TECH OZRIC

MAGAZINE

ADVANCING KNOWLEDGE

THROUGH TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

KGISL INSTITUTE OF TECHNOLOGY, COIMBATORE – 641035

VISION

To produce Competent Graduates suitable for Industry and Organization in the field of Information Technology by providing industry embedded learning with social responsibility.

MISSION

MD-1: To accomplish an effective teaching learning process through innovative practices for empowering the graduates to face societal challenges.

MD-2: To enhance the proficiency of faculty members across various domains of information technology through skill development programs.

MD-3: To nurture IT professionals through the provision of essential infrastructure and facilities for effective learning.

MD-4: To attain research excellence in the field of information technology by instilling the values of self-directed learning and fostering creative thinking through collaborative partnerships with institutes and industries.

MD-5: To foster holistic student growth by engaging them in cocurricular and extracurricular activities.

PROGRAM EDUCATIONAL OBJECTIVES (PEO'S)

PEO1: Demonstrate technical competence with analytical and critical thinking to understand and meet the diversified requirements of industry, academia and research.

PEO2: Exhibit technical leadership, team skills and entrepreneurship skills to provide business solutions to real world problems.

PEO3: Work in multidisciplinary industries with social and environmental responsibility, work ethics and adaptability to address complex engineering and social problems.

PEO4: Pursue lifelong learning, use cutting edge technologies and involve in applied research to design optimal solutions.: Exhibit technical leadership, team skills and entrepreneurship skills to provide business solutions to real world problems.

PROGRAM SPECIFIC OUTCOMES (PSO'S)

PSO1: Develop and deploy software applications using advanced programming languages, data structures, and algorithms to address real-world IT challenges in areas such as system design, web development, and mobile computing.

PSO2: Design and manage IT-based business solutions by leveraging cloud computing, data analytics, and automation tools, demonstrating entrepreneurial capabilities in the IT services and product development sectors.

PSO3: Adapt to the dynamic IT industry by ethically embracing advancements such as artificial intelligence, cybersecurity, and blockchain, while contributing responsibly to societal, environmental, and organizational IT needs.

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Department of IT Shines at Thiran 2025 with Best Innovator Award

A team of talented students from the Department of Information Technology has brought pride to the institution by winning the **"Best Innovator" Award** in the Blockchain category at **Thiran 2025**, hosted by Sri Eshwar College of Engineering. The team, led by **Migavel D (3rd Year IT)**, impressed judges with their forward-thinking blockchain project that demonstrated both innovation and real-world applicability.

Their achievement not only earned them a prestigious trophy and certificate of recognition but also highlighted the department's strong focus on cutting-edge technologies and student-driven innovation. This success stands as a testament to the department's dedication to nurturing technical talent and fostering excellence in emerging domains.

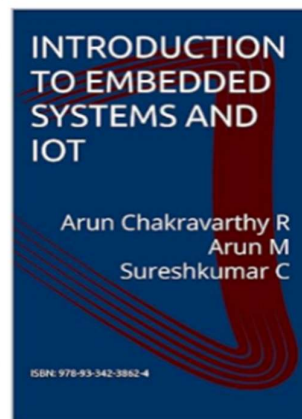**Hearty congratulations to the entire team for their remarkable accomplishment!**

Faculty Achievements and Publications at KGISL Institute of Technology

The Department of Information Technology continues to excel through remarkable faculty achievements in research, training, and academic contributions.

Dr. Vijayakumar P.D.R., Professor of IT, successfully participated in a **Five-Day Faculty Development Programme (FDP)** on *Cloud Computing & AI Integration*, held from **February 10–14, 2025**. Organized by **Sathyabama Institute of Science and Technology** in collaboration with **Marcello Tech, Trichy**, the FDP provided deep insights into the latest developments in cloud platforms, AI-based solutions, and industry-driven integrations. His participation reflects the department's commitment to continuous learning and staying aligned with cutting-edge technological advancements.

Adding to the department's accomplishments, a dedicated faculty team— **Chakravarthy R, M. Arun, Arun M, and C. Sureshkumar**—has authored a new academic resource titled *Introduction to Embedded Systems and IoT* **(2025, Kindle Edition)**. The book offers a comprehensive overview of core concepts, real-world applications, and emerging technologies in embedded systems and the Internet of Things, making it an essential reference for students, educators, and practitioners.

In the realm of research, our faculty members **R. Arun Chakravarthy, M. Arun, C. Sureshkumar, R. Nallakumar, P. M. Benson Mansingh, and K. Karthick** have published a notable study in the *Journal of Computer Science* on human-centric UAV design. Their research demonstrates a **95% success rate in precise UAV landings**, marking a significant advancement in usability and operational efficiency. The findings hold promising implications for critical areas such as **search-and-rescue missions, disaster response, and logistics operations**.

