

OLUWOLE ADETIFA

JAVA BACKEND SOFTWARE ENGINEER

Philadelphia, PA | adetifaoluwole@gmail.com | linkedin.com/in/oluwole-adetifa-278586113 | github.com/oluwoleadetifa |
oluwoleadetifa.github.io

Authorized to work in the United States; no current or future sponsorship required

PROFESSIONAL SUMMARY

Java Backend Software Engineer with experience building secure API-driven platforms, distributed services, and AI-enabled applications using Java 21, Spring Boot, PostgreSQL, Python, and Rust. Strong foundation in object-oriented programming, REST API design, Spring Data JPA, authentication, relational data modeling, service integration, concurrency, testing, Linux, and performance benchmarking. Combines industry software development with graduate research in secure distributed systems and practical full-stack collaboration.

TECHNICAL SKILLS

Languages: Java 21, Python, Rust, SQL, TypeScript, JavaScript, C, C++

Java & Backend: Spring Boot, Spring Data JPA, Maven, REST APIs, object-oriented programming, dependency injection, DTOs, API contracts, validation, exception handling, authentication

Data & Integration: PostgreSQL, relational modeling, schema design, JSON, FastAPI, service-to-service integration, asynchronous services

Testing & Tools: API testing, integration testing, Jest, Git, GitHub, Linux, Spring Boot Actuator, Agile collaboration, technical documentation

Systems & Security: Axum, Tokio, concurrency, signed requests, nonce validation, replay protection, rate limiting, QRNG, post-quantum cryptography integration

Frontend & AI: React, React Native, Expo, Storybook, OpenCV, BERT, ResNet, multimodal learning

PROFESSIONAL EXPERIENCE

Co-Founder & Software Engineer | Amealia AI | Philadelphia, PA | 2026 - Present

- Co-developing an AI-powered nutrition platform using Java 21, Spring Boot, PostgreSQL, React Native/Expo, and a FastAPI recommendation engine.
- Designing REST APIs and application workflows for authentication, onboarding, meal planning, feedback, grocery lists, and personalized recommendations.
- Implementing Spring Data JPA persistence, DTO and service contracts, request validation, structured error handling, and Spring Boot Actuator observability.
- Integrating the Spring backend with the FastAPI AI service and validating recommendation and meal-planning workflows through backend integration tests and a 29-test AI-engine suite.

Research Software Engineer (Research Assistant / Research Associate) | Morgan State University | Baltimore, MD | Jan 2023 - Present

- Designed secure distributed backend services in Rust using Axum and Tokio for concurrent API, IoT client, and hardware communication in quantum-enhanced cybersecurity research.
- Built authenticated REST APIs integrating Linux-based quantum random-number hardware; implemented signed requests, nonce validation, replay protection, rate limiting, and post-quantum cryptographic workflows.
- Developed benchmark clients and compared direct QRNG, hybrid CSPRNG, and parallel entropy-delivery modes across concurrency levels to identify latency and throughput bottlenecks.
- Documented backend architecture, security assumptions, and performance trade-offs supporting peer-reviewed publications and dissertation research on zero-trust distributed systems.

Adjunct Faculty - Computer Science | Morgan State University | Baltimore, MD | Aug 2024 - May 2026

- Taught Python, object-oriented programming, debugging, data structures, introductory algorithms, computer architecture, RISC-V, and SystemVerilog across approximately five course sections.
- Designed labs and software projects and mentored roughly 35 students per section in clean code, testing, problem decomposition, and technical communication.

ADDITIONAL ENGINEERING EXPERIENCE

Frontend Software Engineer / Team Lead | Hanspet Technologies | Remote | Nov 2021 - Aug 2022

- Built reusable React and React Native components in TypeScript for an e-health application; shared components were adopted by other frontend developers across the product.
- Created Jest unit tests and Storybook documentation, collaborated with backend engineers on API contracts, and guided implementation consistency through code reviews and component standards.

Frontend Developer | MySogi Nigeria Ltd. | Remote | Jan 2022 - Aug 2022

- Built a React campaign-monitoring dashboard that consumed the PropellerAds API and visualized real-time performance using Google Charts.
- Implemented reusable data-display components for campaign analytics, status tracking, and operational monitoring.

Junior Software Engineer | Mul-T-Lock Nigeria Ltd. | Remote | Feb 2021 - Jun 2021

- Developed Django and jQuery features for a lightweight inventory application and backend workflows supporting warehouse operations.
- Integrated a camera API and OpenCV/Python processing into a web application for real-time warehouse monitoring and troubleshoot application and integration issues.

SELECTED BACKEND & SYSTEMS PROJECTS

QRNG-Backed Authentication Service | Java 21, Spring Boot, Maven, REST APIs

- Built a layered Spring Boot authentication prototype that integrates quantum-generated entropy into one-time-password workflows and exposes validated REST endpoints.
- Applied controller-service separation, DTO-based request handling, dependency management with Maven, and structured exception handling.

Quantum Entropy-as-a-Service | Rust, Axum, Tokio, Linux, PQC

- Built a secure entropy service exposing hardware-backed randomness through authenticated APIs, including direct QRNG, hybrid CSPRNG, and parallel delivery modes.
- Implemented Kyber/Dilithium workflows, replay protections, quotas, freshness controls, and performance benchmarking for concurrent clients.

Parallel Image Processing Pipeline | Python, Multithreading, Multiprocessing

- Compared sequential, multithreaded, and multiprocessing implementations using execution time, CPU utilization, scalability, synchronization overhead, and workload partitioning.

Multimodal Classification System | Python, BERT, ResNet

- Developed preprocessing, feature extraction, fusion, training, and evaluation pipelines for joint text-and-image classification.
- Compared feature-fusion approaches and documented model behavior and evaluation results.

Hybrid Biometric and Cloud OTP Access Control | C, Proteus, Embedded Systems

- Designed and simulated a capstone access-control system combining biometric verification with cloud-based one-time passwords.
- Integrated embedded control logic, sensor inputs, and authentication workflows in a Proteus simulation.

EDUCATION & RECOGNITION

Ph.D., Advanced and Equitable Computing | Morgan State University | Aug 2025 - Expected 2028

M.S., Advanced Computing, GPA 4.0 | Morgan State University | 2024

B.Eng., Electrical & Electronics Engineering | Covenant University | 2021

- \$5,000 IBM Scholarship (Aug 2024); Google PhD Fellowship university nominee (2026); Google Africa Developer Scholarship - Cloud track (2020).

SELECTED RESEARCH

- Contributed to peer-reviewed work published or accepted through MDPI Future Internet, Elsevier, and the ICCCN 2026 workshop on quantum-backed IoT security, entropy services, and secure distributed systems.
- Completed a master's thesis on quantum random-number generators and their application to secure computing systems; thesis is publicly available through ProQuest.

EARLIER EXPERIENCE

Department Tutor, Morgan State University (Aug-Dec 2022): Tutored computer science students through SACS and supported student programming initiatives. | **Frontend Intern / Project Coordinator, Hotels.ng (Jun-Aug 2020):** Built responsive pages and coordinated UI designers and frontend developers on an educational website template. | **Cloud Trainee, Google Africa Developer Scholarship (Jul-Nov 2020):** Completed cloud-computing and Kubernetes training. | **Network Engineering Intern, Cyberspace Networks Ltd. (2019):** Configured and troubleshoot Linux systems, routers, switches, LTE equipment, fiber optics, and VSAT links. | **Web Development Intern, eeHub (2016):** Built a CakePHP blog using HTML, CSS, and Bootstrap.