BAGOMBEKA JOB

Software Engineer

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01 PROFILE

Innovative and impact-driven **Software Engineer** with experience building scalable, user-focused systems—especially government platforms serving over **75 million users-**. Skilled in **full-stack development**, **API design**, and **system architecture**, with strong proficiency in modern tools and frameworks. Known for blending creativity with technical expertise, I also bring operational versatility across tech and administrative roles. Adept at handling sensitive tasks, managing complex projects, and collaborating in agile teams. Passionate about clean, maintainable code and mission-driven solutions. Whether solving backend challenges or optimizing workflows, I bring a forward-thinking mindset and a strong commitment to delivering high-quality, impactful technology.

02 EMPLOYMENT HISTORY

Jan 2025 — Present

Kampala, Uganda

SOFTWARE ENGINEER at SMSONE UGANDA LTD

Projects

1. **EMIS(Education Management Information System). Ministry of Education and sports (Government of Uganda)**

- Contributed to data modeling, SRS docs, and system architecture for a large-scale PostgreSQL system with 1,000+ tables, improving data integrity and project speed.

- Developed a national learners module using Laravel and Vue, integrating with NIRA and OPM APIs to register 30M+ learners across all school levels in Uganda, improving data accuracy and system scalability

- Implemented the Infrastructure module to capture school facility data, supporting MoES in budgeting for 2025/2026+ and enabling long-term, data-driven planning.

- Developed the Water & Sanitation module to track school utilities, enabling MoES to improve resource allocation and hygiene efforts while enhancing system scalability.

- Partially developed the Admin Units module in Laravel using Livewire, Alpine.js, Filament, and Tailwind, enabling structured school-to-location mapping and improving reporting for MoES.

- Contributed to a Laravel-based ticketing module for managing system issues and support requests, improving workflow efficiency and accountability across Uganda's education platforms.

- Implemented the HR module in Laravel with TMIS, work permit, and refugee data integrations, centralizing staff records and boosting accuracy, compliance, and productivity for MoES.

2. BULKSMS PLATFORM (Parliament of Uganda)

- Developed the Contact Management module for Uganda's Parliament BulkSMS platform, enabling structured uploads of 45M+ contacts by administrative units and improving targeted communication efficiency.

- Implemented secure SMS integration for the State House BulkSMS platform using Kannel and SMPP servers, enhancing message reliability, real-time delivery, and compliance with strict government security standards.

- Developed secure, scalable APIs with Python FastAPI for NIRA, UNEB, and Ministry of Finance integrations, streamlining data exchange and enhancing government service delivery.

Feb 2024 — Jul 2024

Kampala

SOFTWARE DEVELOPER at ELOI MINISTRIES .INC

- Developed and deployed core web platforms (eloiministries.org and eloiministries.us.org), significantly boosting the organization's digital visibility and outreach.

- Conducted penetration tests using Burp Suite, OWASP ZAP, Nmap, and Metasploit to identify vulnerabilities and improve security, driving compliance and platform trust.

- Debugged mission-critical software, diagnosed root causes, and implemented long-term fixes—reducing recurring issues by over 70%.

- Led a cross-functional team of software engineers to deliver a high-impact project on time and within budget, improving internal workflows and project delivery by 40%.

- Supported end-to-end development and QA processes, ensuring seamless app rollouts and reducing post-deployment issues.

- Integrated analytics tools to track usage patterns and performance metrics, enabling data-driven product decisions and optimizations.

- Designed and built a RESTful API that streamlined communication between frontend and backend systems, leading to faster response times and an improved user experience.

- Installed, configured, and maintained SQL-based database servers with 99.9% uptime, supporting uninterrupted access to critical application data.

Feb 2023 — Aug 2023

Kampala

SOFTWARE ENGINEER at TUKO SUPER APP TECHNOLOGIES LTD

- Developed and maintained several production-grade web platforms (e.g. tukoapp.com, tukorentals.com etc) using Laravel, Vue.js, Alpine.js, and Tailwind CSS resulting in improved reliability, performance, and user accessibility.

