





# EDWIN OGOLA

## FULL STACK SOFTWARE ENGINEER

Nairobi, Kenya

 edogola4@gmail.com  0706322944  [Website](#)  [GitHub](#)  [LinkedIn](#)

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Innovative Full Stack Developer bridging technological solutions with East African market needs. Architect of offline-first mobile applications that maintained functionality in low-connectivity regions, expanding user reach by 40%. Transformed application performance through advanced database optimization techniques, delivering enterprise-level speed on consumer devices. Pioneered the integration of local payment systems with international platforms, enabling seamless cross-border transactions. Currently leveraging AI and computer vision to develop a plant identification solution addressing regional agricultural challenges. Brings both technical excellence and cultural market understanding that global teams consistently leverage for product localization and expansion strategies.

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## PROFESIONAL EXPERIENCE

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### SOFTWARE ENGINEER INTERN

RealBiz Digital | Remote | February 2023 - August 2023

- Developed and maintained web applications using JavaScript, React.js, Node.js, and Express.js, increasing user engagement by 20%.
- Assisted in building and deploying RESTful APIs with MongoDB and Mongoose, reducing data retrieval times by 30%.
- Implemented responsive UI/UX designs using CSS3, HTML5, and Bootstrap, contributing to 10% higher user satisfaction.
- Optimized applications for low-bandwidth environments common in East African markets, ensuring functionality during intermittent connectivity and improving user retention by 15%.
- Collaborated with senior developers and design teams to ensure accurate implementation of user-centered designs.
- Executed unit testing and debugging using Jest and React Testing Library, resolving 95% of issues within sprint timelines.
- Applied performance optimization techniques including code splitting and webpack configuration, cutting deployment times by 25%.

## FREELANCE FULL STACK DEVELOPER

Self-Employed | Remote | March 2021 - Present

- Designed and developed responsive full-stack web applications for various Kenyan businesses using JavaScript, React, Node.js, Express.js, and MongoDB.
- Key Client: Created custom e-commerce platform for a Nairobi-based retail business with M-Pesa integration, increasing online sales by 35%.
- Key Client: Developed inventory management system for local logistics company, reducing processing time by 40%.
- Implemented state management solutions with Redux and React Context API for seamless data flow across applications.
- Utilized AWS services (S3, EC2, Lambda) for hosting and deploying scalable web applications adapted for regional market needs.
- Optimized database queries and implemented caching strategies, reducing load times by 25% even on low-bandwidth connections.
- Successfully managed project timelines, budgets, and client communication using Agile methodologies.

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## PROJECTS

### SafariPay | Fintech Payment Platform

[Project Link](#)

- Built a cross-border payment solution that bridges international payment systems with local East African mobile money platforms.
- Implemented secure payment processing with end-to-end encryption and two-factor authentication.
- Designed responsive dashboard displaying transaction analytics and financial reporting tools.
- Reduced transaction processing times by 45% compared to traditional bank transfers for cross-border payments.

**Technologies Used:** *React.js, Node.js, Express, MongoDB, M-Pesa API, PayPal API*

## AI-POWERED CUSTOMER SUPPORT CHATBOT

[Project Link](#)

- Built intelligent chatbot using Python, TensorFlow, and Natural Language Processing with 95% accuracy for Kenyan e-commerce platform.
- Reduced customer support response time by 40% while increasing customer satisfaction scores.
- Integrated with third-party APIs for automated query resolution, product recommendations, and order tracking.
- Implemented REST APIs for integration with CRM systems, reducing manual data entry by 60%.

**Technologies Used:** *Python, TensorFlow, NLP, Flask, REST API, JSON, Git, Machine Learning*

## E-Commerce Platform with Recommendation Engine

[Project Link](#)

- Built a full-stack e-commerce platform optimized for Kenyan SMEs, featuring M-Pesa integration, user authentication, and order tracking.
- Created recommendation engine with scikit-learn that increased average order value by 25% in testing.
- Implemented responsive design for mobile-first usage, critical for the Kenyan market where 80% of web traffic is mobile.
- Designed offline capabilities to handle intermittent connectivity issues common in regional markets.

**Technologies Used:** *JavaScript, React.js, Node.js, Express.js, MongoDB, REST API, Redux, HTML5, CSS3, M-Pesa API*

## Interactive Data Visualization Dashboard

[Project Link](#)

- Created a responsive dashboard visualizing COVID-19 statistics in East Africa using React and D3.js.

