

Kamogelo Ellen Kganakga

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SUMMARY

Software engineer specializing in backend development and systems design. Core strengths include API architecture, secure authentication, and distributed systems instrumentation. Completed backend training through ALX while working a frontend contract in parallel. Now focused on infrastructure, observability, and scalable systems. Ranked in the top 15 GitHub contributors in South Africa, reflecting consistent technical output and disciplined project delivery.

EDUCATION

- African Leadership Xperience (ALX)** Remote
Software Engineering Certificate – Backend Specialization, Cohort JNB-0723 (C#18) Aug 2023 – Aug 2024
 - Backend GPA:** 96.78% — Foundations GPA: 77.54%
 - Curriculum:** Python, TypeScript, Node.js, Redis, MySQL, NoSQL, Authentication, Queuing, Caching, Pagination, i18n, Flask, C, Shell Scripting, Linux, Networking, Systems Programming, Debugging.
 - Project Focus:** CLI tools, REST APIs, database integration, system-level programming, and technical documentation.

PROJECTS

- OpenTelemetry DevOps Simulation (Jul 18, 2025)** Hands-on simulation of deploying the OpenTelemetry microservices demo using AWS tooling and infrastructure-as-code. Completed in a structured training environment. Provisioned Kubernetes infrastructure using Terraform (VPC, EKS, IAM), deployed multiple containerized services, and built a GitHub Actions pipeline for Product Catalog. Integrated OpenTelemetry Collector, Prometheus, and Grafana dashboards. [GitHub]
- Environmental Data Management API (Jun 9, 2025)** Standalone Spring Boot + JPA backend for sensor data. Designed normalized schema (3NF), built RESTful CRUD endpoints, integrated Swagger/OpenAPI documentation, and tested with Postman. [GitHub]
- Project Management API (Aug 29, 2024)** Asynchronous REST API built with FastAPI and MongoDB. Included JWT authentication, bcrypt password hashing, modular route groups, and Pydantic validation. [GitHub]
- InventoryLens: Computer Vision Backend (Jul 16, 2025)** Integrated HuggingFace DETR into a containerized FastAPI backend for local object detection. Built image upload + preprocessing pipeline and frontend for result visualization. [GitHub]
- Hackathon Project: Serverless Commerce API (Jul 1, 2025)** Contributed to infrastructure and integration layers in an AWS Hackathon team. Used Lambda (C#/.NET), API Gateway, and DynamoDB. Work scoped to deployment and request routing.
- E-Commerce Storefront (Next.js + Stripe) (Jul 16, 2025)** Frontend application with Stripe Checkout integration, cart management via React Context, and Tailwind-based mobile-first layout. [GitHub]

WORK EXPERIENCE

- Fallible** Remote
Contract Software Engineer (UI/UX → Frontend Development) Aug 2023 – May 2025
 - UI/UX Collaboration (Aug 2023 – Mar 2024)** Built iOS design system in Figma following Apple HIG principles, maintaining 95% design-to-code fidelity across 1,000+ wireframes.
 - Frontend Development - Role Expansion (Apr 2024 – Dec 2024)** Developed responsive Next.js SaaS landing page achieving 96+ PageSpeed score and WCAG 2.1 compliance.
 - Frontend Development (Apr 2025 – May 2025)** Built 2 responsive professional websites for South African dancers using React/Next.js with custom UI components.

TECHNICAL SKILLS

Languages:	Python, Java, C, C++, C#, JavaScript
Frameworks:	Spring Boot, React, Next.js, FastAPI, .NET
Cloud & DevOps:	AWS (Lambda, EKS, DynamoDB, Amplify), Docker, Terraform
Databases:	MongoDB, DynamoDB, MySQL
Tools:	Git, Figma, Linux

CERTIFICATIONS & ACHIEVEMENTS

- Top #15 GitHub Contributor – South Africa (2025)** [Link] — ranked by public contribution frequency.
- FreeCodeCamp Certifications:** Scientific Computing with Python, Foundational C# with Microsoft
- Oracle DB Foundations Associate** [Link]
- AWS Cloud Practitioner – In Progress**
- Rocking System Design (2025)** Covers scaling strategies, microservices on AWS, load balancing (ALB/NLB), API Gateway, caching (Redis/Memcached), database sharding, consistent hashing, and system designs for YouTube, Twitter, Uber.
- Software Architecture & Design of Modern Large Scale Systems (2025)** Covers architectural patterns (microservices, event-driven, multi-tier), system quality attributes, API design (REST/RPC), CAP theorem, stream processing, and scalable platform case studies.