

MATHIAS BALA

Software Engineer (Python) | Django, DRF, FastAPI | REST APIs, Async Systems, Docker, AWS | AI Systems
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PROFESSIONAL SUMMARY

Software Engineer with 4+ years of professional experience building production Python backends, REST APIs, and third-party integrations for distributed engineering teams. Most recently senior full stack developer at Benmore Technologies (Chicago, fully remote), shipping four production applications across AI, fintech, and enterprise. Founder and lead backend engineer of Karamelion, an AI document intelligence platform, and sole engineer of NDVS, the national identity system for Nigerian law students, with 820+ students onboarded. Hands-on with LLM integration, retrieval pipelines, structured output validation, and evaluation of model responses on production traffic. Owns delivery end to end and communicates clearly in written-first remote environments. Available immediately, based in WAT / UTC+1 with overlap across European and US Eastern working hours.

TECHNICAL SKILLS

Languages Python, TypeScript, JavaScript, SQL, Bash

Backend Django, Django REST Framework, FastAPI, Flask, REST API design, microservices, webhooks, JWT and OAuth 2.0, role-based access control, rate limiting

Async and data Celery, Redis, RabbitMQ, event-driven architecture, scheduled and background workers, PostgreSQL, query optimisation

AI engineering LLM integration (Anthropic, OpenAI, Gemini), retrieval-augmented generation, embeddings and vector retrieval, structured output validation, model output evaluation and grading; Claude Code, Codex, Cursor

Infrastructure Docker, Docker Compose, AWS (EC2, S3), Nginx, HTTPS and TLS management, GitHub Actions, CI/CD, Railway, Vercel, Linux

Testing and frontend pytest, unit and integration testing, test-driven development; Next.js, React, React Native, Tailwind CSS

PROFESSIONAL EXPERIENCE

Founder and Lead Backend Engineer, Karamelion

Abuja, Nigeria (Remote) | 2025 to present

- Architected and built the full backend for an AI document intelligence platform on Python, Django, and Django REST Framework, serving a web client, a React Native mobile client, and internal admin tooling from a single versioned REST API.
- Designed the service layer as independently deployable components (API, asynchronous worker, scheduler, storage, AI routing), isolating failure domains and scaling AI workloads separately from request traffic.
- Built the LLM orchestration layer routing requests across multiple model providers by task type and cost, with structured output validation, retry and fallback handling, and citation grounding against source documents.
- Implemented document ingestion and retrieval pipelines covering parsing, chunking, embedding, and citation-linked retrieval, including handwritten note ingestion via a multimodal model.
- Built SaaS integrations and backend connectors: Paystack and Stripe for payments and webhook reconciliation, Cloudflare R2 object storage, transactional email, and OAuth social authentication. Ran document processing, scheduled jobs, and notifications on Celery and Redis to keep long-running AI tasks off the request path.
- Containerised the stack with Docker Compose and deployed to AWS EC2 behind Nginx with automated HTTPS and CI/CD. Established evaluation workflows for AI output quality, tracking failure modes such as hallucinated citations and tuning prompts and routing on the results.

Senior Full Stack Developer, Benmore Technologies

Chicago, USA (Remote) | Sep 2025 to Apr 2026

- Delivered 4+ production applications across AI, fintech, and enterprise domains, including Highstrat (AI procurement platform for analysing complex enterprise data), Jollify (AI-powered document generation), and FiftyFifty (cross-border peer-to-peer currency swap mobile app).
- Built backend services and REST APIs in Python and Django, defining endpoint contracts, serialisation, pagination, and error handling consumed by web and mobile clients.
- Integrated third-party provider APIs and webhook flows, handling authentication, retries, idempotency, and reconciliation of asynchronous callbacks.
- Implemented background processing with Celery and Redis for AI inference jobs, document generation, and notification delivery.
- Worked fully remotely in a distributed team across Nigerian and United States time zones, operating asynchronously through written specifications, pull request review, and Docker-based local environments.
- Cut monthly infrastructure cost by 42% by profiling idle service memory and correcting model routing, improving reliability while lowering operating spend.

Deputy Director and Lead Engineer, LAWSAN National Identity Commission

Remote | 2025 to present

- Solo-built and deployed the National Database and Verification System (NDVS), the official identity infrastructure for Nigerian law students, on Python, Django REST Framework, and PostgreSQL, onboarding 820+ students to date.
- Implemented multi-step onboarding flows, automated identification number generation, role-based access control across national, zonal, state, and campus tiers, transactional email delivery, and payment-gated registration.
- Owned deployment, environment configuration, database migrations, monitoring, and incident response for a system used by a national student body.

Chief Technology Officer, Dayilo Technologies

Abuja, Nigeria | 2022 to 2023

- Led engineering for isubscribe, a fintech virtual top-up platform for airtime, data, and bill payments, owning backend architecture, technical hiring input, and release process.
- Built payment and wallet services in Python and Django with provider and payment gateway integrations, webhook handling, transaction reconciliation jobs, and audit logging. Used Celery, Redis, and RabbitMQ for queued transaction processing and retries on provider failure.

Freelance Backend Developer, Selected engagements

Remote | 2023 to 2025

- Law Students' Society, ABU: built a Voting Management System that recorded 6,400+ votes in a single election cycle and increased participation by 300%, with authentication, vote integrity controls, and live result tabulation.
- Lightsfield Legal: built and maintained web systems for a Nigerian law firm, covering backend APIs, content management, and deployment.
- Green Livestock Africa: technical partner building a Django REST Framework backend and Next.js frontend, including media delivery through object storage and production deployment.

EDUCATION AND TRAINING

ALX Software Engineering Programme, Back-end specialisation

Certificate of completion | Oct 2024

- Software architecture, systems programming in C and Python, Linux administration, DevOps fundamentals, API development, and Git-based collaboration.

LL.B. Law, Ahmadu Bello University, Zaria

Zaria, Nigeria | Final year, in progress

NHEF Scholar, Class of 2026 (Technology track) | English (professional), Hausa (fluent), French (conversational)