

## **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 – May 2025)*

- 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