18-20th March 2024

HANDS ON
WORKSHOP
ON
INNOVATION IN MOTION
ROBOTIC ARM
TECHNOLOGY
ENKINDLE
DEPARTMENT OF COMPUTER SCIENCE ENGINEERING
AND INFORMATION TECHNOLOGY

Report: Three-Day Hands-on Workshop on "Innovation in Motion: Robotic Arm Technology"

Introduction: The Department of Computer Science and Engineering (CSE) and Information Technology (IT) at Jaypee University of Information Technology (JUIT), Solan, successfully organized a three-day hands-on workshop titled "Innovation in Motion: Robotic Arm Technology." This workshop aimed to introduce first-year students to the intricacies of robotic arm technology, enabling them to assemble, program, and operate robotic arms.

Organizers and Participants: The workshop was orchestrated under the auspices of the Enkindle club of the CSE/IT department. Dr. Aman Sharma and Dr. Diksha Hooda spearheaded the organization, supported by a team of dedicated student coordinators and lab members. Notably, Honorable Vice Chancellor Prof. (Dr.) Rajendra Kumar Sharma provided essential guidance and motivation for the initiative.

Event Overview: The three-day workshop comprised hands-on sessions, lectures, and interactive discussions led by esteemed experts in the field. Noteworthy contributors included Dr. Harpreet Singh, Mr. Munish Sood. Their expertise and guidance enriched the learning experience for the participants.

Day 1: The inaugural day commenced with an opening ceremony graced by Honorable Vice Chancellor Prof. (Dr.) R. K. Sharma, Prof. (Dr.) Ashok Kumar Gupta, Prof. (Dr.) Pradeep Kumar Gupta, Prof. (Dr.) Shruti Jain, and Prof. (Dr.) Vivek Kumar Sehgal. Participants were introduced to the fundamentals of robotic arm technology through informative sessions. The day concluded with students gaining hands-on experience in assembling basic robotic arm components.

Day 2: Dr. Diksha Hooda briefed the students about the basics of robotic arm assembly , hardware components and implementation aspects. The second day delved deeper into the programming aspects of robotic arms. Participants learned programming languages relevant to robotics and were guided in writing code to control the movement and functionality of robotic arms. Interactive sessions facilitated a comprehensive understanding of the programming concepts.

Day 3: On the final day, participants showcased their newfound knowledge and skills through practical demonstrations and presentations. The valedictory session featured a motivational keynote video from Nvidia CEO, emphasizing the importance of innovation and academic excellence. Honors were bestowed upon exemplary participants, and mementos were distributed as tokens of appreciation. The event concluded with a sense of accomplishment and a commitment to further exploration in the realm of technology and innovation. Students created very innovative projects like automated plant sowing automated games like rock paper scissor. Towards the end of hands on session Ideathon was organized and evaluated by Dr. Aman Sharma and Dr. Diksha Hooda.

Conclusion: The "Innovation in Motion: Robotic Arm Technology" workshop at JUIT Solan was a resounding success, attracting a total of 100 enthusiastic participants. The event not only provided valuable insights into robotic arm technology but also fostered a spirit of innovation and collaboration among students and faculty members. Special thanks were extended to all contributors, including

resource persons, organizers, coordinators, and participants, for their invaluable contributions to making the workshop a grand success.

Acknowledgments:

- Honorable Vice Chancellor Prof. (Dr.) Rajendra Kumar Sharma
- Dr. Aman Sharma and Dr. Diksha Hooda
- Faculty members and experts: Dr. Harpreet Singh, Mr. Munish Sood, Prof. (Dr.) Ashok Kumar Gupta , Prof. (Dr.) Pradeep Kumar Gupta, Prof. (Dr.) Shruti Jain, Prof. (Dr.) Vivek Kumar Sehgal, and others.
- Student coordinators: Naman Pratap Singh, Shruti Kadyan, Amritansh Sharma, Pratham Thakur, Saurav Kumar, Raghav Sharma, Parth Gupta, Akshit Sharma, Anmol Nayyer, RISHABH GUPTA
- Organizing committee members and volunteers
- Department of CSE and IT, JUIT Solan

This workshop stands as a testament to JUIT's commitment to fostering innovation, technology education, and practical learning experiences for its students.