

OLUWAFERANMI A. OMIDIRAN

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EDUCATION

Rutgers University — B.S. Mechanical Engineering, Minor in Quantitative Economics	Aug 2024
GPA 3.84 · Summa Cum Laude · Dean's List · LSAMP Research Scholar · Peer Tutor, Advanced Calculus for Engineers	
<i>Quantitative coursework:</i> Advanced Calculus for Engineers (A), Differential Equations (A), Calculus I–III (A), Linear Systems, Engineering Economics (A), Quantitative Micro/Macroeconomics, Econometric Modeling & Forecasting	
UCLA Extension — Linear Algebra (MATH XL 33A)	Sep – Nov 2026
Matrix decompositions, eigenvalues and eigenvectors, vector spaces, orthogonality, least squares	
Baruch College / QuantNet — C++ Programming for Financial Engineering	Expected Jan 2027
Object-oriented design, STL, Monte Carlo simulation, finite differences, lattice models, Black–Scholes implementation	
Harvard University (edX) — CS50P: Programming with Python	Expected Sep 2026
Bloomberg Market Concepts	Certified, Apr 2026

QUANTITATIVE PROJECTS

Equity Volatility Research Pipeline	github.com/oluomidiran/equity-volatility-research
<i>Python · pandas · NumPy · SciPy</i>	
- Built a HAR volatility model on daily, weekly, and monthly realized components; achieved 9.08% out-of-sample RMSE against 9.30% for EWMA ($\lambda = 0.94$) and 10.28% for a random walk on identical held-out dates. - Engineered a purged chronological train/test split removing 21 observations whose forward targets overlapped the test period; the correction degraded RMSE from 9.03% to 9.08%, confirming leakage, and wrote 15 integrity tests asserting execution-timing lag, target validity, and purge completeness. - Demonstrated that evaluation-target construction reverses model ranking: an overlapping trailing target sharing 20 of 21 observations favored the random walk, while a non-overlapping forward target favored EWMA by 9.9%. - Backtested a 20-day moving-average strategy across four equities (2007–2016); corrected look-ahead bias reducing returns from 193% to 27.9%, located cost break-even at 32 bp, and used regime decomposition to isolate crisis-period downside protection from recovery-period whipsaw.	
Trading Operations Monitor	github.com/oluomidiran/trading-operations-monitor
<i>Python · pandas</i>	
Designed a position reconciliation and PnL engine tracking trade lifecycle status, computing realized and unrealized PnL, and ranking breaks by severity across quantity, cost-basis, and market-data exceptions.	
JobX.OS — AI Career Platform · getjobxos.com	Founder & Systems Architect · Jan 2026 – Present
Shipped a production platform to 2,000+ users; owned architecture, PostgreSQL schema and migration review, and release gating, and identified an identity-spoofing flaw in code review where a client-controlled header bypassed verified session authentication.	

EXPERIENCE

Bright Power, Inc. — Data & Systems Analyst (Full-Time Internship)	New York, NY · Mar – Dec 2025
- Constructed ETL pipelines extracting, normalizing, and validating utility data across provider portals, OCR-processed documents, and partner systems, reducing manual handling ~75% across a 60,000+ account portfolio. - Wrote multi-table SQL queries reconciling account, billing, and provider records; specified a validation control that cut manual review ~50% and prevented \$20–30K in recurring vendor costs. - Resolved 390+ data-integrity exceptions across five systems; earned a performance-based pay increase and nine-month extension.	
Ahmed Lab, Rutgers Institute for Health — Lead Research Scientist & First Author	New Brunswick, NJ · May 2023 – Apr 2024
- First-authored a peer-reviewed Wiley publication (Top Viewed Article, 2025) surveying causal-inference methodology across 150+ studies: instrumental variables, two-stage least squares, inverse-variance weighting, Egger regression, and block jackknife resampling; directed a 7-member team through scope, synthesis, and expert-reviewer revision. - Assessed bias mechanisms in observational inference — confounding, reverse causation, multiple testing, and overlapping-sample contamination — and evaluated Bayesian and mixture-model estimators for robustness. - Benchmarked competing measurement technologies on coverage, sensitivity, and cost trade-offs, quantifying detection gains from high-resolution sequencing over array-based and low-coverage alternatives.	
Mercor — Generalist & STEM Expert, AI Evaluation	Contract, Remote · 2026 – Present
Scored 100+ artifacts against defined accuracy, completeness, and instruction-following criteria, citing specific evidence and flagging unsupported claims under time-bound production requirements.	
Qingze Zou Laboratory, Rutgers School of Engineering — Research Assistant, C++ Data Acquisition	Piscataway, NJ · Oct 2023 – May 2024
Developed and debugged a C++ data-acquisition system for time-stamped 1 Hz sensor logging; isolated hardware–software integration faults through systematic component testing, reducing experimental data loss ~50%.	

SKILLS

Programming: Python (pandas, NumPy, SciPy, matplotlib) · SQL · C++ (in progress) · MATLAB · Git · LLM APIs
Quantitative: Time-series analysis · Volatility modeling (HAR, EWMA, realized) · Least squares regression · Supervised learning · Backtesting · Out-of-sample and purged validation · Autocorrelation · Bias–variance trade-off · Monte Carlo
Research: Hypothesis design · Benchmark construction · Leakage and look-ahead control · Sensitivity analysis · Causal inference · Technical writing
Markets: Options fundamentals · Trade lifecycle · Reconciliation · PnL · Transaction-cost modeling