

JEFFERSON GAKUYA

Full-Stack Software Engineer | TypeScript, Go, React Native | Offline-First Mobile, ERP & Payment Integrations

Nairobi, Kenya (Remote, EAT / UTC+3) | +254 713 070 350 | gakuyaiefferson@gmail.com

linkedin.com/in/jefferson-gakuya | github.com/NgatiaJeffers | gakuya.vercel.app

PROFESSIONAL SUMMARY

Full-stack software engineer with 4+ years building production web, mobile and backend systems in TypeScript, JavaScript and Go. Starts from the domain model (entities, boundaries, contracts) and carries systems through delivery, CI and production operations. Has architected a healthcare management platform from scratch, integrated M-Pesa, Paystack, iPay and Peach Payments, planned a SAP Business One to ERPNext migration without breaking a live mobile app's data contract, and runs self-hosted Docker infrastructure across multiple production servers. Open to full-time and contract roles.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript (ES6+), Go, SQL, PHP, Python

Frontend & Mobile: React, Next.js, React Router v7 (Remix), React Native, TailwindCSS, shadcn/ui, React Three Fiber, Three.js

Backend & APIs: Node.js, NestJS, Express, Go (net/http), REST, GraphQL, Server-Sent Events, Webhooks, Django REST Framework

Databases: PostgreSQL, Supabase (Row-Level Security, indexing, EXPLAIN ANALYZE), Microsoft SQL Server, MySQL, SQLite, Redis, DynamoDB

Architecture: Domain-Driven Design, Clean / Hexagonal Architecture, Event-Driven Architecture, Offline-First Sync, Multi-Tenancy, Microservices

Integrations: ERPNext, SAP Business One, WooCommerce REST API, M-Pesa STK Push, Paystack, iPay, Peach Payments, Twilio / WhatsApp API, KRA eTIMS

Cloud & DevOps: Docker, Coolify, Traefik, Linux (Ubuntu) administration, Hetzner, AWS (Lambda, S3, DynamoDB), Azure Container Apps, Bicep, GitHub Actions, CI/CD, Vercel

Testing & Quality: Playwright, Jest, React Testing Library, Cypress, Go testing, TDD, ESLint, Prettier

AI-Assisted Engineering: Agent handoff documentation (AGENTS.md), phased build roadmaps, evidence-based review of AI-generated code

PROFESSIONAL EXPERIENCE

Full-Stack & Infrastructure Developer | Granular IT (formerly Four Africa), Nairobi

Feb 2022 – Present

Software agency delivering web, mobile and infrastructure projects for clients in healthcare, hospitality, events, retail e-commerce and industrial manufacturing.

Healthcare: Dental Practice Management System

- Architected a dental practice management system end to end as lead developer: a 9-entity PostgreSQL domain model with Row-Level Security on Supabase, a React Router v7 + TypeScript + TailwindCSS frontend and NestJS services, self-hosted on Coolify.
- Delivered appointment scheduling, clinical records, tooth charting and invoicing modules, including billing built for Kenya Revenue Authority eTIMS fiscalization, plus a WhatsApp booking and reminder workflow design.
- Built an interactive 3D dental arch viewer with React Three Fiber and Three.js, mapped to FDI tooth notation for clinical charting.
- Owned delivery quality: resolved 7 distinct end-to-end CI failures, co-authored a Playwright E2E test matrix with QA, and introduced a Definition-of-Done standard requiring every completion claim to name its verification environment (local, CI or production).

Events: AURA Event-Management SaaS

- Built finance and operations modules: contracts with auto-calculated payment schedules, client and vendor payment tracking, and quote-to-project workflows where group quotes are owned by multiple event managers with per-manager permissions.
- Drove a multi-round database migration review that caught recursive Row-Level Security policies, unsafe type casts, cost data leaking past profit-shielding rules through views, and tables exposed to anonymous access before they shipped.

