

Kiprotich Kimutai

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Full-Stack Engineer with over 5 years of experience building production systems across different industries. Focused on delivering impact – not just features – by combining strong engineering fundamentals with AI-driven development to ship faster and smarter. I take ownership of technical direction, mentor junior developers, and thrive in environments where the work genuinely matters.

Work Experience

Nexuscale.ai - Remote

Chief Technology Officer - December 2024 to Present

Senior software engineer - January 2024 to December 2024

Nexuscale.ai is an AI-powered B2B sales platform that replaces fragmented tool stacks (Apollo, Clay, Instantly) with a single autonomous outbound engine. Sales teams use it to find prospects, send hyper-personalized emails and LinkedIn messages, and buy domains and mailboxes – all in one place.

The backend is built on Elixir and Phoenix LiveView. Integrations span Gmail, Microsoft Outlook, SMTP, Zoho, and browser automations. The lead database indexes 200M+ prospects with real-time buying signals.

I built the platform from scratch and led a team of 2 developers through architecture, implementation, and launch.

- Launched on AppSumo, acquiring **1,400 customers** within weeks and growing to **4,000+ active users** with paying subscribers
- Architected a 200M+ lead database with strategic indexing and denormalization, enabling sub-second lookups at scale
- Built a custom mail server allowing teams to purchase domains and mailboxes directly, significantly reducing email blacklisting risk
- Developed LinkedIn automation handling connection requests, messaging, and engagement.
- Owned end-to-end deployment infrastructure, implementing zero downtime deployments to ensure uninterrupted service for active subscribers across a continuously running outbound engine

Technologies/frameworks I have gained familiarity with:

- Elixir/Phoenix Liveview
- React.js
- Digital Ocean/Kubernetes
- Python
- PostgreSQL

ScribbleVet (KairoCare Inc.) - San Francisco (Remote)

Software developer - February 2025 to November 2025

ScribbleVet is an AI-powered veterinary scribe that listens to appointments and automatically generates clinical notes, freeing veterinarians from administrative work. The stack is built on Elixir, Ash Framework, PostgreSQL, React Native, and React.

- Built Chrome extension integrations connecting ScribbleVet to various PIMS (Practice Information Management Systems) used across US veterinary clinics, enabling 1-click note transfer
- Developed core backend infrastructure using Elixir and the Ash Framework to support the AI scribe functionality
- Contributed to the React Native mobile app infrastructure, supporting both iOS and Android
- Built a referral system to drive user growth

Technologies/frameworks I have gained familiarity with:

- Elixir
- React native
- React
- Postgresql

Pesaflow Limited - Kenya

Software engineer - July 2023 to Feb 2025

PesaFlow is a pioneering fintech and GovTech company delivering payment solutions and automations for enterprises and governments across Africa, powering platforms like eCitizen Kenya, which has collected over KES 345B in government revenue.

The stack is built on Elixir, Phoenix, Vue.js, and PostgreSQL.

- Built and maintained taxation systems for Kenya and South Sudan, handling complex financial operations across multiple countries

- Integrated multiple payment gateways including M-Pesa, Airtel Money, and CyberSource, enabling seamless multi-channel payment collection
- Managed production payment infrastructure for Malawi and Sierra Leone government portals, ensuring reliability for critical public-facing financial systems
- Built an AI chatbot for the Malawi Business Registry, streamlining business registration processes for citizens
- Developed scalable backend systems capable of handling high-volume government transactions across multiple African markets

The Open Institute - Kenya (Remote

Software Developer (Part-time) - August 2022 to February 2024

A research project run through The Open Institute, an NGO based in Nairobi, funded by the University of Warwick and Wellcome Trust. The project focused on improving healthcare delivery for underserved communities in Kenya.

