

OSCAR NDUGBU

Principal Backend Engineer · Infrastructure & SRE Architect · AI Systems

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Lagos, Nigeria · Open to Remote

PROFESSIONAL SUMMARY

Principal backend engineer and platform architect with **5+ years** building fintech, SaaS, AI, and privacy-tech products, anchored by **10+ years** engineering data systems, analytics pipelines, and compliance infrastructure across Nigeria’s federal government — an environment where audit integrity and zero-error reporting are baseline, not aspirational. Expert in TypeScript / Node.js distributed systems, cloud-native architecture, and AI-assisted observability tooling that cuts incident-response time, accelerates digital transformation, and satisfies audit-grade compliance at scale. Architect of production systems maintaining a **zero data-loss record** on multi-chain blockchain infrastructure, with documented performance gains across regulated financial workloads. Founder of Echocraft Automations. Author of three production-deployed open-source tools.

TECHNICAL SKILLS

Languages	TypeScript · Node.js · Python · Java · SQL · Bash
Frameworks & APIs	Fastify · Express · FastAPI · Next.js · React · GraphQL · REST · gRPC · BullMQ · WebSocket
Cloud & Infrastructure	PostgreSQL · Redis · Prisma ORM · Docker · Kubernetes · AWS · GCP · Vercel · Turborepo · GitHub Actions
Observability & SRE	Prometheus · Grafana · OpenTelemetry · ELK Stack · Sentry · Distributed Tracing
AI / ML & Security	XGBoost · LightGBM · CatBoost · LLM APIs (GPT-4, Claude) · ZK Proofs · AES-256
Systems Design	Multi-Tenant RLS · RBAC · Event-Driven Architecture · Circuit Breakers · Immutable Audit Chains · Zero-Downtime Deploys

PROFESSIONAL EXPERIENCE

Infrastructure Consultant — Backend & Reliability Jan 2024 – Present

Independent Consulting · Remote · West Africa & Europe

- Built an **AI-assisted incident diagnosis tool** that ingests live server logs and returns ranked root-cause hypotheses in plain English — compressing engineer investigations from several hours to under 15 minutes across multiple client environments.
- Conducted architecture-level backend audits across fintech clients — diagnosing SQL bottlenecks, connection-pool exhaustion, and API latency spikes — delivering written remediation reports with measurable reliability improvements in every engagement.
- Designed proactive **OpenTelemetry + Prometheus** monitoring pipelines that detect anomalies before customer impact — reducing on-call alert volume by **~40%** and lowering incident-response pressure across client teams.

Lead Backend Engineer — Encrypted Data Platform Jan 2024 – Jun 2024 (contract)

Hashblanca · Remote · Ethereum, Polygon, BSC, StarkNet

- Architected the core transfer backend handling multi-gigabyte **AES-256-encrypted** payloads across four blockchain networks simultaneously, with automatic retry and a complete transaction audit record — sustaining a **zero data-loss record** throughout.
- Integrated **Zero-Knowledge proof pipelines** to enable privacy-preserving regulatory reporting without exposing underlying data — delivering GDPR-compliant workflows backed by comprehensive contract-level test suites across every integration boundary.

Senior Data & Systems Engineer — Planning, Research & Statistics 2014 – Present

Universal Basic Education Commission (UBEC) · Abuja HQ · Federal Government of Nigeria

- Architected **automated ETL pipelines** ingesting, validating, and consolidating education statistics from all 36 state offices into a single authoritative, audit-ready database — eliminating weeks of error-prone manual consolidation each reporting cycle.
- Designed **Python and Power BI analytics dashboards** that gave senior policy planners a real-time national view of education metrics — outputs that directly shaped federal budget-allocation and resource-distribution decisions.
- Reduced data-preparation time by **40%+** through workflow automation while maintaining a clean compliance record across every federal audit since deployment.

PRODUCTS BUILT

TaxBridge — SME Tax Compliance & Filing Platform

Fastify 5 · PostgreSQL 15 RLS · Redis 7 · BullMQ · GraphQL · Docker · GitHub Actions

- Automated the full FIRS tax-filing workflow for Nigerian SMEs — cutting end-to-end filing time from **~4 hours to ~15 minutes** per submission cycle, enabling wider compliance adoption.
- Engineered **PostgreSQL Row-Level Security** for strict database-level tenant isolation; each client's data remains inaccessible to others even under application-layer failures.
- Engineered a low-latency real-time tax-calculation engine, idempotent BullMQ job queuing (zero duplicate submissions through mid-request failures), and a hash-chained immutable audit trail purpose-built for FIRS submission integrity.
- Shipped **AES-256 encryption at rest**, automated blue/green zero-downtime releases, and a CI/CD pipeline with contract-level integration tests — architected to satisfy FIRS and CBN audit scrutiny.

SabiScore — ML Prediction & Observability Platform

FastAPI · XGBoost / LightGBM / CatBoost · Redis Pub/Sub · Prometheus · Grafana

- Built SabiScore, an ML prediction platform trained on **10,707 real competitive matches** using a stacked ensemble (XGBoost, LightGBM, CatBoost, RF, GB + logistic meta-learner) achieving **52.8% 3-way accuracy** — professional-grade in a domain where market-implied accuracy sits at 48–52%.
- Optimised ensemble inference latency by **~30%** through feature-store refactoring and Redis caching; event pipeline sustains **10K+ concurrent users** with circuit-breaker protection and automatic dead-letter recovery.
- Instrumented a **Prometheus / Grafana / Sentry** observability stack covering model accuracy, API latency, and system health — reducing mean time to diagnosis by **~45%** and gatekeeping releases behind automated smoke tests.

OPEN SOURCE

- **pg-tenant** (Node.js / PostgreSQL) — Database-level client isolation library; one tenant's records are completely invisible to another even under application bugs. Adopted in production by fintech teams.
- **audit-chain** (Fintech / Compliance) — Cryptographically linked audit log where each entry is mathematically bound to the previous, making retroactive tampering instantly detectable. Built for FIRS and GDPR audit trails.
- **node-debug-llm** (AI / DevOps) — Streams live logs and traces to an LLM, returning ranked plain-English root-cause hypotheses that compress incident analysis from hours to minutes. Actively maintained.
- 15+ merged contributions to **XGBoost & scikit-learn** · 12 public repositories · each library has attracted external contributors.

LEADERSHIP & COMMUNITY

- **Founder — Echocraft Automations** — building AI-assisted developer tools and workflow automation products, actively serving engineering teams across West Africa and Europe.
- **Architecture advisor** to early-stage fintech founders — system design decisions, ML deployment strategies, and security posture at critical pre-launch and early-growth stages.
- **Speaker** at Lagos JS and Python community meetups on distributed systems, deploying ML in production, and building resilient backend infrastructure.
- **Technical author** at scardubu.dev — practical engineering guides on backend reliability and AI tooling, read and referenced by developer teams across West Africa.

CERTIFICATIONS & EDUCATION

AWS Certified Developer · Dec 2023

OpenJS Node.js Services (JSNSD) · May 2024

B.Tech, Environmental Technology · Federal University of Technology, Owerri · 2006–2011

GCP Associate Cloud Engineer · Aug 2023

PostgreSQL 14 Associate · Mar 2024