing the challenges inherent in the traditional college admission process. In an era of technological advancements, the need for efficient and streamlined admission management systems has become paramount in higher education.

Historically, college admission processes have been cumbersome and time-consuming. With the growing number of applicants and the complexity of requirements, institutions are grappling with inefficiencies, leading to delayed admissions and increased administrative burden.



Steffy Rossy J A - IV - CSE

## Product Development Farming Assistance System

Agriculture industry is the main source of the world's food supply. It occupies a significant position in the Indian economy and stands for the backbone of India. Farmers today are facing the problem of low awareness about government schemes, and fertilizers, and don't have access to information about soil properties, seeds, recently used tools, fertilizers, etc. To meet all the requirements of farmers, this system will go through the implementation of various improved ML algorithms and deliver an Assistant system that helps the farmer to connect and enlarge the cultivation with enhanced accuracy. This system uses XGBoost Machine Learning Algorithm for crop recommendation and Fertilizer recommendation, and Resnet algorithm for plant disease classification. It also incorporates other features like crop rotation, weather prediction and Localization for assisting farmers.

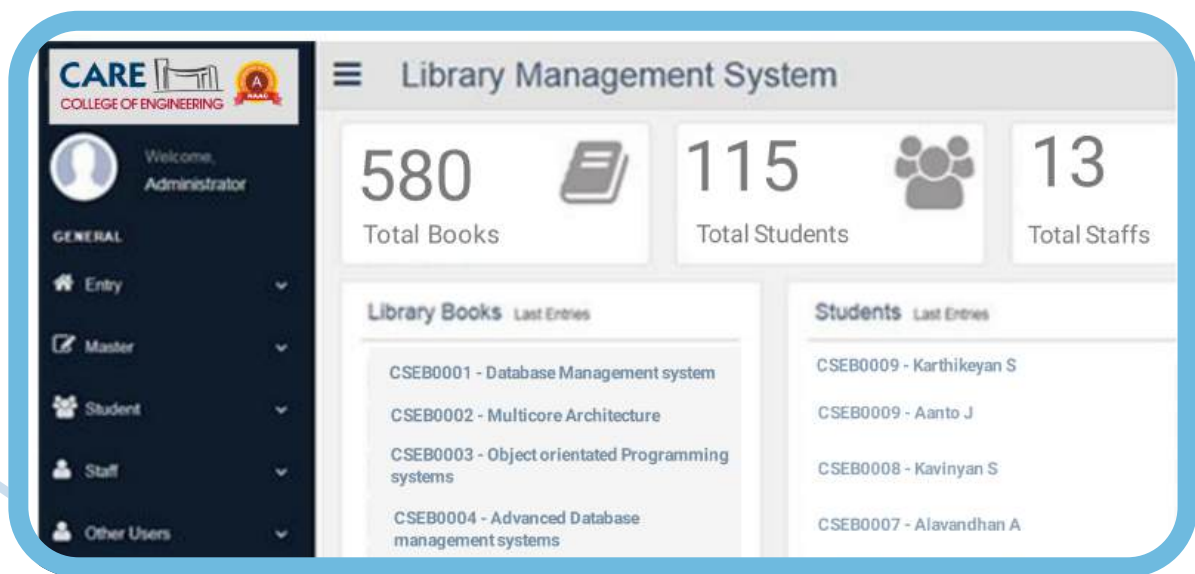


Nithiyasri R - IV CSE

## Product Development

### Web Development for Efficient Library Management

In an era marked by digital transformation, the paper presentation at the ABC Conference explored the dynamic landscape of "Library Management Software," shedding light on its pivotal role in revolutionizing traditional library operations. The presentation aimed to provide a comprehensive understanding of the software's capabilities, addressing the evolving needs of modern libraries. The presentation kicked off by underlining the significant challenges faced by libraries in managing vast collections, user interactions, and administrative tasks. It emphasized the urgent need for a robust technological solution to enhance efficiency, accessibility, and user experience.



Karthikeyan S - III CSE

## Hackathan (Internal)

In an era marked by digital transformation, the paper presentation at the ABC Conference explored the dynamic landscape of "Library Management Software," shedding light on its pivotal role in revolutionizing traditional library operations. The presentation aimed to provide a comprehensive understanding of the software's capabilities, addressing the evolving needs of modern libraries. The presentation kicked off by underlining the significant challenges faced by libraries in managing vast collections, user interactions, and administrative tasks. It emphasized the urgent need for a robust technological solution to enhance efficiency, accessibility, and user experience.



Derek Joel Sam.M, III CSE

## Best Outgoing Student



K.SHREEHAR, IV year CSE ,got the BEST OUT GOING STUDENT award for the academic year 2022-2023,in the annual day function held on 29.04.2023.

# Thank You

