Nagasubramaniam G

AI/ML Engineer | Python Developer | GenAI & LLM Engineer
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Professional Summary

B.Tech (AI & ML) graduate skilled in **Python**, with hands-on experience building **LLM-powered applications**, **Retrieval-Augmented Generation (RAG) pipelines** using vector embeddings, and **RESTful APIs** with **FastAPI**. Comfortable across the ML stack — **PyTorch, Hugging Face Transformers, Scikit-learn, Pandas, NumPy** — and **Docker-based deployment** on cloud platforms. **First-place Hackathon winner** (Hack-AI-thon, 40+ teams, Generative AI solution) and sole developer of a **29-model production SaaS platform** — seeking an **Associate AI/ML Engineer** role to apply strong fundamentals and rapid learning ability to production AI systems.

Technical Skills

Languages: Python, SQL
AI / ML / GenAI: Large Language Models (LLMs), Generative AI, Retrieval-Augmented Generation (RAG), Vector Embeddings & Vector Databases (FAISS, ChromaDB), Hugging Face Transformers, PyTorch, Scikit-learn, Prompt Engineering, NLP
Backend & APIs: FastAPI, RESTful APIs, JSON
Data: Pandas, NumPy, Data Preprocessing & Pipelines
Databases: PostgreSQL, SQL
Cloud & DevOps: Docker, Git/GitHub, GitHub Actions, Microsoft Azure (AI-900, AZ-900)
Tools: VS Code, Postman, Cursor AI

Project Experience

AI-Powered Virtual Assistant *Jan 2025 – Apr 2025*
Python · PyTorch · Hugging Face · RAG · FAISS · FastAPI · Docker
- Collaborated in a 4-member team to build a **Python-based conversational AI assistant** using **transformer LLMs** (Llama, Mistral via Hugging Face) and an end-to-end **Retrieval-Augmented Generation (RAG) pipeline** with **vector embeddings**, enabling context-aware, domain-specific question answering over custom corpora.
- Engineered an automated **data preprocessing pipeline** for text chunking and **embedding generation**, indexed with **FAISS** (vector database) for high-speed semantic retrieval.
- Exposed the assistant via a **FastAPI** (async) **RESTful API**, containerized with **Docker**; ran model evaluation with **Scikit-learn** — achieving **Precision > 90%**, **Recall > 88%**, **F1 > 89%** through iterative prompt engineering and retrieval tuning.

SportsHub: AI-Integrated Turf Booking Platform *May 2025 – Aug 2025*
Full Stack · PostgreSQL · REST APIs · Docker · Git
- **Sole developer** of a production-grade full-stack platform with **29+ relational database models** (PostgreSQL) spanning bookings, payments, events, and audit logs — owning architecture, backend **REST APIs**, and deployment end-to-end.
- Implemented **role-based authentication and access control**, and integrated a third-party payment gateway with secure signature verification.
- Built an **AI recommendation engine** for smart slot suggestions; real-time admin dashboards with full CRUD REST endpoints.
- **Containerized with Docker**; used **Git** for version control throughout the development lifecycle.

CholaPower: Production Business Platform (cholapower.in) *Sep 2025 – Oct 2025*
Docker · Git · CDN Deployment
- Led development in a **2-member team** to ship a live production business website — **containerized with Docker** and version-controlled with **Git**, deployed for global performance and reliability.

Education

Kalasalingam Academy of Research and Education *Virudhunagar, Tamil Nadu*
B.Tech — Computer Science & Engineering (Artificial Intelligence & Machine Learning) *Aug 2021 – May 2025*

Certifications

AI — Data Scientist: Visualizations — NASSCOM (NSQF Level 6, 93.47%)
Microsoft Azure AI Fundamentals (AI-900) — Microsoft , **Microsoft Azure Fundamentals (AZ-900)** — Microsoft
Oracle Cloud Infrastructure — Database Management **HackerRank** — Python & SQL Certification

Achievements & Leadership

1st Place — Hack-AI-thon (24-Hr AI Hackathon) | *KARE ACM & Diebold Nixdorf*
- Won **1st prize** among **40+ competing teams** by delivering a functional **Generative AI-powered solution** under extreme time constraints — demonstrating rapid prototyping, system design, and problem-solving under pressure.

Event Coordinator | *Kalasalingam Open Source Society*
- Organized coding workshops, tech competitions, and open-source contribution events, driving peer engagement in collaborative software development.

Languages Known

English (Proficient) **Tamil** (Native) **Telugu** (Conversational)