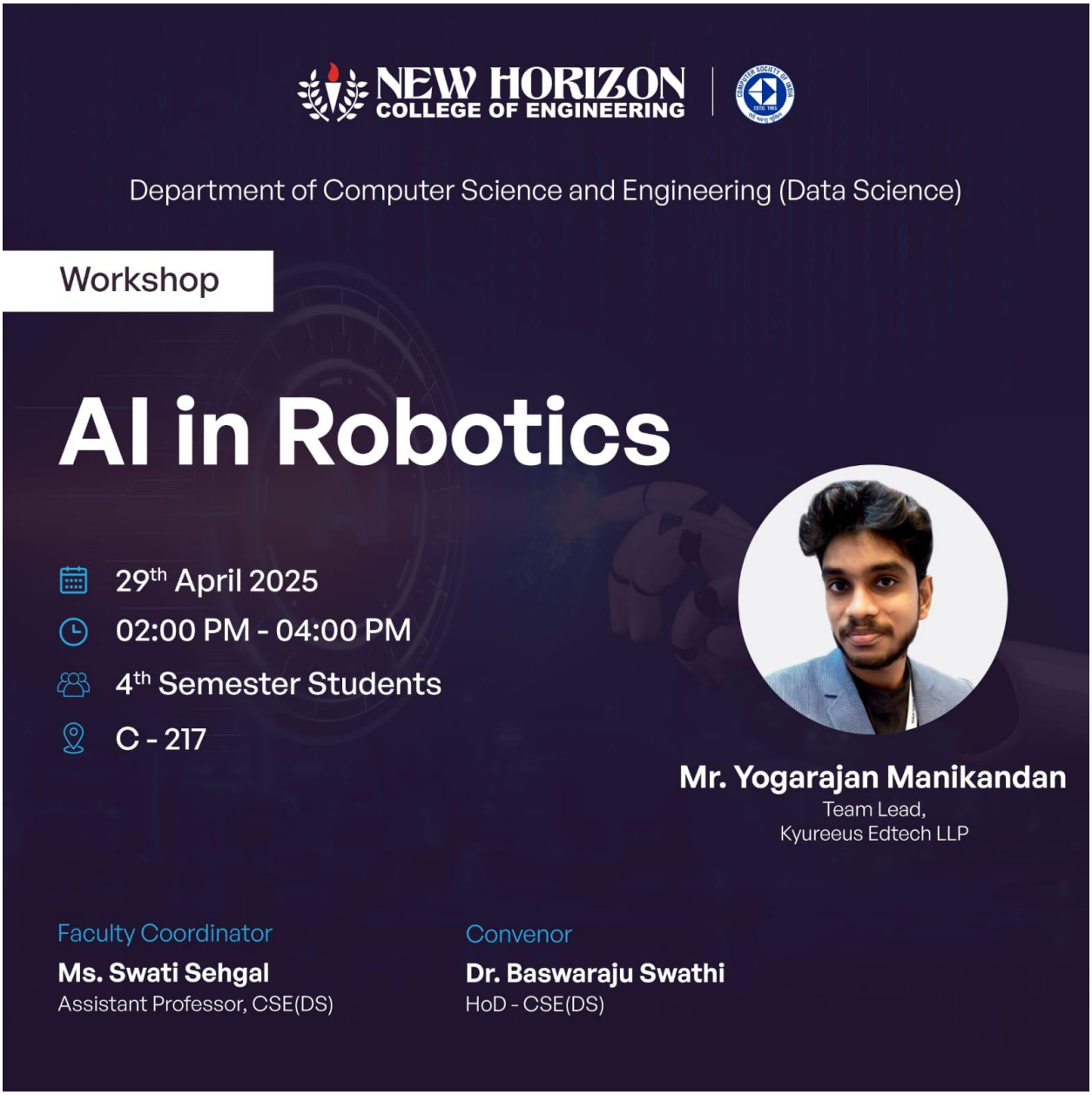
NEW HORIZON COLLEGE OF ENGINEERING

DEPARTMENT OF CSE - DATA SCIENCE

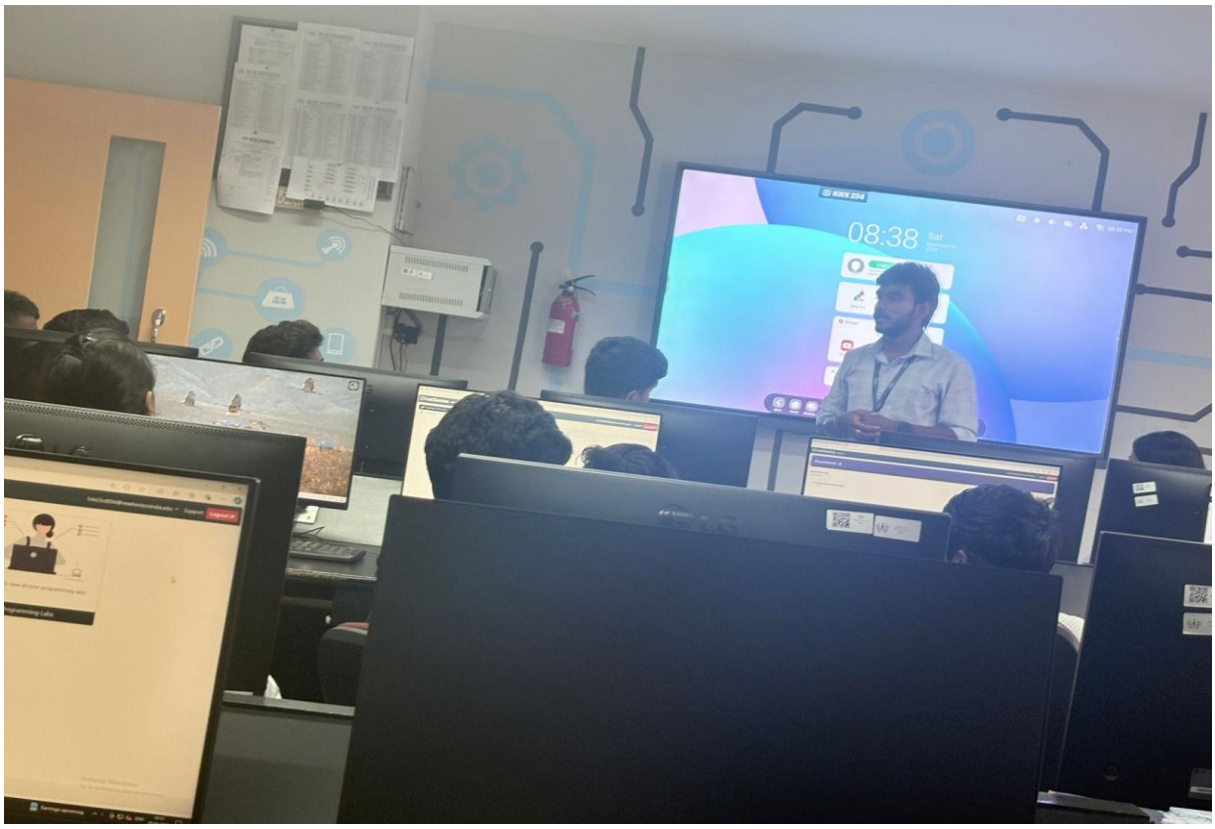
AI in Robotics

Venue: Room C 217 **Time:02.00PM to 04:00 AM**



On the 29th, of April 2025, the Department of Computer Science and Engineering (Data Science), hosted a workshop on “AI in Robotics”. The workshop was conducted by Mr.Yogarajan Manikandan, an enthusiastic and dedicated Robotics Trainer and Engineer with over 5 years of professional experience in the field of robotics, embedded systems, and IoT.

The workshop aimed to introduce students to the intersection of Artificial Intelligence (AI) and Robotics, emphasizing practical applications, tools, and techniques to build intelligent robotic systems. The session focused on equipping students with an understanding of how AI empowers robots to perceive, learn, and make decisions in dynamic environments.

