

Arduino & Python Robotics

Foundations of Robotics & Artificial Intelligence

Advanced Level

Ages 16+

Arduino & Python Robotics

A hands-on engineering track for students ready to think like makers, moving from core electronics and coding into real AI fundamentals.



16+

AGE GROUP

24

SESSIONS

60 min

PER SESSION

3

MONTHS

3

PATHWAYS

Arduino + RPi

KIT

Capstone

FACE DETECTION
PROJECT

Programme Overview

Discover the fundamentals of electronics, coding and artificial intelligence through hands-on engineering with Arduino and Python. Learn how to build circuits, program intelligent systems, work with sensors and actuators, and turn ideas into real-world projects. Develop problem-solving, computational thinking and engineering skills while exploring robotics, automation and AI through practical, project-based learning.

3-Month Learning Pathway

Students build circuits, write real Python and C++ code, and train their first computer vision system on a working robot, laying the groundwork for advanced robotics.

- 1 Electronics, Coding & AI Fundamentals**
Core electronics, microcontroller basics, and Python/C++ integration projects.
- 2 Intelligent Robotics & ML Foundations**
Introduction to planning and classification concepts in machine learning, applied through the build robot.
- 3 Computer Vision in Action**
Students implement real-time face and person detection on a live camera feed.

Skills Students Gain

Electronics & Circuit Design

Python & C++ Programming

Microcontroller Integration

Machine Learning Foundations

Computer Vision

Problem Solving & Collaboration

Programme Details

Level

Advanced

Duration

3 Months

Schedule

24 sessions · 60 min each

Location

Sport Society, Mirdif

Kit

Arduino + Raspberry Pi

Includes

Real-time face detection project

Build Real Projects · Learn by Doing · Think Like an Engineer

Build. Code. Train. Detect.

Enroll Now

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