

Nithyaneshwar A

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SUMMARY

IoT Engineer and Edge AI Developer pursuing a B.E. in Computer Science and Engineering at BMS College of Engineering. Experienced in building edge AI systems, fine-tuning Vision Language Models and developing UWB-based drone localization solutions. Led development of projects spanning digital twins, smart infrastructure, predictive analytics and embedded IoT systems. IEEE Executive Committee member with 3 Hackathons wins 13+ intercollegiate event achievement, hands-on engineer with a strong interest in drones, robotics and autonomous systems.

EDUCATION

BMS College of Engineering | Bengaluru, India

September 2024 - Present

Key Modules: IoT & Cybersecurity including Blockchain Technology

St Josephs Pre-University College | Bengaluru, India

2022 - 2024

Key Modules: PCME – Physics, Chemistry, Mathematics & Electronics

EXPERIENCE

IEEE CS IAMPro Program | Intern

April 2026 - Present

- Building a voice-based emotion recognition model to address the gap in AI systems that rely solely on TTS without real emotional context awareness
- Working on audio feature extraction and lightweight model architectures for real-time inference

First2Serve | Intern

February 2026 - June 2026

- Fine-tuned Vision Language Models on large image datasets using LoRA and LLaMA Factory
- Implemented UWB-based 3D drone localization system using anchor-based positioning
- Built and deployed edge devices for real-world IoT applications

Freelancer | Remote

2021- 2024

Provided custom software development services for clients, building backend systems, databases, automation tools and server-side applications. Collaborated directly with stakeholders to translate requirements into working solutions, maintain deployed systems and support applications serving 300+ active users.

LEADERSHIP & POSITIONS OF RESPONSIBILITY

- ExeCom Member, BMSCE IEEE Student Branch (*Current*)
- SAC Coordinator, BMSCE IEEE Student Branch (*Previous Year*)
- President & Vice President, CS Association SJPUC (*2022–2024*)
- Google Student Ambassador (*2025*)

PROJECTS

Aegis - A Women's Safety Watch

Built an IoT-based emergency response system combining scream detection, computer vision, GPS tracking and physical triggers.

- Winner of Sensors Enclave 24-Hour Hardware Hackathon; automatically captures nearby faces and streams incident data to a centralized police dashboard

Nautilus - A Real-Time Maritime Supply Chain Predictor

Developed a GNN and TinyML-based model forecasting platform to predict disruptions across global shipping routes.

- Estimated delay impact, cost increases, and alternative routing strategies during maritime route closures.

UrbanTwin - A 2D Digital Twin of Bangalore

Designed a city-scale digital twin simulating water and power infrastructure networks.

- Modeled cascading failures and integrated IoT-based pressure analysis for pipeline damage classification.

Interceptor 650 - CAN Bus Hack

Reverse-engineered CAN bus communication on a Royal Enfield Interceptor 650 instrument cluster.

- Repurposed the speedometer as a real-time system telemetry display for CPU temperature monitoring

FirePath - Intelligent Fire Evacuation Platform

Developed an IoT-enabled evacuation system capable of predicting fire spread and dynamically rerouting occupants.

- Generated risk assessments including estimated asset losses, affected zones, and evacuation bottlenecks to aid emergency response planning.

SKILLS

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

AI & Machine Learning: LLaMA-Factory, Computer Vision, Vision Language Models, TinyML, GNN's

Embedded & IoT: Raspberry Pi, ESP32, STM32, MQTT, CAN Bus, UWB, Sensor Integration, Edge AI Deployment

HOBBIES

Motorcycles (rebuilt a 2-stroke engine), Mountain Biking, Hardware Tinkering, Cybersecurity