Kiprono Elijah Koech | CV

⌂ Nairobi, Kenya

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Highly analytical, ingenious and results-oriented data scientist and statistician focusing on being a grounded researcher in machine learning and deep learning applied in business decisions. Possessing working knowledge of Python programming and data management using SQL with the application in Data Science fields like Predictive Modeling, Data Analytics, and Computer Vision, among other areas.

Key Skills

Areas of Expertise

Machine Learning Deep Learning Computer Vision Applied Statistics Data Visualization Data Mining Business Intelligence and Analytics Applied Mathematics Big Data

Tools and Technologies

Python SQL Git Version Control Linux SPSS TensorFlow and Keras Hadoop HTML and CSS R (familiar) Tableau Microsoft Office Docker

Education

Stellenbosch University
Certificate: **Master's Degree in Applied Mathematics (Data Science)**
Research area: *Deep Learning/ Computer vision*

Cape Town, South Africa
Feb 2020 – Apr 2022

Stellenbosch University
Certificate: **Master's Degree in Mathematical Sciences, *Cum Laude***
Research area: *Machine Learning and Computer Vision*

Cape Town, South Africa
Jan 2019 – Nov 2019

Jomo Kenyatta University of Agriculture and Technology
Certificate: **Bachelor's Degree in Science (Statistics), *First Class Honors***

Nairobi, Kenya
Sep 2013 – Nov 2017

Work Experience

Data Science Intern, Kenya Meteorological Department
A brief: Working on a project to improve weather forecasting

Nairobi, Kenya
Apr 2022 – Sep 2022

- Working on implementing better parameterization and data assimilation procedures for improved weather forecasting.
- Streamlining data processing and modeling procedures through automation of computation processes

Research Fellow, Science of Intelligence
A brief: Worked on a computer vision project at Technische Universität Berlin.

Berlin, Germany
Feb 2021 – Aug 2021

- Worked on action recognition problem that involved using a deep learning model to classify animal actions. The ultimate goal was to promote wildlife conservation through identification of actions that leads to some species being endangered.

Data Clerk, PACT-Timiza
A brief: Data entry, management and analysis role involving HIV patients information.

Kisii and Migori, Kenya
Jan 2018 – Dec 2018

- Managed HIV patients data for over 10,000 clients. This involved entering information on the paper into the IQ care database; analyze the data to locate clients with poor adherence and recommend follow-up; and data quality checks.
- Follow-up reduced the cases of poor adherence to anti-retroviral by over 70% and be able to close cases as required. Rectified an event that almost led to the loss of 2300 data points due to system failure. The by-product of this was setting up a more robust backup pipeline.

Statistics Intern, South Nyanza (SONY) Sugar Company
A brief: An internship working with factory data in a sugar company.

Migori, Kenya
Jun 2017 – Dec 2017

- Analyzed factory data to explain production trends and seasonality phenomena.
- Particularly analyzed downtime data and reported variables that are most significant in impacting the extent of downtime. Upon implementation, there was a 42% drop in downtime in 2018 compared to 2017.

Projects

1. **Reviews Classification** | *Skills: Web scraping, Sklearn, machine learning algorithms*
   - This project involves scraping over $200k$ reviews using Scrapy and classifying them as positive or negative using different Sklearn models. Also, dealing with the issue of data imbalance.
   - SVM classifier was the best in this application achieving an F1 score of 89%... the code is in this GitHub repo.
2. **Applied Machine Learning Algorithms (7 projects)** | *Skills: Python, Machine Learning*
   - This work comprises of 7 projects done for different ML algorithms [GitHub host link].
3. **Fruit Detection** | *Skills: Python, TensorFlow and Keras, Computer Vision*
   - In this project, Mask R-CNN and YOLOv5 are deployed in context from fruit detection on outdoor images (apples and mangoes).
   - The two models achieved on-par state-of-the-art results attaining 93% and 88% F1 score for mango and apple images, respectively... more information in GitHub.
4. **Crop Disease Classification** | *Skills: Python, TensorFlow and Keras, Computer Vision*
   - This is classification problem applied to Agriculture. This project was presented as a solution to a Zindi Challenge and ranked as top 15% solution...more information in GitHub.

Award and Honors

Golden Key Award, for being among the top 15% academic performers among the 2019 cohort.
(2020-2022)
African Institute for Mathematical Sciences(AIMS) Scholarship, for MSc Mathematics at S.U
(2019-2010)&(2020-2021)
Award for Excellence, African Institute for Mathematical Sciences(AIMS)
(Jan 2019- Nov 2019)
Vice-Chancellor's Academic Award, the best student in Bachelor of Science (Statistics option)
(2014/2015, 2015/2016 and 2016/2017 academic years)
First place, Mathematics contest with 1954 contestants
(2012)

Groups and Societies

- Computer Vision and Remote Sensing Group at Technische Universität Berlin, Germany [link]
- Data Science Research Group at African Institute for Mathematical Sciences, South Africa [link]
- Golden Key International Honour Society
- Kenya National Society of Statisticians

⛷ Hobbies and Interests

- Reading books. Currently reading "Mastery" by Robert Greene.
- Volunteering and Charity work.
- Playing puzzle games like Rubik's cube and Sudoku game.

Declaration: I hereby declare that the information furnished above is true (***June 9, 2022***).

Kiprono Elijah Koech