QUANTUM-AI
THE SCHOOL OF DATA AND AI

# IOT + GENAI

## Welcome to IOT+GENAI

IoT + Generative AI combines connected smart devices with advanced AI models to create intelligent, automated systems that can analyze data, generate insights, and make smart decisions. IoT devices collect real-time data through sensors, while Generative AI processes this information to predict outcomes, optimize performance, and automate responses. This integration enables smarter homes, industries, healthcare systems, and smart cities. Generative AI can also simulate scenarios, detect patterns, and improve device communication. By merging IoT with Generative AI, organizations can build efficient, self-learning systems that enhance productivity, reduce operational costs, and enable innovative solutions for modern digital ecosystems.



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# WHY QUANTUMAI?

Quantum AI offers a practical, job-focused IoT + Generative AI Training Program designed to build strong foundations in smart connected systems and AI-driven automation. The curriculum emphasizes hands-on learning in IoT architecture, sensor integration, cloud connectivity, and Generative AI applications. Learners gain experience in developing intelligent IoT solutions that collect real-time data and use AI models to analyze information, generate insights, and automate decisions. The program covers IoT fundamentals, embedded systems, data communication, Generative AI concepts, and smart device management. Guided by industry experts, students learn modern tools, real-world implementation, and industry best practices. It is an ideal choice for beginners and professionals aiming to develop advanced IoT and AI skills and build innovative smart technology solutions

# COURSE OVERVIEW

The IoT + Generative AI Course provides a comprehensive foundation in smart connected technologies and AI-driven innovation. This program focuses on building intelligent IoT systems that collect real-time data through sensors and devices, while Generative AI analyzes the data to generate insights, predictions, and automated responses. Students learn IoT architecture, embedded systems, cloud integration, data communication, and AI fundamentals. The course also covers real-world applications such as smart homes, smart cities, industrial automation, and healthcare systems. Through practical projects and hands-on training, learners develop the skills needed to design, build, and manage intelligent IoT solutions powered by Generative AI



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# WHAT YOU WILL LEARN

### IoT Fundamentals

- Introduction to IoT architecture
- Sensors and actuators basics
- Embedded systems overview
- Communication protocols (MQTT, HTTP)

### Hardware & Device Programming

- Arduino and Raspberry Pi basics
- Microcontroller programming
- Sensor integration and data collection
- Real-time device monitoring

### IoT Connectivity & Cloud

- IoT cloud platforms
- Device-to-cloud communication
- Data storage and visualization
- Remote device control systems

### IoT Projects

- Smart home automation system
- Smart energy monitoring system
- Weather monitoring station
- Industrial IoT monitoring solution

### AI & Machine Learning Basics

- Introduction to Artificial Intelligence
- Data processing fundamentals
- Natural Language Processing (NLP)
- Understanding large language models

### GenAI Tools & Integration

- AI API integration
- Prompt engineering techniques
- AI chatbot development
- Automated report generation using AI

### AI for IoT Data Intelligence

- AI-based anomaly detection
- Predictive maintenance concepts
- Smart data analysis automation
- AI-powered dashboards and insights

### Real-World GenAI Projects

- AI Smart Assistant for IoT devices
- AI-powered monitoring dashboard
- Voice-controlled IoT system.
- Automated alert and reporting system

### Smart Intelligent Systems

- AI analyzing live sensor data
- Automated decision-making systems
- Predictive analytics for smart industries

### Industry 4.0 Applications

- Smart manufacturing automation
- Healthcare remote monitoring systems
- Smart agriculture solutions
- Intelligent traffic management systems

### Advanced Concepts

- Edge AI fundamentals
- Real-time AI processing on devices
- Data security and privacy in IoT
- Scalable AI-powered IoT architecture

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**Job Roles**

- IoT Developer
- Embedded Systems Engineer
- AI + IoT Engineer
- Automation Engineer. Smart Systems Developer
- Industry 4.0 Specialist

**Industries Hiring**

- Manufacturing & Automation
- Healthcare technology
- Smart city projects
- Agriculture technology companies
- Robotics and AI startups

**Salary & Growth**

- High-demand emerging technology domain
- Global career opportunities
- Freelancing and innovation opportunities
- Startup and product development potential



# BUILD SCALABLE APPLICATIONS

## Learn IOT+GENAI with QuantumAI

## Get in Touch


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