

ALEX MBUGUA

Software Engineer

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Nairobi, Kenya

[LinkedIn](#)

[Portfolio website](#)

SUMMARY

Highly motivated and Software Engineer modern front-end technologies and back-end development.

SKILLS

Programming Languages

- JavaScript
- Python
- Typescript
- Go

Technologies

- PostgreSQL
- MySQL
- Redis
- MongoDB
- Docker
- Linux Operating System
- Node
- Google Cloud

Tools

- Git
- GitHub
- Vs Code
- Neovim

EDUCATION

ALX Africa

Software Engineering

April 2023 - July 2024

JKUAT

Bachelor's Degree in Electrical and Electronic Engineering

2017 - 2023

EXPERIENCE

Software Engineer, [mbumwa3d](#)

2024 - Present

- Designed and built Mbumwa3D, a web application connecting people with 3D printers to those without.
- Used Docker to containerize the application for easy hosting on Google Cloud.
- Integrated Mpesa Daraja Payment API into Mbumwa3D for seamless payment processing.
- Developed an efficient 3D STL file analyzer in Go for real-time model processing, price and volume calculation, and print time estimation.
- Implemented secure JWT user authentication in Go.
- Created the backend API in Go to manage user data, file processing, order handling, and payment processing.

Robotics Engineering Intern, Jkuat Robotic Dojo

2013

- Collaborated to design and build a mobile assembly robot
- Developed an advanced path-planning algorithm in C++ for precise and safe manoeuvring of the robot system.
- Implemented and tuned a PID controller for a line-following robot using C++ and data input from line sensors, a gyroscope and a camera.

Embedded Systems Engineer, [peupetechnologies](#)

Formerly Psalmchmart Ltd. | 2019

- Collaborated on designing and implementing Mpesa payment systems for milk and oil ATMs, enabling seamless and automatic payment processing.
- Designed and built control systems for milk and oil ATMs using C++.
- Developed control systems for a smart aquarium using C++.
- Created control systems for a smart greenhouse drier using C++.