

Isaac Akinmokun

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PROFILE

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, BeautifulSoup, Framer Motion
Databases & Caching: PostgreSQL, PostGIS, Redis
Tools & Infrastructure: Docker, Git, GitHub Actions, Testcontainers, Linux (Arch), Railway

PROJECTS & SYSTEMS ENGINEERING

Property Intelligence Platform **Lagos, Nigeria**
2025 – Present
Lead Engineer | Java (Spring Boot), PostgreSQL, Redis, PostGIS, Docker

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

PropertyScraper **Lagos, Nigeria**
2025 – 2026
Creator | Python (3.12), PostgreSQL, BeautifulSoup, GitHub Actions

- Architected an automated web-scraping pipeline aggregating 10,000+ residential listings weekly across three West African property portals.
- Configured asynchronous checking of listing availability bi-weekly at pre-defined intervals.
- Captured price changes over time to lay the longitudinal foundation required to train upcoming Automated Valuation Models (AVM).

Portfolio Optimization Engine (Dissertation) **OAU, Ile-Ife**
2025 – 2026
Researcher & Developer | Java, Python (FastAPI), SciPy, React, PostgreSQL

- 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

Obafemi Awolowo University **Ile-Ife, Nigeria**
Expected 2026
Bachelor of Science in Estate Management

- Focus Areas:** Property Valuation, Real Estate Investment Analysis, Land Information Systems.