Industry Institute Partnership Cell
KPR Institute of Engineering and Technology

Department of Computer Science and Engineering

1. About the Department:

The Department of Computer Science, established in 2010, has quickly become a leading hub for cutting-edge research and education in key areas such as Artificial Intelligence, Cybersecurity, Web Technology, Mobile Application Development, and Network Security. With a strong focus on emerging technologies, the department has a team of expert faculty members specializing in Cybersecurity, AI, DevOps, and Cloud Computing. Through strategic industry collaborations, the department has fostered partnerships in areas like Cybersecurity, AI, and the development of No-Code/Low-Code platforms, ensuring that students are equipped with the latest industry-relevant skills. This combination of academic excellence and industry engagement provides students with a robust foundation for success in the rapidly evolving tech landscape.

2. Facilities Available for Industry Collaboration

- **Network Security and Cloud (NSC) Laboratory:** The NSC laboratory is equipped with state-of-the-art forensics tools, providing students and industry professionals with the latest technology to excel in the field of cybersecurity. In collaboration with EC-Council, a globally recognized leader in cybersecurity certification, the laboratory offers academic partnerships that enable industry professionals to receive international certifications in Cyber Forensics, Ethical Hacking, Penetration Testing, and Cybersecurity Auditing at a minimal cost.

- **Augment Reality and Virtual Reality Laboratory:** The Augmented and Virtual Reality (AVR) lab is a dedicated facility equipped with state-of-the-art technology and tools designed for research, development, testing, and innovation in AR and VR applications. The laboratory also features dedicated spaces for rapid prototyping and experimentation, enabling researchers to refine and develop innovative ideas and concepts efficiently.

- **Intelligence Computing Laboratory:** The Intelligence Computing Laboratory (ICL) is a state-of-the-art facility focused on research, development, and innovation in Artificial Intelligence (AI) and full-stack applications. It is equipped with high-performance computing systems, including powerful GPUs and multi-core processors, designed to handle demanding AI tasks such as deep learning, machine learning, and large-scale data analytics.

3. Consultancy Services

Network Security - Pen Testing, Security audit, Brand monitoring, Threat Intelligence, Incident response and forensics. **Artificial Intelligence -** Application of AI on Intelligent transportation systems, FIR, FFT-coefficient identification, cutoff using ML models, Weight estimation with video

data for poultry farming, Disease prediction with fecal data for poultry farming, and any other industry application related to the development of AI with real-time systems (generation of ONNX models in embedded systems). **Application Development -** UI/UX design with Figma, development of mobile application with Flutter, Integration of mobile platform with AWS (IoT Core, RDS, Lamda, API gateway), Web application with Angular (Front end framework, TypeScript, Client-Side) and node JS (runtime environment, server-side, scalability). **AR/VR -** Unity, Unreal-based game development, designing the customized virtual tour, etc.,

4. Executive Development Programs

- **Cyber Security Essentials for Industry (Certification program in tie-up with EC council) -** Duration: one week, Topics: Introduction to cyber security, pen testing essentials, network basics, security basics, forensics basics.
- **Certified Ethical Hacking -** Duration: Five Weeks, Topics: As provided by EC council

5. Research and Development Collaborations

- **Research Focus Areas:** Industry IoT, Artificial intelligence (Machine Learning, Deep Learning, Reinforcement Learning), Cyber Security, DevOps.
- **Collaboration Opportunities:** The Department of Computer Science and Engineering is eager to collaborate with industry in the areas of Artificial Intelligence, Cybersecurity, and DevOps, focusing on addressing real-world challenges and developing innovative solutions to solve industry problems.

6. Achievements and Success Stories

- The Department of Computer Science and Engineering has successfully engaged in numerous industry projects, focusing on AI, web and mobile application development, and cybersecurity. One of the notable achievements includes the development of Kisock, a mobile application designed to ensure floor safety through real-time safety monitoring. This innovative solution has been widely recognized for its ability to proactively monitor and prevent safety hazards, making workplaces safer for employees.

- Another significant success story is creating an end-to-end poultry framework that integrates AI for weight estimation and disease prediction. This solution has proven to be a game-changer in the poultry industry, helping farmers optimize their operations and improve animal health. Additionally, the department developed a user-specific cybersecurity scanner that generates detailed security reports for the industry, providing businesses with tailored protection against cyber threats. These achievements highlight the department's commitment to solving real-world challenges and driving innovation across various industries.