

# Muhammad Raheel Anwar

## PROFESSIONAL SUMMARY

AI Consultant with extensive experience in Machine Learning, Generative AI, and MLOps, specializing in designing and deploying end-to-end AI solutions for real-world applications. Skilled in building intelligent systems powered by Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), and multi-agent architectures using frameworks like LangChain, LangGraph, Semantic Kernel, CrewAI, Hugging Face, and OpenAI. Proven expertise in developing vision-language models, autonomous agents, and synthetic data pipelines for domains such as healthcare, e-commerce, and finance. Adept at implementing scalable ML workflows, integrating MLOps practices with MLflow, Databricks, Docker, and Kubernetes to ensure reproducibility and efficiency. Recognized for driving innovation through AI-powered solutions that enhance operational performance and deliver measurable business impact.

## TECHNICAL SKILLS

### AI & Machine Learning:

Exploratory Data Analysis, Predictive Analytics, Time Series Forecasting, Reinforcement Learning, Natural Language Processing (NLP)

Algorithms: Regression, Classification, Clustering, Random Forest, XGBoost, SVM, Decision Trees

### Deep Learning:

Neural Networks (DNN), CNN, RNN, LSTM, GAN, Transformer-based architectures

### Generative AI & LLMs:

LangChain, LangGraph, RAG (Retrieval-Augmented Generation), Hugging Face, AutoGen, CrewAI

OpenAI GPT models, Azure OpenAI Service, Gemini, Multi-modal Models, Prompt Engineering

Vector Databases: FAISS, Pinecone, ChromaDB, Qdrant, Pgvector

### MLOps & Deployment:

MLflow, Databricks, Docker, Kubernetes, CI/CD (GitLab), Azure ML, Azure Kubernetes Service (AKS)

### Programming & Frameworks:

Python, PyTorch, TensorFlow, Keras, Scikit-learn, FastAPI, Flask, Streamlit, Gradio

Data Processing: Pandas, NumPy, PySpark

### Cloud & Databases:

Microsoft Azure, AWS, PostgreSQL, MySQL, MongoDB

### Visualization & Tools:

Matplotlib, Seaborn, Power BI, Tableau, VS Code, PyCharm, Anaconda

## PROFESSIONAL EXPERIENCE

### Systems Limited

*Consultant AI*

Nov 2025 – Present | Islamabad, Pakistan

**Project Name: Enterprise Chatbots & Automation**

- Engineered scalable RAG-based chatbots using Azure AI Foundry and LangChain, automating workflows and reducing response times by 40%.
- Integrated LLMs with enterprise APIs for contextual query resolution and automated actions.
- Designed prompt orchestration and memory management for multi-turn conversations ensuring accuracy.

**Project Name: MLOps & Infrastructure**

- Implementing end-to-end MLOps pipelines on Databricks for reproducible training and deployment.
- Automating CI/CD workflows using Docker, Kubernetes, and GitLab reducing deployment time by 60%.
- Establishing model monitoring dashboards for drift detection and performance tracking.

**Project Name: Enterprise RAG & Technical Content Engine**

- Building large-scale RAG system for generating technical documentation and optimized knowledge base.
- Integrating vector databases (ChromaDB, Redis) for efficient retrieval and applied re-ranking algorithms.
- Delivered web-based interface for internal teams to access AI-generated content seamlessly.

**Intelligent Robotics Lab, NCAI, NUST**

*Senior Research Officer*

Mar 2025 – Nov 2025 | Islamabad, Pakistan

**Project Name: Foundational Urdu LLM**

- Led development of custom Urdu LLM including tokenizer training and distributed pre-training on HPC clusters.
- Applied RLHF for alignment and safety achieving state-of-the-art performance on QA benchmarks.
- Fine-tuned for summarization and question answering tasks improving contextual accuracy.

**Project Name: Juntendo University Medical System**

- Architected medical advice system integrating VLM-based diagnostics and LLM-powered patient interaction.
- Deployed as full-stack mobile solution reducing diagnostic turnaround time by 40%.
- Improved accuracy by 22% compared to baseline models.

**Project Name: FastVLM & Plant Disease Detection**

- Developed vision-language pipelines using CLIP, BLIP-2, and GPT-4V for plant disease detection.
- Achieved 28% higher accuracy than CNN-based baselines.
- Implemented real-time inference for agricultural monitoring systems.

**Project Name: Custom Voice Agents**

- Built real-time conversational voice agents using GPT-4, ElevenLabs, and VAPI.
- Reduced response time by 60% and improved self-service rates.
- Integrated voice synthesis and speech-to-text for multilingual support.

