

# Oghenefega Daniel Omajene

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## EDUCATION

**Aptech**, Advanced Diploma in Software Engineering (ADSE)

January 2024 – June 2026

- **Relevant Coursework:** Data Structures & Algorithms, Object Oriented Programming, Machine Learning, Data Science, Fullstack Web & App Development, Database Systems, System Design, Cloud Computing, Critical & Analytical thinking.

## EXPERIENCE

**HNG Tech**, Software Engineer Intern

October 2025 – December 2025

- Architected a distributed notification microservice (Redis Streams pub/sub, idempotent delivery), spearheading a 3-engineer pod, reducing notification latency by **40%** (p95 <300ms).
- Contributed to Legal WatchDog's AI compliance engine using graph traversal to map regulatory dependencies, reducing **manual compliance** efforts by **50%** and accelerating audit cycles by **3x**.
- Developed high-throughput RESTful APIs with FastAPI/Django using inverted index search and TF-IDF ranking for semantic NLP queries (**sub-200ms latency** at p95).

**SnapILabs**, Software Developer Intern

August 2024 – November 2024

- Built SupaNote's AI workspace landing page with virtualized scrolling and debounced search, achieving **98+** Lighthouse score and **40%** lower bounce rate.
- Rebuilt Krea AI's UI from static mockups using component composition, delivering pixel perfect responsive implementation 2 weeks ahead of schedule, accelerating feature development velocity by **30%**.

## PROJECTS

**Finomaly**, Real-time Financial Anomaly Detection System

June 2026

*Python, PyTorch, PyTorch Geometric, Kafka, Redis, FastAPI, Docker*

- Engineered real-time fraud detection pipeline processing 6.3M+ transactions using a dual-model architecture: a PyTorch Autoencoder (ROC-AUC 0.951) and a GraphSAGE GNN for structural anomaly detection, achieving **99.76% recall** and **4.8ms** per-transaction scoring **latency**.
- Built streaming inference layer with Redpanda (Kafka API) and Redis-cached GNN embeddings, delivering end-to-end detection in **<10ms** at **p95** and publishing flagged transactions to an alert topic consumed by downstream systems.
- Developed FastAPI REST API with **model explainability**, attributing each alert to the Autoencoder or GNN branch with human-readable reasons (reconstruction error z-score, balance inconsistencies, fraud-ring proximity) and validated with an ablation study proving both branches contribute complementary signal.

**Rails**, Virtual Account Reconciliation Infrastructure on Nomba

July 2026

*Typescript, Fastify, BullMQ, NombaAPI, PostgreSQL, Redis, Render*

- Engineered a 5-state payment reconciliation engine (matched, underpaid, overpaid, misdirected, duplicate) on Nomba virtual accounts, with HMAC-SHA256 webhook verification, **idempotent deduplication** on transactionId/sessionId, and sub-account-scoped VA provisioning; validated in production with a live transfer reconciled to matched in under **3 seconds** end-to-end.
- Built a dual-process architecture (Fastify API + BullMQ worker) that acknowledges Nomba webhooks with HTTP 200 immediately, queues reconciliation asynchronously, and retries failed jobs with 5-attempt exponential backoff; tuned BullMQ worker polling to **cut idle Redis usage ~85%** on Upstash; delivered signed outbound transfer.\* events to downstream subscribers with persistent delivery audit logs.
- Developed a multi-tenant REST API (8 endpoints) with SHA-256-hashed API key auth, OpenAPI/Swagger documentation with Bearer authorization, and customer-level ledger APIs (paginated transactions + filterable statements), enabling downstream teams to integrate Nomba VA reconciliation in under **one hour** without rebuilding webhook or edge-case handling.

**FarmIntel**, AI-powered Agricultural Intelligence Platform

December 2025

*Python, Django, React, PostgreSQL, Hugging Face Transformers*

- Engineered a plant disease detection pipeline using a fine-tuned Vision Transformer (ViT) trained on 15K+ annotated images with **98%** accuracy and **<1.2s inference latency**.
- Architected RBAC for 4 entity types using Django middleware, JWT sessions, and OTP/Google OAuth, reducing unauthorized access by **92%**.
- Integrated Paystack billing with idempotent webhook handling and token bucket **rate limiting** for B2B clients.

## TECHNICAL SKILLS

**Programming Languages:** Python, TypeScript, JavaScript, Java, Go, Dart, C++, Rust, Swift

**Frameworks & Technologies:** FastAPI, Django, Spring Boot, NestJS, Next.js, React, Flutter, Gin

**Databases & Platforms:** PostgreSQL, MongoDB, MySQL, Supabase, Firebase

**Cloud/DevOps:** Docker, Render, Railway, Vercel, Git

**Tools:** Postman, Figma, Expo, Android Studio, XCode