Fadhil Hussain

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Summary

Enthusiastic ML engineer with strong knowledge of core algorithms, NLP (vectorization, Word2Vec, embeddings), and deep learning (RNN, LSTM, GRU, attention, Transformers). Experienced in building retrieval-based AI applications using LangChain, FAISS, and ChromaDB, including RAG pipelines. Skilled in designing multi-agent routing systems, conversational history management, and SQL agents for natural language database interaction.Proficient in fine-tuning LLM using LoRA and QLoRA for efficient domain adaptation. Linkedin | GitHub

Projects

HealthSphere – Multi-Agent Medical Assistant
An intelligent medical bot using multi-agent LangChain for Q&A and medicine retrieval.

- Deployed a multi-agent bot with a router dynamically selecting specialized agents.
- Implemented semantic search with FAISS + Sentence Transformers over medical datasets.
- Integrated real-time retrieval via Google, medical resources, and Wikipedia.
- Built a Streamlit web app with conversational memory for multi-turn dialogues.
- Applied prompt engineering to improve response accuracy.
- Live Demo: healthsphere | GitHub

ZakathMate – RAG-based Islamic Learning Assistant
An AI-powered assistant to learn about Zakath using RAG architecture.

- Developed a RAG system to answer queries on Zakath.
- Used DeepSeek Light model for answer generation.
- Embedded custom Islamic knowledge using Cohere embeddings.
- Integrated LangChain + FAISS for efficient vector search.
- Leveraged AI to simplify learning about religious obligations.

SQLBot – AI-Powered SQL Query Assistant
An intelligent SQL assistant for natural language database queries.

- Built SQL assistant using LangChain agents and SQLDatabaseToolkit.
- Enabled voice queries via OpenAI Whisper.
- Frontend: HTML, CSS | Backend: Flask (Python).
- Supported dynamic query execution on structured databases.

Skills

Machine Learning, Data Science, Python, Deep Learning, Statistical Analysis, TensorFlow, Keras, EDA, Programming, HTML 5, Flask, Streamlit, Docker, Linux, GitHub, FAISS, Vector Database, Langchain, RAG, LoRA, QLoRA

Education

Institute of Distance Education University of Madras | Tamil Nadu
Master of Computer Application | 11/2025

GCT Thalassery | Kannur, Kerala
Bachelor of Computer Application | 07/2023

Languages

Malayalam, English, Arabic