- Built a WhatsApp chatbot for community health workers in Kenya, piloted in Busia county to support patients with sickle cell anemia
- Evaluated and compared multiple AI models including Llama 7B, Mistral, and OpenAI to determine the best fit for a low-resource, real-world healthcare environment
- Deployed a production chatbot serving community health workers and patients in an underserved region, directly impacting healthcare accessibility

Education

Bachelor of Science in Telecommunication and Information engineering

Jomo Kenyatta University of Agriculture and Technology -
Nairobi, Kenya
October 2020 to April 2025

Microverse Inc

Full-stack web development
November 2021-June 2022

Skills

Languages: English-Fluent

Languages & Frameworks: Elixir, Phoenix, Phoenix LiveView, Ash Framework, Python, JavaScript, TypeScript, React, React Native, Next.js, Vue.js

Infrastructure & Databases: PostgreSQL, AWS, Git

AI & Integrations: RAG, LLM fine-tuning, voice AI, and AI agent development

Projects

Elixir AI Agent CLI (*Personal Project*)

Feb 2026

A command-line AI agent built in Elixir that supports multiple LLM providers – OpenAI, Anthropic, and Ollama for local models. The agent uses a pluggable tool system, automatic context window management via summarisation, and two-tier memory (ETS for speed, DETS for persistence across sessions).

Each agent maps directly to a GenServer – holding state, receiving messages, and looping through the agentic cycle until the goal is complete. Multi-agent orchestration is supported, where agents can spawn parallel sub-agents at runtime via a DynamicSupervisor.

- Supports model switching mid-session and named sessions with persistent memory
- Tools include web scraping, Google Search, file I/O, Nx-powered ML classification, and multi-agent spawning
- Scales to thousands of concurrent agents on the BEAM with no architectural changes

Callwisely.ai – AI-Powered Call Center Agent (Piloting)

www.callwisely.ai

2025

An AI call center solution featuring voice agents, embeddable website chatbots, and AI-powered conversation analysis. The system ingests knowledge bases from websites, documents, or text to personalize the voice agent, with customizable voice personas for different use cases.

- Built real-time AI voice agents with dynamic knowledge base integration, enabling personalized customer support without large human teams
- Developed embeddable chatbot widgets for websites with human agent takeover capability, creating a seamless hybrid support model
- Implemented AI-powered conversation analysis, providing sentiment insights and key topic extraction from customer calls
- Currently being piloted in real-world customer support environments

Fiti.Info – Brand Protection & Logistics Platform (Live)

fiti.info

2025

A brand protection platform trusted by Oxford University Press to combat counterfeit goods in Kenya. Generates unique PINs placed inside book covers – users scratch and verify authenticity instantly via WhatsApp bot or SMS.

Built with Elixir, Phoenix LiveView, PostgreSQL, and TimescaleDB, with integrations across WhatsApp API, SMS Gateway, and Telegram.

- Scaled PIN storage to handle orders of 500,000–1,000,000 unique PINs using TimescaleDB's automatic partitioning and compression, enabling millisecond lookups at volume
- Built WhatsApp and SMS verification bots providing instant authenticity confirmation or counterfeit alerts to end users
- Generated detailed fraud reports for publishers to track and act on counterfeit activity

Event Ticketing & Management Platform (Live)

2024-2025

High-performance ticketing systems built to handle massive traffic spikes during flash sales, processing over \$1,000,000 in total ticket sales across multiple high-profile events in Kenya.

Built with Elixir, Phoenix LiveView, PostgreSQL, and Tailwind CSS.

- Handled 2,000+ ticket sales in 30 minutes during flash sales with zero performance degradation
- Built comprehensive event management dashboards with real-time sales analytics and flash sale configuration
- Developed mobile gate management app for scanning and verifying tickets at entry points
- Integrated M-Pesa and card payment gateways for flexible payment options

Talks

Building Real-Time AI Agents with Elixir

<https://www.elixirconf.eu/participants/kimutai-kiprotich/>

April 2026

A talk on building autonomous, fault-tolerant AI agents at scale using Elixir's concurrency model, OTP supervision trees, and GenServers. Covers multi-agent coordination, stateful session management, and real-world patterns for processing millions of concurrent operations.

Publications

Unlocking Insights at the University of Warwick Summer School: A Journey of Transformation

<https://medium.com/@kiprotichkimutai01/unlocking-insights-at-the-university-of-warwick-summer-school-a-journey-of-transformation-1240264d49b3>

October 2023

A reflection on participating in a University of Warwick summer school program, exploring the development of an AI-powered healthcare application for community health workers in Kenya targeting sickle cell disease.

Exploring the Potential of Digital Health for Health Equity in Africa

<https://medium.com/@kiprotichkimutai01/exploring-the-potential-of-digital-health-for-health-equity-in-africa-573a74df9405>

March 2023

An analysis of how digital health technologies can bridge healthcare gaps across Africa, examining mHealth, telemedicine, and data-driven solutions to improve accessibility and equity.