

BHARATHRAJ SUBRAMANIAN

AI/ML Engineering Aspirant | Computer Science Undergraduate

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PROFESSIONAL SUMMARY

Computer Science undergraduate (CGPA 7.52) with hands-on experience in machine learning, computer vision and full-stack development, plus two internships. Built an end-to-end bus tracking platform spanning RFID hardware, a mobile app and a PostgreSQL backend. Seeking a Machine Learning Engineering internship.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, SQL, C, C++

Machine Learning: PyTorch, TensorFlow, scikit-learn, OpenCV, HuggingFace Transformers, CUDA, Convolutional Neural Networks, Computer Vision

Web and Backend: React, React Native, Expo, FastAPI, Flask, Django, REST APIs, Supabase, PostgreSQL, PostGIS, Row Level Security, Tailwind CSS, Vite

Tools and Platforms: Git, GitHub, Linux, Raspberry Pi, NVIDIA Jetson Nano, SQLite, Docker (familiar)

EXPERIENCE

AI and ML Intern | HurryEP Technologies Pvt. Ltd. Jun 2026

- Two-week internship (8 to 24 June 2026) on applied machine learning tasks, working within a technical team to deliver assigned AI/ML project objectives on schedule.

Python Web Development Intern | Bread & Code Technology, Madurai Dec 2025 - Jan 2026

- One-month internship (5 December 2025 to 2 January 2026) in Python web development; rated Good by the founder for professional skills and dedication.

PROJECTS

College Bus Automation and Live Tracking System | Python, React, React Native, Supabase, PostgreSQL, Raspberry Pi 5

- Built a full-stack platform as an npm-workspaces monorepo (about 7,000 lines of TypeScript, Python and SQL): admin, student and gate portals in React, an Expo React Native driver app and a Python RFID gate service.
- Wrote a multithreaded Python service for a Raspberry Pi 5 that reads UHF RFID tags from a Chainway UR4 reader over TCP, infers bus entry or exit from two-antenna read order, suppresses duplicate reads, and logs to SQLite before syncing to Supabase so no gate event is lost when the network drops.
- Implemented background GPS tracking with Expo Location and Task Manager plus an offline queue; students view live bus position and Haversine-based ETA on Leaflet maps through Supabase Realtime.
- Designed a 13-table PostgreSQL schema with PostGIS and role-scoped Row Level Security; built passwordless student login (rate-limited Telegram OTP exchanged for a custom JWT in a Deno Edge Function) and phone OTP for drivers.
- Built a scheduled Edge Function for Telegram ETA alerts and late-arrival penalties; seeded with a Madurai college fleet of 23 buses, 241 schedules and about 890 students.

Other Projects

- Diabetic Retinopathy Detector** (Python, CNN, OpenCV): Classifies retinopathy severity from retinal images using image preprocessing and CNN architectures.
- Offline AI Coding Assistant** (CUDA): Locally run, GPU-accelerated coding assistant tuned for low-latency inference with no cloud dependency.
- Facial Recognition and Remote Fingerprint Unlock** (Python, OpenCV LBPH, Tkinter): Windows authentication system combining face recognition with remote fingerprint unlock.
- Aegis-X and EcoTrace** (React 18, TypeScript, Vite, JavaScript): Deployathon community dashboard, and a footprint calculator with charts and CSV, JSON and PDF export.

CERTIFICATIONS

Intro to Machine Learning Kaggle	Jun 2026
Getting Started with AI on Jetson Nano NVIDIA	Jun 2026
Computer Vision Microsoft Azure	2026
AWS Certification Subject Matter Expert Training AWS	Mar 2026
Python Developer Certification, 300 hours freeCodeCamp	Dec 2025
The Joy of Computing using Python, Elite (70%) NPTEL, IIT Madras	Jan - Apr 2025

EDUCATION

B.E. Computer Science and Engineering | SRM Madurai College for Engineering and Technology | CGPA 7.52 Expected May 2028