SHAYAN ALI

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Machine Learning Engineer

SUMMARY

. Motivated Software Engineering graduate with hands-on experience in building data-driven and intelligent solutions using Machine Learning, Deep Learning, and Generative AI. Passionate about applying technical expertise to develop rapid prototypes and Proof of Concepts (PoCs) in MLOps workflows, RAG pipelines, and model deployment with LangChain. Skilled in Python and modern AI frameworks, and eager to collaborate with industry professionals to create impactful and innovative solutions

EDUCATION

The Islamia University of Bahawalpur/Pakistan ***Sep 2021 – Jun 2025***

Bachelor in Software Engineering

TECHNICAL SKILLS

Languages and Framework: Python, Scikit-learn, TensorFlow(karas), Fast Api, LangChain, HuggingFace

Machine Learning & Data Science: Regression, Classification, Clustering, Feature Engineering, Model Evaluation Data Visualization (Pandas, NumPy, Matplotlib, Seaborn)

Deep Learning: ANN, CNN, RNN, LSTM, GANs, GRU, Transformers

MLOps: GitHub, DVC, MLflow, Docker, GitHub Actions, Kubernetes, AWS (S3), CI/CD Pipelines, End to End Custom Pipeline

NLP : Text Classification, Sentiment Analysis, NLP Pipeline,

Generative AI: LangChain, LangGraph, MCP, OpenAI Whisper, Open AI API, Chatbots, Q/A Systems, RAG Pipeline, n8n, Cursor AI

EXPERIENCE

Arch Technologies | Machine learning, MLOps, Python, TensorFlow ***Augest – September***

Machine Learning Intern

- **Built an end-to-end ML pipeline** using **MLflow** and **DVC** for tracking and version control, with integrated **logging, Docker, and YAML workflows** to ensure automation and reproducibility. Applied **hyperparameter tuning** and trained a **Deep Learning (ANN) model** to improve predictive accuracy.
- Built Retrieval-Augmented Generation **(RAG)** Pipeline using **LangChain** for enhanced query responses.
- Integrated remote storage and artifact management with (**AWS S3, GCP**).
- Collaborated on technical problem-solving with a team of AI experts.

PROJECTS

Multilingual Speech-based Q&A Assistant | *Whisper, Rag, Langchain*

- Develop a modular pipeline for multilingual Speech-to-text Q/A system using **Whisper**, **RAG**, **Langchain**.
- Implemented a **YouTube data ingestion module** to automatically download and preprocess audio using Python libraries for dynamic dataset creation.
- Integrated **LangChain** for context **retrieval** and **chaining**, **enabling** accurate and multilingual AI-driven responses.
- Containerized and deployed the complete **Streamlit application** using **Docker**, integrating **CI/CD automation** for scalable, reliable, and reproducible production builds.

Vehicle Data Prediction System | *MongoDB, AWS, Docker, CI/CD*

- Designed and implemented a **modular MLOps pipeline** covering data ingestion, validation, transformation, model training, and deployment with robust logging and exception handling.
- Integrated **MongoDB Atlas** for scalable data storage and retrieval, and automated **data ingestion pipelines** for structured dataset management.
- Deployed interactive **Streamlit web application** within **Docker containers,** with continuous integration and deployment using **GitHub Actions and AWS (ECR + EC2).**
- Configured **CI/CD workflows**, AWS S3 model registry, and self-hosted runners to achieve seamless, production-grade

model retraining and deployment automation.

Brain Tumor Detection | *Transfer-Learning*

- Developed and **fine-tuned** a **pre-trained CNN model** using **Transfer-Learning** to accurately detect brain tumors from MRI scans, improving overall medical image classification performance.
- Utilized pre-trained models **(VGG16/ResNet50)** for feature extraction on MRI brain scan image.
- Performed **Data augmentation**, resizing, normalization and handled class imbalance.

Roman Urdu Poetry Generator | *Deep Learning, Selenium, Streamlit*

- Developed a deep learning–based poetry generation model capable of creating **Roman Urdu poetry** from a given seed word.
- Scraped poetry data directly from **Rekhta** using **Selenium** for large-scale text collection.
- Preprocessed and structured the dataset, then trained a **Bidirectional LSTM** model for sequence-based poetry generation.
- Built and deployed an interactive **Streamlit interface** for real-time poetry generation and user engagement.