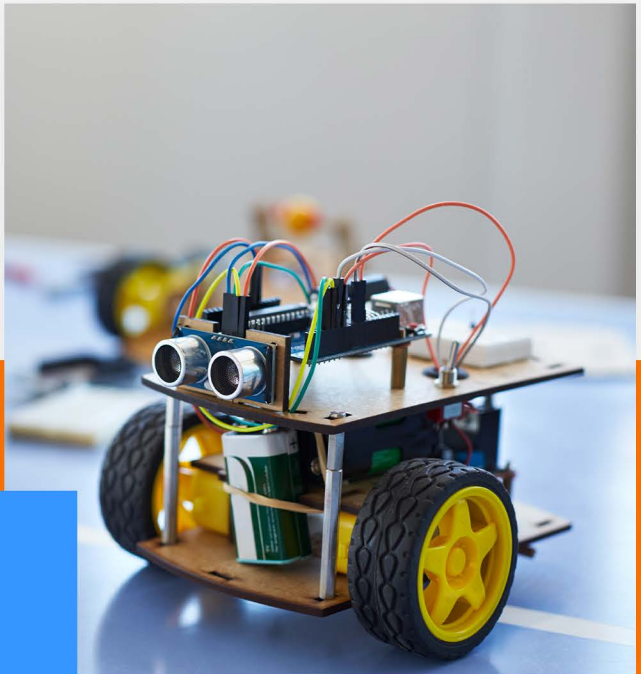


Robotics - Professional Program

 Duration: 3 to 6 Months

Innovate
Accelerate
Repeat.





Robotics - Professional Program

 **Duration: 3 to 6 Months**

Course Modules

Foundations of Robotics

- > Types of robots: mobile, arms, AGVs, cobots
- > Degrees of Freedom (DOF) & workspace
- > Real-World applications in industries

Arduino and Embedded Systems

- > Digital/Analog I/O and PWM control
- > Sensor Interfacing: IR, Ultrasonic, Temperature
- > Motor control: DC, Servo and Stepper



Python for Robotics

- > IPython syntax, Loops, Functions
- > Reading sensor data and logging
- > Interfacing with Raspberry Pi GPIO

Motion Control and Actuators

- > Motor drivers and H-Bridge circuits
- > Proximity sensors & encoders
- > Closed-loop control and PID tuning

CAD & Mechanical Design

- > Robot structure: links, joints and chassis
- > Design in SolidWorks/TinkerCAD
- > Basic motion simulation

Industrial Automation

- > PLC and ladder logic programming
- > Timers, counters, safety interlocks
- > SCADA and HMI interface basics

Robotics Simulation and ROS

- > ROS basics: nodes, topics and publishers
- > Mobile robot simulation in Gazebo
- > Visualizing data in RViz

Learning Outcomes and Capstone Projects

- > Build and program a complete robotic system
- > Design circuit diagrams, write code, and test plans
- > Present a demo-ready project for portfolio/showcase
- > Be job-ready for roles in robotics and automation



Get in touch with us now

Whether you are ready to apply or just want to learn more, we are happy to connect with you.

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