



Olewin
Academy
AN IIT Alumnus Platform



IoT Engineer Program

**Building the Future of Connected
Intelligence**

Job Oriented Program



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Olewin
Academy

An IIT Alumnus Platform

Powered by: IIT Alumni + Partner Companies + Real-Time Internship

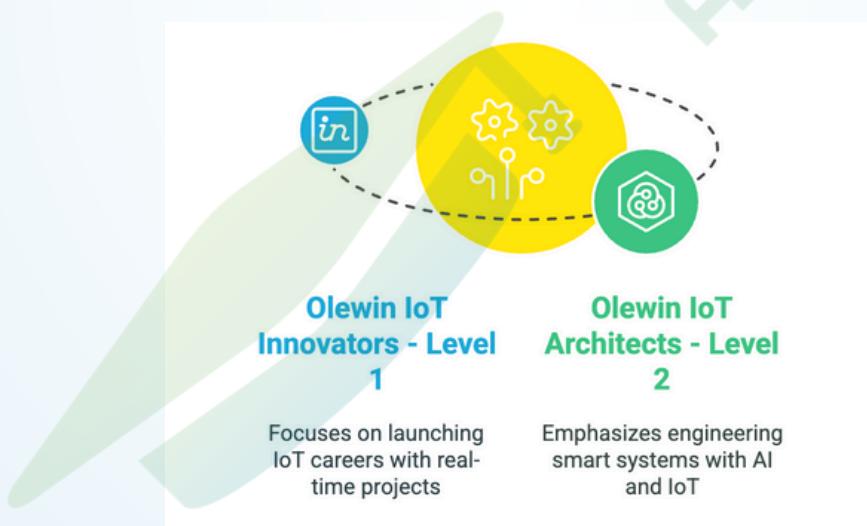
Organized By:

Olewin Academy – Global Ed-Tech Leader in Emerging Technologies

Industry-Grade AI Developer Program with IIT Mentorship & Real Internships on Company Projects

Get Certified, Intern with Startups, and Launch AI integrated IoT Apps in Various Platforms by Graduation

- Weekly mentorship sessions by IIT Kharagpur / MIT USA alumni
- 1:1 project reviews and code walkthroughs



Limited Intake Only

Registration form

[https://forms.gle/RmeD5ADzmxvAu
UpR8](https://forms.gle/RmeD5ADzmxvAuUpR8)

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Program Overview:

- Enter the world of Internet of Things (IoT) – where hardware, software, AI, and cloud converge to build intelligent systems that power smart cities, drones, healthcare, agriculture, industries, and more.
- With real-time internships, a world-first capstone project, and full-stack training in embedded systems, edge computing, AI, and IoT cloud, this program prepares you for the most in-demand roles across industries.

Who Should Join:

- Engineering students (ECE, CSE, EEE, Mech, AI/ML)
- Science graduates interested in tech, shifting from Non-IT to IT industry
- Working professionals upskilling in Embedded, Automation
- Entrepreneurs building smart tech startups
- Job seekers targeting roles in IoT, robotics, or AI hardware

Real-World IoT Project

Smart Eco Swarm for Atmospheric & Biodiversity Monitoring

Design an IoT-powered, AI-enhanced drone swarm system deployed in forests, wetlands, or industrial zones to autonomously monitor air quality, biodiversity signals (bioacoustics), and climate data in real time. Unlike existing weather stations or smart agriculture tools, this combines atmospheric sensing, live camera feed, acoustic analysis, and animal detection into a real-time alert and prediction system, using 5G/LTE mesh network with edge-AI.



