MPHATHISI NDLOVU

Full-Stack Software Engineer • Web, Mobile & Privacy-First Systems

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PROFILE

Product-minded full-stack software engineer and BSc (Hons) Computer Science undergraduate shipping cross-platform web applications (Next.js, TypeScript, React, PHP, FastAPI), native mobile clients (Flutter / Dart), and privacy-first offline architectures. Experienced in healthcare-domain workflows, sensitive data protection (PII masking, Row-Level Security, AES/ChaCha20-Poly1305 encryption), and taking products cleanly from schema design to shipped binaries.

CORE TECHNICAL STACK

Web & Frontend	TypeScript, Next.js (14/15 App Router), React (18/19), Vite, Tailwind CSS, PWA / Workbox, HTML5/CSS3
Mobile & Desktop	Flutter & Dart (Android APKs & Linux GTK), Offline SQLite WAL, IndexedDB (Dexie.js), PyQt6
Backend & APIs	Python (FastAPI, Uvicorn, DuckDB), PHP 8 (PDO, REST, SSE), Node.js (Express), Meta WhatsApp Cloud API
Data, Security & Infra	PostgreSQL (Supabase + RLS), SQLite FTS5, MySQL, Cloudflare R2, Docker, Linux, Git, PII Masking & Auditing

SELECTED FULL-STACK, MOBILE & HEALTHCARE PROJECTS

CT MedAid — Healthcare Triage & Consultation Platform

May 2026 – Sep 2026

Flutter / Dart (Android APK) • PHP 8.2 PWA • Supabase PostgreSQL & RLS • OpenStreetMap • Groq AI

- **Cross-Platform Delivery:** Built a 6,211-LOC Flutter mobile app (compiled 54 MB Android APK) alongside a companion PHP/PWA web portal connecting patients, verified doctors, and micro-insurance underwriting in one workflow.
- **Trust & Clinical Flows:** Implemented patient symptom triage, fair-price estimation, location-pinned consultations, practitioner license verification (MDPCZ workflow), and Supabase Row-Level Security policies.

Zwanane OS — Offline-First Multi-Device Knowledge Vault

Sep 2026 – Present

Flutter / Dart (Android + Linux) • SQLite WAL (31 Tables) • SHA-256 Store • UDP / HTTP P2P Sync

- **Architecture & Scale:** Engineered a 45,288-LOC cross-platform Flutter client unifying tasks, Markdown documents, SHA-256 deduplicated records, personal finance ledgers, and peer file sharing with zero cloud lock-in.
- **Real-World Reliability:** Runs in daily personal production across devices with 9,699+ verified sync events, embedded HTTP/UDP LAN discovery, 20 unit/widget test files, and self-hosted APK/Linux OTA updates.

SELECTED PROJECTS (CONTINUED)

RETURNi & PRUTUS V3 — Multi-Role PWAs & Credit Engines

Mar 2026 – Oct 2026

Next.js 14 • TypeScript • React 18 • Vite • Dexie.js (IndexedDB) • Supabase PostgreSQL • PHP 8

- **Full-Stack Web Apps:** Built RETURNi (81-file Next.js 14 TypeScript Workbox PWA with 4 RBAC portals, JWT auth, QR receipts, and offline IndexedDB sync) and PRUTUS V3 (4-portal SME platform with dual-currency IFRS financial statements and a 0–1000 5 Cs credit engine).
- **Resilient Product UX:** Engineered offline-first write queues, live FX normalization, and automated anti-fraud heuristics designed for low-bandwidth mobile environments.

eyeC — Banking Analytics & Policy-Gated Decision Cockpit

Nov 2026 • Top 10

Python • DuckDB • Parquet • LightGBM • TreeSHAP • FastAPI • HTML/CSS/JS • BancABC 2026

- **Data Integrity & Privacy:** Audited 1,048,575 raw rows into 50,000 deduplicated customer profiles (eliminating 13.53x balance inflation), masked all PII at ingestion, and quarantined synthetic leakage artefacts.
- **Explainable Product UI:** Built a 100% offline FastAPI 4-view staff cockpit combining calibrated ML risk (0.9788 AUC, 6.97x lower Brier error), TreeSHAP reason codes, deterministic safety gates, and an auditable manager log (9/9 automated checks passing).

