

Eugene Kuloba

Location: Nairobi

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PROFESSIONAL PROFILE

Dedicated and hardworking professional with a unique blend of expertise in meteorology, data science, and GIS analysis, backed by over 2 years of proven experience. Proficient in utilizing ArcGIS software and Arc Editor to develop comprehensive GIS databases, create precise data sets, and set snapping tolerances for accurate geospatial representation. A critical thinker with a relentless drive for process improvement, excelling in the fields of data editing and map production.

As a skilled communicator, I possess the energy and confidence to deliver compelling presentations and circulate information in a clear and efficient manner, ensuring its value to end users. My creativity shines in problem-solving, where I consistently find innovative solutions and recommend modifications to enhance the optimal utilization of organizational data. With a strong foundation in meteorology, data science, and GIS analysis, I am well-equipped to contribute effectively to any team or project.

SKILLS

- Skilled in the use of Python, R programming, ArcGIS and SQL.
- Detail-oriented, thorough, and vigilant to collect all necessary data without missing critical components.
- Skilled understanding of data analysis to effectively interpret findings in a way that makes sense to end users.
- Competent communicator and confident presenter to report analytics findings to members of senior management.
- Creative in putting together projections for a variety of scenarios to assist departmental experts in making future decisions regarding the organization's growth.
- Technologically-savvy to assist end users with understanding technology, software updates, and changes to existing protocols.
- Enthusiastic and friendly team player who can motivate colleagues and contribute to shared objectives in efforts to accomplish departmental goals.

WORK EXPERIENCE

Mara Elephant Project

July 2023 – Present

- ⑩ Perform data analysis on collected spatial data.

- ⑩ Run monthly speed map reports.
- ⑩ Create python scripts to help in automation of work.
- ⑩ Help in development of the ECOSCOPE.

National Drought Management Authority

August 2021-April 2022

- Performed data cleaning on spatial data to make it viable for mapping.
- Performed basic GIS operations under a senior GIS analyst, including using geoprocessing tools and creating as well as editing geographical data sets.
- Assisted superiors with interpreting data and compiling in an organized manner.

Kenya Meteorological Department

5th July-27th August

- Fundamentals of the Numerical Weather Prediction (NWP) systems
- Fundamentals of running the Weather Research and Forecasting Models.
- Developed routines using the Linux Environment and Commands.
- Analyzed the model output using R.

Mwalie Agroviet

June 2020-December2020

- Data entry of both sales and excel.
- Analysis of the data with the use of both excel and R to help better sales and maximize on profits.
- Advice to farmers of good crops to plant during particular seasons with my knowledge gained from Meteorology.

PROJECTS

Mental Health Prediction Model

This project aimed to develop a machine learning model that classified statements and questions expressed by university students in Kenya when speaking about the mental health challenges they struggle with and come up with a chat bot that will be used for a prototype of a mental health chat bot designed specifically for university students.

Based on the accuracy of our best model, the XGBoost Classifier-Grid Search, had a train accuracy score of 92% and test accuracy of 85%. The same model had a train and test log score of 0.242 and 0.439, respectively. I used the log loss as a performance metric because it takes into account the probabilities underlying in the model, not only the final output of the classification.

Skin Image Disease Classification

Here I collaborated to build a model called **Derma AI's**. The model architecture is based on **Convolutional Neural Networks (CNNs)**, a deep learning technique widely used for image classification tasks. Transfer learning was employed to utilize pre-trained models such as **VGG-19** and **EfficientNet** to fine-tune the model and improve its performance.

To make the skin disease image classifier easily accessible to users, it was integrated into a user-friendly web application. Users can upload images of their skin diseases, and the application provides an accurate diagnosis of the skin condition. The application only accepts images that contain human skin and gives an error message if the uploaded image is not a valid image file or if the skin disease is not in our database yet.

Forecasting-Commercial-Bank-Transactions

This was also a collaborative project where we developed a model that was able to successfully forecast cash transactions. This model can be used to help banks maintain a sufficient cash at its specific branches. We used the **SARIMA** model which performed fairly well on both the train and test data. It captured the monthly seasonality in the cash balances well.

EDUCATION

DATE OF STUDY: (2022 – to date)

NAME OF SCHOOL: Moringa School

QUALIFICATION: Certificate (Data Science)

DATE OF STUDY: (2018-2022)

NAME OF SCHOOL: University of Nairobi

QUALIFICATION: Bachelor of Science (Meteorology)

DATE OF STUDY: (26th January 2018 to 9th March 2018)

NAME OF SCHOOL: East Africa Institute of Certified Studies

QUALIFICATION: Certificate in Computer Application

DATE OF STUDY: (2014-2017)

NAME OF SCHOOL: Sacho High School

DATE OF STUDY: (2006-20013)

NAME OF SCHOOL: Olerai Primary School

REFERENCES

1) Name: Dr. Joseph Mutemi

Telephone: 0722890176

Organization: University of Nairobi

2) Name: Emmanuel Ashitiva

Telephone: 0715139895

Organization: National Drought Management Authority

3) Name: Phinus Othoo

Telephone:0785655566

Organization: Kenya Meteorological Department

4) Name: Sammy Wamono

Telephone: 0700190981

Organization: Mwalie Agrovet