These collective achievements highlight the department's strong emphasis on innovation, research excellence, and impactful knowledge creation, further strengthening its academic reputation.

Student Achievement Spotlight

Migavel D, a third-year IT student from KGiSL Institute of Technology, along with his team **Co-Existence Tech Patrols**, marked an exceptional achievement by securing the **2nd Runner-Up** position in the prestigious **HA C'KATHON 2.5** hosted at Sri Ramakrishna Engineering College. Organized in collaboration with the **Tamil Nadu Forest Department, Coimbatore Forest Division**, the event brought real-world significance to the challenge, emphasizing innovation in environmental and wildlife protection. The team received a **cash award of ₹10,000** for their cutting-edge technological solution aimed at enhancing forest safety and wildlife conservation. Their project showcased a commendable blend of technical skill, environmental awareness, and creative problem-solving—highlighting the vital role of sustainable technology in safeguarding natural ecosystems. This remarkable accomplishment brings great pride to the department and the institution. **Hearty congratulations to Migavel and the entire team on their outstanding success!**

Dept. of IT, KITE Hosts National Conference on RECENT EXPLORATIONS IN SCIENCE, ENGINEERING & TECHNOLOGY (NCRESET 2K25)

The Department of Information Technology at KGiSL Institute of Technology successfully organized the **National Conference on Recent Explorations in Science, Engineering & Technology (NCRESET 2K25)** on **30th April** at **C.V. Raman Hall**. The event brought together researchers, academicians, and students to explore emerging trends across multiple domains of science and engineering.

The conference commenced with an inspiring **keynote address by Dr. R. Manimegalai**, Professor, Department of CSE, PSG Institute of Technology and Applied Research, Coimbatore. Her insightful session highlighted contemporary research directions and technological advancements shaping the future.

With over **75 enthusiastic delegates** participating, the conference provided an engaging platform for technical sessions, discussions, and paper presentations, encouraging academic exchange and collaborative learning.

The event was efficiently coordinated by **Mr. E. Joel Anandraj, Assistant Professor – IT**, under the able guidance of **Dr. K. Palani, Head of the Department**.

NCRESET 2K25 stands as a significant milestone in the department's continued commitment to fostering research excellence, innovation, and interdisciplinary growth.
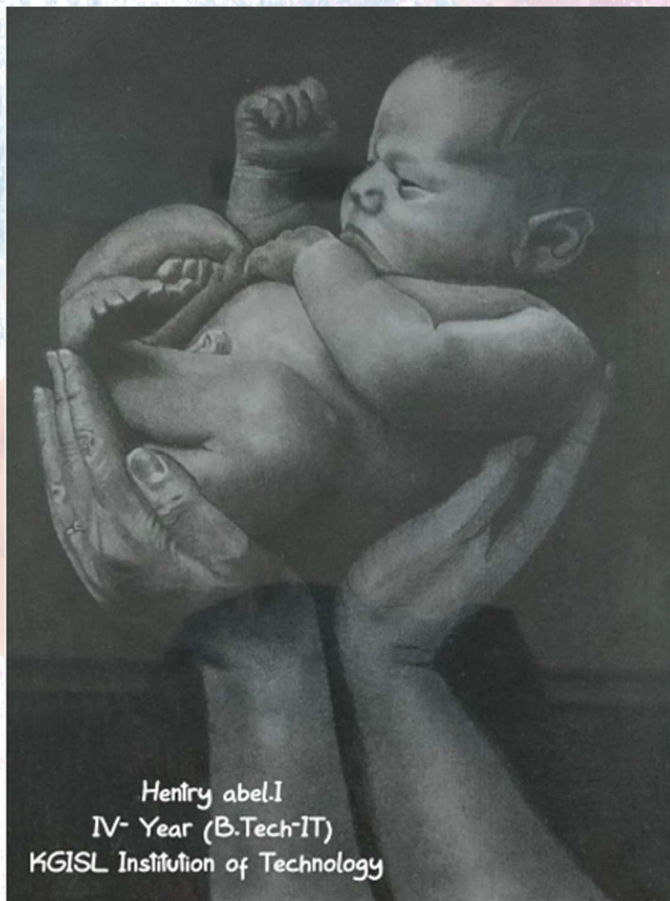
KeyNote Speaker

Dr. R Manimegalai
Professor, Department of CSE
PSG Institute of Technology &
Applied Research, Coimbotore.

