

SIMON MUCHEMI

Software Engineer

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[GitHub](#) | [Linkedin](#)

EDUCATION

Dedan Kimathi University of Technology

Computer Science Bachelor of Science

Nyeri, Kenya

October 2021 - December/2024

African Leadership Experience (ALX)

Software Engineering Certification

Online

January 2024 - February 2025

Teach2Give

Quality Assurance/Engineering Certification

Nyeri, Kenya

September/2024 - December/2024

EXPERIENCE

Dedan Kimathi University of Technology | Computer Science Attachment Nyeri, Kenya | February 2023 - March 2023

- Gained foundational knowledge in networking, including simulation of network setups using Cisco PacketTracer.
- Conducted practical exercises on computer hardware, building troubleshooting skills and hardware knowledge.
- Studied the software development life-cycle, with hands-on experience in documenting and developing software projects.

Teach2Give | QA/QE Internship

Nyeri, Kenya | September 2024 - December 2024

- Developed and maintained web applications using React and Express with TypeScript, focusing on robust, scalable solutions.
- Enhanced application reliability and performance by implementing unit and integration tests with Jest.
- Actively contributed to project architecture and best practices in JavaScript/TypeScript, ensuring efficient, clean code.
- Demonstrated proficiency with SQL, leveraging Sequelize ORM for effective database management and manipulation.
- Built and optimized data fetching processes with API integration, improving data-driven functionality across platforms.

SKILLS

Programming Languages: C, Java, Python, JavaScript, TypeScript
Libraries/Frameworks: React, SQLAlchemy, Flask, Node.js, Express.js, Prisma, Mongoose
Tools / Platforms: Linux, Vim, VS Code, PyCharm, IntelliJ Idea
Databases: MySQL, Sqlite, MongoDB

PROJECTS / OPEN-SOURCE

Devcamper API | [Link](#)

Node.js, Express.js, MongoDB, AWS

Designed and developed a RESTful API for managing bootcamps, courses, reviews, and users, implementing CRUD operations, authentication, and authorization. Integrated JWT authentication, password encryption, image uploads, and geolocation services. Optimized performance with pagination, filtering, sorting, and rate limiting. Ensured security through CORS, Helmet, XSS protection, HPP, and input sanitization. Built a custom error-handling middleware and documented the API using Postman.

FileSearchTCP | [Link](#)

Python, SSL, Threading, Algorithms

A file search application that uses TCP sockets for communications and implements various file search algorithms to search for strings provided by the client(s). It uses multi-threading to handle multiple client simultaneously.

ShopSmart | [Link](#)

TypeScript, AWS, Express, MongoDB

A robust RESTful API for e-commerce operations built with Node.js and MongoDB. This is also my final trimester project at ALX.

TheraBot | [Link](#)

Python, OpenAi, Jupyter Notebook

TheraBot is a fine-tuned chatbot model, based on gpt-3.5-turbo. It is designed to analyze user text and provide counselor-like feedback.

BookNest - Server Side | [Link](#)

Python, Flask, SQLite, SQLAlchemy, Pydantic, Unittest

A Flask API designed to help librarians manage and track books issued to members. It allows librarians to track the quantity of books available, monitor book fees and also members registration update and deletion. The API also maintains records of transactions made; issuance and retrieval of books from members.

BookNest - Client Side | [Link](#)

JavaScript, React, Axios

BookNest is a user-friendly web application designed to simplify library management. It allows librarians to efficiently manage books, track fees, and update member details. The client-side application, built with React.js, provides an intuitive interface for day-to-day library operations, ensuring seamless interaction with the backend API for data handling.

CERTIFICATIONS

- Bachelor of Science Degree - **Dedan Kimathi University**
- Software Engineering - Backend Specialization Certificate - **African Leadership Experience (ALX)**
- QA/QE Certificate - **Teach2Give**