

THILANKA WIJESINGHA

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Aspiring AI and Machine Learning engineer specializing in AI/ML, Data Engineering and scalable systems. Experienced in building production-ready pipelines, deploying models, and developing AI-driven applications.

WORK EXPERIENCE

Software Engineer

Sep 2025 - Feb 2026 (Contract)

Standard Deviant Analytics

- Led development of a scalable, multi module Spring Boot data platform ingesting and processing data from 300+ plus external game providers.
- Designed and maintained provider specific ingestion modules, enabling integration of new data sources in under 3 days on average.
- Built automated data workflows with 95%+ reliability, supporting processing of thousands of records.

Full Stack Engineer Intern

Oct 2024 - Apr 2025

Nextzela Technologies

- Engineered cross platform applications using Flutter for responsive front end interfaces.
- Launched Next.js web solutions, optimizing performance and user experience.
- Designed MySQL databases, ensuring query efficiency.

EDUCATION

BSc (Hons) in Information Technology Specializing in Data Science

Oct 2022 - Present

Sri Lanka Institute of Information Technology

PROJECTS

MindMirror (Ongoing Research Project)

Skills – Python, Pandas, NumPy, Scikit-learn MLflow, Airflow, Flask, Docker, PostgreSQL, Flutter

- Built a longitudinal multi-class classification system to predict weekly personality state direction, achieving 78%+ accuracy and 0.75+ F1 score using leakage safe and time based validation.
- Optimized a HistGradientBoosting classifier, improving directional prediction by 12% over baseline models with balanced class evaluation.
- Orchestrated scheduled inference via Apache Airflow and tracked experiments using MLflow for reproducible weekly pipelines.
- Deployed Dockerized inference APIs enabling real-time and weekly classification integrated with a Flutter mobile app.

Production Ready Telco Churn Prediction System

Skills – Python, Scikit-learn, XGBoost, PySpark, MLflow, Airflow, Kafka, Docker

- Built end-to-end ML pipeline for churn prediction with feature engineering, ensemble models, cross-validation, and imbalanced data handling.
- Designed modular, production-ready architecture with model persistence, logging, testing, and MLflow experiment tracking.
- Implemented distributed training with PySpark MLlib and benchmarked against Scikit-learn pipelines.
- Developed batch and real-time inference using Kafka and automated workflows with Airflow DAGs.

Real Estate Intelligence Platform

Skills – Python, Playwright, Qdrant, LangChain, Vector Search, RAG, CAG, CRAG

- Engineered end-to-end RAG platform with async web crawling and structured JSONL corpus generation.
- Implemented 5 chunking strategies and benchmarked retrieval performance using Precision, Recall and latency metrics.
- Built Cache Augmented Generation, Standard RAG and Corrective RAG with semantic similarity and confidence-based correction.
- Conducted cost and scalability evaluation under simulated production workloads.

Operation Ledger-Mind: Financial Intelligence System

Skills – Python, LoRA, BitsAndBytes (4-bit), TRL, Weaviate, BM25, RRF, Cross-Encoder, ROUGE-L

- Built and compared Fine-Tuned Llama-3-8B (QLoRA) and Hybrid RAG architectures for financial document analysis.
- Developed PDF ingestion, chunking, and automated Q/A data generation pipeline for supervised fine tuning.
- Implemented Hybrid Retrieval with Reciprocal Rank Fusion and Cross-Encoder reranking.
- Evaluated models using ROUGE-L, LLM-as-a-Judge, latency, and cloud cost benchmarking.

SKILLS

Programming Languages : Python, Java, JavaScript

Web & Mobile Technologies : React, Next.js, Node.js, Express.js, Flutter, Flask, Spring Boot

Data, ML & Cloud Technologies : MLflow, Kafka, Hadoop, Spark, CrewAI, Airflow, AWS, Langchain, Docker, Power BI, TensorFlow, Scikit-learn, NumPy, Pandas, Git

Databases : PostgreSQL, SQL Server, MySQL, MongoDB, Qdrant

OTHER

- Attained a position in the Dean's List for outstanding academic performance at SLIIT.

REFERENCES

Mr. Lahiru D K Yapa
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