

Isaac Oluwaseun Akinmokun



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Executive Summary

Backend Engineer specializing in data collection pipelines and spatial databases, with specific domain expertise in West African property markets. Proven record of building production scraper architectures, high-performance REST APIs, and mathematical optimization systems. Available for remote backend engineering roles.

Technical Skills

- **Languages:** Java, Go, Python, SQL, HTML/CSS, TypeScript
- **Frameworks & Libraries:** Spring Boot, FastAPI, SciPy, React, Beautiful Soup
- **Databases & Caching:** PostgreSQL, PostGIS, Redis
- **Tools & Infrastructure:** Docker, Git, GitHub Actions, Testcontainers, Linux (Arch), Railway
- **Collaboration & Methodologies:** Git Workflows, Technical Writing, Team Leadership, Problem Solving

Projects & Experience

Property Intelligence Platform, Java, Spring Boot, PostgreSQL, Redis, PostGIS, Docker 2026 – Present

- Designed and implemented a production REST API that aggregates and processes longitudinal price history data of properties across four major Nigerian listing portals.
- Engineered cursor-based pagination utilizing database primary keys, eliminating data drift and duplicate records, and reducing database lookup latency to a flat 4ms for deep-page requests.
- Integrated PostGIS spatial indexing to optimize proximity-based queries and implemented a Redis caching layer for geocoded listings.
- Secured endpoints using JWT RS256 token authentication and automated integration testing coverage with Testcontainers.

PropertyScraper, Python (3.12), PostgreSQL, Beautiful Soup, GitHub Actions 2026 – Present

- Architected an automated web-scraping pipeline aggregating 10,000+ residential listings weekly across three West African property portals.
- Configured asynchronous background tasks to verify listing availability bi-weekly at pre-defined intervals, minimizing stale data.
- Captured price changes over time to construct a longitudinal dataset for training future Automated Valuation Models (AVMs).

Portfolio Optimization Engine, Java, Python (FastAPI), SciPy, React, PostgreSQL 2025 – 2026

- Engineered a hybrid mathematical model to calculate Markowitz mean-variance optimization allocations for real estate pension funds.
- Developed a FastAPI microservice backend leveraging SciPy's SLSQP algorithm to optimize asset weights dynamically.
- Built a React visualization page that plots the efficient frontier using 5,000 Dirichlet-sampled weight vectors.

Education

Bachelor of Science in Estate Management, Obafemi Awolowo University 2020 – 2026

- Grade: Second Class Honours: Upper Division
- Thesis: [Heuristics in Property Portfolio Selection Decisions of Nigerian Pension Funds](#)

Leadership & Extracurricular Activities

Assistant Class Representative, Obafemi Awolowo University 2020 – 2026

- Coordinated academic activities and communicated schedules, updates, and course adjustments for a cohort of 80+ students, acting as the primary liaison between students and university lecturers.
- Resolved scheduling conflicts, organized study groups, and managed distribution of learning materials, fostering an inclusive and collaborative learning environment.