

## ROBOTICS – 2 MONTHS

### Module 1: Basics of Robotics & Electronics

- ✓ Introduction to Robotics – Types & Real-World Applications
- ✓ Basic Electronics – Voltage, Current, Resistance, Ohm's Law
- ✓ Electronic Components – LEDs, Resistors, Breadboard, Multimeter
- ✓ Sensors & Actuators – IR Sensor, Ultrasonic Sensor, DC Motors

### Module 2: Arduino & Programming

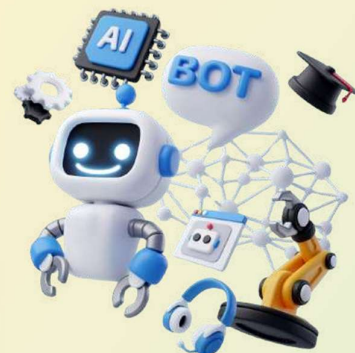
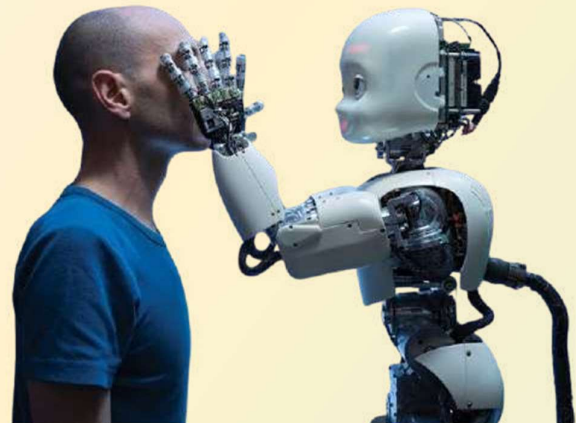
- ✓ Arduino UNO Overview – Pins, Power, Setup
- ✓ Installing Arduino IDE & Writing First Code
- ✓ Digital & Analog Inputs/Outputs – LED, Buzzer
- ✓ Reading Sensor Values (IR, LDR) with Arduino

### Module 3: Motor Control & Robot Base

- ✓ Motor Driver Module (L293D) – How it works
- ✓ Controlling DC Motors using Arduino + L293D
- ✓ Robot Chassis Assembly – Wheels, Motors, Wiring
- ✓ Line Follower Robot – Logic + Coding

### Module 4: Wireless Control & Final Project

- ✓ Ultrasonic Sensor with Arduino – Distance Measurement
- ✓ Obstacle Avoiding Robot – Coding + Testing
- ✓ Bluetooth Module (HC-05) – Mobile App Control
- ✓ Final Project – Bluetooth Controlled Obstacle Avoider Robot



**JOB ORIENTED  
COURSES**

**100% JOB  
GUARANTEE**

**EXPERIENCED  
FACULTY**

**WEEKLY TEST**

**PROJECT &  
ASSIGNMENT  
WORK**