CURRICULUM VITAE / KAMPALA, UGANDA

Akandwanaho Ivan

Software Engineer & Technical Founder

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Founder and engineering leader with hands-on work in real-time marketplaces, mobile-money fraud defense, and AI infrastructure. Leads Codesphere Innovations and product engineering for Funa Gigs under Jaminsa Ventures Limited.

Experience

Codesphere Innovations (U) Limited

CEO & Co-Founder | Current

- Set technology direction, lead product architecture and engineering delivery, and define application security standards.
- Design web, mobile, and cloud systems for custom software, workflow automation, and applied AI.
- Build Hinzia, an agricultural platform connecting farmers, buyers, and suppliers with trading and farm-record tools.

Jaminsa Ventures Limited

Founder & Project Lead, Funa Gigs | Current

- Lead engineering for a Ugandan services marketplace available on Android and the web.
- Develop location-aware Instant Hire, in-app messaging, job coordination, and identity verification.
- Design payment flows that release funds after job approval, with withdrawals through MTN and Airtel Money.

Waanverse Labs Inc.

CTO & Head of Engineering | Until March 2025

- Directed technical strategy and delivery, including service boundaries and API contracts.
- Guided code reviews and release workflows, mentored developers, and coordinated implementation with product stakeholders.

4codex Technologies

Founder & Lead Software Engineer | Earlier venture

- Translated local business requirements into web applications, management systems, and automated workflows.
- Delivered application security hardening and technical consulting, including stronger authentication and API boundaries.

Technical skills

Product & platform Python, TypeScript, Dart, SQL, FastAPI, React, Next.js, Flutter

Data & delivery PostgreSQL, SQLite, Docker, OpenTelemetry, GitHub Actions

Architecture & security API contracts, role-based access, agent replay, payment reconciliation

Education

ISBAT University | Kampala, Uganda

University studies alongside independent work building operational software for local businesses. Additional training: Ethical hacking certificates.

Started programming at 13 in Mbarara. Early work included Haxcon VPN and Haxcon Droid VPN, projects that explored internet access in Uganda.

Selected engineering

Cyber Dragon 01 / DEFENSIVE SECURITY

Built a workbench that explains mobile-money fraud indicators, USSD traps, and deceptive URLs without fetching submitted links.

The scoring engine separates five risk categories and explains which signals contributed to each advisory result.

github.com/codesphere-u/cyber-dragon

AgentFlight 02 / AI RELIABILITY

Built deterministic replay for AI agent tool calls, using recorded responses to reproduce a run without repeating live requests.

A saved 15-minute tool query replays successfully. Changing the window to 30 minutes produces a structural mismatch.

github.com/codesphere-u/agentflight

AgentShield 03 / AI SECURITY

Built a runtime firewall for AI agents and Model Context Protocol (MCP) tools with capability policies and outbound data checks.

A tool call that tries to traverse outside its workspace is blocked before execution. A hash-chained audit trail records decisions.

github.com/codesphere-u/agentshield

FlowLedger 04 / FINANCIAL INFRASTRUCTURE

Built a Python engine that models payment retries and out-of-order webhooks while enforcing balanced double-entry journal entries.

An identical retry reuses the original result. The same idempotency key with a changed payload raises a conflict.

github.com/codesphere-u/flowledger

StackPulse 05 / CLOUD OBSERVABILITY

Built an OpenTelemetry-compatible toolkit for analyzing distributed traces and diagnosing service reliability problems.

Reconstructs the critical path from out-of-order spans and correlates trace bottlenecks with logs and error-budget alerts.

github.com/codesphere-u/stackpulse

Auralis Local 06 / LOCAL AI

Built an assistant that runs inference through a local Ollama service and searches documents stored on the same machine.

Combines keyword and exact-phrase retrieval, then cites the specific file and line range behind a result.

github.com/codesphere-u/auralis-local