UniRoom — Student Housing Marketplace & WhatsApp Bot

Jun 2026 – Aug 2026

PHP 8 • Nginx & Docker • Supabase PostgreSQL • Cloudflare R2 • Meta WhatsApp Cloud API

- **End-to-End Product Iteration:** Delivered a 9,284-LOC web marketplace, landlord portal, 17-view admin analytics console, and stateful Meta WhatsApp Cloud API bot across 73 iterative commits.
- **Cloud Storage & Messaging:** Integrated Cloudflare R2 media pipelines, E.164 phone normalization, and conversational intent/viewing-date parsing.

Self-Hosted LAN App Suite, RAG Tutor & Encrypted KVM

Jun 2026 – Nov 2026

PHP 8 • Python 3 • Flutter (4 Android APKs) • SQLite FTS5 • X25519 / ChaCha20-Poly1305

- **Mobile + Server Ecosystem:** Built and deployed 4 paired Flutter Android apps (MFlix, MShare, MSpot, iLearn) backed by a hardened PHP/SQLite LAN gateway, UDP discovery beacons, and a 6,859-chunk grounded BM25 RAG study assistant (mRead).
- **Security & Networking Depth:** Authored an encrypted LAN KVM (MKVM using X25519/Ed25519/ChaCha20-Poly1305 and Linux /dev/uinput) plus a Python UDP 5353 mDNS helper resolving Android local-network reachability bugs.

EXPERIENCE

Independent Full-Stack & Mobile Systems Developer

2024 – Present • Bulawayo (Remote)

- Architected and shipped full-stack web apps, mobile Flutter APKs, and local-first tools across healthcare (CT MedAid, Cimas Healthathon Script-Splitter), fintech (PRUTUS, RETURNi, eyeC), marketplaces (UniRoom, Servu), and client storefronts (PrintM, QPrint).
- Prioritized data privacy and operational reliability—applying PII masking, RBAC isolation, SQLite/PostgreSQL schema discipline, and zero-dependency offline UX across projects.

IT Systems Support & Linux Network Troubleshooting

2022 – 2024 • Independent

- Diagnosed hardware, Wi-Fi/LTE latency, and Linux OS bottlenecks; authored reproducible Bash and Python diagnostic/automation scripts for network optimization, backups, and service health monitoring.

ADDITIONAL SYSTEMS, EDGE CV & ROBOTICS WORK

- **Egrocca / ShopDroid (ROS 2 Jazzy / Gazebo Harmonic / Node-RED):** Built a rural autonomous last-mile delivery simulation (7 Python rclpy nodes, 25% battery return-to-home failsafe, 4-digit OTP cargo lock) alongside Arduino/XOD firmware and a Node-RED telemetry dashboard.
- **TracePunch Sentinel v4 (Raspberry Pi 4 / OpenCV / YOLOv8 ONNX):** Engineered a 2,174-LOC Python agricultural provenance unit pairing Picamera2 motion triggers, soil/GPS sensors, MJPEG streaming, and YOLOv8 ONNX input classification (202 verified field captures).
- **iLocate & mSpeed (Python / Linux Networking):** Authored a 767-LOC curses TUI querying ZTE LTE router APIs and Linux iw Wi-Fi telemetry with threaded ICMP jitter sparklines (iLocate), plus a reversible Linux TCP BBR and ARP-flux stabilization toolkit (mSpeed).

EDUCATION & CERTIFICATION

BSc (Hons) in Computer Science (In Progress — Part 2.2)

2024 – Present

National University of Science and Technology (NUST), Bulawayo, Zimbabwe

AWS Training & Certification — Responsible AI Practices

June 2026

Verified certificate covering privacy, transparency, bias evaluation, and practical AI governance.

Remote Collaboration & Working Arrangements

English Communication: Fluent written and spoken English; experienced writing crisp architecture docs, product specs, and handoff guides for distributed teams.

US Timezone Overlap & Flexibility: Based in Bulawayo, Zimbabwe (CAT / UTC+2). Seeking flexible evening-focused or part-time remote product engineering work around university studies — Zimbabwe evenings (18:00–01:00 CAT) align directly with US business hours (11:00 AM–6:00 PM EST / 8:00 AM–3:00 PM PST).