

Elizabeth Muthoni

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Career Profile

Computer Science professional with a strong foundation in software engineering, cybersecurity, and machine learning. Passionate about advancing secure computing systems and exploring cryptographic solutions. Experienced in contributing to research-driven projects, developing scalable backend systems, and communicating technical insights effectively.

Technical Skills

- **Programming Languages:** Python, Java, JavaScript, PHP
- **Cybersecurity:** PortSwigger Web Security, Linux basics (CyberTalents), CCNA 1 Networking
- **Cryptography & Security:** Postman API Fundamentals, Django authentication, secure API design
- **Networking:** CCNA 1, ERP system enhancement (Tana Water Works)
- **Machine Learning:** Applied ML in academic coursework and Cyber Shujaa program
- **Tools & Frameworks:** FastAPI, MERN stack, Django, MySQL
- **Soft Skills:** Critical thinking, time management, technical documentation, teamwork

Education

Dedan Kimathi University of Technology Bachelor of Science in Computer Science (Sept 2022 – Dec 2025)

Relevant Coursework: Cryptography, Networking, Machine Learning, Data Structures & Algorithms, Web Development, Entrepreneurship, Ethics in professionalism, Artificial Intelligence

CESI: Masters in Computer Science (Feb 2026 - June 2026)

Relevant course work: Internet of Things(IoT) , Research projects, AI and Data Science

Pursuing my fourth year in CESI located in France.

Research and projects

University Assessment and Marking Automation system (UAMAS)- Dedan Kimathi University of Technology(DeKuT)

(AI-Powered University Assessment Management System)

Technologies: GPT-4 API, OCR, Voice Processing, Backend Development

- Designed and developed an AI-driven system to reduce lecturers' workload by automating assessment generation, grading, and feedback.
- Integrated GPT-4 to generate intelligent assessments and provide personalized feedback to students.
- Implemented OCR technology to support scanned and image-based assignment submissions.
- Developed a voice response feature enabling students to submit verbal answers where appropriate.
- Enabled lecturers to upload customized learning materials for assessment generation and student access.

KaziLink System – SafaricomHook & Power Learn Project *USSD-based job connection platform using Africa's Talking API*

- Integrated FastAPI and Python for secure backend processing
- Authored deployment documentation with scalability and security in mind

WasafiRet System – Janja Program *E-commerce platform built with Django*

- Implemented secure payment and flash-sale features
- Collaborated via GitHub to ensure code integrity and version control

ElimuTuts System – Power Learn Project *Education platform using MERN stack*

- Developed tutor and student dashboards with secure access controls
- Presented functional prototype for review and testing

Employee Management System *Led team to build HR tool with secure UI interactivity*

- Applied advanced JavaScript and authentication protocols

Blog Platform with Django *Content management system with user-authored posts and admin controls*

- Focused on secure login and dynamic content rendering

Professional Experience

Tana Water Works Development Agency *Computer Scientist Attachee (Feb 2025 – Apr 2025)*

- Supported ICT infrastructure and networking
- Contributed to ERP system enhancement with a focus on secure data handling

Power Learn Project Academy *Volunteer-Mentor, Tutor (Jul 2025 – Mar 2026)*

- Mentored learners in project development and secure coding practices
- Participated in workshops on ethical and secure tech development

Responsible Ethical and Computing Club *Secretary General (Mar 2024 – May2025)*

- Led discussions on ethical computing and cybersecurity
- Documented meetings and contributed to tech-for-good initiatives

Certifications

- CCNA 1 Networking Certification
- PortSwigger Web Security Certification
- Postman API Fundamentals Student Expert
- Python-Django Course Completion
- CyberTalents Linux Basics
- Cyber Shujaa AI & Data Science Program
- Power Learn Project Software Development Certificate
- Global Mentorship Initiative – Mentee under industry professionals

Languages

- Fluent in English,French and Swahili