

Abin Raj Devarajan

Computer Engineering | AI, IoT, Embedded Systems | Full-Stack Development

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Profile

Final-year Computer Engineering student (CGPA: 3.2/4.00) with experience delivering AI-enabled platforms, multi-modal computer vision systems, and production-ready full-stack applications. Strong execution record across internships, competitions, and industry-linked capstone work. Currently building deployable warehouse safety analytics (PPE detection, pallet compliance, forklift monitoring/management).

Key Strengths (Some highlights)

Computer Vision (PPE/Forklift/Pallet) Embedded & IoT (ESP32/STM32) Full-Stack Engineering

AI Deployment & Tooling DevOps (Docker/CI) Cybersecurity (ICS/SCADA) Leadership & Delivery

Research & Technical Writing

Education

American University of Ras Al Khaimah (AURAK)

2022 – Present

Ras Al Khaimah, UAE

B.Sc. Computer Engineering (Final Year)

CGPA: 3.2/4.00

Relevant Coursework: Microprocessors, Embedded Systems, Data Communications, Machine Learning, Operating Systems, Network Security

Sharjah Indian School (Computer Science)

2019 – 2022

High School, Graduated with Distinction

Sharjah, UAE

Experience

Full-Stack Developer Intern

May 2025 – Jul 2025

Suhail Smart Solutions

UAE

- Designed and developed **AI_Suhail**, an internal AI hub that unified multiple AI tools into a single workflow for engineering teams.
- Co-authored a **technical handbook** documenting architecture, setup, usage procedures, and maintenance standards.
- Built and tested multiple full-stack web applications, delivering production-ready features through iterative QA cycles.

Full-Stack Developer Intern

May 2024 – Aug 2024

Amtec Int'l Links FZC

Ras Al Khaimah, UAE

- Developed **Mazari** marketplace (Flask, PostgreSQL, React), implementing JWT authentication and payment integration.
- Optimised APIs and application performance, reporting up to 40% faster response times under concurrent load.
- Implemented CI/CD with GitHub Actions and Docker to improve release reliability and deployment repeatability.

Business Development Manager
Al Baraha Building Contracting LLC

Mar 2022 – Present
Ajman & Umm Al Quwain, UAE

- Built internal Python–MySQL systems for inventory tracking, reporting, and operational record management.
- Supported digital infrastructure and security hygiene across internal tools and business applications.

Research Assistant – IoT
MAHE

Feb 2019 – Apr 2019
Dubai, UAE

- Built an ESP32 sensor network using MQTT; processed and logged 1k+ data points/day for monitoring and analysis.
- Developed Python ETL to improve throughput and reduce manual preprocessing overhead.
- Calibrated sensor drift using MATLAB, reporting high measurement consistency (98% accuracy).

I Selected Projects

AURAsentry – Senior Design Project (Julphar Pharmaceuticals)

Ongoing

Impact: Multi-modal warehouse surveillance for PPE detection, pallet checking, and forklift monitoring/management with deployment-oriented design.

- Developing a multi-modal surveillance solution for **PPE detection, pallet checking, and forklift monitoring/management**.
- Collaborating with a team of 5 colleagues; focusing on real-world constraints, reliability, and operational usability.

Samsung Innovation Campus – 10-Week Training + Capstone: Image Classifier

Impact: Delivered a team image classification capstone covering dataset handling, training/testing, evaluation, and reporting.

- Completed intensive training and delivered a team capstone on image classification (data prep, model training/testing, evaluation).

AI-Powered Smart Traffic Light – Computer Vision System

Impact: Built real-time traffic signal logic using Python + OpenCV + TensorFlow; reported ~90% detection accuracy.

- Implemented detection and decision pipeline for traffic flow optimization in a real-time simulation environment.

Delta Debris-Collecting Robot – Mubadala Competition

Impact: Led embedded/computer systems; sensor integration achieved ~85% debris detection performance.

- Integrated sensors and control logic for detection and collection workflow under competition constraints.

I Leadership & Activities

- Senator, School of Engineering (AURAK Senate)
- Pro Tempore (Vice President), AURAK Senate
- President, AURAK Volunteering Club
- Orientation Leader, AURAK

|i Publications & Technical Writing

- **Technical Handbook (Co-author)** — Suhail Smart Solutions: Internal handbook for AI_Suhail platform (architecture, operations, developer guide). 2025

|i Certifications & Professional Development

- Vanderbilt University (Coursera) — Prompt Engineering for ChatGPT (Stage 1 & 2), guided by Dr. Jules White
- ARM (Coursera) — Arm Cortex-M Processors Overview
- NVIDIA — AI Infrastructure and Operations Fundamentals
- AWS Academy — Data Engineering
- SLB — GoTech Conference Certificate
- Huawei — Advanced Search Algorithms (3 trainings); AI Model Integration; Data Retrieval Strategies

|i Awards

- Bronze Winner — IEEE CyberX Day 2026 (IEEE UAE Section; DESC; supported by Huawei)
- Top 3 UAE (National Level) — Huawei ICT Competition 2025

|i Memberships

- Society of Engineers – UAE (Member)
- IEEE Member
- Sustainability Ambassador – UAE (Ambassador Card holder)

|i Technical Skills

Embedded/IoT: Arduino, ESP32, STM32, RTOS, MQTT, I2C, SPI

Programming: C/C++, Python, Java, JavaScript

AI/ML & Vision: TensorFlow, OpenCV, NumPy, Pandas

Web/DB: Flask, React, Node.js, MySQL, PostgreSQL

DevOps: Git, Docker, Kubernetes, AWS

Hardware/FPGA: Verilog, VHDL, Vivado, Quartus; DDR3/DDR4 (PHY concepts)

Security: ICS & SCADA, Network Security

Design: Altium, KiCad, Figma

|i Languages

English (Fluent), Malayalam (Native), Hindi (Intermediate)

Last Updated: February 1, 2026