

# Balasubramanian G

9345838578 | [subramaniang172@gmail.com](mailto:subramaniang172@gmail.com) | [linkedin.com/in/Balasubramanian](https://linkedin.com/in/Balasubramanian) | [github.com/Balasubramanian](https://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** Dec 2025 – Present  
*Mistral Solutions* 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)