2-Day Workshop Plan

Robotics

Day	Time	Activity
Day 1	10:00 AM - 10:45 AM	Introduction to Robotics: Definition, Applications, and Types of Robots
Day 1	10:45 AM - 11:30 AM	Basic Robotics Components: Motors, Sensors, Microcontrollers, and Actuators
Day 1	11:30 AM - 11:45 AM	Break (15 minutes)
Day 1	11:45 AM - 1:00 PM	Robotics Kinematics: Understanding motion, Degrees of freedom, and Forward/Inverse kinematics
Day 1	1:00 PM - 2:00 PM	Lunch Break (1 hour)
Day 1	2:00 PM - 2:45 PM	Introduction to Arduino for Robotics: Setting up Arduino, Installing IDE, Basic Programming
Day 1	2:45 PM - 4:00 PM	Hands-On: Building a Simple Robot: Setting up motors, sensors, and basic control circuit
Day 1	4:00 PM - 4:15 PM	Break (15 minutes)
Day 1	4:15 PM - 5:00 PM	Q&A and Day 1 Wrap-Up: Recap of concepts and hands-on work, Preview of Day 2

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2-Day Workshop Plan

Robotics

Day	Time	Activity
Day 2	10:00 AM - 10:45 AM	Advanced Robotics Topics: Sensors for navigation (Ultrasonic, Infrared), Servo motors, and Path planning
Day 2	10:45 AM - 11:30 AM	Introduction to Robotics Programming: Writing algorithms for motion control, PID control, and sensor integration
Day 2	11:30 AM - 11:45 AM	Break (15 minutes)
Day 2	11:45 AM - 1:00 PM	Hands-On: Building a Line Following Robot: Wiring and coding to follow a line using sensors
Day 2	1:00 PM - 2:00 PM	Lunch Break (1 hour)
Day 2	2:00 PM - 2:45 PM	Introduction to Robotic Vision: Basics of computer vision, Object detection, and camera integration
Day 2	2:45 PM - 4:00 PM	Hands-On: Integrating Camera for Object Detection: Setting up a camera, basic image processing, and control
Day 2	4:00 PM - 4:15 PM	Break (15 minutes)
Day 2	4:15 PM - 5:00 PM	Q&A and Final Wrap-Up: Review of projects, Key takeaways, Certification distribution, and closing remarks

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