Maureen Wamuyu Mugo

Machine Learning Engineer

mugomaureenw@gmail.com

+254701775576

Nairobi, Kenya

https://www.linkedin.com/in/maureen-mugo-6a215a178/

https://twitter.com/Maureen__Mugo

https://github.com/maureen-mugo

PROFILE

Motivated and detailed-oriented ML Engineer with a focus on Deep Learning. Currently pursuing a specialization in Deep Learning with a strong understanding of neural networks, computer vision, natural language processing, and time series analysis. Eager to apply skills and knowledge in a challenging role to develop, implement and deploy models to solve complex problems.

LANGUAGES

English ●●●●●

INTERESTS

Outdoor Activities (Swimming, Bike Riding, Go Karting)

EDUCATION

Bachelors of Science in Telecommunications, Kabarak University
May 2018 – December 2021 | Nakuru, Kenya
Award: Second Class Upper

Secondary Certificate, State House Girls High School
February 2014 – November 2017 | Nairobi, Kenya
Grade: B-

PROFESSIONAL EXPERIENCE

Rural Electricity and Renewable Energy Corporation, IT Intern
September 2021 – December 2021 | Nairobi, Kenya
Responsibility

- Formatting and installing browsers, operating systems, SAP application, Microsoft Office, and Anti-virus software.
- Crimping ethernet cables.
- Enrolling biometrics and attendance systems.
- Solving hardware issues like printer paper jam, replacing faulty computer peripherals, and maintaining computers and laptops by blowing and cleaning them.
- Providing help desk services to fellow staff like troubleshooting slow computers, Microsoft Exchange and emails, radio trunking, and printer issues.
- Conducting daily and weekly backups of data.
- Accessing database, adding users, deleting and updating their data.
- Configuring proxy settings.
- Monitoring proxy servers to ensure every user has access to the network.
- Solving internet and network issues.

COURSES

Practical Deep Learning, Fast.ai
2022 – present
Deep learning foundations self-paced course that's comprises of 9 lessons including: computer vision, data ethics, natural language processing with transformers, natural language processing with Recurrent Neural Networks, Neural Networks from Scratch, Deployment using HuggingFace spaces, Random Forest, Convolution Neural Networks and Neural Networks Foundation

PROJECTS

Internet of Things, Non-Touch Smart Door
Developed a pioneer non-touch smart door prototype to minimize contact at entry points during the Covid-19 pandemic. Integrated a non-touch temperature sensor (GY-906-BCC IR Infrared Thermometry Module) and a human radiation sensing module to detect movement. Implemented using Arduino Uno and C++ for coding the logic.

Computer Vision, Image Classifier
Leveraged the Resnet18 model in conjuction with Fastai libraries and PyTorch to develop a highly accurate image classifier, successfully distinguishing between three distinct bear types. Achieved an exceptional performance with an impressive low error rate of 0.02%.

SKILLS

Programming Languages and Libraries
Python, PyTorch, Fastai, Numpy, Matplotlib, Pandas, OpenCV, Seaborn

Artificial Intelligence
Neural Networks, Computer Vision, Natural Language Processing, Data Analysis, Time Series Analysis, Transformers

Tools
Git and Github, Shell Scripting, Jupyter Notebooks

Internet of Things
Arduino, C/C++

Other Programming Languages
HTML, CSS

Soft Skills
Time Management and Organization, Attention to Detail, Problem-Solving and Decision-Making, Flexibility and Adaptability

Natural Language Processing, Recurrent Neural Network
Utilized the IMDB dataset to develop a sentiment analysis models using AWD_LSTM architecture. Achieved an accuracy of 94% in categorizing movie reviews as positive or negative.

Natural Language Processing, RNN with LSTM
Enhanced a text generation model by introducing a regularized LSTM architecture on the human numbers dataset, which comprises the first 10000 words written in English. The primary objective of the project was to predict each word based on the previous three words in the sequence. This optimization resulted in a substantial accuracy improvement from an initial 50%, achieved with an RNN created from scratch, to an impressive 86%.

Natural Language Processing, Transformers
Leveraged the deberta-v3-small transformer model by Microsoft to compare and score phrases from the US Patent Phrase to Phrase Matching dataset. Achieved a Pearson correlation coefficient of 0.83, evaluated against the patent class-based similarity.

Time Series Analysis, House Price Prediction
Evaluated diverse regression model like Catboost, XG Boost, Light GBM, Linear regression, KNN, SVM, Ensemble learning(Catboost, XG Boost, Light GBM), Random Forest, Decision Tree and PyTorch Sequential Neural Network on the California Housing dataset. Assessed model performance using metrics such as MSE, MAE, and R squared. Visualized predictions against actual target values for comprehensive analysis

REFERENCES

Alex Kangethe, *ICT Manager*,
Rural Electrification and Renewable Energy Corporation
alex.kangethe@rerec.co.ke