

Kigali, Rwanda
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Moayad Elamin

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Machine Learning Engineer and researcher specializing in responsible AI for low-resource languages. Experienced in developing speech, vision, and identity systems that are secure, fair, and reproducible under real-world constraints. My work bridges practical ML deployment with research on alignment, multilingual NLP, and AI safety. Experienced collaborating with NGOs, startups, and governmental partners in Africa.

EXPERIENCE

Machine Learning Engineer

Truststamp.ai

Kigali - Rwanda

OCT 2023 — Present

- Designed and deployed AI-based identity verification systems serving 100 K+ users monthly.
- Built Presentation-Attack Detection (PAD) pipelines using computer vision to handle occlusions (hats, glasses, beards).
- Strengthened model security through encryption, watermarking, and obfuscation to ensure provenance and reduce misuse.
- Automated document-fraud detection, transitioning from rules to ML classifiers and improving precision while cutting manual review.
- Fine-tuned vLLMs for identity workflows, implementing evaluation harnesses (faithfulness, hallucination) and MLflow-based reproducibility.

Engineering Consultant

RICOS Engineering

Sharjah - UAE

DEC 2020 — OCT 2023

- Led technical design of renewable microgrids for refugee camps and rural communities in eastern Sudan.
- Created and maintained databases and automation pipelines improving project transparency and decision-making.
- Conducted feasibility studies and built analytical dashboards to guide humanitarian infrastructure projects.
- Applied data-driven optimization and energy modeling to reduce operational costs by 20

Teaching Assistant and Researcher

Carnegie Mellon University

Kigali - Rwanda

SEP 2021 — DEC 2022

- Co-developed coursework and assignments for Introduction to Deep Learning, supporting 300+ students.
- Supervised student research projects in speech recognition and NLP for social good.
- Authored educational materials and tutorials on experiment tracking, ensemble methods, and scientific writing, published on CMU's YouTube channel (16 K+ subscribers).

EDUCATION

Carnegie Mellon University

Masters of Science in Engineering Artificial Intelligence

3.64/4.0

- **Thesis:** Developed a state-of-the-art speech-to-text system for Rwanda's Digital Transformation Center, enabling linguistic inclusivity and aligning with national digital transformation goals.

University of Khartoum

Bachelor of Science Electrical & Electronic Engineering

7.60/10.0

- **Thesis:** Optimizing energy trading between independent microgrids using RL; enabling significant cost savings in building and operating the microgrids and improving energy stability and sustainability.

HIGHLIGHT PUBLICATIONS

ArabicNLP 2025 @ EMNLP 2025 - Enhancing Arabic Readability Prediction with Hybrid BERT and Linguistic Features

IST-Africa 2024 - Generating African Artistic Styles Using Textual Inversion

Africa NLP @ ICLR 2023 - Multilingual Automatic Speech Recognition for Kinyarwanda, Swahili, and Luganda: Advancing ASR in Select East African Languages

ICCCEEE 2020 Comparison of Deep Reinforcement Learning Algorithms in Enhancing Energy Trading in Microgrids

Practical ML for Low Resource Settings @ ICLR 2020 - Modeling, Visualization, and Analysis of African Innovation Performance

TECHNICAL SKILLS

- **Languages & Frameworks:** Python, PyTorch, TensorFlow
- **Domains:** NLP, Speech Recognition, Reinforcement Learning, Computer Vision, Low-resource Languages, Tabular ML
- **Infrastructure:** Docker, MLflow, AWS, GCP, CI/CD, Model Security, Privacy-preserving ML