LEWIS **MAGANGI**

gmail | LinkedIn | Github | Leetcode | Portfolio

Professional Experience

Wamumbi

April 2025 – Present(remote), Nairobi, Kenya
https://wamumbi.vercel.app/

Fullstack Software Engineer Volunteer - Client Application Team

- Contributed to the evolution of a production web platform supporting donations, campaigns, volunteers, and partnerships, transitioning the system from MVP-level implementation to a stable, scalable product
- Developed and maintained React & Next.js (TypeScript) features with a strong focus on modularity, reusability, and long-term maintainability
- Built and extended type-safe backend APIs using a Node.js-based architecture, ensuring consistent validation, predictable error handling, and reliable data flows
- Designed and implemented role-based access control (RBAC) and secure authentication flows for multiple user roles
- Replaced mock and hard-coded data with fully integrated backend-driven logic, significantly improving data integrity and application reliability
- Actively participated in distributed agile workflows, contributing via GitHub pull requests, structured reviews, and feature branches
- Improved CI pipelines and deployment workflows to reduce regressions and support continuous feature delivery
- Identified and resolved a critical security vulnerability (CVE-2025-66478) through dependency upgrades and post-fix validation
- Authored and maintained clear technical documentation covering APIs, database schemas, environment setup, and deployment processes

Impact:
Improved platform stability, reduced onboarding friction for new contributors, and enabled faster, safer feature delivery in a distributed team setting.

Project Nexus — Social Media Platform (PFDE & PDBE Capstone)

Nov 1st – Dec 4th 2025, Nairobi, Kenya
https://alx-project-nexus-social.vercel.app/
Demo-Video

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Dynamic Cryptosuite Selection System — JOOUST Capstone

Systems & Cryptography Project

Sept 2023 - Mar 2024

Repo Link

- Designed and implemented a system that **benchmarked cryptographic algorithms** (symmetric, asymmetric, hashing) under varying workloads
- Analyzed **performance tradeoffs** across algorithms, key sizes, and data volumes
- Built tooling to dynamically select cryptographic primitives based on **security requirements vs runtime cost**
- Focused on **practical implications** of cryptography in real systems rather than theoretical proofs
- Gained hands-on understanding of cryptographic latency, throughput, and resource consumption

Key Themes: performance vs security tradeoffs, measurement-driven decisions, system-level crypto usage

Applied Cryptography Backend Project — ALX SWE

Backend Engineering & Security

- Implemented cryptographic operations (encryption, hashing, key exchange) within a backend application context
- Benchmarked encryption routines and analyzed impact on application performance
- Integrated cryptographic workflows into a Linux-based backend system with automated testing
- Focused on **safe usage patterns**, not inventing cryptographic primitives

Low-Level & Systems Foundation

ALX Software Engineering (Backend & Systems Track)

Feb 2022 – Feb 2025

Repo Link

- Intensive training in **C programming**, memory management, and Unix system calls
- Built a **custom Unix shell in C**, implementing process creation and command execution
- Worked extensively in Linux environments, debugging real system-level issues
- Practiced collaborative Git workflows under production-like constraints

Enactus Jooust

May 2024 – July 2025 (Hybrid), Bondo, Kenya

Fullstack Software Engineer (Volunteer)

Afyabora(Stackoverflow Clone)

May 2024 – July 2024 (remote), Nairobi, Kenya

Repo Link

- Engineered a StackOverflow-style Q&A platform using Python (Django) and SQLite, enabling patients and doctors to share health advice through posts, upvotes/downvotes, comments, and search features with a blogging interface.
- Deployed on a Linux server with Nginx, configured reverse proxying, served static content, secured with UFW firewall rules, SSH hardening, and proper user/group permissions; handled system-level configurations using systemd and SSL via Let's Encrypt
- Presented at the 2024 Enactus Kenya National Expo, demonstrating full-stack development, real-world impact, and technical design of a secure, accessible health information-sharing platform.

Solar Powered Water ATM — *Backend Engineering & Deployment*

June 2025 – July 2025 (remote), Nairobi, Kenya

Repo Link

🏆 **Ranked #3 at Enactus Kenya 2025 National Expo, Ngong Hotel**

- Built a Python/Django-based web application to support solar-powered water dispensing units for underserved communities, integrating authentication, transaction logging, and real-time monitoring.
- Migrated system from Flask to Django with modular architecture, secured CSRF handling, and integrated robust database schemas for telemetry and usage analytics.
- Deployed with hardened security, improved maintainability, and IoT compatibility for scalability.

Sustainable Fishing

June – July 2025 (remote), Nairobi, Kenya

🏆 **Ranked #5 at Enactus Kenya 2025 National Expo, Ngong Hotel**

- Designed and implemented a Django multi-app system for community-driven sustainable fishing, with role-based access, catch data logging, and educational resources.
- Engineered secure custom admin dashboards, RBAC, and a scalable community engagement timeline.
- Optimized database schemas, added analytics, and deployed with CI/CD, secure middleware, and responsive UI templates.

CORE TECHNOLOGIES

Frontend: React 18, Next.js 16, TypeScript, Tailwind CSS, Accessibility (WCAG)
Backend: Node.js, Nest.js (architecture familiarity), tRPC, REST APIs
Databases & ORM: PostgreSQL, MySQL, Prisma, TypeORM (familiarity)
DevOps & Cloud: Docker, CI/CD pipelines(Docker/ Kubernetes), Linux
Practices: Agile/Scrum, clean code, code reviews, distributed collaboration

Interests and Hobbies

Chess

Sep 2020 – Dec 2024, JOOUST, Bondo, Kenya

Competitive Chess Player - Jooust Chess Club

- Competed in the WEKUSA (Western Kenya Universities and Sports Associations) Chess Championships in 2021, 2022, and 2023, representing the university at a national level for three consecutive years
- Delivered a strong individual performance at the 2023 WEKUSA Championship, winning 7 out of 9 games while playing at board 2, and significantly boosting the university team's competitive standing.