

AYEBILLA AVOKA

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EDUCATION

Carnegie Mellon University Africa
MSc. Artificial Intelligence Engineering

Kigali, Rwanda
Expected Date of Graduation: May 2024

The University of Edinburgh
MSc. Data Science, Technology, and Innovation

Scotland, United Kingdom
Date of Graduation: Nov 2023

Ashesi University
BSc. Computer Engineering

Accra, Ghana
Sept 2016 — May 2020

ACHIEVEMENTS/ AWARDS

The MasterCard Foundation Scholar Program Scholarship—University of Edinburgh 2020 — 2023
United Nations and Millennium Campus Network Fellow Aug 2018 — Dec 2018
The MasterCard Foundation Scholar Program Scholarship—Ashesi University 2016 — 2020

WORK EXPERIENCE

Prof. Conrad Tucker's Summer Research Assistant—CMU-Africa Jun 2024 — Present

- Conducted comprehensive literature review on graph neural networks.
- Proposed and implemented a novel graph neural network algorithm (DAS-GNN), expected to outperform state-of-the-art algorithms on large-scale graphs.
- Reviewed literature on the utilization of social network sites as sensors for national security and development.

Project Officer—Ashesi University Apr 2022 — Feb 2024

- Supported faculty to develop e-Learning content for two undergraduate courses.
- Analyzed student performance and platform activity data and presented insights to platform and content developers which led to 30% improvement in learner experience.
- Designed and administered Impact Assessment Questionnaires to collect data from 180 learners to assess program impact.

Ashesi Success Tutor—Ashesi University Feb 2022 — May 2022

- Co-taught a first-year ungraded course on college success and sexual rights to 16 students.
- Counseled students on appropriate sexual behavior and rights

Regional Trainer & Field Supervisor – Ghana Statistical Service May 2021 — Jul 2021

- Led the training of 32 field officers on the interpretation and use of the 2021 Census instruments.
- Led meetings with stakeholders, public education, and community entry activities in my supervisory area.
- Supervised data collection and error correction of 6 field officers in five enumeration areas.

Teaching Assistant – Ashesi University Sept 2020 — Aug 2021

- Assisted faculty with grading of students' assignments and lab work.
- Led discussion and lab session to help students gain a better understanding of class material.
- Assisted faculty with managing the Learning Management Platforms.

Data Science Intern & Trainee – 10 Academy Jul 2020 — Aug 2020

- Participated in weekly training on how to collaborate and work in teams as a Data Scientist.
- Cleaned, analyzed, and modeled real-world data across different domains and wrote reports.

PROJECTS AND RESEARCH

Data Analytics Projects Jan 2024— Mar 2024

- Used Python to analyze 15-minute intraday energy demand data and wrote a report to communicate insights. A key insight was the variation in energy demand during weekdays vs weekends.
- Successfully combined 2014 weather data and daily electricity consumption of France and performed stepwise linear regression using the weather variables to focus electricity consumption.

AI and Robotics Aug 2023—Present

- Successfully built a humanoid robot character in Unity and used a trained machine learning model to teach it how to behave ethically, which won the robotics grant challenge last semester.
- Trained a machine learning model to classify given scenarios as ethical or unethical and achieved 70% accuracy.

Research Projects Mar 2023—Aug 2023

- Authored a master's level dissertation exploring Ghanaians' perceptions and awareness of cryptocurrency and non-fungible tokens. The study found Ghanaians to be more receptive to cryptocurrencies and wished for some regulations to make it a safe space for investors.

- Used CNN to classify AI-generated images by the algorithm that generated them.

Data Science Projects

Oct 2020—Nov 2020

- Used Gephi to model, analyze and identify influencers of the #ENDSARS protest in Nigeria using their tweets.
- Network analysis of Twitter data to identify communities.
- Performed handwritten digit classification using Neural Networks in Python.

CO-CURRICULAR ACTIVITIES

Mastercard scholars representative

Oct 2022—July 2023

- Attended Scholars Council meetings to discuss welfare of scholars on behalf of online scholars at the University of Edinburgh.
- Organized events and supported programs for online scholars.

SKILLS

- Unity – Intermediate
- Python – Intermediate
- Machine Learning – Intermediate
- Data Analysis – Intermediate
- Research – Intermediate
- Software Engineering – Beginner
- Bash – Intermediate
- Java - Intermediate