

Vangaveti Vardhan

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SUMMARY

Software Engineering student skilled in Python and full-stack development using React.js and Express.js. Experienced in building AI-driven applications using LLM APIs and LangChain, including RAG pipelines for summarization, sentiment analysis, and intelligent document processing. Proficient in SQL, vector databases, and Docker for scalable and containerized deployment. Strong in problem-solving, prompt engineering, and performance optimization with a focus on AI engineering and full-stack application development.

EDUCATION

Vellore Institute of Technology

Integrated M.Tech in Software Engineering

- Cumulative GPA: **8.18/10.0**

Amaravati, Andhra Pradesh

Sep 2022 – Present

PROJECTS

AI-Powered PDF Analysis System

Dec 2025

- Built an end-to-end **RAG-based system** using **LangChain** to process PDFs and generate **context-aware summaries** and **sentiment insights** using **Gemini APIs**.
- Developed a **FastAPI backend** with **document chunking**, **embeddings**, **semantic retrieval**, and **Chroma vector database** for efficient information extraction.
- Improved response accuracy and reduced latency through **prompt engineering** and optimized **LangChain RAG pipeline** design.
- Containerized the application using **Docker** for scalable and consistent deployment across environments.

Music Genre Classification

July 2025 – Nov 2025

- Developed a **CNN-based multi-input model** using **raw audio waveforms** and **mel-spectrogram features** to improve classification accuracy.
- Performed **feature extraction** and **preprocessing** of audio signals, combining **time-domain** and **frequency-domain** representations.
- Merged **multi-modal inputs** within the **neural network architecture** to enhance performance on **multi-class classification**.
- Deployed the model using **Streamlit** for **real-time predictions**.

Roadside Assistance Web Application

Jan 2026

- Developed a **full-stack web application** using **React.js**, **Node.js**, **Express.js**, and **MongoDB** to provide real-time roadside assistance services.
- Designed and implemented **RESTful APIs** with **JWT authentication**, **role-based access control (RBAC)**, and **bcrypt** password hashing.
- Ensured application reliability through **API testing and debugging using Postman**, along with **validation and error handling**.

SKILLS

- Programming Languages:** Python, JavaScript, SQL
- Frameworks & Libraries:** FastAPI, LangChain, React.js, Express.js, Scikit-learn, NumPy, Pandas,
- AI / ML:** Machine Learning, LLM APIs (Gemini), RAG Pipelines
- Databases:** MySQL, MongoDB, Chroma Vector Database
- Tools & Platforms:** Git, Docker, AWS EC2, Postman
- Core Concepts:** Data Structures & Algorithms, Oop, Feature engineering, Agile Development

CERTIFICATIONS

- Certified by **GUVI (IIT Madras Research Park) : Python Certification**, 2023.
- Certified by **Simplilearn : Fundamentals of DevOps on AWS** certification, 2024.
- Certified by **AWS Educate : Getting Started with Networking**, 2025.