MICHAEL KWABENA GYIMADU

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Education

Wingate University Expected May 2027
Bachelor of Science in Mathematics, Economics Minor (Hons) *Wingate, NC*
Honors: GPA: 4.0 | President's List
Relevant Coursework: Algorithms & Data Structures, Probability & Statistics, Linear Algebra, Multivariable Calculus, Economic Impact Analysis, Differential Equations, Financial Markets, Financial Accounting

Technical Skills

Programming: Python, C++, SQL, TypeScript

Libraries/Tools: Numpy, pandas, scikit-learn, TensorFlow, Jupyter, Matplotlib, Git, GitHub, PostgreSQL, React

Statistical & Machine Learning: Time series analysis, logistic regression, ensemble models (Random Forest, XGBoost), volatility modeling, hypothesis testing, neural networks, PCA, Monte Carlo simulation

Finance: Financial & risk modeling (VaR), DCF analysis, portfolio optimization, equity valuation, derivatives, asset allocation, Tableau, Excel VBA

Experience

Equity Research Analyst Apr. 2024 - Present
Wingate Investment Club *Wingate, NC*

- Conduct comprehensive research on **5-10 stocks** quarterly and pitch **buy/sell ideas** to a **$200K** student fund.
- Analyzed **25+** equities using **DCF, comparables** & sector trends to inform semi-annual **rebalancing** decisions.
- Utilized proprietary signal builder to support alpha generation, contributing to a **4%** annual outperformance vs. the S&P 500.

Projects

Portfolio Backtest Engine | *Python, C++, pandas, yFinance, scikit-learn*

- Developed a portfolio simulation tool for **backtesting** strategies across **30+ ETFs** using historical data.
- Implemented an intelligent **data caching** system reducing API calls by **85%** with 7-day freshness windows.
- Designed **modular architecture** supporting customizable contributions, rebalancing, and asset allocations.
- Integrated macroeconomic event overlays to evaluate portfolio sensitivity and enhance **risk assessment**.

Macroeconomic Signal Builder | *Python, pandas, yFinance, scikit-learn*

- Developed a macro signal system using economic indicators to guide investment timing and allocation shifts.
- Designed **time series pipelines** with rolling stats & volatility metrics to generate **real-time trading signals**.
- Automated signal performance tracking in **Python**, improving development speed and reproducibility.
- Enabled **data-driven** investment decisions through **predictive analytics**.

Equity Screener | *Python, FastAPI, yFinance, PostgreSQL, NextJS*

- Built a real-time stock screener for undervalued, high-yield, low-risk U.S. equities from a 2,000+ stock universe.
- Implemented filters for valuation, dividends, volatility, and size to surface actionable investment opportunities.
- Developed a full-stack platform with **FastAPI** and **Next.js** to fetch, process, and display real-time market data.
- Optimized **API performance**, **reducing latency by 40%** to improve speed and user experience.

Credit-Default Prediction Model | *Python, scikit-learn, numpy, Flask*

- Built a **logistic regression** model to predict credit default using a dataset of 30,000+ credit card clients.
- Performed **feature scaling** and **hyperparameter tuning (GridSearchCV)** to optimize model performance.
- Achieved strong classification metrics, including **ROC-AUC score of 0.865**, after model evaluation.
- Deployed model via a **Flask API**, enabling real-time default predictions from user-input financial data.