KUDZAISHE D MWAZA

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EDUCATION

BS University of Zimbabwe, Mechatronics Engineering   August 2025
Graduated with 2.1

RESEARCH EXPERIENCE

Undergraduate Dissertation, University of Zimbabwe   Aug 2024 – Jun 2025

- Designed a remote water-quality monitoring pipeline using Google Earth Engine (GEE) and Python for data extraction, feature generation, and anomaly detection.
- Developed and evaluated machine learning models for detecting anomalies in satellite-derived water-quality parameters, integrating spatial and temporal analysis.
- Demonstrated capability in data preprocessing, visualization, and model optimization using tools such as pandas, scikit-learn, and matplotlib.

Mechatronics Project, University of Zimbabwe   Aug 2023 – Nov 2023

- Co-developed a quadruped robot prototype for remote surveillance of hazardous mining environments.
- Focused on control-algorithm design, motion simulation, and sensor data acquisition using Python and C++.
- Collaborated in a multidisciplinary team applying mechatronics principles to improve robot stability and obstacle navigation.

TEACHING EXPERIENCE

STEM Tutor – *Independent / Private Tutoring,* **Harare**   2020 – Present

- Tutored over 100 students in mathematics, physics, and chemistry, guiding several to scholarships in engineering and medicine.
- Designed and delivered lessons integrating AI tools (GitHub Copilot, Claude, Cursor) to enhance computational literacy and independent learning.
- Developed individualized learning plans emphasizing conceptual understanding and problem-solving.
- Mentored students on programming fundamentals and real-world applications of scientific principles.

COMMUNITY SERVICE

STEM Access Initiative   2020 – Present

- Delivered free college-prep programming lessons and STEM mentorship to high school graduates preparing for university.
- Partnered with engineering peers to design and implement a solar-powered charging station, providing reliable lighting and study access during power outages.
- Established peer-learning circles that evolved into a collaborative student community for sharing resources, discussions, and project work.

LANGUAGES

English: Fluent
Shona: Native Language

COMPUTER SKILLS

Programming: Python (pandas, NumPy, scikit-learn, TensorFlow, matplotlib), C++ (basic), MATLAB (familiar)
Machine Learning & Data Science: Data preprocessing, model training and evaluation, anomaly detection, remote sensing data analysis (Google Earth Engine)
Software & Tools: Jupyter Notebook, VS Code, Cursor, Git/GitHub, AWS DeepRacer, Google Colab
Operating Systems: Windows, Linux (Ubuntu)
Other Technical Skills: Web data visualization, API integration, automation scripting, cloud-based data pipelines

CERTIFICATIONS

- Artificial Intelligence Fundamentals – IBM SkillsBuild
- Scientific Computing with Python Certification - FreeCodeCamp
- Data Analysis with Python- FreeCodeCamp
- Machine Learning Specialisation(Coursera) - In Progress

OTHER

Interests/Hobbies: Finance, History, Art, Photograph