Hospitality: QR Table-Ordering Platform

- Shipped Customer Reviews and Net Promoter Score (NPS) across a public QR-ordering web app and the staff mobile app, with HMAC-signed review tokens, duplicate prevention and role-gated admin analytics.
- Led a UX/UI redesign of the staff mobile admin app and ran QA-to-fix cycles across order status, table calls, add-ons and cart flows.

Retail E-Commerce, ERP & Payments

- Leading the integration workstream of a client-wide SAP Business One to ERPNext migration across 3 production systems: WooCommerce inventory sync, an order and invoice backend feeding a mobile delivery app, and a price-audit tool. Produced field mappings, custom-field specifications and API access requirements that preserve the mobile app's existing data contract.
- Maintain a WooCommerce store and its companion mobile app, backed by a custom PHP plugin bridging Paystack, M-Pesa and iPay; traced a site-wide XML sitemap failure to stray output in the payment module and flagged raw payment-response logging for removal.
- Designed a dual payment gateway (Peach Payments, iPay) behind a single PaymentPort interface on Node.js and AWS Lambda, so providers can be added or swapped without changing business rules.
- Implemented M-Pesa STK Push donations via Next.js API routes for a cancer support organisation, and built a document and email-template management system on Node.js, S3 and DynamoDB.

Infrastructure & DevOps

- Run self-hosted Coolify and Docker infrastructure on multiple Hetzner Linux servers, hosting NestJS, Next.js and Microsoft SQL Server workloads for 4+ production client domains.
- Resolved a Docker IPv6 egress failure that blocked every image pull (gai.conf IPv4 precedence plus a systemd drop-in), Traefik routing and TLS faults caused by malformed FQDNs, and split-brain domain configuration breaking Let's Encrypt renewals.
- Identified active webshell-scanning campaigns in access logs, led a hardening review (SSH, Docker socket, secrets, exposed database ports) and standardised a diagnostic runbook (dig, curl, docker inspect, container logs).
- Tuned Supabase/PostgreSQL performance through indexing audits, RLS policy review and EXPLAIN ANALYZE query analysis.

Mobile, Web & Team Practice

- Built a React Native app with a Node.js/TypeScript backend, and Next.js sites using SSR and static generation to improve Core Web Vitals and organic search traffic.
- Set ESLint, Prettier and automated-test CI standards, mentored junior developers on TypeScript, clean code and domain modelling, and authored AI-agent handoff guides and phased roadmaps for reliable AI-assisted development.

Backend Developer Intern | Whip Music Africa, Nairobi

Nov 2021 – Feb 2022

- Built and tested REST API endpoints with Django REST Framework; optimised database queries and added caching to reduce API response times.

SELECTED PROJECTS

Pulse: AI Match-Intelligence Engine | Microsoft x Premier League "Inside the Game" Hackathon

Oct 2026

- Own the Go pipeline in a two-person team: a seeded, deterministic 11v11 match generator (5 Hz frames, byte-identical regeneration), metrics and key-moment detection, an HTTP/SSE API and web UI. Python agents narrate only from a verified fact pack ("facts first, LLM second").
- Built a 10-step CI quality gate (gofmt, go vet, Go and Python tests, data validation, 30 agent boundary evals, TypeScript build, bundle reproducibility, Bicep build) targeting Azure Container Apps.

Offline-First Field Mobile Architecture | Architecture case study

- Designed a mobile architecture for low-connectivity field work: SQLite as the local source of truth, a background sync engine that queues mutations with monotonic sequence IDs and flushes idempotently, and field-level last-write-wins with a merge fallback for list fields.

Multi-Tenant E-Commerce Platform & Go/Node Microservices | Independent

- Schema-per-tenant PostgreSQL with a subdomain tenant resolver, PgBouncer transaction pooling and tenant-namespaced Redis caching; event-driven Go and Node.js services communicating over a message bus with versioned Avro schemas.

EDUCATION & CERTIFICATIONS

Diploma of Engineering, Computer Science | Moringa School, Nairobi

Diploma in Web Design and Development | Nairobi Trust, Nairobi

Google Africa Developer Scholarship | Google