MICHAEL TUNWASHE

Mathematics Student | Applied Machine Learning & Statistical Analysis | Focus: Financial & Economic Data Lagos, Nigeria | +234-704-102-9093 | motrenewed@gmail.com | linkedin.com/in/tadstech | github.com/tadstech

Professional Summary

B.Sc. Mathematics student focused on data, uncertainty, and models in real-world systems. Work centers on statistical analysis, machine learning, and time-series modeling, with interests in financial and economic data. I approach projects as investigations into practical problems—formulating questions, evaluating models, and explaining results clearly. Building toward research-oriented ML and quant-adjacent roles while taking on applied analysis and ML contracts.

Research Projects

1. Does financial news sentiment contain stable predictive signal for short-term market returns? (Sep 2025 – Nov 2025)

Status: Complete • Core: Can textual embeddings of financial news provide signal beyond noise for short-horizon returns? Approach: News + price data; baselines: naive return models; compare linear vs shallow NN; evaluate out-of-sample and stability across windows. Expected: Assess stability vs regime-dependence; identify failure modes and leakage sources.

2. An Investigation of Hybrid Recommendation Methods on Music Listening Data (Oct 2025 - Dec 2025)

Status: Complete • Core: When do methods fail, and does hybrid improve interpretably over single-method baselines? Methods: CBF (semantic embeddings), CF (neural MF), Hybrid (weighted); Data: user–track interactions + metadata; Baseline: implicit popularity; Metrics: Precision@k, Recall@k, NDCG@k, Hit Rate (temporal splits). Findings: CBF/CF near-0 baselines (sparsity/embedding misalignment); Hybrid marginal at k=20; limits: low interaction density, weak embedding–behavior correlation. Scope: offline evaluation; focus on failure modes.

Applied Systems (Supporting Work)

Built data ingestion and visualization tools for exploratory analysis and reporting; developed hybrid recommendation system (CF) for music data; created ETL workflows and dashboards for retail analytics and economic indicators.

Technical Skills

Mathematical Foundations: Probability & Statistics, Linear Algebra, Calculus (ongoing) **Data & Modeling:** Pandas, NumPy, scikit-learn, PyTorch (applied, non-research) **Analysis & Evaluation:** Exploratory data analysis, Feature construction, Model evaluation & error analysis **Supporting Tools:** SQL (PostgreSQL), Git, Linux

Professional Experience

Data Analyst Intern — Aug 2025 – Nov 2025
HNG Tech

- Cleaned and transformed large business datasets using Python and SQL
- Wrote SQL queries for recurring reporting tasks
- Built dashboards in Metabase to support business insights
- Assisted team with lightweight automation pipelines

Education

B.Sc. Mathematics — 2024 – 2028
University of Lagos

- Relevant Coursework: Probability, Statistics, Linear Algebra, Calculus