Alyyan Ahmed

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Personal Statement

AI/ML Engineer focused on building reliable, production-grade machine learning systems for real-world deployment. Strong foundation in machine learning, deep learning, and physics-informed AI, with hands-on experience taking models from research through production, deployment, and long-term maintenance. Experienced in designing scalable ML architectures, applying robust MLOps practices, and developing maintainable AI systems using industry-standard tools. Driven to solve complex, high-impact problems through disciplined engineering and practical AI system design.

Education

BS Artificial Intelligence, Air University Islamabad **Sept 2021 – June 2025**

Key Skills

- **Programming Languages:** Python, SQL,C , C++, JavaScript
- **Machine Learning:** XGBoost, LightGBM, Random Forest, SVM, Linear/Polynomial Regression, Gradient Boosting, scikit-learn
- **Deep Learning:** PyTorch, TensorFlow, Keras, CNN, RNN, LSTM, Bi-LSTM, ANN, Vision Transformers (ViT), Physics-Informed Neural Networks (PINNs)
- **LLMs & NLP:** LangChain, LangGraph, LangSmith, RAG, Hugging Face Transformers, GPT, Llama 3, Prompt Engineering, FAISS, Pinecone
- **Computer Vision:** OpenCV, YOLOv5/v8, Object Detection, Image Classification, Diffusion Models
- **MLOps & Deployment:** MLflow, DVC, Docker, CI/CD, GitHub Actions, FastAPI, Flask, Model Serving, AWS
- **Automation:** n8n, Make (Integromat), Multi-Agentic Systems, Workflow Automation
- **Data Science:** Pandas, NumPy, Feature Engineering, Time-Series Analysis, Signal Processing, Data Visualization

Work Experience

AI Engineer Intern
iOPTIME Pvt Ltd, Islamabad Nov 2025 – Feb 2026

- Developed machine learning models for EV battery analytics achieving 91% prediction accuracy
- Worked with ensemble methods (XGBoost) and deep learning (LSTM, Bi-LSTM, PINNs)
- Built end-to-end ML pipelines including data preprocessing, feature engineering, and model deployment and API endpoints.
- Collaborated with the team on RAG, chatbot based automated Auditing application.
- Developed inference systems with automated validation logic and diagnostic monitoring tools.

AI & Machine Learning Intern
CSERA (Private) Limited, Islamabad July 2025 – Sept 2025

- Contributed to Vision and Gen AI projects, automated data analysis and real-time inference.
- Enhanced model accuracy through optimized detection pipelines using YOLOv8 and OpenCV.
- Supported AI deployment and MLOps integration with PyTorch, MLflow, and FastAPI.

Machine Learning Intern
Air University, Islamabad July 2023 – Sept 2023

- Implemented ML algorithms for anomaly detection in network traffic.
- Analyzed large datasets and applied predictive analytics to detect security threats.
- Supported the development of AI models tailored for cybersecurity.

Projects

End-to-End MLOps & Deep Learning Deployment (Chest Cancer Classifier) – [GitHub]

- Engineered a CI/CD pipeline with MLflow for experiment tracking and DVC for versioning.
- Containerized a TensorFlow/Keras model via Docker and automated deployment to Hugging Face Spaces, achieving 93% accuracy.

AI-Powered Portfolio with RAG and LLM Integration – [GitHub]

- Developed a personal portfolio using LLM-3 and RAG pipelines for dynamic question-answering.
- Implemented FAISS-based vector search and context-aware retrieval to simulate an interactive "AI version" of the portfolio owner.
- Experimented with prompt optimization, API chaining, and context embedding for human-like chat.

End-to-End MLOps Facial Emotion Recognition App – [GitHub]

- Built a production-grade MLOps pipeline with TensorFlow/Keras, Hugging Face Transformers.
- Integrated DVC, MLflow, and GitHub Actions for CI/CD.
- Deployed a Vision Transformer (ViT) based app on Hugging Face Spaces with Docker-ready setup.

Chest X-ray Pneumonia Detection with ViT – [GitHub]

- Designed a dual-model system with ResNet-50 for OOD filtering and ViT for pneumonia detection.
- Implemented full MLOps pipeline: DVC for versioning, MLflow for tracking, CI/CD,
- Deployed Gradio app with MongoDB integration, supporting multi-image aggregation for robust clinical diagnosis.

Facial Age Detection – [GitHub]

- Engineered a Multi-Task DL framework (PyTorch/EfficientNet) to simultaneously classify Age, Gender, and Race with a custom weighted loss function, optimizing for demographic accuracy.
- Implemented an end-to-end MLOps pipeline incorporating data ingestion from Hugging Face and automated data preprocessing using Pandas and DVC on 90,000+ images.
- Deployed a real-time Streamlit web application featuring MTCNN face detection.

Certifications

- Generative AI – Coursera 2024
- YOLO Video Object Detection with Python — Udemy 2024
- Complete MLOps Bootcamp With End-to-End ML Projects – Udemy 2025