House No. 4829, Fateh Ghar, Sialkot-51350

# Muhammad Faizan

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## Profile (AI Engineer):

- AI Engineer with a robust foundation in Software Engineering, bringing hands-on experience in AI and Machine Learning projects.
- Expertise in the full spectrum of Data Science processes, from Data Gathering, Exploratory Data Analysis (EDA) and feature engineering to model training, fine-tuning, and deployment.
- Proven ability to integrate machine learning and deep learning and LLM based solution into applications,, enhancing functionality and user experience.

## Technology Skills:

**Frameworks:** Scikit-Learn, PyTorch, TensorFlow, Keras, Apache Spark, OpenCV, Numpy, Pandas, Matplotlib, Seaborn, Plotly, Flask, Fast, Selenium, Beautiful Soup, bubble.io, Langchain, djangorestframework.

**Skills:** Machine Learning Algorithms, Deep Learning modeling, Data Visualization (Matplotlib, Seaborn, Plotly), Feature Engineering, Predictive Modeling, Model Evaluation and Selection, Big Data Technologies (Apache Spark), Data Cleaning and Pre Processing, Statistical Analysis, Exploratory Data Analysis (EDA), Web Scraping, Database Querying, API Integration, Model Deployment (Fast API, Flask),Backend development(Django).
**LLM Based Skills:** Multi-Agents Bots, RAG (Retrieval-Augmented Generation) Based Systems, Langchain, Langraph, OpenAI and Open Source LLM Based Projects.
**Computer Vision:** Object Detection, Object Recognition, Image Processing.

**Database:** MySQL, MS SQL, Posrtege SQL, BigQuery, MongoDB
**Cloud Platforms:** Google Cloud Platforms (GCP), AWS

## Work Experience

### Agentic AI Engineer
**May 2025– Present| MuSharp**

**Responsibilities**

- Develop intelligent agents capable of reasoning, planning, and executing tasks autonomously using LLMs, tools, and memory systems.
- Build and manage coordination mechanisms for agent collaboration, communication, and delegation in complex workflows.
- Connect agents with external APIs, knowledge bases, databases, and software tools to enable tool-augmented reasoning and execution.
- Monitor, evaluate, and refine agent behavior through prompt engineering, feedback loops, and performance tuning to improve reliability and efficiency.

### AI Engineer
**April 2024 – October 2024(Part-Time), Septmber 2024 – April 2025(Full Time)| Tapsoft Technology**

**Responsibilities**

- Designed and implemented AI agents capable of autonomously selecting and executing custom Python functions based on contextual prompts, enhancing task automation and efficiency.
- Developed frameworks for dynamic task assignment within multi-agent systems, enabling effective coordination and collaboration on complex workflows.
- Deployed and managed multi-agent systems within AWS environments (e.g., Lambda, SageMaker, EC2), ensuring scalability, resilience, and seamless integration with cloud services.
- Collaborated with cross-functional teams to define function requirements and develop APIs or connectors, facilitating seamless task execution and system interoperability.

### Machine Learning Engineer
**January 2024 – September 2024| Cplus Soft | Domain: Artificial Intelligence(AI)**

**Responsibilities**

- Designed and implemented machine learning algorithms to solve complex problems.
- Worked on deep learning projects using PyTorch and TensorFlow.
- Conducted data analysis and visualization using Matplotlib, Seaborn, and Plotly.
- Developed predictive models and performed model evaluation and selection.
- Deployed ML models on cloud platforms like AWS and GCP.
- Worked on LLM-based projects, including Multi-Agent Bots, RAG-based systems, and open-source LLM implementations using Langchain and OpenAI APIs.

### Junior Software Engineer
**October 2022 – December 2023| Devbasis Technology | Domain: Software Development and AI**

**Responsibilities**

- Developed and implemented AI-based solutions to enhance software performance.
- Collaborated with data scientists to integrate machine learning models into production systems.
- Conducted data preprocessing and feature engineering for ML projects.
- Utilized Python libraries such as Scikit-Learn, TensorFlow, and Keras for developing ML models.
- Participated in code reviews and provided insights on improving ML pipeline efficiency.

## Education:

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### 2019-2023 | University of Management and Technology, Lahore | Graduate as Software Engineer | Grades 3:2
**Data Science Related Modules Covered:** Statistics, Data Mining, Deep Learning, Neural Networks and Optimization, Business Intelligence and Business Analytics, Predictive Analytics, Data structures and Algorithms, Database Systems.

### 2017-2019 | QPS College, Sialkot| Grades 75%
- Organised blood donation camps and encouraged college colleagues towards initiatives.
- Lead engagement and delegate management verticals as a core committee member for an inter-college sports event.

## Notable Projects:

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**Playwriter – Multi Agent Workflow Executer**
- A multi-agent AI consulting and execution platform. Consultants create workflows (“plays”) using a no-code interface and assign them to organizations. The organizations execute these workflows, enabling custom AI task execution in a multi-agent architecture. Provides robust collaboration between frontend users and backend agents.
- **Key Components and Technologies:** Lanchain, Langraph , MCP, Agent workflow executor

**Hyper I– CCTV Analytics**

- Built an AI-powered CCTV analytics platform — Hyper-i — that transforms traditional surveillance systems into smart operational command centers. Features include ATM monitoring, queue detection, employee productivity analysis, and real-time intelligence dashboards, enabling data-driven decision-making for banking and branchless operations.
- **Key Components and Technologies**: Django, Django Rest Framework, API Development, OpenAI, Web Scraping, Data Analysis, Database Management, Task Scheduling

**Flare – Border Cotrol**

- Developed and deployed Flare, a modular real-time identity verification system used at airports across Pakistan to enhance border security. The system integrates facial matching, document verification, and fingerprint recognition to verify identities with high accuracy and speed. Live webcam images are matched against government-issued documents using facial embeddings, while biometric data is processed through secure fingerprint templates. The solution is designed for high-throughput environments with a microservices architecture and includes a Playwright-based automated testing framework to ensure reliability across operator interfaces. Flare has been successfully implemented at multiple international airports, significantly improving identity verification efficiency and security.
  **Key Components and Technologies:** Facial recognition, Document verification, Fingerprint matching, Real-time video processing, Biometric authentication, OCR, Microservices architecture

**AI Graphics Apparel – Computer Vision**

- The application features dynamic inpainting for a variety of shirts, enabling customization with different colors, designs, and logos. Using Google's "MediaPipe" open-source pre-trained model, body key points were extracted to adjust the angle of the logos based on shoulder key points. The "Segformer-B2-Fashion" pre-trained open-source model was utilized to obtain shirt mask segments. Morphological operations (dilation and erosion) were applied to achieve precise logo positioning and sizing dynamically for any scenario. The application was tested on Streamlit and deployed on AWS.
  **Key Components and Technologies:** Media pipe, Segmentation, Segformer-B2-Fashion, pixel-to-pixel image transformation, Morpholoogical operation (erosion and dialation), Streamlit, AWS

## Certification

- Data Visualization Certification from Great Learning classroom.
- SQL from Hackerank

## Languages

- English (Fluent)
- Urdu

## Reference

- References are available on request.