**Aqsa Bajwa SMC Ltd**

*AI Consultant*

Jan 2024 – Mar 2025 | Islamabad, Pakistan

**Project Name: Agentic Content Generation**

- Built autonomous blog generation agent using MCP and WordPress integration.
- Automated SEO optimization and publishing workflows reducing manual effort by 80%.
- Implemented multi-agent orchestration for content ranking and review.

**Project Name: Generative Fashion Design**

- Developed dress design system using fine-tuned Diffusion models.
- Automated product upload pipeline generating titles, descriptions, and SEO tags.
- Integrated image-to-text models for catalog generation.

**Project Name: Inventory & Sales Intelligence**

- Implemented predictive analytics for sales forecasting and inventory optimization.
- Built dashboards for decision support improving stock management accuracy by 15%.
- Applied regression and time-series models for trend prediction.

## **Sparkleo Tech**

*Senior Developer*

Apr 2024 – Sept 2024 | Islamabad, Pakistan

### **Project Name: AI-Integrated Mobile Ecosystems**

- Integrated AI modules into mobile apps including next-word prediction and generative icon creation.
- Enhanced user engagement by 22% through adaptive learning features.
- Implemented real-time voice recognition for accessibility.

### **Project Name: Smart AAC Solutions**

- Developed predictive communication systems for AAC tools improving accessibility.
- Reduced communication latency by 35% through optimized inference.
- Integrated multilingual support for diverse user base.

## **IZBA – CAPABL**

*Researcher*

Aug 2022 – Dec 2024 | Remote

### **Project Name: Autonomous Data Agents**

- Deployed intelligent scraping and verification agents for logistics data aggregation.
- Automated pipelines using Airflow reducing manual data collection by 70%.
- Implemented anomaly detection for data integrity.

### **Project Name: Supply Chain Predictive Modeling**

- Built ML models to predict missing values and forecast trends for 3PL and 4PL providers.
- Performed EDA and feature engineering to improve model accuracy.
- Developed visualization dashboards for operational planning.

## **Qureshi Creatives**

*Intelligent Web Application Developer*

Apr 2021 – Mar 2022 | Remote

### **Project Name: Intelligent Recommendation Engine**

- Built web-based recommendation system for Lego/BrickLink using collaborative filtering.

- Integrated Firebase for authentication and real-time updates.
- Optimized performance for cross-platform compatibility.

### **NFC IET University**

*Lecturer*

Sept 2020 – May 2021 | Multan, Pakistan

#### **Project Name: Mobile App Development**

- Taught Android and Flutter development courses.
- Designed lab exercises and projects aligned with industry practices.
- Mentored final-year projects in AR and interactive applications.

### **Xufire Tech**

*Software Engineer*

Dec 2020 – Apr 2021 | Multan, Pakistan

#### **Project Name: Consumer Apps Platform**

- Developed Flutter apps featuring maps, messaging, and notifications.
- Implemented modular UI components and state management.
- Integrated secure authentication and offline-first behaviors.

### **Infotech4IT**

*AI Solutions Engineer*

Jun 2019 – Jul 2020 | Lahore, Pakistan

#### **Project Name: AI-Powered Recommendation System**

- Developed recommendation engine using ML algorithms for enterprise applications.
- Integrated REST APIs and optimized inference for real-time personalization.
- Collaborated with data science team to deploy models via Docker.

#### **Project Name: Agile AI Development**

- Participated in sprint planning and code reviews for AI-driven features.
- Implemented unit tests and CI/CD pipelines for ML workflows.
- Enhanced model performance through hyperparameter tuning and feature selection.

## EDUCATION

### **Masters of Science in Computer Science**

National University of Sciences and Technologies, Islamabad, Pakistan

### **Bachelor of Science in Engineering**

NFC Institute of Engineering and Technology, Multan, Pakistan

## CERTIFICATES & TRAININGS

- **Credly Certifications** (*12 Total*)  
View all on [Credly](#)
- **Machine Learning – Stanford University** ([Coursera](#))  
Comprehensive training in supervised/unsupervised learning, model evaluation, and optimization.
- **Game Design and Development Specialization – Michigan State University** ([Coursera](#))  
Includes courses on game mechanics, interactive systems, and development for modern platforms.
- **What is Data Science? – IBM** ([Coursera](#))  
Introduction to data science concepts, lifecycle, and applications.
- **Data Science Methodology – IBM** ([Coursera](#))  
Covers data science workflow, hypothesis-driven analysis, and reproducibility practices.
- **Microsoft Azure Fundamentals (AZ-900)** ([LinkedIn](#))  
Microsoft Azure Fundamentals (AZ-900) Cert Prep by Microsoft Press” by Microsoft Press and **Jim Cheshire**
- **Building RAG Solutions with Azure AI Foundry** ([LinkedIn](#))  
Building RAG Solutions with Azure AI Foundry (Formerly Azure AI Studio)” by **Ziggy Z.**