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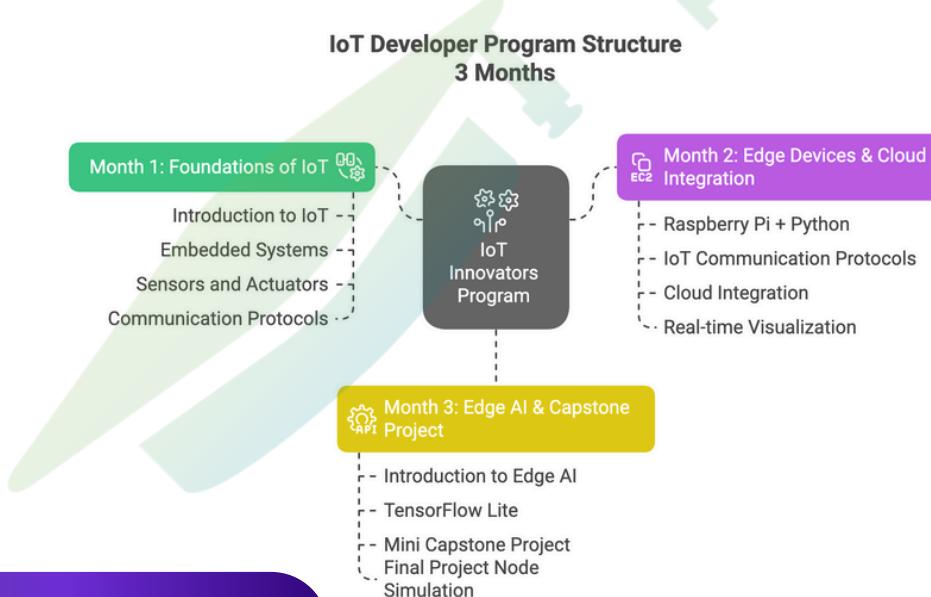
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3-Month IoT Developer Program – Fast Track (Beginner to Intermediate Level)

Program Overview

The 3-Month IoT Developer Program is a fast-track, hands-on course designed for beginners and intermediate learners to build a strong foundation in embedded systems, sensor networks, and cloud-connected IoT devices. Through real-world simulations, edge AI integration, and live device programming, students learn to build intelligent, connected systems with real-time monitoring and automation.

This program focuses on practical learning, industry tools, and a mini capstone project that prepares students for junior IoT roles and internships in startups and tech companies.



Program Outcomes

Solid understanding of IoT architecture, embedded hardware (ESP32, Arduino), and sensors

Build and deploy IoT solutions using Raspberry Pi, MQTT, Node-RED, and Grafana

Integration with AWS IoT/GCP IoT, dashboard creation, and live cloud connectivity

Implement basic edge AI using TinyML or TensorFlow Lite on devices

Completion of a mini capstone project on smart environmental monitoring

Resume-ready project portfolio + certification + job assistance



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Month 1 – Foundations of IoT & Embedded Programming

Week 1

Introduction to IoT, use cases in industries, IoT architecture

Week 2

Embedded systems basics: Arduino & ESP32 (C++, MicroPython)

Week 3

Sensors and actuators (DHT11, PIR, ultrasonic, relay control)

Week 4

Communication protocols: UART, SPI, I2C, basics of MQTT



Month 2 – Edge Devices, Cloud Integration & Protocols

Week 5

Raspberry Pi + Python: GPIO access, camera, I2C sensors

Week 6

IoT communication protocols: MQTT, HTTP, CoAP, LoRaWAN

Week 7

AWS IoT Core or GCP IoT: Connect, publish/subscribe, secure data

Week 8

Node-RED, InfluxDB, and Grafana for real-time visualization

Month 3: Internship + Product Deployment

Week 9

Intro to Edge AI: ML on Microcontrollers (TinyML, Edge Impulse)