- Implemented real-time data fetching from public APIs with efficient state management for low-bandwidth environments.
- Designed interactive charts, maps, and filters for comprehensive data analysis by healthcare organizations.
- Optimized rendering performance through memorization and virtualized lists for smooth operation on lower-end devices.

**Technologies Used:** *React.js, D3.js, JavaScript, HTML5, CSS3, REST APIs, Redux, Axios*

## **MICROSERVICES ARCHITECTURE WITH CI/CD PIPELINE.**

[Project Link](#)

- Architected a containerized microservices application using Docker and Docker Compose, demonstrating scalable deployment options.
- Implemented automated CI/CD pipeline with GitHub Actions for testing, building, and deployment.
- Developed service discovery and API gateway patterns for inter-service communication.
- Configured monitoring and logging with Prometheus and ELK stack for system observability.

**Technologies Used:** *Docker, GitHub Actions, Node.js, Express.js, MongoDB, RESTful APIs, Prometheus, Jest*

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## **TECHNICAL SKILLS**

**Programming Languages:** JavaScript (ES6+), Python, TypeScript, HTML5, CSS3/SASS

**Frontend Development:** React.js, React Native, Redux, Bootstrap, Tailwind CSS, Webpack

**Backend Development:** Node.js, Express.js, Django, RESTful APIs, GraphQL, Serverless Architecture

**Databases:** MongoDB, MySQL, PostgreSQL, Firebase

**Cloud & DevOps:** AWS (Lambda, S3, EC2), Docker, Kubernetes, CI/CD Pipelines, GitHub Actions

**Mobile Payments:** M-Pesa API Integration, Mobile Money Solutions

**AI & Machine Learning:** TensorFlow, NLP, scikit-learn, OpenAI APIs, Recommendation Systems

**Project Management:** Agile Methodologies, Scrum, Jira, Trello, Sprint Planning

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## **SOFT SKILLS**

- Strong analytical problem-solving skills for debugging complex technical issues.
- Effective written and verbal communication across technical and non-technical audiences.
- Collaborative team player with experience in cross-functional development environments.
- Self-motivated learner continuously expanding technical knowledge through projects and courses.
- Adaptable to changing requirements and new technologies with quick learning ability.
- Detail-oriented with focus on code quality, documentation, and best practices.

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## **EDUCATION**

### **BACHELOR OF ARTS IN POLITICAL SCIENCE AND LITERATURE**

University of Nairobi | Expected Graduation: 2025

- Applied analytical research methodologies to develop data-driven software solutions.
- Developed strong analytical thinking and research capabilities applicable to software development.

### **SOFTWARE ENGINEERING PROGRAM**

Moringa School | May 2022 - November 2022

- Completed intensive 900+ hour full-stack development program with 95% completion rate.

- Built and deployed multiple real-world projects showcasing proficiency in Frontend, Backend, Databases, and Version Control.
- Key Achievement: Developed a full-stack application that streamlined task management for remote teams, reducing manual processes by 40%.
- Collaborated in Agile development environments, emphasizing sprint planning, pair programming, and clean code practices.
- Key Contribution: Led a team project to build an e-commerce platform integrating payment APIs, increasing project scope understanding and delivery speed.

## **ALX SOFTWARE ENGINEERING PROGRAM**

ALX Africa | February 2023 - September 2023

- Selected for a highly competitive software engineering program recognized for producing top-tier global talent.
- Gained expertise in Python programming, algorithms, data structures, and system design.
- Key Achievement: Created a scalable Python-based recommendation engine using machine learning algorithms to enhance user engagement.
- Solved 100+ coding challenges on Leet Code and Hacker Rank to strengthen problem-solving skills.
- Contributed to open-source projects demonstrating collaboration and code quality standards.

## **CLOUD DEVELOPMENT & DEVOPS**

Self-Led Learning | Ongoing

- AWS Fundamentals: Proficient in using S3, Lambda, and IoT Core for cloud-based applications.
  - Implemented CI/CD pipelines with Docker and GitHub Actions for automated testing and deployment.
  - Project Highlight: Developed and deployed a serverless web app on AWS, optimizing performance and scalability.
  - Currently pursuing advanced DevOps certification with focus on containerization, infrastructure as code, and CI/CD automation.
  - Hands-on experience with Kubernetes cluster management, Terraform for infrastructure provisioning, and Jenkins pipeline creation.
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## **CERTIFICATIONS**

- AWS Cloud Practitioner (2023)
- freeCodeCamp Responsive Web Design (2022)
- Git & GitHub for Version Control (2023)