

Collins Kimutai Rop

Nairobi, Kenya

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Personal Profile

As a Software Developer and Computer Science graduate, I am an organized and dependable individual who excels at managing multiple tasks while maintaining a positive outlook. I have a proven track record of successfully completing various software development projects and collaborating effectively within teams. My ability to quickly acquire new skills and thrive in diverse environments dedicated to software engineering is well-demonstrated. Driven by self-motivation and energy, I consistently strive to exceed expectations and deliver exceptional outcomes in all endeavors. **Here is a link to my portfolio: <https://collins-rop.github.io/>**

Education

Kabarak University

Bachelor of Science in Computer Science

Nakuru, Kenya

Sept 2019 - May 2023

- **Courses:** Software Engineering, Database management, Web development, Data structures, Objected Oriented Programming(OOP), User Interface Design, Computer Networks, Artificial Intelligence, Machine Learning, Computer Organization and Architecture, Design and Analysis of Algorithms, Client and Server side programming, Software Quality Management, etc.

Work Experience

SoilWatch

Full-Stack Developer

Pooskerintie 17, 29760

KÖÖRTILÄ,

Finland(Remote)

January 2025 - Present

- Develop a scalable digital MRV (Measurement, Reporting, and Verification) platform for carbon sequestration projects, integrating satellite, climate, and in-situ data for soil organic carbon (SOC) modeling, ensuring seamless integration from front-end design to back-end architecture.
- Implement methodologies such as VM0042 and VM0033 to standardize carbon accounting and integrate GCAT (Geospatial Carbon Assessment Tools) for enhanced geospatial analysis and reporting.
- Design and maintain multi-tenant architecture with optimized data pipelines to support large-scale environmental monitoring and project tracking.
- Manage the platform's deployment and optimization in cloud environments.
- Implement and maintain compliance with data security and privacy regulations, including GDPR and relevant ISO standards.
- Drive the platform's technical roadmap, aligning it with the company's long-term growth and scaling objectives.
- **Technical Skills:** Next.js, Tailwind CSS, FastAPI, PostgreSQL, Cloud computing, Data integration, Satellite data processing, API development, Git, CI/CD, Agile methodologies.
- **Soft Skills:** Teamwork, Communication, Collaboration, Problem-solving, Time management.

AHADI

Assistant Research and Technical Officer

Nairobi, Kenya

December 2025 - April 2026

- Design, develop, and maintain robust software systems to manage, visualize, analyze, and model heterogeneous health, geospatial, and research-driven datasets, ensuring scalable architectures and efficient data handling across platforms.
- Identify, evaluate, and implement appropriate computational, statistical, and geospatial methodologies to address research and operational challenges within AHADI projects, aligning analytical approaches with project objectives and data constraints.
- Develop and optimize end-to-end data pipelines, analytical tools, and reusable software components to support AHADI's analytics team in delivering timely, accurate, and actionable data-driven insights.
- Provide full lifecycle software engineering support across multiple AHADI initiatives, spanning data ingestion, transformation, processing, modeling, and interactive visualization layers.
- Design and co-facilitate technical training initiatives by preparing structured analytical workflows, software demonstrations, and technical documentation tailored to organizational and partner capacity-building needs.
- Collaborate with multidisciplinary research teams to produce reproducible analytical workflows, version-controlled codebases, and software-backed outputs that contribute to manuscripts for publication in peer-reviewed scientific journals.
- **Technical Skills:** Python, R, Geospatial Analysis (GIS, spatial modeling), Data Engineering (ETL/ELT pipelines), Statistical Modeling, Data Visualization, RESTful APIs, SQL (PostgreSQL/MySQL), Git, CI/CD, Cloud Computing, Reproducible Research (Docker, workflow automation).
- **Soft Skills:** Cross-functional collaboration, Technical communication, Analytical thinking, Research translation, Problem-solving, Mentorship and facilitation.

- Engineer responsive and dynamic user interfaces to enhance user experience.
- Develop and maintain modules for the OpenMRS platform using Java and the Spring Framework.
- Collaborate with global teams to enhance the OpenMRS core functionalities and add new features.
- Implement RESTful APIs to enable seamless integration with other healthcare systems and applications.
- Spearheaded the mapping of clinical data to Ministry of Health (MOH) registers, ensuring accurate and efficient backend data management using MySQL.
- Conduct code reviews and contribute to the overall code quality by following best practices and standards.
- Participate in daily stand-ups, sprint planning using JIRA, and retrospective meetings to ensure effective agile development processes.
- Assisted in troubleshooting software and hardware-related issues, providing technical support and ensuring efficient system functionality.
- Assisted in designing and delivering training sessions for technical and non-technical staff to enhance their system usage and understanding.
- **Technical Skills:** React, Java, JavaScript, TypeScript, SQL, OpenMRS, RESTful APIs, MySQL, PostgreSQL, Git, Maven, Spring, Agile Methodologies, JIRA, Confluence, Test-Driven Development (TDD), Continuous Integration/Continuous Deployment (CI/CD).
- **Soft Skills:** Strong Teamwork, Communication, Problem-solving.

