**Lucy Muriithi**

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**EXPERIENCE** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Software Engineer Resident-HEADSTARTER,** *New York, NY* ***Aug 2024 - Present*** • Built 5+ machine learning, ai-engineering and full-stack projects in fast-paced software team environments

• Developed 5+ neural networks in Python, 11 apps in Typescript on AWS/Vercel with dev and production environments

• Implemented llm-chaining, hyperparameter tuning, fine tuning on 10+ LLM models controlling for latency & accuracy

• Coached by Google Machine Learning, Google Kubernetes, Two Sigma, Tesla, Figma and Citadel Engineers

• Created 50+ commits on github with 7-day deadlines getting a Career Capital increase of 70% from start date

**Software Engineer Intern- INTERNPULSE**, Lagos, *Nigeria* ***April 2024 - June 2024*** • Developed backend services using Python, Django, and Docker, boosting user engagement.

• Implemented RESTful APIs, handling 100K+ requests daily, reducing system errors by 20%.

• Optimized PostgreSQL queries, cutting response times by 25% and improving efficiency by 30%.

• Integrated third-party services, slashing deployment times by 50% using Docker and GitHub Actions.

• Improved code quality by 15% and decreased bug resolution time by 25% through code reviews and debugging.

**Software Engineer Intern, UNIVERSITY OF NAIROBI**, *Nairobi, Kenya* ***Aug 2021 - June 2023*** • Built Python scripts to automate temperature data collection, expanding coverage to 5,000 square kilometers

• Developed Python workflows at Geospatial Camp, reducing manual work by 25 hours weekly

• Enhanced geospatial data workflows, automating analysis processes to support monthly reporting for over 50 regions

• Designed a dashboard for temperature and land use, providing real-time insights to research teams across 10+ projects

• Created scripts for topographic mapping and land use surveys, decreasing processing time from 3 days to 1 day

**PROJECTS** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Customer Churn Prediction**| Personal Project *(~30 hours)*  - [Link to Project](https://github.com/lucydevonne/CustomerPredictionchurn) ***Oct 2024 - Oct 2024***

• Used ML models, Python libraries, SMOTE, Llama 3.1, and Google Colab to build a Churn Prediction system. • Built a multi-model classifier with Random Forest, XGBoost, SVM, and integrated OpenAI for prediction explanations.

• Applied feature engineering and SMOTE to address class imbalance and used the Ensemble pattern to enhance accuracy.

**Welcomi AI Chatbot** | Team Project *(~10 hours)*  - [Link to Project](https://github.com/jcotillo/welcomi-staycation-properties-backend) ***Aug 2024 - Aug 2024***

• Used Python, OpenAI Gemini, Vertex AI, and Next.js to build an AI-powered support assistant.

• Integrated Vertex AI for managing and deploying generative models, enhancing scalability and ML model performance

• Implemented RAG to improve information retrieval and response contextuality, creating more accurate AI-driven answers

• Utilized Google Cloud Logging for real-time monitoring and analysis, ensuring consistent response quality and reliability

**ComplAI** | Published Web-App *(~40 hours)*  - [Link to Project](https://github.com/m-aishah/ComplAI) ***Aug 2024 - Aug 2024***

• Used Next.js, React,, Firebase Firestore, and Material-UI to build a scalable AI-powered complaint management system

• Set up secure Firebase Auth for user authentication, enabling multi-modal complaint submission (text, voice, image, video).

• Integrated OpenAI API for advanced complaint analysis and Google Cloud Text-to-Speech API for processing voice inputs.

**TechPrep Interview Simulator**| Team project *(~40 hours)*  - [Link to Project](https://github.com/lucydevonne/techprep-backend) ***Aug 2024 - Aug 2024***

• Used Flask, Flask-SocketIO, WebSocket, OpenAI Gemini, Tailwind and Python to build a real-time interview simulator.

• Built a backend for dynamic Q&A sessions, leveraging WebSocket for real-time and OpenAI Gemini for AI feedback.

• Leveraged Flask-SocketIO for scalable connections and optimized data serialization to support high concurrency.

**SKILLS** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Languages** *Proficient*  Python(7yrs) *Intermediate* Javascript(1yr) · SQL(2yrs) *Beginner* Typescript(1yr)

**Software**  AWS · GCP · Docker · Kubernetes · Bootstrap · Git · Bash · Shell · React · Next.js · Django · Flask · PyTorch · Pandas · NumPy · Spark · Firebase · Node.js · Testing frameworks · AI/ML · LLM · Vector databases (Pinecone) · Relational Databases · Fast API · SQL/NOSQL databases · HTML/CSS · Vercel · Rest API · Web API · Jira · Dall-E · LlamaIndex · RAG · Agile Methodologies

**Activities** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

AI Blogs - Published tutorials on AI/ML projects, simplifying complex concepts with step-by-step guidance. ***Nov 2024***AI Hiring Hackathon - Top-3 in vetted hackathon for building AI-powered complaint app with text, voice, image, video inputs ***Aug 2024***

Technical Keynote - Presented at MUN, discussing digital innovation with global leaders like President Bill Clinton. ***Mar 2022***

Creative:Writing, Vision-board, Public Speaking, Visual Storycraft (Drawing, Photography, Video Editing), Communication skills  ***Nov 2024***

Languages: English, Swahili, German, Gikuyu  ***Nov 2024***

**EDUCATION** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**University Of Nairobi, Kenya**  ***Aug 2023***

Bachelors of Science in Geospatial Engineering | 3.59 GPA

*Relevant Coursework:* Computer Programming, Engineering Mathematics, Calculus, Algebra, Statistics