Week 10

TensorFlow Lite on ESP32-CAM and Raspberry Pi

Week 11

Mini Capstone: Smart Air Quality Monitoring & Alerts

Week 12

Project Node Simulation: Single Node + sensors + edge AI + dashboard

Outcomes

- Internship
- 2 Projects + Certificate + Job readiness support



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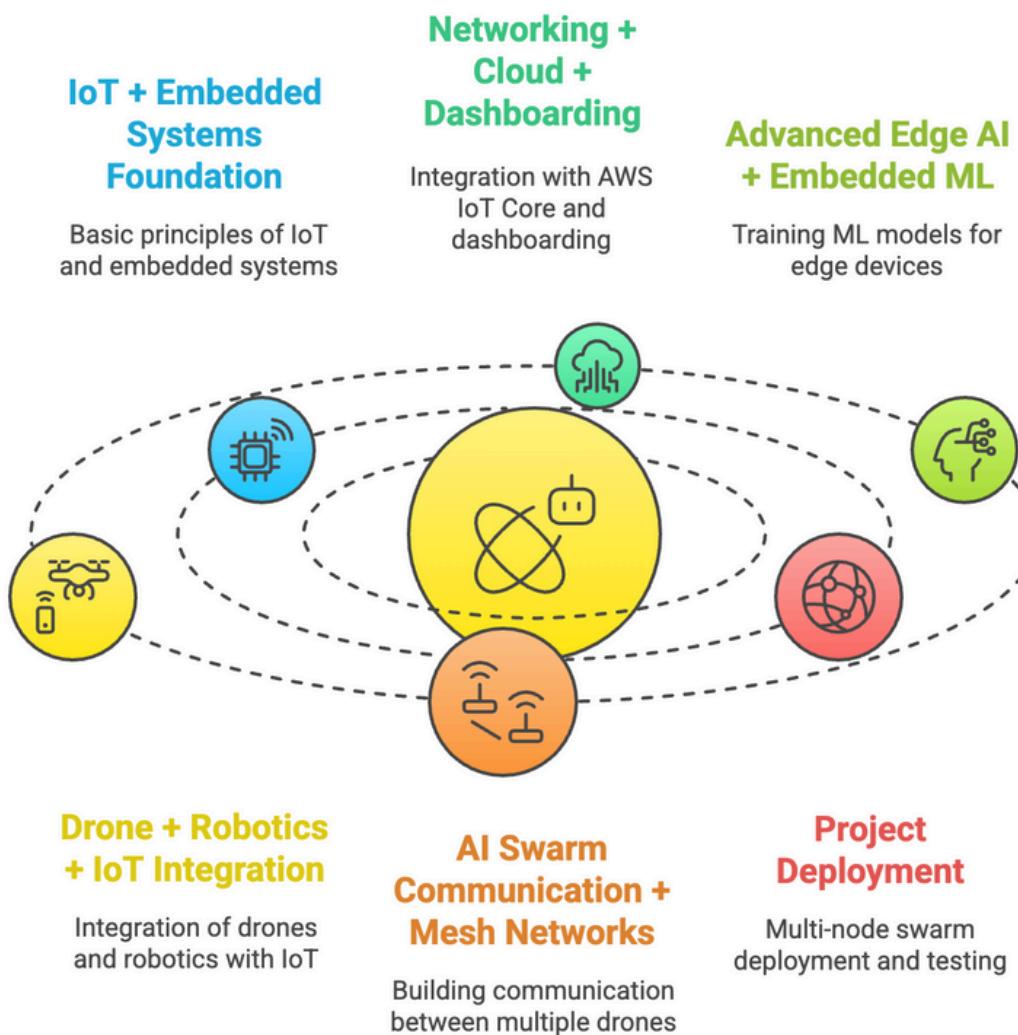
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6 Months Advanced Professional Track Program

Program Overview

The 6-Month IoT Developer Program is an advanced, industry-aligned training designed for individuals seeking to become professional IoT Architects or Edge AI Developers. This in-depth program covers embedded systems, IoT communications, cloud platforms, DevOps, edge computing, AI on the edge, and even drone integration. Students work on multiple real-world projects, including the exclusive Project based on intelligent environmental monitoring network with edge AI and real-time analytics.

