

Sidney Muriuki

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EDUCATION

Jomo Kenyatta University of Agriculture and Technology

Bachelor of Science in Mathematics and Computer Science

Juja, KE

Sep. 2022 – May 2026

Power Learn Project

Software Development

Nairobi, KE

Feb. 2025 – Jun. 2025

EXPERIENCE

AI Automation Engineer Intern

Statsspeak Group Ltd.

Feb. 2025 – Jul. 2025

Nairobi, KE

- Designed and deployed automated workflows using n8n to validate and enrich 500+ business records while documenting processes and improving operational efficiency.
- Built AI-driven email automation systems that reduced manual outreach workload by 60 percent through intelligent workflow automation and targeting.
- Developed an AI-powered database assistant using Python and Chainlit, enabling natural-language querying and rapid structured-data retrieval.
- Conducted applied research and technical analysis on vaccine-industry infrastructure, supply chains, and partnerships to support data-driven decision-making.
- Collaborated with technical and business stakeholders to improve workflow reliability, support business processes, and maintain documentation for operational continuity.

LEADERSHIP EXPERIENCE

Community Manager Lead (Open Source)

Salamander Tech Hub

Jul. 2025 – Present

Nairobi, KE

- Led technical learning sessions focused on software engineering, open-source collaboration, and practical development workflows.
- Reviewed and coordinated GitHub contributions to ensure code quality and consistency across collaborative projects.
- Mentored developers on Git workflows, collaborative development practices, and project organization.
- Documented technical processes, onboarding materials, and learning resources to support knowledge transfer across community projects.
- Organized workshops and coding challenges to strengthen practical engineering and problem-solving skills.

PROJECTS

Hybrid GNN Fraud Intelligence System | *Python, PyTorch Geometric, XGBoost, FastAPI, React, Neo4j, Kafka*

- Designed and implemented a hybrid fraud detection platform combining Graph Neural Networks (GNNs) and XGBoost ensemble models for mobile money fraud detection.
- Built fraud detection pipelines capable of identifying fraud rings, mule accounts, laundering patterns, and fast cash-out schemes across 100,000+ synthetic transactions.
- Developed graph-based fraud topology analysis using Neo4j and PyTorch Geometric for structural pattern detection and predictive modeling.
- Implemented real-time streaming pipelines using Kafka producers and consumers for live transaction ingestion and monitoring.
- Built FastAPI backend services supporting prediction APIs, model comparison, graph visualization, documentation, and alert management.
- Developed React dashboards for analytics, monitoring, workflow support, and operational reporting.

SmartBiz | *Django, Python, SQLite, Bootstrap, JavaScript*

- Built a business management platform supporting inventory tracking, sales management, reporting, and operational workflows for small businesses.

- Designed role-based dashboards and business applications to improve visibility into inventory and sales performance.
- Implemented reporting and monitoring features that enabled data-driven operational decision making.
- Developed user-focused interfaces and documentation to improve usability and system adoption.
- Supported business process automation through inventory alerts, workflow optimization, and centralized record management.

Crop Health & Value Optimization System | *Python, Streamlit, pandas, NumPy, Plotly*

- Developed an AI-driven agricultural analytics platform combining disease diagnostics, economic analysis, and market intelligence for smallholder farmers.
- Built ROI-based recommendation engines using crop yield projections, treatment costs, and pricing data to support data-driven intervention decisions.
- Implemented machine learning and statistical-analysis workflows for disease severity scoring, crop analytics, and regional risk assessment.
- Developed interactive Streamlit dashboards for treatment recommendations, market forecasting, and farm-level analytics visualization.
- Applied predictive modeling and financial-analysis techniques to optimize post-harvest strategies and treatment recommendations.

TECHNOLOGY SKILLS

Programming: Python, JavaScript, TypeScript, SQL, HTML/CSS

Cloud & Infrastructure: Google Cloud Platform (GCP), Docker, Kafka, Neo4j, SQLite

Software Development: FastAPI, Django, Flask, Streamlit, React, Bootstrap, Git, GitHub

Data & Analytics: pandas, NumPy, Matplotlib, Data Analysis, Data Visualization, Data Management, Statistical Analysis

AI & Machine Learning: XGBoost, Graph Neural Networks (GNNs), PyTorch Geometric, NLP, Retrieval-Augmented Generation (RAG), LangChain, FAISS

Business Technology: Technical Documentation, Process Mapping, Workflow Automation, Application Support, User Training, Research, System Testing, Cross-Functional Collaboration