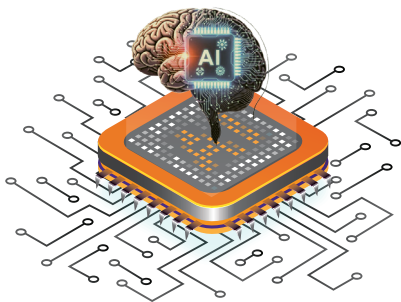




DRIVES YOU TO INDUSTRY



EDGE AI



614

MNCs Hired in 2025

700

Self Placed in 2025

1306

Students Recruited
in 2025

Designed + Delivered by IIT Alumnus & Industry Expertise

- IIT alumnus with strong academic credentials
- Ph.D. and active research scholar in AI/ML
- Extensive industry experience in AI, ML, TinyML & Edge Intelligence
- Reowned mentor known for simplifying complex concepts
- Expertise in building real-world edge-AI applications



Master TinyML, Sensor AI, Audio Wake-Word ML & Embedded Intelligence

Course Overview

This 4-week immersive training program blends 1.5 hours of theory with 4 hours of hands-on lab sessions daily. Participants gain practical skills in Edge AI, TinyML, Sensor ML, Audio Wake-Word Detection, and deployment of AI models on embedded platforms like Arduino Nano 33 BLE Sense and ESP32.

The course concludes with a full end-to-end industry project showcasing real-time embedded inference.

Learning Outcomes

- Collect & preprocess IMU and audio data
- Perform time-series analysis and feature extraction
- Use MFCC for audio processing
- Train ML models using TensorFlow/Keras
- Convert & optimize models using TensorFlow Lite
- Deploy models on microcontrollers for real-time inference
- Build a complete Edge AI solution from data acquisition to deployment.

Audio Wake-Word Module

- Audio recording & preprocessing
- MFCC and spectrogram extraction
- Training small-footprint wake-word models
- Deploying audio models using TFLite Micro
- Real-time keyword detection on embedded devices

Career Outcomes – Job Roles

- Embedded AI Engineer
- Edge AI / TinyML Developer
- IoT ML Engineer
- Audio ML Engineer (Wake-word / Voice ML)
- Sensor Data & Signal Processing Engineer
- Firmware Engineer – AI Enabled Devices
- R&D Engineer – Smart & Intelligent Systems
- Robotics / Automation AI Developer

Career Outcomes – Domains

- Wearable Technology
- Smart Devices & Consumer IoT
- Industrial IoT & Smart Manufacturing
- Automotive Embedded Systems
- Healthcare / Wellness Devices
- Robotics & Automation
- AIoT and Edge Computing Startups

Why Now? (Industry Demand & Future Growth)

- Edge AI market projected to exceed \$90 billion by 2030
- TinyML adoption rising rapidly due to low-power, on-device intelligence
- Transition from cloud-based AI → real-time Edge AI
- High demand for low-latency, privacy-preserving AI
- Growing use of voice interfaces, smart sensors, and intelligent wearables
- Shortage of engineers skilled in the AI + Embedded Systems combination

Tools & Technologies

- Python: NumPy, Pandas, Matplotlib
- TensorFlow, Keras, TensorFlow Lite
- MFCC & audio processing libraries
- Arduino Nano 33 BLE Sense, ESP32
- Embedded C/C++ for deployment

PREREQUISITE

Category	Prerequisite	Level
Programming	Python & c/c++ fundamentals	Basic
Math & Data	Algebra, statistics, vectors	Basic
Embedded Systems	Arduino or MUC Programming	Beginner-Intermediate
Tools	Python IDEs, Aeduino IDE	Beginner

Visit our website www.vectorindia.org to register



Scan for Course Content



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