Muhammed Sarfras P C

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Professional Summary

Machine Learning Engineer with expertise in NLP, RAG architectures, and time-series forecasting. Proven track record in deploying scalable ML solutions with MLOps best practices, transforming complex business requirements into production-ready pipelines with monitoring and explainability.

Technical Skills

Languages: Python, SQL

ML/DL Frameworks: TensorFlow, PyTorch, Scikit-learn, XGBoost, Transformers (Hugging Face), LangChain, Sentence-Transformers

Data & Analytics: Pandas, NumPy, SHAP, LIME, Matplotlib, Seaborn, Tableau, Power BI

MLOps & Deploy: Docker, MLflow, FastAPI, Streamlit, GitHub Actions, GCP, CI/CD, Redis, ChromaDB, PostgreSQL/TimescaleDB

Specializations: Retrieval-Augmented Generation (RAG), Fine-Tuning, Time-Series Forecasting, NLP, Computer Vision, Clustering & Segmentation, Explainable AI (XAI), Anomaly Detection

Professional Experience

Machine Learning Engineer Intern, Brotype – KINFRA, Calicut, Kerala   Oct 2024 – Present

- Designed and deployed production-ready ML pipelines across forecasting, NLP, and anomaly detection
- Built and optimized models for classification, regression, clustering, and time-series forecasting using Random Forest, XGBoost, CNN-LSTM, and TFT
- Applied MLOps practices (MLflow, Docker, FastAPI, Streamlit, PostgreSQL/TimescaleDB) to ensure scalability and reproducibility
- Contributed to multiple end-to-end projects, delivering measurable impact in retrieval accuracy, anomaly detection, and real-time analytics

Assistant Administrative Manager, Britco & Bridco Pvt Ltd – Delhi, India   Oct 2022 – Oct 2024

- Streamlined cross-departmental operations while pursuing Mathematics Honors, demonstrating exceptional time management
- Enhanced operational efficiency through data-driven decision making and process optimization
- Developed analytical dashboards for tracking KPIs and generating actionable business insights

Projects

End-to-End ML System (In Progress)   Crypto AI Analytics Platform

- Architected unified MCP monolith for multi-horizon forecasting, RAG, and on-chain analytics serving 1000+ queries/day
- Built benchmarking pipeline comparing classical (SARIMAX), DL (CNN-LSTM), and TFT models with MLflow tracking
- Implemented production RAG with sentence-transformers, achieving 90% retrieval accuracy with citation-aware responses
- Developed wallet clustering (KMeans/DBSCAN) for anomaly detection and portfolio risk assessment

RAG Chatbot for Architecture Students   Archie

- Developed intelligent study assistant processing 1000+ page PDFs, reducing study time by 50%
- chunking and hybrid retrieval achieving 88% answer accuracy with source citations
- Deployed containerized solution handling 100+ daily queries with <100ms retrieval latency

Education

BSc Mathematics (Honours), Delhi University   Oct 2021 – Jun 2024
- Specialization: Mathematics, Statistics, Linear Algebra, Calculus

Certifications & Achievements

ML/AI: DeepLearning.AI (Supervised ML) | Simplilearn (RAG)
Data Science: IBM (Data Science) | HP LIFE (Analytics)
Technical: HackerRank (SQL Advanced) | Coursera (Excel)

Languages

- English: Professional working proficiency
- Malayalam: Native or bilingual proficiency
- Hindi: Professional working proficiency
- Urdu: Professional working proficiency
- Arabic: Elementary proficiency