

Joshua Kivuva

Software Engineer — Full-Stack · AI Systems

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PROFILE

I design and build complete software systems: React/Next.js front ends, typed APIs, databases, payments and practical AI features deployed to real users. My recent work centres on AI engineering — LLM integration, retrieval-augmented generation with source attribution, human-in-the-loop review and AI governance — applied to content platforms and operations systems. I ship working products end to end and document them honestly.

SELECTED PROJECTS

AI Content Experience Platform — Next.js · TypeScript · RAG · Cloudflare Workers

Technical demonstration built for a Forward Deployed Engineer application · live at

vuva-ai-content-platform.vuva-systems.workers.dev

- Built a complete content platform: headless CMS abstraction, AI drafting assistant (nine editorial operations), BM25/RAG search that cites its sources and refuses when coverage is thin, evaluation harness, and an approval-gated publishing workflow with an append-only audit log.
- Enforced governance in code: publication requires prior human approval, the automation identity is barred from publishing, illegal workflow transitions are rejected server-side — all covered by tests.
- Designed provider-agnostic LLM integration over the OpenAI-compatible protocol (DeepSeek-ready) with a circuit breaker; demo mode runs a deterministic heuristic engine so the product works with zero credentials.
- Shipped as static export on Cloudflare Workers with edge APIs; 38 automated tests across retrieval relevance, RAG guardrails, workflow rules and API contracts.

Miway — Logistics Platform for a Freight Company

Customer site · AI assistant · Operations dashboard

- Delivered shipment tracking for customers, an assistant answering status questions from live records, quote requests and one dashboard for the dispatch team.

InnAndOut — Restaurant & Delivery Platform

Orders · M-Pesa payments · Kitchen & rider operations · Multi-branch

- Connected ordering, M-Pesa payment confirmation, kitchen screens and rider dispatch so every order flows automatically from payment to delivery; managers get per-branch reporting.

ENGINEERING CAPABILITIES

Front end: React 19, Next.js 15 (App Router, RSC, static export), Tailwind CSS, WCAG-conscious accessibility (semantic HTML, keyboard flows, focus management).

Back end & APIs: TypeScript services, Node.js, REST API design with consistent envelopes and validation at boundaries; webhooks with signature verification.

AI / LLM engineering: OpenAI-compatible provider abstraction, RAG pipelines (BM25 → vector-ready), prompt-injection defences, source attribution, evaluation harnesses, human-in-the-loop workflows.

Data & infrastructure: SQL databases (SQLite/D1/Postgres-shaped schemas), Cloudflare Workers/Pages deployment, edge delivery, structured health endpoints.

Quality: Vitest unit/API suites, typecheck-clean strict TypeScript, CI-shaped verification before deploy; honest labelling of simulated data.

Ways of working: Direct client communication, scoping from business problems to system designs, documentation written for humans (architecture, security, governance notes).

CONTACT & LINKS

- Portfolio: vuvasystems.com
- Platform demo: vuva-ai-content-platform.vuva-systems.workers.dev
- Case study: vuvasystems.com/work/ai-content-platform/