AWS re/Start Program

Remote

AWS Cloud Practitioner Trainee(Apprenticeship)

January 2024 - April 2024

- Gained proficiency in setting up and managing Amazon S3 buckets, configuring bucket policies, and using S3 for scalable and secure object storage solutions.
- Learned to deploy, manage, and scale Amazon RDS relational databases in the cloud, including database backups, snapshots, and security configurations.
- Acquired hands-on experience in launching, configuring, and managing Amazon EC2 instances, including creating security groups, key pairs, and setting up load balancers for high availability.
- Designed and implemented a fully elastic Apache Web Server solution using a VPC, public and private subnets, elastic load balancer, EC2 auto-scaling, NAT gateway, and internet gateway. Configured security groups and network access control lists (NaCl) to control access and traffic in and out of the VPC and subnets.
- **Technical Skills:** Amazon S3, Amazon RDS, Amazon EC2, AWS VPC, Elastic Load Balancer, Auto Scaling, NAT Gateway, Internet Gateway, Cloud Security, Network Access Control Lists (NaCl).
- **Soft Skills:** Problem-Solving, Attention to Detail, Time Management, Collaboration, Adaptability.

Kenya Tea Packers Limited(KETEPa)

Nairobi, Kenya

Internship

June 2022 - Aug 2022

- Collaborated on iScala Implementation and Integration, ensuring seamless ERP system integration, customizing modules based on business needs, and conducting data migration from legacy systems.
- Provided technical support to end-users, addressing inquiries, issues, and challenges related to SFA data integration and reporting. Assisted in the installation, configuration, and maintenance of SFA systems.
- Implemented data modeling techniques for accurate SFA data representation, collaborating with sales and marketing teams to translate requirements into actionable insights using visualization tools.
- Developed interactive dashboards and reports using PowerBI and Qlik Sense, extracting and transforming SFA data from platforms like Salesforce for analysis.
- Ensured correct network settings, validating IP addresses, subnet masks, and default gateway settings to match network requirements.
- **Technical Skills:** PowerBi, Enterprise resource planning, Python, Java, SQL, Technical support, Database management, Git.
- **Soft Skills:** Teamwork, Time Management, Communication, Presentation skills.

Skills

Programming	React, Nextjs, PostgreSQL, SQL, FastAPI, JavaScript, Python, Java, .NET, NodeJS, Laravel, Django, RESTful APIs, Git, Docker, CI/CD.
Multifaceted	Cloud computing, Jira, Linear, Linux, Confluence,OpenMRS.
Soft Skills	Time Management, Teamwork, Problem-solving, Documentation, Critical thinking, Engaging Presentation.

Projects

MRV DDR Platform (Carbon Monitoring System)

Nairobi, Kenya

SoilWatch

- Contributed to the development of a multi-tenant digital MRV (Measurement, Reporting, and Verification) platform for carbon project tracking and digital reporting.
- Implemented reusable and responsive frontend components using Nextjs and Tailwind CSS, improving user experience and maintainability.
- Developed and maintained RESTful APIs with FastAPI to support scalable backend services including user authentication, project data access, and organization management.
- Designed and managed PostgreSQL databases to support multi-organization data segregation and optimized queries for performance.
- Deployed application components to Google Cloud Platform (GCP) using Cloud Run and Cloud SQL for a secure, scalable, and cost-effective infrastructure.
- **Technical Skills:** Nextjs, FastAPI, REST APIs, Tailwind CSS, Git, CI/CD, Multitenancy

OpenMRS Module Development

Eldoret, Kenya

USAID AMPATH Uzima

- Developed and maintained OpenMRS modules using Java and Spring, improving clinical workflows and patient record management.
- Mapped clinical data to MOH registers with MySQL, ensuring compliance with national health reporting standards.
- Collaborated with global teams to enhance OpenMRS core functionalities and implement RESTful APIs.
- **Technical Skills:** React, Java, Spring, MySQL, REST APIs, Agile, OpenMRS

Automatic Number Plate Recognition System.

Nakuru, Kenya

Kabarak University

- Implementing machine learning algorithms for training the system to recognize and interpret number plate patterns. Application of neural networks, particularly convolutional neural networks (CNNs) for image recognition.
- Integrating the ANPR system with other applications through APIs for seamless data exchange and managing databases to store and retrieve number plate data efficiently.
- **Technical Skills:** Python, SQL, CNN, Database management, Deployment.
- **Soft Skills:** Time Management, Documentation, Presentation skills, Report writing.

Laptop price prediction system.

Nakuru, Kenya

Kabarak University

- Implemented supervised learning techniques for regression using the Scikit-learn library. Explored and preprocessed the dataset to ensure data quality and relevance.
- Designed an intuitive user interface allowing users to input laptop specifications and receive instant price predictions. Integrated the Streamlit library to create an interactive and user-friendly web application for the price prediction system.
- **Technical Skills:** Python, Machine Learning with Scikit-learn, Streamlit.
- **Soft Skills:** Documentation, Time management, Logical Thinking, Critical Thinking.

Certifications

AWS Certified Cloud Practitioner

Valid till 2027 (To recertify in April 2027)

Publications

THESIS

Bachelor Thesis: Automatic Number Plate Recognition for security systems. <https://github.com/Collins-Rop/Automatic-Number-Plate-Recognition-ANPR->

Languages

English Professional proficiency

Swahili Native proficiency

Referees

David Morrison

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