Power of AI

A cute art by Adobe Firefly
"Where wisdom ends, AI begins."
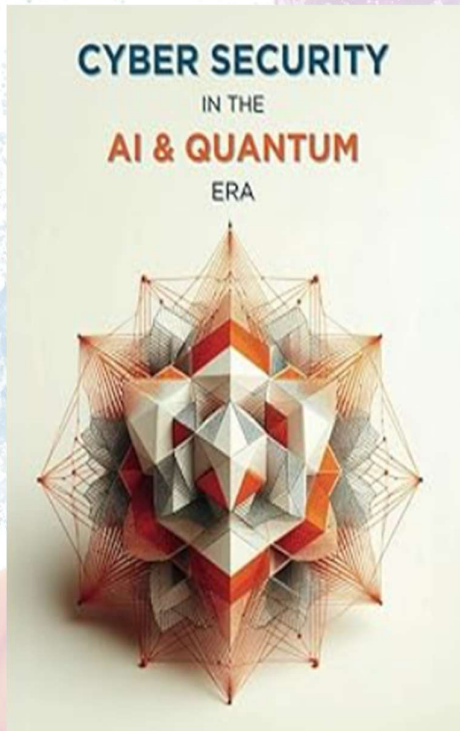— *A glimpse of creativity, powered by code and heart.*

Sketch By
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IV- Year (B.Tech-IT)
KGISL Institution of Technology.

Cybersecurity Watch: AI, Zero Trust & Quantum-Resistant Encryption

Article By: Mr. E. Joel Anandraj, Assistant Professor/IT

As cyber threats continue to grow in scale and complexity in 2025, the cybersecurity landscape is rapidly advancing to meet these challenges. Organizations are turning to cutting-edge solutions such as Artificial Intelligence (AI) and Machine Learning (ML) to enhance threat detection, allowing real-time monitoring and automated incident response. A major shift is also occurring towards Zero Trust Architecture, where access to data and systems is tightly controlled and continuously verified, reducing the risk of internal breaches. Meanwhile, the rise in ransomware and phishing attacks—particularly in hybrid work environments—has led to stronger endpoint protections, multi-factor authentication, and employee training. Looking ahead, the development of quantum-resistant encryption is gaining momentum, as researchers prepare for the potential threats posed by quantum computing. At the same time, stricter global regulations like the EU's Digital Operational Resilience Act (DORA) are being enforced to ensure compliance and bolster trust across digital ecosystems. Together, these advancements are shaping a smarter, more secure future for digital infrastructure.

Social Engineering Attacks: The Human Side of Cybersecurity

Article By V.N.Megavarthini

Introduction

In the world of cybersecurity, firewalls, encryption, and intrusion detection systems are built to protect digital assets. Yet, the weakest link in any security system remains the same—**the human mind**. Social engineering attacks exploit human psychology rather than technical vulnerabilities, making them one of the most dangerous and successful cyberattack strategies today.

What Is Social Engineering?

Social engineering is the art of manipulating individuals into revealing confidential information or performing actions that compromise security. Instead of hacking systems, attackers "hack" people using deception, persuasion, or psychological tricks.

These attacks succeed because they exploit universal human traits such as trust, fear, curiosity, urgency, empathy, and the desire to help.

Common Types of Social Engineering Attacks

1. Phishing

The most widespread form of social engineering. Attackers send fraudulent emails designed to look legitimate, prompting victims to click malicious links or share sensitive information. **Examples:** Fake bank alerts, password reset messages, job offer scams.

2. Spear Phishing

A targeted version of phishing where attackers tailor messages for a specific individual or organization using personal data gathered from social media or previous breaches.

3. Pretexting

The attacker fabricates a story or identity to gain trust. **Example:** Pretending to be an IT technician requesting login credentials to "fix an issue."

4. Baiting

Involves offering something enticing to trick users into compromising themselves. **Example:** A USB drive labeled "Salary Info" left in a public place that installs malware when plugged in.

5. Tailgating / Piggybacking

An unauthorized person physically follows an employee into a restricted area without proper identification.

6. Quid Pro Quo Attack

The attacker offers a service or reward in exchange for confidential information. **Example:** Offering "free software upgrades" that require login details.

How Social Engineering Works: The Psychological Principles

Attackers skillfully use psychological triggers such as:

- **Authority:** Pretending to be a superior or official.
- **Urgency:** "Your account will be locked in 30 minutes!"
- **Fear:** "Your system is infected—act now."
- **Curiosity:** "Check out this unbelievable video of you!"
- **Trust:** Creating a friendly or relatable connection.
- **Greed or Reward:** Offering prizes or exclusive access.

By manipulating emotions, attackers bypass logic and trick individuals into taking harmful actions.

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