Day 5 of AICTE ATAL Sponsored FDP at UIET MDU Rohtak

Rohtak, India – November 30, 2023

The fifth day of the AICTE-ATAL sponsored Faculty Development Program (FDP) on “Recent Advances in Artificial Intelligence and Robotics” was held today at the University Institute of Engineering and Technology (UIET), Maharshi Dayanand University (MDU), Rohtak.

The day began with a session by Dr. Bhausaheb Botre, principal scientist CEERI, Pilani , on the topic of “Advanced Robotics for Assistive and Agricultural Technologies”. In his session, Dr. Botre discussed the latest advancements in robotics technology and its potential applications in the field of assistive and agricultural technologies. He also highlighted the challenges and opportunities in this area.

The second session of the day was by Dr. Yudhvir Singh, Dean and Director, UIET MDU, who spoke on the topic of “Artificial Intelligence and Applications”. In his session, Dr. Singh discussed the fundamentals of artificial intelligence (AI) and its various applications in different domains. He also highlighted the impact of AI on society and the future of AI.

The afternoon session was a practical session on “Design of SCARA Robotics” by Mr. Deepak Chabbra, Assistant Professor, UIET MDU. In this session, participants were given hands-on training on the design and development of SCARA (Selective Compliance Articulated Robot Arm) robots.

The FDP is being organized by the Department of Electrical Engineering, UIET MDU, from November 27 to December 2, 2023. The aim of the FDP is to provide faculty members with an overview of the latest advancements in AI and robotics and to equip them with the skills necessary to incorporate these technologies into their teaching and research.


Hardware Setup for Data Generation – Block Diagram


Versatile, configurable 'perception-action system' for robotic harvesting
• For the robot manipulation arsenal, a novel neural control framework (Mohan et al., 2018) for goal-directed reaching taking into account a range of task constraints (gripper pose, joint limits, timing, bimanual coordination, alignment of the gripper/carrier to the stem).
• The perception-action system - a mobile vehicle with two arms, 3D printed Gripper/Cutters and a range of sensing capabilities.
• The arms can be coupled to a range of end-effectors based on the task like a multi-finger-dexterous/configurable soft hand, a 3D printed joint gripper/ cutter and a range of sensors for perception (stereo camera, LIDAR).


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Robotics


Versatile, configurable perception action system for robotic harvesting