<div align="center">**CURRICULUM VITAE**</div>

Mbugua Maxwell

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GitHub: https://github.com/mac-cloud

Portfolio: https://mac-kubeportfolio.netlify.app

PROFILE

Final-year Computer Science student passionate about automating infrastructure, building scalable systems, and solving real-world problems using technology. Skilled in Python, React, and DevOps tools with hands-on experience in cloud computing, containerization, and CI/CD pipelines. Adept at IT support through professional internships and practical freelancing experience. Seeking an entry-level DevOps position to apply technical knowledge and grow in a collaborative engineering team.

TECHNICAL SKILLS

- **Languages:** Python, JavaScript (React), Bash, YAML

- **DevOps Tools:** Docker, Kubernetes, Jenkins, Git, GitLab CI/CD

- **Cloud Platforms:** Azure (Basics), AWS (EC2, S3)

- **Monitoring & Logging:** Grafana, Prometheus

- **Version Control:** Git, GitHub, GitLab

- **Operating Systems:** Linux (Kali, Ubuntu), Windows

- **Databases:** MongoDB, MySQL

EDUCATION

Bachelor of Science in Computer Science
Karatian *University*

sep 2021 - Expected: sep 2025

PROJECTS

Agricultural Planning & Weather-Based Yield Predictor
A machine learning model designed to assist farmers in optimizing their agricultural planning.

- Built a predictive model that forecasts crop yields while factoring in weather conditions such as rainfall, temperature, and humidity.

- Helps farmers plan their planting and harvesting activities for maximum productivity and minimal risk.

- Developed a web interface for farmers to input farm-specific data and receive actionable insights.

- Deployed using Flask, integrated with weather APIs, and Dockerized for scalable deployment.

Tech stack: Python, Scikit-learn, Flask, Docker, Weather APIs, MongoDB

Multi-Cloud Application Deployment (Azure & AWS)
A DevOps infrastructure project for high-availability deployment across Azure and AWS.

- Created and containerized a full-stack application using Docker.

- Configured CI/CD pipelines using Jenkins to automate builds and deployments to both Azure App Services and AWS EC2.

- Utilized Infrastructure as Code (IaC) with Terraform to provision cloud resources.

- Implemented monitoring with Prometheus and Grafana to compare cross-cloud performance.

Tech stack: Docker, Jenkins, Terraform, Azure, AWS, GitHub Actions, Prometheus, Grafana

Waste Classification Using CNN (Ongoing)
A deep learning model for smart recycling plants to classify waste into biodegradable and non-biodegradable categories.

- Trained a Convolutional Neural Network (CNN) on a labeled dataset of waste images.

- Aims to automate waste sorting at recycling centers to improve efficiency and sustainability.

- Currently working on model optimization and integration into an edge device for real-time classification.

Tech stack: Python, TensorFlow/Keras, OpenCV, CNN, Edge AI (Raspberry Pi/Jetson), FastAPI (planned)

WORK EXPERIENCE

IT Support Intern
State Law Office, Nairobi — May 2024 to August 2024

- Provided first-line IT support to over 100 staff, resolving hardware/software issues and network challenges.

- Assisted with maintaining system backups, printers, and software deployment across departments.

- Learned and implemented basic system security procedures and network diagnostics.

Freelance Developer (Remote)
Self-employed — 2022 to Present

- Developed lightweight web applications using React and Flask for clients in education and retail.
- Set up CI/CD pipelines and Docker containers for deploying client apps on cloud platforms.
- Designed secure REST APIs for user management and inventory tracking systems.

CERTIFICATIONS

- **Docker Essentials** – IBM Skills Network
- **CI/CD Pipelines with Jenkins** – Coursera
- **Azure Fundamentals (AZ-900)** – Microsoft

EXTRACURRICULAR & LEADERSHIP

- Member of University DevOps Club – Organized weekly sessions on containerization and cloud.
- Volunteer Mentor – Guided first-year students on version control and Python basics.
- Campus Led for the Nairobi DevOps Community

SOFT SKILLS

- **Problem-Solving:** Able to think critically and troubleshoot infrastructure and application issues under pressure.
- **Team Collaboration:** Experience working in diverse teams during internships, clubs, and freelancing gigs.
- **Adaptability:** Comfortable working across technologies and learning new tools quickly.
- **Communication:** Capable of explaining technical concepts to both technical and non-technical audiences.
- **Time Management:** Successfully balanced academics, freelance work, and personal projects.

HOBBIES

- **Nature Blogging** Occasionally write articles and create walkthroughs on nature topics, like adventure.