ENOCH AGYEI

Backend-focused Full-Stack Engineer | Payments and transactional systems

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PROFESSIONAL SUMMARY

Backend-focused full-stack engineer with 4 years building production web systems in TypeScript (NestJS, Next.js) and Python (FastAPI). Specialises in systems where correctness matters: payments, stock, identity and attendance, with integrity enforced in PostgreSQL and backed by automated tests. Most recently architected and led the build of a FHIR R5-aligned healthcare platform. Open to remote and relocation roles.

WORK EXPERIENCE

Lead Software Engineer, Trancova Systems Ltd **November 2025 - November 2026**
Accra, Ghana

- Architected and led the build of Health OS, a FHIR R5-aligned healthcare platform, with a team of 4+ engineers: a Python/FastAPI modular monolith, a React Native/Expo patient app and an Expo Web admin console.
- Designed a 35+ module backend covering identity, appointments, scheduling, notifications, laboratory, pharmacy and referrals, each with the same api / services / repositories / schemas structure.
- Built Trancova Health ID, a portable patient identity conforming to HL7 FHIR R5: UUIDv7 internal IDs plus a human-readable public locator, with RBAC, audit trails and consent management.
- Delivered an MVP covering the full care journey: registration, facility discovery, appointment booking, reminders and admin management, with an AI navigation assistant.
- Designed one API to serve the mobile app, WhatsApp, voice, USSD and SMS, so patients on 2G/3G feature phones are covered.

Full-Stack Developer (Freelance), Self-employed **June 2022 - Present**
Remote

- Delivered 11 websites and 16+ projects end to end for clients using React, Next.js, Node.js and NestJS. Three are detailed under Projects.
- Built payment systems on Stripe, PayPal and Paystack: recurring subscriptions, multi-currency support and HMAC webhook verification.
- Set up CI/CD pipelines and applied caching and server-side rendering to speed up client applications.

Full-Stack Developer, JomacsIT **February 2024 - October 2025**
Accra, Ghana

- Built web applications with Next.js, React, Node.js and NestJS, including OAuth authentication and role-based access control with Passport.js.

Frontend Developer, Jilova Studios **April 2022 - September 2024**
Accra, Ghana

- Designed and built the company's responsive website and accessible frontend components from UI/UX mockups.

PROJECTS

Lovelle: e-commerce platform for a Ghanaian handbag and hair boutique
GitHub: github.com/Confetto22/lovelle-backend

- Built the storefront, a mobile-first owner dashboard and a 66-operation NestJS REST API around how Ghana buys: phone-number accounts with SMS OTP, Mobile Money, bank transfer, cash on delivery and region-based delivery fees.
- Prevented overselling and double-counted payments in the database itself, using guarded UPDATEs, deferred constraint triggers, a stock ledger with reconciliation, a single-door order state machine and idempotent checkout.
- Built the Paystack backend with HMAC-SHA512 webhook verification and an unmatched-payment refund queue, backed by 195 tests, mostly against a real PostgreSQL database.

Stack: NestJS, PostgreSQL, Prisma, Next.js, React, TypeScript, TanStack Query, Paystack, Arkesel SMS, Railway

GeoWork Attendance: geofenced staff attendance system

GitHub: github.com/Confetto22/geowork-new-backend

- Sole engineer on a system that replaced paper sign-in sheets using staff's own phones and one reception tablet, with no app, accounts or biometric hardware.
- Designed a four-check decision engine: rotating single-use HMAC-signed QR code, active staff ID, one phone per person per day and a server-side 150 m geofence. Every attempt is logged, and races are closed in PostgreSQL with conditional updates, unique indexes and row locks.
- Built a live kiosk over Server-Sent Events, a flag-review queue, a correction workflow, an audit log, timezone-safe day-closing jobs and monthly payroll reports with CSV export, covered by about 230 automated tests.

Stack: NestJS, PostgreSQL, Prisma, Next.js, React, TypeScript, Server-Sent Events (RxJS), TanStack Query, shadcn/ui, Leaflet, Railway

Malikai News: digital news publishing platform

GitHub: github.com/Confetto22/malikai-news-backend

- Built the full newsroom platform for a nine-section publication: a NestJS content API with 13 modules and 67 endpoints, a PostgreSQL/Prisma data layer, a Next.js 16 reader site and a 14-screen editorial console.
- Implemented role-based workflows for admins, editors and contributors, with scheduled publishing, embargo-safe public reads, immutable revision history with rollback, slug-history redirects and a full editorial audit trail.
- Secured it with JWT authentication using rotating opaque refresh tokens and reuse detection, and added HMAC-signed cache-tag revalidation so published content updates without a redeploy.

Stack: NestJS, PostgreSQL, Prisma, Next.js, React, TypeScript, Tailwind CSS, Cloudinary, Lexical, Passport.js (JWT), Railway

TECHNICAL SKILLS

Backend: Node.js, NestJS, Express, Python, FastAPI, Prisma, REST APIs, OpenAPI/Swagger, JWT/OAuth, Passport.js

Data: PostgreSQL, MySQL, MongoDB, Redis

Payments: Paystack, Stripe, PayPal, webhooks, subscriptions, multi-currency processing

Frontend and mobile: TypeScript, JavaScript, React, Next.js, React Native/Expo, Redux, TanStack Query, Tailwind CSS

DevOps: Docker, CI/CD, AWS, Railway, Vercel, Git/GitHub

EDUCATION

Remote Full-Stack Web Development Programme, JomacsIT **November 2021 - November 2022**

1,300+ hours, full-time