Report on 3-Day Workshop on "Path Follower Bot Using Arduino & Electrical Technology"

Organized by: Department of Electrical Engineering, Faculty of Engineering and Technology
Dates: 7th to 9th October 2024
Venue: Department Lab & Seminar Hall, Faculty of Engineering and Technology

---

1. Objective of the Workshop

The primary objective of this three-day workshop was to provide students with hands-on experience and practical exposure in the field of robotics and embedded systems, focusing on building a **Path Follower Robot** using **Arduino** and exploring related **electrical technologies**. The workshop aimed to bridge the gap between theoretical learning and industrial applications by encouraging students to design, assemble, and program robotic systems.

---

2. Workshop Overview

The workshop was conducted over three days and was designed to be interactive and experiential. Students were introduced to the fundamental concepts of Arduino microcontroller programming, sensor integration, and the electrical aspects of robotic development. The agenda included theory sessions, practical demonstrations, and guided hands-on exercises.

---

3. Key Learning Modules

- **Day 1:**
  - Introduction to Robotics & Arduino
  - Basics of Electronic Components
  - Arduino IDE Setup and Syntax
- **Day 2:**
  - Sensor Theory & Integration
  - IR Sensor Calibration and Line Detection Logic
  - Breadboard Prototyping and Circuit Design
- **Day 3:**
  - Robot Assembly & Code Implementation
  - Testing and Debugging
  - Final Demonstration of Path Follower Bots

---

4. Resource Persons

The sessions were facilitated by:

- **Mr. Lokesh Bhardwaj**
- **Mr. Aviral Awasthi**

Both speakers provided personalized mentoring and addressed technical queries with real-world examples and troubleshooting techniques.

---

5. Acknowledgements

We extend our heartfelt thanks to **Prof. Vipul Sharma**, Dean, Faculty of Engineering and Technology, for his continued support and encouragement. His closing remarks were highly motivating, as he praised the students' innovative spirit and urged them to focus on research and technological invention.

---

6. Participation and Engagement

A total of **50+ students** from the Electrical Engineering department actively participated in the workshop. Noteworthy participants who showed exceptional enthusiasm and collaboration include:

Aakash Raj Aaditya, Abhishek Kumar, Alan Tirkey, Ankit Kumar, Anurag Singhal, Archit Padha, Bikash Kumar, Dilkush Kumar, Dushyant Kumar Dev, Karan Kumar Prajapt, Nirbhay Chaudhary, Pankaj Dhanuk, Pranjal Singh, Ravis Kumar, Rikesh Kumar, Sanjeev Kumar, Sudhanshu Gupta, Tsering Chosphel, Mehul Giri, Shivankur Panwar, Anup Kumar Dubey, Aryan Solanki, Bikram Singha, Deepak Kumar Berwal, Herojit Singh, Shreyansh Sharma, Shubham Rai, Aditya Rawat, Dhruv Sharma, Nitin Joshi, Prince Sharma, Abhishek Kumar, Akshay Bhatia, Deepak Kumar, Devansh Gupta, Kartik Kumar, Shivam Kumar, Sumit Saini, Vaibhav Sharma, Abhinav Bhatia, Abhinav Kumar, Arihant Singh Balyan, Shriyansh Gaur, Saransh Sharma.

Their dedication and active engagement contributed significantly to the success of the event.

---

7. Conclusion

The workshop concluded with a display of the functioning path follower bots created by the students. The event achieved its learning objectives and significantly enhanced participants' technical skills, teamwork, and problem-solving abilities. The department plans to organize more

such hands-on workshops to continue promoting innovation and technical excellence among students.

Prepared by:

Department of Electrical Engineering
Faculty of Engineering and Technology