

Edward Okeyo Obala

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Work Experience

Software Engineer, One World Coders [🔗](#) 04/2021 – present | Kigali, Rwanda

Delivered full-stack software engineering and technical leadership across multiple client engagements, building and maintaining production systems across diverse tech stacks and frameworks.

- Designed and built the base platform and subsequent features for Integrity Systems and Solutions (New York, US) using Ruby on Rails, including database management, data pipeline handling, and asynchronous job scheduling via Sidekiq and Cron on Ubuntu
- Collaborated directly with clients to scope, prioritise, and deliver new feature requests against production systems
- Led ensemble learning research initiative with colleagues to optimise computing capacity and staff allocation across client projects, with ongoing focus on identifying system vulnerabilities at scale

Technical Officer, Food and Agriculture Organization(UN) 07/2024 – 01/2025 | Rome, Italy

Contributed to systems supporting the creation and distribution of UN publications and research outputs across the organisation.

- Developed and deployed automation scripts to streamline internal operational workflows, reducing manual overhead across multiple teams
- Engineered new features and a dedicated API layer for the publication content management system, improving integration capabilities for internal and external consumers
- Managed and maintained the core publishing infrastructure supporting FAO's global research dissemination pipeline

Software Engineer, Poetry Foundation [🔗](#) 05/2022 – 06/2023 | Chicago, USA - Remote

Owned backend modernisation and ongoing feature development for a high-traffic legacy platform serving one of the US's leading literary institutions.

- Executed a full backend migration from a legacy PHP/Symfony version to the current release, ensuring continuity of service throughout the transition
- Strengthened application security by authoring new cross-site scripting prevention rules and input validation logic, addressing package-level vulnerabilities
- Optimised backend performance under sustained high traffic, improving response reliability and system stability
- Managed server infrastructure deployed on Kubernetes via AWS, implementing and maintaining server-side configurations in response to evolving requirements

Technical Support and Software Engineer, Digital Partners/Munich Re 09/2021 – 06/2022 | London, UK - Remote

Provided technical support and infrastructure management for a major reinsurance firm, maintaining stability and security across cloud-hosted enterprise systems.

- Maintained and stabilised multiple production applications hosted on a Windows Server environment in AWS, ensuring high availability for end users
- Implemented and enforced security best practices across the core platform, proactively mitigating potential vulnerabilities
- Administered user access management across platforms and devices, including remote device management for distributed teams
- Served as the primary point of contact for bug escalations and technical issues across a multi-user environment

Frontend development Intern, Kite Financial [🔗](#) 06/2020 – 09/2020 | Lagos, Nigeria

- Developed HTML, CSS, and PHP email templates and landing page components as part of the company's frontend stack
- Conducted user research to inform a full redesign of the company's web landing page, incorporating iterative feedback from users and stakeholders into successive design cycles

Research Assistant, Oxford University - WildCRU [🔗](#) 09/2019 – 12/2019 | Kigali, Rwanda

Supported a research programme at Oxford's Wildlife Conservation Research Unit, analysing student behaviour and engagement within a conservation education course delivered across multiple regions.

- Collected and managed quantitative and qualitative data on student interactions with course content, identifying behavioural patterns and engagement outliers
- Applied data analysis to optimise course content delivery, contributing to measurable improvements in student satisfaction and providing reference points for future international adaptations of the programme

Data and Resources Collection Intern,

06/2019 – 09/2019 | Kiambu, Kenya

GeRRI (*Genetic Research and Resource Institute of Kenya*)

- Collected, maintained, and validated data from the genetic material lab and storage unit, ensuring accuracy and integrity of institutional records
- Reviewed stored genetic resources and flagged contaminated material for disposal in line with laboratory protocols

Education

BSc in Computer Science, *African Leadership University* [↗](#)

09/2018 – 07/2022 | Kigali, Rwanda

Relevant Course Work:

- Computer Science
 - ML, Datamining
 - Data Structures, Discrete Math, Foundational Math, Databases, Systems Engineering in C
 - Software Engineering, Software Devpt., Web Devpt.
 - Python, Java, PHP,
- Leadership Core
 - Project Management, Entrepreneurial Leadership, Communication, Data and Decisions

BBA in Business and IT, *Moi University of Kenya*

08/2016 – 08/2018 | Eldoret, Kenya

Relevant Course Work:

