Syed Amaan Ali

AI / ML Engineer • Generative AI Developer • Data Scientist

Karachi, Pakistan

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PROFESSIONAL SUMMARY

Innovative **AI/ML Engineer & Data Scientist** specializing in **Generative AI, Retrieval-Augmented Generation (RAG), Deep Learning, and Computer Vision**. Proven track record architecting LLM-driven applications, real-time object detection models, diagnostic vision pipelines, and intelligent data systems. Experienced IT Instructor mentoring aspiring data scientists in Python, Machine Learning, and Neural Networks. Passionate about transforming cutting-edge AI research into production-grade, scalable solutions.

PROFESSIONAL EXPERIENCE

AI & Data Science Instructor / Lead Trainer

2024 – Present

Aptech Worldwide • Karachi

- Trained and mentored **150+ students & professionals** in Python, Data Science, Machine Learning algorithms, and Generative AI principles.
- Designed hands-on curriculum covering **Computer Vision (YOLO/CNNs)**, Natural Language Processing, and LLM application development with LangChain.
- Supervised capstone industry projects including clinical classification models, predictive analytics engines, and real-time vision pipelines.

Generative AI & Machine Learning Developer

2023 – 2024

Specfair / Plan B • Karachi

- Engineered an enterprise **RAG-powered conversational agent** utilizing LangChain, FAISS vector embeddings, and LLMs for instant context retrieval.
- Implemented **Computer Vision pipelines (YOLOv8 & OpenCV)** for real-time object tracking, image segmentation, and video analytics.
- Developed data processing pipelines in Python (Pandas/NumPy) to clean, normalize, and extract features from unstructured datasets.
- Built interactive AI interfaces and microservices using **Streamlit, Gradio, and Flask REST APIs**.

KEY AI & MACHINE LEARNING PROJECTS

Clinical AI Assistant & Medical Image Classification

Python • MobileNetV2 • CNN

- Architected deep transfer learning vision pipeline using **MobileNetV2 and custom CNN layers** to classify clinical pathology images with **94%+ validation accuracy**.
- Integrated data augmentation, Grad-CAM interpretability heatmaps, and a lightweight Flask API for real-time clinical diagnostic assistance.

Enterprise RAG Knowledge Intelligence Chatbot

LangChain • FAISS • Llama-3

- Developed an end-to-end **Retrieval-Augmented Generation (RAG)** engine indexing hundreds of proprietary PDFs/documents with chunking and semantic embeddings.
- Utilized **FAISS vector search** and Groq/Llama-3 inference to answer domain-specific queries with source citations and zero hallucination.

SmartZoo — Real-Time Wildlife Vision & Tracking

YOLOv8 • OpenCV • PyTorch

- Built real-time video analytics platform utilizing **YOLOv8** object detection to classify species, monitor habitat movement, and generate anomaly alerts.

Predictive Sales & Business Intelligence Engine

Scikit-learn • Pandas • Power BI

- Trained gradient boosting and regression models to forecast quarterly sales trends; rendered interactive executive dashboards in Microsoft Power BI.

AI & ML SKILLS

- **Generative AI & LLMs**

RAG Architecture | LangChain | Llama 3 | FAISS Vector DB | Prompt Eng. | Hugging Face

- **Machine & Deep Learning**

CNN | Transfer Learning | Scikit-Learn | TensorFlow | PyTorch | Feature Eng.

- **Computer Vision & NLP**

YOLOv8 | OpenCV | Object Detection | MobileNet | NLP & Tokenization | Video Analytics

- **Data Science & Analytics**

Python | Pandas & NumPy | Power BI | SQL & SQLite | Matplotlib

- **Deployment & Tools**

Flask & FastAPI | Streamlit & Gradio | REST APIs | Git & GitHub | Kaggle GPU

CERTIFICATIONS

Generative AI Application Developer
IBM / Coursera • 2024

AI & Data Science Specialist
Virtual University • 2024

Artificial Intelligence Using Python
DigiSkills.pk • 2024

Data Analytics & Business Intelligence
Executive Certification • 2024

AI for Beginners & Business
HP LIFE • 2024

EDUCATION

HDSE-PRO (Software Engineering)
Aptech Worldwide
Graduated 2024

BS in Data Science (Ongoing)
Virtual University of Pakistan
2023 – 2027