Muhammad Bilal

AI/ML Engineer

+92-3119404616| bilal.ai.developer@gmail.com | linkedin.com/in/muhammad-bilal-866750280/
https://github.com/bilalsxadad1231231 | https://www.kaggle.com/muhammadbilal10000

PROFESSIONAL SUMMARY

Full-Stack Software Engineer and AI Developer specializing in Generative AI, LLMs, Agentic AI and NLP, with hands-on experience in LangChain, LangGraph, and LLMOps/MLOps for scalable AI deployment. Skilled in Python, FastAPI, SQL (backend) and React, React Native (frontend), with strong expertise in Computer Vision, Diffusion Models, and AI-powered automation. Proficient in CI/CD, Docker, cloud infrastructure (AWS, Azure), and continuously growing through certifications in AWS, Google IT, and Deep Learning.

EDUCATION

University of Engineering and Technology Mardan | 3.6 CGPA   Mardan, PK
Bachelor of Science in Computer Software Engineering   *Sep. 2022 – June 2026*

EXPERIENCE

Software Developer Intern   August 2024 - October 2024
TSOLERA PVT LTD | Islāmābād, Pakistan

PROJECTS

Multi-Document Chatbot Development and Deployment on AWS   Nov. 2024 – Dec. 2024
- Developed a customizable chatbot system with user authentication and persona-based interactions.
- Enabled multi-PDF contextual chat using LangChain, FastAPI, and Streamlit.
- Containerized and deployed frontend/backend to AWS ECS via ECR, ensuring scalability.
- Implemented CI/CD pipelines with GitHub Actions for automated deployment.
- Integrated Groq Cloud for high-speed inference, enhancing chatbot performance.

SMART-HOME-WITH-LLM-AGENT   March. 2024 – April 2024
- Developed a smart home automation system using Groq Cloud's LLaMA model for natural language control.
- Enabled voice-controlled operation of devices including lights, fans, and DC motors with adjustable settings.
- Integrated Arduino-based hardware for real-time device management and automation.
- Built a Flutter Android app for user-friendly, mobile-based control of the smart home environment.

AI-Powered Personal Assistant App   April 2025
- Developed a cross-platform React Native app with a FastAPI backend, enabling advanced AI agentic capabilities.
- Built an intelligent system that can process images, PDFs, perform web searches, and return cited information.
- Automates personal tasks such as email drafting/sending, scheduling meetings, and providing content recommendations.
- Designed to act on the user's behalf using personalized context, delivering a seamless, assistant-like experience.

Certifications

- **AWS Fundamentals Specialization - DevOps On AWS - Google IT Automation with Python Specialization**
- **IBM AI Engineering – LLMOps - Databases for Data Scientists – Machine Learning (DeepLearning.AI) – Deep Learning**
- **Natural Language Processing - TensorFlow: Advance Techniques -**

SKILLS

Programming Languages: Python, C, C++, JavaScript, SQL, Assembly Language
Web & Mobile Development: React, React Native, Tailwind CSS, FastAPI, Flask, Web Scraping, API Development
Database Systems: PostgreSQL, MySQL, SQLite, MongoDB, NoSQL, Pinecone, Chroma, Weaviate
Developer Tools:Git, Git-Hub, Google Colab, VS Code, jupyter notebook, Linux, Google Colab, Kaggle, Postman
AI & Machine Learning:, Scikit-learn, ML/DL, NLP, PyTorch, TensorFlow, Numpy, Pandas, Seaborn, Matplotlib
Generative AI & LLM Frameworks: LangChain, LangGraph, LlamaIndex, Crew AI, Ollama, LoRA, Agents, RAG / Agentic RAG, Chatbot Development, Model Quantization, Hugging Face, Prompt Engineering, LLM Finetuning
DevOps & Cloud: AWS, Azure, DevOps, LLMOps, CI/CD, Infrastructure as Code, Docker, Kubernetes, GitHub Actions
Hardware & Embedded Systems: Embedded Systems, Arduino, IoT Integration, Automation