Tayyab Tanveer

Sialkot, Pakistan | (+92)-333-8725732 | maliktayyab8011@gmail.com | GitHub | LinkedIn | Portfolio

SKILLS

Programming Languages: C++, Python
AI/ML Stack: Scikit-learn, NumPy, pandas, FastAPI, SQL, PostgreSQL, LangChain, LangGraph, LLM integration, Twilio (WhatsApp API), Groq, Whisper, FAISS, Claude Code
Tools: Git, GitHub, Postman, Docker
Soft Skills: Communication, Collaboration, Problem-Solving and Fast Learning

EXPERIENCE

AI Engineer – WeWebWizards *Sep 2025 – Present*

- Developing a multi-agent support chatbot using **LangGraph (parent–child graph architecture)** with a **router** dispatching queries to specialized sub-agents (Q&A, orders, products) and an **aggregator** for concurrent responses. Implemented **human-in-the-loop** order confirmation and **PostgreSQL**-based session memory.
- Integrated **Groq LLM**, **Whisper Turbo** (STT), and **Orpheus V1** (TTS) for end-to-end voice and text support, with **WhatsApp** (**Twilio**) integration and a **Vite/Tailwind CSS** frontend featuring **UUID**-based session threading.
- Architected a **Name Analysis System** using **FastAPI** that processes 140 years of SSA data (20M+ rows) and 162K Census surnames to compute **45+ linguistic attributes** per name, optimized for **2GB RAM** and **150+ concurrent users**. Integrated LLM-based attribute generation with response caching and web scraping to enrich **104K names** with origin, meaning, and etymology.
- Built a multi-algorithm similarity search endpoint combining **Double Metaphone**, **Jaro-Winkler**, and sentence-transformer embeddings with **FAISS** indexing. Secured the API with **rate-limited key authentication** and automatic **IP blocking** after 5 failed attempts; containerized with **Docker** for scalable deployment.
- Developed an **NL-to-SQL AI agent** for an **enterprise retail database** (350+ tables) using **LangChain**, **LangGraph**, and **RAG**, reducing query response latency from **~10s to 3–5s** through prompt refinement and model optimization.

AI Engineer Intern – Metaviz *Feb 2025 – Apr 2025*

- Built an interactive PDF chatbot system using **FastAPI**, **LangChain**, **Google Embedding API**, and **Gemini-1.5 Flash**, supporting session-based multi-user querying.
- Developed an automated **AI podcast system** MVP with **LLM scripting**, **Play.ht**, **Pyannote speaker diarization**, and **Simli/SadTalker**, outputting dual-avatar video podcasts using **MoviePy**.

CERTIFICATIONS

**Data Science and Machine Learning using Python (*LUMS)* *Aug 2024*

EDUCATION

University of Lahore, Lahore, Pakistan *Feb 2021 – Feb 2025*

Bachelor of Computer Science, Major: Software Engineering

- Gold Medalist and Secured Academic Excellence Scholarship with Cumulative GPA: 3.71/4.0