- Business and IT
 - Business Mathematics 1,2 & 3
 - Business Law 1 & 2
 - Economics (Micro & Macro)
 - Business and Sociology
 - Financial Accounting 1 & 2

Skills

Programming

Python, Ruby, Ruby on Rails, Django, SQL, PHP, React, Scikit learn, Python MachineLearn/Data science libraries and frameworks, Database management, PostgreSQL, React

Tools and Project Management

Jira, Atlassian platforms, Gitlab, Github, Datadog, Google Colab, Anaconda, Vim, Postman, SQLectron, Agile

Dev-Ops/Infra

Docker, Kubernetes, AWS

Interpersonal and Technical Skills

Analytical problem-solving, Time Management, Self-management, Effective communication, Technical problem-solving i.e Math, Collaboration skills, Empathy, Management, Financial Accounting

Projects

Chaguo Bright, *Civic Education Platform*

03/2024 – present

Co-developing a multilingual civic education platform aimed at improving access to leadership accountability information in Kenya, with planned expansion across the region.

- Building an AI fact-checker to detect and suppress misinformation on the platform in real time, targeting the spread of false information around leadership and governance
- Developing an AI-powered multilingual chatbot to provide contextual explanations of articles across English, Swahili, and native languages, lowering the literacy barrier to civic engagement
- Designing the platform to serve as a structured public ledger of leadership decisions and events, attaching accountability to named individuals over time

Africa Kids Initiative(AKI drive)

08/2024

Developing a digital awareness and resource platform for orphanages across Kenya and the broader East African region, aimed at increasing visibility, funding, and adoption rates.

- Building infrastructure to increase public exposure of local orphanages through media integration and digital presence tools
- Researching the application of ML-driven engagement targeting to identify and reach likely donors and volunteers based on behavioural patterns
- Exploring preference-based recommendation systems to assist in matching children with prospective foster families, drawing on ensemble learning findings from prior research

Internal Fraud Detection Using Machine Learning and Datamining [↗](#)

01/2022 – present

Ongoing research project investigating the use of machine learning and data mining techniques to detect and prevent internal procurement fraud, with a focus on East African public sector contexts.

- Conducted a literature review of fraud detection methodologies and assessed the feasibility of applying outlier detection and clustering techniques to procurement records
- Built and evaluated a baseline detection model, finding that while individual techniques could flag extreme cases, an ensemble approach in a human-assisted setting yielded more reliable results
- Current research focus: optimising deep mining techniques for improved detection accuracy, managing live data storage constraints, and developing a more deployable application interface

Speech Emotion Recognition

09/2021 – 12/2021

Designed and implemented a deep learning model to identify emotional states within speech audio, proposed as a decision-support tool for emergency responders and therapists operating without direct contact with individuals in distress.

- Trained a classification model on the RAVDESS labelled audio dataset using deep learning techniques
- Framed the application around real-world use cases in emergency handling and mental health support, where non-verbal emotional cues are critical signals

African Malaria Analysis and Resource Distribution using Machine Learning [↗](#)

01/2021 – 04/2021

Developed a machine learning model to predict malaria hotspots across Sub-Saharan Africa and optimise the distribution of anti-malaria resources to high-risk regions.

- Sourced and processed regional malaria index data from the World Bank to train a predictive distribution model
- Achieved a baseline accuracy of 79%, with projected accuracy of 88% following further hyperparameter tuning
- Demonstrated a practical framework for using ML to guide public health resource allocation in data-sparse environments

Awards

StartUpHack - 1st Place [↗](#)

This was a hackathon where the challenge was to develop a technological solution to boost, re-establish and grow social interaction after the covid's adverse effects on social interaction.

ALU Innovate Award - 1st Place [↗](#)

This was a pitching challenge where we were to present feasible and student-led innovations that were within our capability. My team and I presented Lwandle, our fish farming venture, where we managed to go through all the stages and win.

We got seed funding and mentoring which were part of the reasons that enabled us to start the venture

HultPrize - Regionals Nairobi [↗](#)

HultPrize is an incubator that carries out mentorship and provides seed funding of 1 million US dollars over the summer for various ventures established within institutions. Through Lwandle, our fish farming venture, we managed to get through the campus levels and qualify as one of the final groups in the regionals in Nairobi, Kenya.