Curriculum Vitae

# Ghulam Mustafa

Generative AI Engineer | AI/ML Developer | Python Specialist

LinkedIn: https://www.linkedin.com/in/ghulammustafa-genai

GitHub: https://github.com/mustafaboss

Streamlit Portfolio: https://share.streamlit.io

Email: mustafashahzaib42@gmail.com

Contact: 03012853681

Location: Karachi, Pakistan

## Professional Summary

Highly motivated and results-driven AI/ML Engineer with hands-on experience in Generative AI, LLMs, NLP, and deep learning. Proven track record of building and deploying intelligent applications using LangChain, OpenAI, LLaMA2, Hugging Face, Groq API, and Streamlit. Skilled in developing chatbots, smart assistants, data science models, and intelligent systems with real-world impact. Passionate about continuous learning, AI ethics, and delivering innovative solutions.

## Technical Skills

Languages & Libraries: Python, NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, JAX  
GenAI & NLP: LLaMA2, GPT, LangChain, Groq API, Hugging Face, Transformers, RAG  
Tools & Deployment: Streamlit, Git, VSCode, Power BI, Postman, Anaconda/Miniconda  
Concepts: LLM Fine-tuning, Prompt Engineering, RAG, ANN/CNN, MLOps, Explainable AI  
Databases: MySQL, SQLite, PostgreSQL  
Others: OpenCV, Flask, FastAPI, Linux, GitHub

## Highlighted Projects

1. SQL-based Chatbot using Groq API:  
   Developed an LLM-powered chatbot that converts natural language into SQL queries and fetches real-time responses from a relational database. Uses Groq API for ultra-fast response and is ideal for customer support or data dashboards.
2. Wikipedia-Powered Conversational Agent:  
   Built an AI assistant using LangChain that fetches and summarizes Wikipedia content to answer user queries. Implements Retrieval-Augmented Generation (RAG) and memory chains for contextual interaction.
3. PDF-based Q&A Chatbot:  
   A smart assistant that reads user-uploaded PDFs and answers queries based on their content using vector embeddings and LLM. Ideal for legal, academic, and corporate document automation.
4. End-to-End Medical Chatbot using LLaMA2:  
   Fine-tuned LLaMA2 model integrated with LangChain to create a chatbot that responds to health-related queries. Deployed using Hugging Face and Streamlit with a custom frontend.
5. Automated MCQ Generator using LangChain & OpenAI:  
   Developed a tool to generate multiple-choice questions from raw text or documents. Integrated LangChain and OpenAI with Streamlit deployment for educational use.
6. Churn Prediction using ANN (Streamlit Deployed):  
   Designed a neural network model to predict customer churn. Built and deployed using Streamlit for real-time interaction.
7. Crop Disease Detection using CNN:  
   Built a deep learning model to classify plant diseases based on leaf images. Helped increase yield prediction and diagnosis accuracy.
8. Car Detection System using OpenCV:  
   A real-time object detection app using Haar cascades and YOLO for vehicle recognition and tracking.
9. E-commerce Data Analysis using Power BI:  
   Performed customer segmentation and trend analysis using Python + Power BI. Delivered visual insights to optimize business decisions.

## Certifications

Certified Data Scientist – Great Learning  
AI Certification – AnalytixLabs  
Generative AI & LLMs – iNeuron & Hugging Face

## Education

Bachelor of Science in Computer Science  
Virtual University of Pakistan

## Languages

English (Intermediate), Urdu (Fluent)