Comprehensive IoT and AI Program Overview

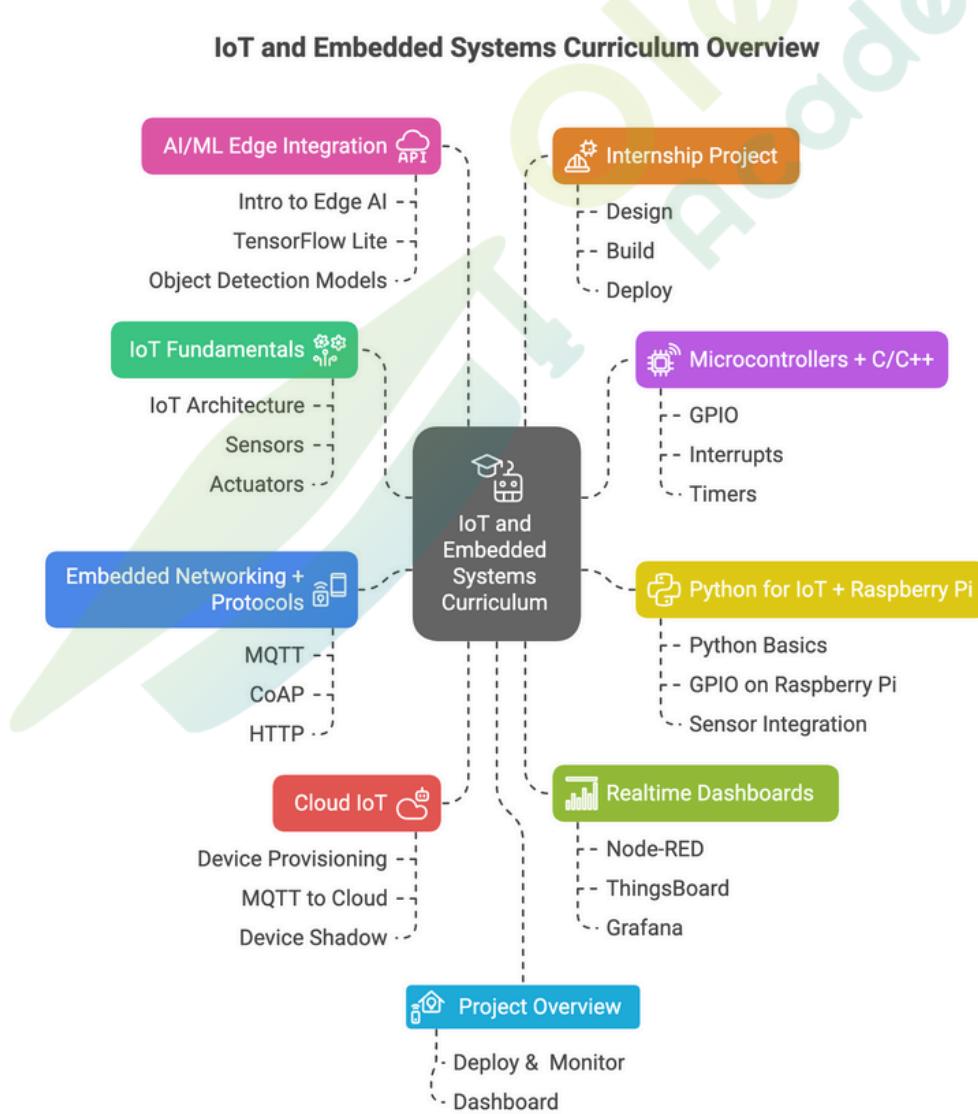


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Program Outcomes

- Master advanced embedded development with RTOS, C++, ESP-IDF, and low-power design
- Build full-stack IoT systems using Raspberry Pi, Python, LoRa, BLE, AWS IoT, Azure IoT
- Deploy cloud-integrated dashboards, device shadowing, OTA updates
- Implement Edge AI with computer vision models and sensor fusion
- Build an autonomous IoT drone system with real-time cloud analytics
- Receive a live internship, certification, and dedicated placement support for top tech roles



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6 Months Curriculum & Modules

Month 1 – Advanced Embedded Systems & Real-Time Programming

Week 1

Deep dive: Embedded C/C++, interrupts, timers, RTOS basics

Week 2

ESP32 SDK (ESP-IDF), OTA updates, power management

Week 3

Hands-on: Designing sensor firmware with C

Week 4

Project: Wireless temperature logger with EEPROM and display

Month 2 – Raspberry Pi, Linux & IoT Architecture

Week 5

Raspberry Pi OS, Python libraries, I2C, SPI devices

Week 6

Python threading, scheduling, GPIO automation

Week 7

Secure SSH & data access, Python Flask APIs on Pi

Week 8

Project: Raspberry Pi-based smart room controller (mobile UI + cloud)