- Contributed to the Tuko Super App by developing scalable features with Flutter, Spring Boot, and Firebase, accelerating deployment and enhancing cross-sector service integration.

- Designed and built a scalable, high-availability web application architecture that successfully supported over 100,000 concurrent users with minimal downtime, enhancing user experience and boosting engagement.

- Implemented robust authentication systems using OAuth 2.0 and token-based access, which strengthened data privacy and compliance with security protocols.
- Built modular codebases across multiple languages including Java (Spring Boot), Python (Flask/Django), JavaScript (Vue.js), and PHP (Laravel), allowing for cross-platform adaptability and faster development cycles.
- Deployed optimized database structures using MySQL and PostgreSQL with indexing and query tuning, which improved response times and reduced server load under peak conditions.

03 EDUCATION

Sep 2020 — Sep 2022

Delhi, India

Sai Pali Institute Of Technology and Science

Diploma in Software Engineering

Completed an in-depth program focused on the full lifecycle of software systems — from planning and architecture to development, testing, and maintenance.

Key areas of study included:

- **Advanced Programming Concepts** (C++, Java, Python, and scripting languages)
- **Object-Oriented Analysis & Design (OOAD)**
- **Data Structures and Algorithms**
- **Database Design & Management** (MySQL, PostgreSQL, NoSQL systems)
- **Full-Stack Web Development** (HTML, CSS, JavaScript, PHP, Laravel, React)
- **Mobile Application Development** (Android, Kotlin, Flutter)
- **Cloud Computing Fundamentals** (AWS, Azure basics)
- **Software Architecture & Design Patterns**
- **Cybersecurity Principles & Penetration Testing**
- **DevOps Practices & CI/CD Pipelines**
- **Agile Methodologies, Scrum & Software Project Management**
- **Operating Systems & Computer Networks**
- **Human-Computer Interaction (HCI)**
- **Software Quality Assurance & Automated Testing**

Completed multiple capstone projects, collaborated in agile development teams, and gained practical experience using modern development tools and version control systems like **Git**, **Docker**, and **JIRA** and many more.

Jun 2021 — Aug 2022

Delhi, India

Sandip University

Certificate in Machine Learning

Completed a specialized certificate program focused on the core principles, algorithms, and practical applications of machine learning.

Key topics covered included:

- **Supervised & Unsupervised Learning Algorithms** (Regression, Classification, Clustering)
- **Neural Networks & Deep Learning** (Intro to CNNs, RNNs, TensorFlow/Keras basics)
- **Model Evaluation & Tuning** (Cross-validation, Confusion Matrix, ROC-AUC)

- **Feature Engineering & Data Preprocessing**
- **Python for Machine Learning** (NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn)
- **Data Collection, Cleaning & Visualization**
- **Natural Language Processing (NLP)** Essentials
- **Machine Learning Pipelines & Deployment Concepts**
- **Ethics in AI & Responsible Data Usage**

Built end-to-end ML models, analyzed real-world datasets, and deployed predictive systems in hands-on projects. Gained a solid foundation in both theoretical understanding and practical implementation.

04 SKILLS

JavaScript(React.js, JQuery, Node.js, Vue.js),	MySQL, PLSQL, SQL
Git	PHP(Laravel, Livewire)
Wordpress	PYTHON(Flask, Django, Fast API,Keras)
Linux	POSTGRES
Docker	Rest APIs
MongoDB	GOLANG
Java (Spring Boot)	ELASTIC STACK(Elastic Search, Logstash)
C++	RABBITMQ, KAFKA (Message Brokers)
HTML	APP DEVELOPMENT(Java, Kotlin,Flutter, Swift, ReactNative)
CSS(Tailwind CSS, Bootstrap)	

05 LANGUAGES

English	Luganda
Runyankore-Rukiga	French