Amrutha E

amruthae 218@qmail.com

Chennai, India

+91 - 9500052867amruthae218 in amrutha-ezhilmuthu

EDUCATION

• Bachelor of Technology in Computer Science

Vellore Institute of Technology, Chennai

• Grade XII

Srimathi Sundaravalli Memorial School, CBSE

• Grade X

Srimathi Sundaravalli Memorial School, CBSE

2022 - 2026

CGPA: 9.05

2021 - 2022

Percentage: 94.6%

2019 - 2020

Percentage: 90.6%

EXPERIENCE

• Technology Intern

Jun 2025 - Present

Virtusa Consulting Services Pvt. Ltd., DLF Chennai

- Exploring GenAI through guided mentorship, working on small-scale projects involving Retrieval-Augmented Generation pipelines and agentic systems.
- Researching enterprise-scale infrastructure tools including OpenShift, Splunk, and Redis for observability, caching, vector-based retrieval, and various evaluation metrics for RAG models.
- Engaging in real-world deployment scenarios and system workflows within a production environment.

Personal Projects

• Multi-AI RAG Assistant

Conversational assistant that intelligently routes queries between Wikipedia and custom knowledge base using LangGraph.

- Built a multi-agent RAG system using LangGraph with dynamic query routing between Wikipedia and a custom vector store powered by Astra DB and HuggingFace embeddings.
- Developed a Streamlit-based chat assistant using Groq-hosted LLaMA-3 and tiktoken chunking to deliver realtime, context-aware answers.

• SmartShop: Automated Price Finder

Chrome extension and backend for automated product price comparison across major e-commerce platforms.

- Designed and deployed UiPath bots to scrape real-time product prices and details from Amazon and Flipkart.
- Developed a Flask backend to handle user queries, manage product data, and return accurate price comparisons.

• PathFinder: Navigation System Using Parallel Algorithms

Optimized route planning system for autonomous navigation using parallelized pathfinding algorithms.

- Implemented parallelized Dijkstra's, A*, and Bellman-Ford algorithms to optimize multi-path route computations.
- Developed an interactive UI using Flask and OpenStreetMap for real-time route visualization and dynamic obstacle handling.

• EventEase: College Event Management Platform

Full-stack platform for managing technical and non-technical college events with role-based access.

- Designed and deployed FastAPI backend with JWT-based authentication and SQLite database.
- Created responsive frontend using HTML, Tailwind CSS, and vanilla JavaScript for easy event registration and management.

TECHNICAL SKILLS

Languages: Python, C++, Java, JavaScript, HTML, CSS

Frameworks & Libraries: FastAPI, Flask, LangChain, TensorFlow, Pytorch, Streamlit, NumPy, Pandas, Scikit-learn

Tools & Platforms: Git, GitHub, VS Code, UiPath

Databases: Astra DB (Cassandra), SQLite, MySQL, MongoDB

Coursework: Data Structures & Algorithms, DBMS, Operating Systems, Object-Oriented Programming

CERTIFICATIONS AND ACHIEVEMENTS

Generative AI with LangChain & HuggingFace (Udemy) - Completed hands-on course covering RAG pipelines, LangChain agents and building GenAI workflows with external data sources. Jun 2025

Machine Learning A-Z: AI, Python & R (Udemy) – Completed in-depth ML course, proficiency in supervised/unsupervised models, NLP, and basic deep learning.

Feb 2025

Azure AI-900 Certificate – Fundamentals of AI workloads and cloud-based AI services on Microsoft Azure.

Published Research Paper - IEEE Xplore: "Comparative Analysis of Firmware Security: A Proactive Paradigm for Enhancing Efficiency and Adaptability through Anomaly Detection" presented at ICRTAC. Dec 2023