

Darlene Wendy Nasimiyu

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Education

Jomo Kenyatta University of Agriculture and Technology 2021 – 2026
Bachelor of Science in Mining and Mineral Processing Engineering

Jomo Kenyatta University of Agriculture and Technology 2024
Diploma in Data Science and Machine Learning

ALX, Holberton School 2024 – 2025
Software Engineering (Backend Development)

ALX, Holberton School 2024 – 2026
Data Science and Machine Learning

African Engineering and Technology Network X AFRISMAT Summer School
AI, Digital Manufacturing, IoT, and Optimization
Carnegie Mellon University Africa December 2025

Skills

- **Languages:** Python, Java, JavaScript, SQL, C/C++
- **Backend & APIs:** Spring Boot, FastAPI, Flask, Django, Spring WebFlux, REST API Design, JWT Authentication, WebSockets, MQTT, Webhooks, Hibernate/JPA
- **Machine Learning & AI:** TensorFlow, Scikit-learn, XGBoost, LightGBM, LSTM Networks, Feature Engineering, EDA, Spring AI (Groq/LLaMA)
- **Data & Databases:** PostgreSQL, TimescaleDB, Redis, Pandas, NumPy, Flyway, MapStruct
- **Embedded & IoT:** ESP32, PlatformIO, FreeRTOS, Arduino Framework, MQTT (HiveMQ/Mosquitto)
- **DevOps & Tools:** Docker, Git, Render, Vercel, Postman, Jenkins, GithubActions

Experience

Data Scientist / Analytics Lead – Soko Sauti (Remote) Mar 2025 – May 2025

- Built an analytics dashboard to track key business metrics, supporting data-driven decision-making across the team.
- Developed a 12-month financial model used in the company's pre-seed pitch to investors.

Backend Developer / Data Scientist (Freelance) – Fiverr (Remote) Sep 2022 – Present

- Solved data science and machine learning problems for clients, including data cleaning, predictive modeling, and model integration using Python, Scikit-learn, and TensorFlow.
- Built and deployed scalable REST APIs with FastAPI to expose ML model outputs for real-time client applications.
- Managed end-to-end data workflows covering ingestion, preprocessing, and PostgreSQL integration, with containerized deployment using Docker.

Projects

Intelligent Leak Detection System | Spring Boot · Flask · LSTM · ESP32 · React

- Built an end-to-end IIoT pipeline: ESP32 firmware → MQTT → Spring Boot backend → Flask ML service → React dashboard, with real-time WebSocket broadcasting.
- Trained an LSTM model achieving 99.81% validation accuracy and 100% leak recall on CFD-generated sensor

data from copper tailings pipelines.

Concrete Compressive Strength Predictor | Spring Boot · FastAPI · XGBoost

- Developed an XGBoost regression model ($R^2=0.94$) and exposed it via a FastAPI ML service integrated with a Spring Boot REST API for real-time strength predictions.

TransactAPI | Spring Boot · PostgreSQL · JWT

- Built a banking REST API with pessimistic locking and idempotency keys to prevent duplicate transactions, with H2 persistence for testing and PostgreSQL for production.

JazaCharge | Spring Boot · Africa's Talking · USSD/SMS · AI

- Built a Spring Boot backend for an AI-powered USSD and SMS battery swap coordination platform for electric boda boda and e-matatu riders, integrating Africa's Talking APIs for zero-internet access and AI-driven intent recognition for battery location and reservation.

File Compression Tool | Java · Apache Commons Compress

- Implemented a CLI tool in pure Java supporting ZIP, GZIP, BZIP2, and XZ formats using Huffman-based algorithms and Apache Commons Compress, with configurable compression levels.

Technical Writing

- Active technical author on Medium, covering ML, Java/Spring Boot, System Design, and Industrial IoT.
- Informally mentored peers across East and West Africa in data science and software engineering.

Referees

Sebastian Muchui

Lead Software Engineer | CHAJI

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Japheth Obiko

Lecturer | University of the Witwatersrand & JKUAT

japheth.obiko97@gmail.com