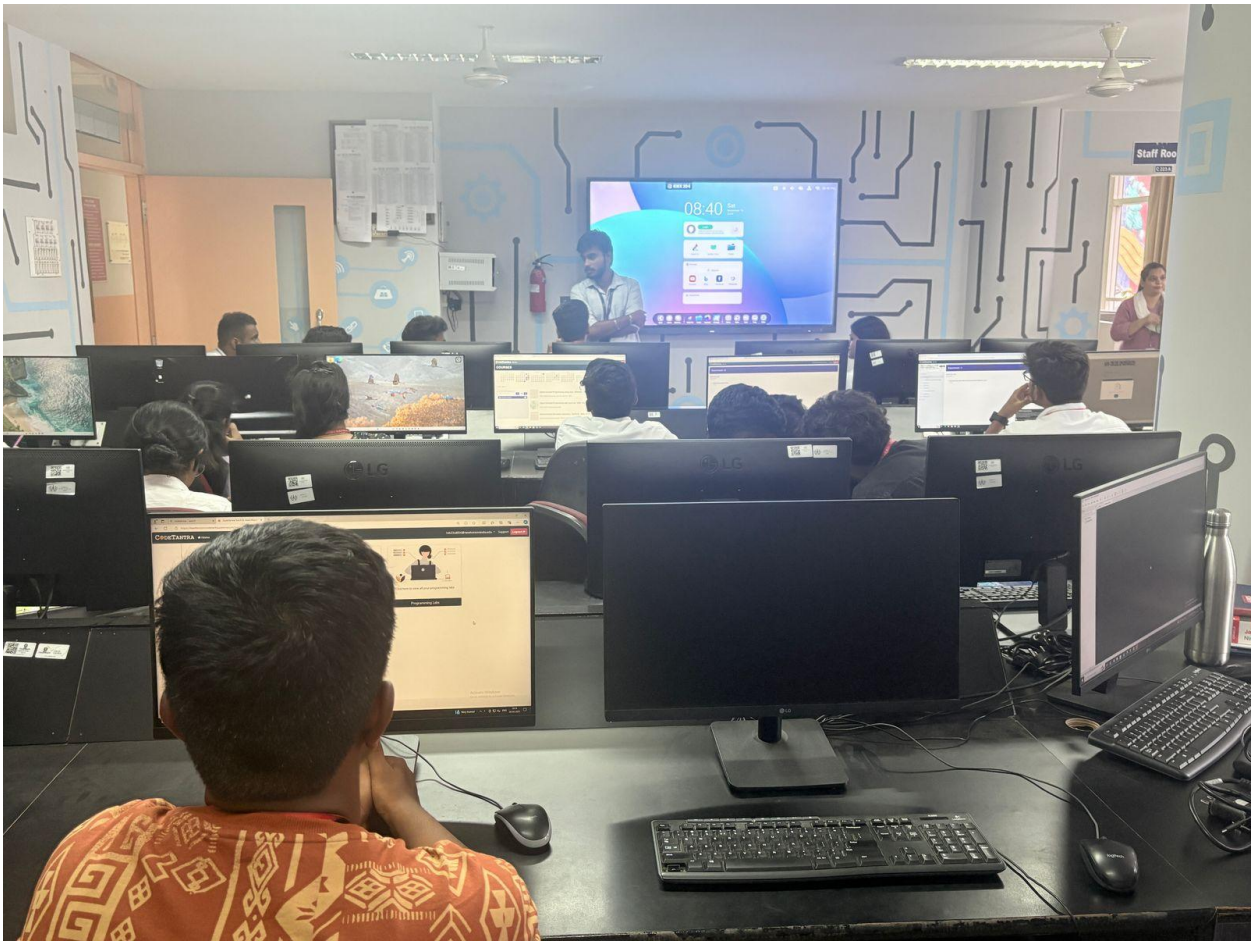


Mr. Yogarajan began with a compelling discussion on the evolution of AI and its influence on robotics. He traced AI’s journey from rule-based systems to modern-day deep learning models, highlighting key milestones like integration of AI in autonomous systems, dr robots and Current advancements in Generative AI, and Reinforcement Learning. He emphasized how AI has transformed robots from pre-programmed machines to autonomous agents capable of perception, planning, and interaction.

The session showcased various AI tools useful in robotics development such as - Google Teachable Machine: A no-code platform used for creating machine learning models quickly. Students were shown how to train a classification model using images and TensorFlow Lite: Briefly mentioned as a tool for deploying AI models to embedded systems and edge devices gestures. OpenCV: Used for computer vision tasks, important for enabling robots to see and interpret visual data.

The guest introduced RobotDK, a powerful tool for robot simulation and offline programming. Key features highlighted: Simulation of industrial robots for tasks like welding, packaging, and inspection, Importing CAD models and integrating with robot programs. He emphasized RobotDK's value in prototyping before physical deployment, reducing cost and error.

He shared insights into some of the innovative robotic systems he has developed: Reception Robot: Designed to interact with visitors at entry points, this robot utilizes AI-powered speech recognition and response systems. It can greet guests, provide directions, and even respond to basic queries using Natural Language Processing (NLP). The robot demonstrates real-world applications of human-robot interaction in hospitality and office environments.



Students gained foundational knowledge in AI applications in robotics, acquired practical exposure to training AI models using tools like Teachable Machine. Understood the lifecycle of designing and simulating robots using real-world tools, inspired students to pursue projects combining AI and robotics. The workshop was highly informative and engaging. It bridged theoretical knowledge and practical application, offering a glimpse into the future of intelligent machines.

Faculty Coordinator **HoD**

Ms. SWATI SEHGAL **Dr. BASAVARAJU SWATHI**