

WALTER BANDA

Software Engineer · Full Stack · AI & Agent Systems · Cloud

Harare, Zimbabwe — open to relocation and fully remote roles · Zimbabwean national
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PROFILE

Software engineer with five years of experience taking products from data model to production — Angular, Next.js, Nuxt, and Ionic on the front end; Node.js, Go, Python, and Java behind them; AWS, GCP, and Firebase underneath. I work on a real-time bidding ad exchange and the products around it, and my recent work is concentrated in applied AI: multi-agent LLM pipelines, generative image and video production, RAG agents on AWS Bedrock, an audio-fingerprinting engine that detects adverts in live radio, and a QLoRA fine-tune of a language model for Shona.

TECHNICAL SKILLS

Languages	TypeScript · JavaScript · Python · Go · Java · C++ · SQL
Front end	Angular (13–21, standalone + signals) · Next.js · React · Nuxt/Vue · Ionic + Capacitor · RxJS · Tailwind · D3
Back end	Node.js (Express, Hapi) · Go · FastAPI · Flask · Spring Boot · REST · GraphQL (Apollo) · WebSockets · RabbitMQ
AI / ML	Google ADK & @google/genai · Gemini · Veo · OpenAI · LangChain · AWS Bedrock (RAG) & Comprehend · QLoRA / PEFT · faster-whisper · librosa DSP · GGUF / Ollama
Data	MongoDB & Atlas · PostgreSQL · Supabase · Firebase / Firestore · Redis
Cloud & DevOps	AWS (Lambda, S3, EKS, Kinesis, App Runner) · GCP · Firebase · Docker · Kubernetes · Helm · Argo CD · GitLab CI · GitHub Actions · Nginx · Prometheus & Grafana
Practice	Layered architecture · Jest, Vitest, Pytest, Playwright · JWT & RBAC · WCAG AA · Scrum · code review and mentoring

PROFESSIONAL EXPERIENCE

Dynaton Data — Full Stack Developer & Cloud Engineer (Remote) Jan 2024 – Present
Ad-tech and marketing intelligence · Harare, Zimbabwe

- Work across a real-time bidding ad exchange and the products around it, running on **AWS** (EKS, Lambda, S3, Kinesis), containerised with **Docker and Helm** and released through **Argo CD**.
- Own several services end-to-end — broadcast advert detection, lead discovery and AI outreach, conversational campaign tooling — alongside the customer-facing Angular analytics and Ionic campaign applications.
- Integrated **AWS Lex** chatbots with Python NLP models; instrumented services with **Prometheus and Grafana**; enforced JWT auth and RBAC across APIs.
- **Delivered** in Agile sprints with DevOps, QA, and product; contributed to architectural decisions and reviewed colleagues' code.

Home Snappers — Software Developer Jan 2021 – Dec 2023
Property technology · full-time, three-year tenure

- Developed cross-platform mobile applications with **React Native, Ionic, and Capacitor**, including location-aware features.
- Engineered secure payment microservices in **Node.js and Spring Boot**, integrating Stripe and PayPal.
- Launched **Next.js** web portals on GCP, with serverless processing on **AWS Lambda** and S3; managed performance and security across **Supabase PostgreSQL and MongoDB**, including row-level security.
- Automated CI/CD with **GitLab CI** for blue/green deployment and reliable rollback, operating with significant autonomy across the full lifecycle.

EDUCATION

BSc (Honours) in Computer Science — Second Class, Upper Division Aug 2020 – Jun 2024
Africa University, College of Engineering and Applied Sciences · Mutare, Zimbabwe

CERTIFICATIONS & PROFESSIONAL MEMBERSHIP

- **AWS Certified Cloud Practitioner** — Amazon Web Services
- **Kubernetes and Cloud Native Associate (KCNA)** — The Linux Foundation / CNCF

SELECTED PROJECTS

Tesha

2025 – Present

Founder & Lead Engineer · Node.js, Express, MongoDB, Next.js, Angular 21, WhatsApp Business API

Marketplace connecting Zimbabwean informal workers with paid odd jobs. When mobile data costs proved to be blocking adoption, I re-architected the service to run **inside WhatsApp**, putting it within reach of users who could not afford a conventional app. The portal server spans providers, requests, payments, subscriptions, moderation, analytics, and cron notifications across seventeen domain models, paired with a Next.js moderation platform and Angular provider apps.

tesha.co.zw

Tesha Creative Studio & Social Publishing

2026

Ionic + Angular, Firebase Functions, Gemini 2.5 Flash Image, Veo, OpenAI, Node.js

