

# Aman Amitabh

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## EDUCATION

### Vellore Institute of Technology

Bachelor of Technology in Computer Science Engineering specializing in Internet of Things  
CGPA: 9.07

Vellore, Tamil Nadu

Aug. 2023 – July 2027

### Mayoor Private School

CBSE Class XII (Science Stream)  
10th Percentage: 90.8% | 12th Percentage: 91.6%

Abu Dhabi, U.A.E

Apr. 2017 – May 2023

## HONORS & AWARDS

- **Runner-Up, aiTopia Hackathon, Vellore Institute of Technology (Feb. 2025)**  
*Awarded for developing 'SpotFinder,' an AI-powered smart parking system, during a two-day hackathon*
- **Runner-Up, Source Sprint at graVITas '23 International Festival, Vellore Institute of Technology (Sep. 2023)**  
*Excelled in a competitive event focused on resolving open-source repository issues.*
- **Best Position Paper, Sonorous Youth Model United Nations (Sep. 2021)**  
*Awarded as the Delegate of Norway in the United Nations General Assembly - First Committee.*

## PROJECTS

### SpotFinder | Python · YOLOv8 · IoT · MySQL

Runner-up, aiTopia - Hackathon (Feb. 2025)

- Led the development of an IoT-based smart parking system using Python and YOLOv8 for real-time detection of available parking spots
- Implemented an MQTT-based telemetry pipeline to stream occupancy and GPS data from simulated edge devices to a central server
- Developed a web dashboard with MySQL backend to visualize real-time occupancy and usage analytics

### Query2Kart | Python Flask · SERP API · Azure AI Foundry (GPT-4o-mini)

(Jul. 2025 - Present)

- Engineered a multi-turn conversational product recommendation engine, leveraging GPT-4o-mini on Azure AI Foundry to interpret natural language and maintain context
- Implemented LLM parsing to convert user queries into structured JSON for intent classification, enabling efficient SerpAPI based product retrieval, and filtering while reducing redundant API calls
- Built a Flask-based web application to serve a dynamic interface for product search and recommendations, integrating LLM outputs into a user-friendly frontend.

### PiHome | Python · OpenCV · Raspberry Pi · MediaPipe Hands · REST APIs · TensorFlow

(Apr. 2025)

- Developed an end-to-end gesture-based home automation system, integrating a Raspberry Pi client with a server-side deep learning model
- Implemented a lightweight TensorFlow Lite model on a Flask server for high-speed gesture classification
- Configured the Raspberry Pi to trigger hardware actuators from API responses, enabling seamless real time IoT automation

## TECHNICAL SKILLS & CERTIFICATIONS

**Core Competencies:** Data Structures & Algorithms, Object Oriented Programming (OOP), Problem Solving

**Languages:** Java, Python, C/C++, HTML/CSS

**Databases:** MySQL, PostgreSQL

**Frameworks:** Flask

**Data Science & Visualization:** Pandas, NumPy, Matplotlib, Seaborn

**Computer Vision & ML:** Scikit-learn, OpenCV, TensorFlow

**Developer Tools:** Git, Docker, Microsoft Azure, VS Code, Jupyter Notebook, Postman, Linux Shell

**Certifications:** Microsoft Certified: Azure AI Engineer Associate