

Balasubramanian G

9345838578 | subramaniang172@gmail.com | [linkedin.com/in/Balasubramanian](https://www.linkedin.com/in/Balasubramanian) | github.com/Balasubramanian

EDUCATION

National Engineering College
Bachelor of Technology , CGPA : 9.25

Kovilpatti
Aug. 2024 – Aug 2028

Sivanthi Matric Higher Secondary School
Higher Secondary Education

Cheranmahadevi
2022 – 2024

EXPERIENCE

MM Wave radar Intern
Mistral Solutions

Dec 2025 – Present
Kovilpatti

- Gained hands on experience with Texas Instruments mmWave radar, including flashing bin files, configuring radar profiles and working with different firmware versions for real-time sensing applications
- Implemented radar data acquisition and parsing using UART communication, Python/C scripts, and TLV/data frame structures. Extracted radar data, stored it in CSV format and performed visualization using Matplotlib for analysis
- Currently working on ADAS system

PROJECTS

Offline Retrieval-Augmented Generation (RAG) | *Python, FastAPI, FAISS, PostgreSQL, Sentence Transformers* February-2026

- * Built an end-to-end offline document question-answering system using semantic search and vector embeddings
- * Implemented structure-aware chunking for PDF and Word documents to improve retrieval accuracy
- * Generated embeddings using Sentence Transformers and indexed them with FAISS for fast similarity search
- * Designed REST APIs for document upload and query processing using FastAPI
- * Integrated local LLM(Qwen2-1.5B) inference and prompt-based answer generation without internet dependency
- * Achieved accurate contextual answers with zero hallucination by strict context grounding

Product Price Notifier | *Node.js, Express.js, REST APIs, PostgreSQL*

August-2025

- * Designed and implemented backend services to track product prices and user subscriptions
- * Built RESTful APIs to store, retrieve and manage tracking data efficiently
- * Implemented scheduled background jobs to periodically check price changes
- * Integrated automated email notifications for price drops and follow-up alerts

Venue Allocation System | *Node.js, Express.js, REST APIs, PostgreSQL*

July- 2025

- * Developed backend logic for a venue booking system with secure user authentication
- * Implemented real-time slot availability and conflict-free booking mechanisms
- * Designed relational database schemas for users, bookings and time slots
- * Automated email notifications for booking confirmations

ACHIEVEMENTS

Aerothon'26 Finalist (IIIT Dharwad)

Secured **2nd Prize** in a Coding Contest conducted by the CSI Club at National Engineering College

Secured **2nd Prize** in a Web Development (Frontend) Competition

TECHNICAL SKILLS

Languages: C/C++, Python, SQL (PostgreSQL), JavaScript

Frameworks: Node.js, Express.js

Developer Tools: Google Cloud Platform, VS Code

ADDITIONAL

Completed *The Complete Full-Stack Web Development Bootcamp* by Dr. Angela Yu

Completed *Technical English for Engineers* — NPTEL (IIT Madras)