Two systems I built on top of Tesha that run as one pipeline. The **creative studio** turns a few plain business questions into finished marketing assets — a modular prompt engine assembles an expert prompt from stored brand intelligence and generates imagery and video through **Gemini and Veo**, so the user never writes a prompt. The **publishing side** takes a post authored once as a blog, has AI rewrite it into platform-native captions, and publishes it with its media to **X, Facebook, Instagram, LinkedIn, Threads and TikTok**, isolating per-platform failures and rotating OAuth tokens. A miner clusters the WhatsApp bot's conversation logs by intent to rank what customers actually ask and feed the content queue. Live advertising has been produced and published through it.

Dynaton Ad Exchange

2024 – Present

Node.js, Express, MongoDB, OpenAPI · real-time bidding platform

Real-time bidding exchange serving display, SMS, and mobile campaigns. Bidding and zone controllers select and rotate campaigns per ad slot; the platform carries advertiser and publisher accounts, campaign moderation, tracking pixels and proof-of-flight verification, publisher payout reconciliation, CDN asset delivery, and scheduled jobs that expire campaigns, reset spend, and refresh zones.

adexchange.dynatondata.com

AdHive

2025 – 2026

Co-lead engineer, 2-developer team · Go, PostgreSQL, WebSockets, Nuxt 3

Influencer-marketing platform on a layered handler → service → repository architecture in Go, with JWT auth and **real-time WebSocket messaging**. I built the **Paynow Zimbabwe payment integration** — EcoCash, OneMoney, and card — with SHA-512 request signing, poll-URL verification, and webhook signature validation. Carried through Meta app review and Google Play closed testing at adhive.africa

Lead Discovery & AI Outreach

2026

TypeScript, Puppeteer, AWS Bedrock, MongoDB, PostgreSQL, Baileys, Gemini, Groq

A pipeline that finds small and informal businesses and converts them into clients. Scrapers sweep social platforms and business listings, enrich each record through Google Places and a stealth headless browser, and score it on advertising potential plus an **informality index (0–100)** that surfaces unregistered traders — the segment conventional market data misses. Qualified leads pass to a **RAG agent on AWS Bedrock**, then to an automated **WhatsApp outreach agent** that opens the conversation and books the call.

Broadcast Advert Detection

2026

Python, FastAPI, librosa, NumPy/SciPy, MongoDB, S3, Docker

Shazam-style **audio fingerprinting engine** for broadcast monitoring: constellation fingerprints from librosa STFT spectrograms via maximum-filter peak picking and combinatorial hash pairing, matched by time-offset histogram with tunable confidence thresholds. Ingests live radio, segments on an async hourly cron, and streams detections over WebSockets; a **faster-whisper** stage transcribes segments so keywords are caught in speech too.

Shona Language Model

2026

Python, PyTorch, PEFT/QLoRA, Ollama, MongoDB

End-to-end fine-tuning pipeline for a **low-resource African language**: scraped and cleaned a Shona corpus into MongoDB, generated **~40,000 instruction pairs** via a local Qwen2.5-7B synthesiser-and-critic loop on Ollama, ran QLoRA supervised fine-tuning of a 4B base model on Colab (with checkpoint rescue and merge after an interrupted run), then quantised to GGUF for local inference.

Brands IQ

2025 – 2026

Angular 20, Angular Material, D3, Node.js, LangChain, AWS Comprehend, Apify

Brand monitoring and competitor analytics across Reddit, X, YouTube, Instagram, TikTok, and Facebook. An Apify-actor scraping

pipeline feeds **multi-provider sentiment analysis** through LangChain (OpenAI, Gemini, local Ollama) with AWS Comprehend, plus language detection for multilingual posts.

DICOMM Electricity Management

2026

Sole developer · Angular 20, Firebase, GitHub Actions

Offline-first meter-reading and consumption platform for a prepaid electricity business. Signals-based state with OnPush throughout; a network-status service queues writes offline and drains them on reconnect. Rolling 30-day analytics, quotations, notifications and Excel export with scheduled Google Drive backup. **WCAG AA**.

Also built: LiteAds and Lite SMS Ads (Ionic campaign apps, lite.dynatondata.com) · ZIMSEC Virtual Chemistry Lab (Angular + Apollo GraphQL + Gemini, virtualsciencelabs.academy.com) · Glenvista Media (Next.js + Supabase, AWS Lambda media pipeline) · Market Flash and Store Agents (Google ADK multi-agent services)