FAYAZ MOQUEEM MOHAMMED

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SUMMARY

Junior AI/ML engineer focused on **financial time-series**, **alpha signal research**, and **ESG analytics**. Ship reproducible Python pipelines (Pandas/NumPy, scikit-learn, **XGBoost**, PyTorch) with **feature engineering**, **backtesting**, and **model monitoring** (**MLflow**). Comfortable integrating model outputs to **real-time dashboards/APIs** (FastAPI/Streamlit) and collaborating with quants/data engineers on robust, fair, and scalable ML.

EXPERIENCE

AI Engineer — The Aziz Foundation, Cambridge, MA — Feb 2025 – Present

- Automated scoring/ops workflows in Python (Pandas/NumPy, joblib) with **audit-friendly logs** and SLA dashboards; reduced cycle time from 1 day to hours.
- Built **ARIMA**-based retention forecast (+17% accuracy) and KPI views for pipeline health; standardized **error analysis** and remediation playbooks.
- Deployed a self-service assistant (SharePoint KB + Copilot Studio) to **deflect routine queries** while preserving exception routing and human review.

Machine Learning Engineer — Ravi K. Mehrotra Institute (IBMS), Boston, MA — Mar 2024 – Jan 2025

- **ESG signal research:** engineered features from ESG/regulatory news (entity-linked sentiment, event tags, rolling z-scores, **lag features**); evaluated with expanding-window **backtests** and leakage controls; integrated outputs into ETF/macro analysis.
- Delivered *SENDEX*: large-scale news & sentiment analytics (FinBERT, BERTopic, NER) over 10M+ articles with **Tableau** interfaces for non-technical stakeholders; added **source citations** and change-tracking for transparency.
- Designed **ARIMA–VAR–LSTM** forecasting (stationarity checks, ADF; ACF/PACF-guided lags); packaged with **Docker** and tracked experiments/models in **MLflow**; published endpoints via **FastAPI** for downstream consumers.

Machine Learning Engineer Intern — Cappella, Cambridge, MA — May 2023 – Sep 2023

- Built a **Streamlit** ops dashboard for telemetry, thresholds, and **exception review**; standardized SOPs and test plans with engineering.
- Implemented **structured logging/metrics**; containerized services with **Docker**; prototyped event processing via **FastAPI**.

EDUCATION

Boston University — *M.S., Artificial Intelligence* — Sep 2022 – Jan 2024
Osmania University — *B.E., Computer Science* — Aug 2018 – Jun 2022

SKILLS

Programming: Python (Pandas, NumPy, joblib), SQL, Git; Jupyter/VS Code
ML/DL: scikit-learn, **XGBoost**, PyTorch/TensorFlow; logistic/linear models, trees/ensembles, clustering, PCA
Time Series: stationarity/ADF, **lag/rolling features**, moving averages, **ARIMA/VAR**, LSTM; ACF/PACF
Data/ETL: SQL (PostgreSQL/MySQL), Polars/Pandas, Spark; data validation; reproducible pipelines
Deploy/Monitoring: FastAPI, Streamlit, **Docker**, GitHub Actions, **MLflow**; basic W&B (familiar)
Bonus: LLMs (OpenAI/HF APIs), prompt engineering/RAG for financial docs; **ESG analytics**, portfolio/risk concepts
Cloud: AWS (EC2, S3, SageMaker basics); GCP/Azure (exposure)

PROJECTS

Crypto Forecaster — Agentic Multi-Agent RAG — Jan 2023 – Present
CrewAI/LangChain agents for technical+fundamental analysis; RAG over news/on-chain; FinGPT fine-tuned via **LoRA**; uncertainty estimation + Bayesian optimization; backtested signals; containerized with **Docker** and tracked in **MLflow**.

ESG Alpha Signals (IBMS) — 2024
Pipeline that transforms ESG/regulatory disclosures into **alpha features** (event/sentiment factors, rolling z-scores, **lagged predictors**); evaluated with expanding-window **backtests** and integrated into ETF/macro dashboards and **FastAPI** endpoints.