Month 3 – Communication Protocols & Dashboarding

Week 9

MQTT, CoAP, HTTP, LoRa, BLE, Wi-Fi mesh networks

Week 10

MQTT broker setup on Raspberry Pi and cloud

Week 11

Node-RED: End-to-end flow with sensors, cloud, and dashboard

Week 12

Grafana + InfluxDB for multi-sensor visualization



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6 Months Curriculum & Modules

Month 4 - Cloud IoT and DevOps

Week 13

AWS IoT Core & Device Shadowing

Week 14

Azure IoT Hub and Stream Analytics

Week 15

OTA updates, device monitoring, fault handling

Week 16

Project: Smart Factory Device Monitoring via AWS IoT + Grafana

Month 5 – Edge AI, Drones & Sensor Fusion

Week 17

Edge AI – Edge Impulse, TensorFlow Lite, OpenCV on Pi

Week 18

Object detection & model deployment on ESP32-CAM

Week 19

Intro to drone programming (DroneKit, MAVLink, GPS modules)

Week 20

Project: Obstacle-aware drone with AI model & sensor fusion

Month 6 – Project & Internship

Week 21

Project Design: Node Swarm + Environmental AI

Week 22

LoRa mesh deployment across multiple drones/nodes

Week 23

Final Integration: Dashboard, alerts, database, real-time map

Week 24

Project submission, GitHub portfolio, resume prep, mock interviews

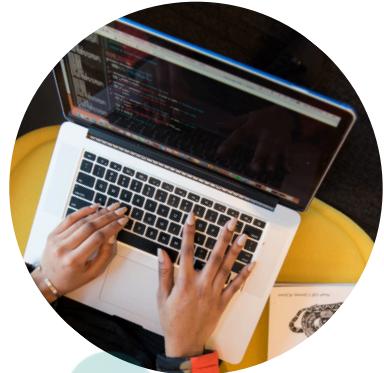


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WHAT SHOULD YOU EXPECT FROM THIS PROGRAM....?

- ▶ **Recognized Certification**
- ▶ **Real-World Application Development**
- ▶ **Job-Ready Technical Training**
- ▶ **Placement & Job/Career Support**
- ▶ **Master in-demand skills tailored to meet the needs of MNCs and private sector companies, making you job-ready from day one.**



COMPANY/ACADEMY LOGO

LETTER OF INTERNSHIP

Letter to: _____ Date: _____
student Name XX/XX/XXXXX

To Whom It May Concern:

This letter is to formally acknowledge that **Student Name** has successfully completed a six-month (or nine-month) internship program under the guidance of Olewin Academy, in collaboration with leading companies in the geoscience and energy sectors. Throughout the internship, He/She demonstrated a strong commitment to professional growth by working on real-world projects involving geological surveys, data analysis, energy management, and environmental intelligence. The training covered advanced modules like data analysis, remote sensing, geological mapping, and application development using cutting-edge technologies. The hands-on experience was designed to simulate industry-grade challenges and align with the current demands of the industry. Olewin Academy provided research opportunities and mentorship. He/She exhibited remarkable analytical skills, adaptability, and technical expertise during the program, and actively participated in collaborative assignments, reviews, and project submissions. This internship has provided them with a strong foundation in domain-specific problem solving and technical implementation relevant to the field of Geology, Geophysics, AI in Geosciences, and Renewable Energy. We congratulate He/She on the successful completion of this internship and wish them the very best in their future endeavors.

Best Regards,
Signature
Authorised Digital Signature

Logo of Company

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- 2 -Certifications based on Real-world Projects & Internships (Paid & UnPaid)**
- ▶ **Official Internship Endorsement**
 - ▶ **Project-Based Experience**
 - ▶ **Industry-Aligned Exposure**
 - ▶ **Skill Application Proof**
 - ▶ **Career Advancement Credential**
 - ▶ **Real world Projects development with AI -Driven and deploy it as a Service model**

Why Settle for Theory When You Can Build the Future?

**Note:- Admissions is based on a shortlisting process.
Only selected candidates will receive the opportunity to join this immersive, career-transforming journey.**



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Submit Form



JOB FAIR CAREER EXPO

- This career expo is an excellent chance to explore multiple job opportunities in one place.
- Selected candidates will be called for offline Project Discussion



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