BRIGHT ABOH

CONTACT

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SKILLS

- **Python** 4+ yrs
- **SQL** 3+ yrs
- **QGIS** 3+ yrs
- **Linux/command line** 3+ yrs
- **Scala** 2+ yrs
- **R** 2+ yrs
- **Dash** 2+ yrs
- **Git** 2+ yrs
- **Spark** 2+ yrs
- **Power BI** 2+ yrs
- **AWS** 2+ yrs

PROFILE

A data scientist with expertise in deep learning and machine learning with a passion for data science and AI applications to derive insights from data and aid in better and informed decision making, experience working with large datasets both structured and unstructured, and excellent visualization and dashboard development. An excellent researcher, thrive well in team environment and communicator

WORK EXPERIENCE

Data scientist Sep 21 - NOW

ishango.ai for Philip Morris International

Managed the downloading, processing, and performing in-depth analysis on satellite images to develop deep learning algorithms and pipelines to detect and classify different crop types

- Automated download of satellite images for a given shapefile saving 95% of manual download time
- In-depth automated data processing and preparation cutting down about 70% of repetitive processing time
- Satellite image analysis; SAR, Landsat, Sentinel
- Deep learning model training with AWS SageMaker; improving training times by 60%
- Technical documentation with confluence

Technologies include:

- Python
- PyTorch
- Computer vision
- Amazon Web Service (AWS)
- Remote sensing

Achievements include:

- Deployed **A web application for land cover monitoring**
- Develop deep learning segmentation model to delineate land parcels with 85% precision
- Deep learning classification models to classify crop type
- Algorithm design to identify crop type from SAR images
- Develop machine learning pipeline for training, validation, and testing

EDUCATION

2017 - 2019

M. Sc. Mathematical Sciences.
AIMS - Senegal

Main thematic priority of the master studies was social network analysis. We examine the call graph of one of the largest telecommunication companies in Africa. Our primary goal is to predict churners within the network of the telecom company using social networks. Our analysis examines the propensity of a subscriber to churn out of the service provider's network depending on neighbors who have already churned. We use Python programming language to construct and analyze our call graph. We model the propensity of a customer to churn as a diffusion process, using opinion dynamic models such as Sznajd model and an epidemic model such as the Susceptible-Infected (SI) we predicted subscribers who have a high probability of churning from the network.

2011 - 2015

B. Sc. Financial Mathematics.
University for Development Studies

The topic for the bachelor's thesis was 'Modelling effects of the capital market on the GDP using regression analysis '. A positive correlation was established between GDP and the capital market of Ghana.

Data science fellow April 21 - Aug 21
Ghana Statistical Service

In charge of the development of the dashboard and training staff of Ghana Statistical Services for Ghana's 2021 Population and Housing Census under the Global Partnership for Sustainable Development Data project

Technologies include:

- Python for custom tool development
- Dash for data visualization and dashboard development
- Heroku for web app deployment
- Git for version control

Achievements include:

- Developed and deployed **a dashboard** to monitor Ghana's Population and Housing Census
- Trained 6 Data Science Trainees of the Ghana Statistical Service on dashboard development with Python and Plotly Dash
- Processed census data with python pycspro

Research Assistant Nov 20 - April 21
Integrated Digital Monitoring and Management of Air Pollution, UKRI

Designing and defining all data needs, research methodologies, government protocols, and procedures towards the implementation of integrated digital surveillance of Air Pollution in Sub-Saharan African (SSA) cities under The Global Challenges Research Fund of the UK Research and Innovation

- Identify key policy opportunities and options for the management of air pollution in SSA cities
- Evaluate the potential for integrating ground-level and satellite sensing technologies with data analytics and AI methods
- Co-develop the features of an integrated digital urban air pollution monitoring system for informing policy priorities and evaluating their impacts on pollution

Technologies include:

- Python for data analysis
- Google Earth Engine for satellite image collection

Achievements include:

- Successfully organized a workshop in collaboration with the University of Ghana, Imperial College, and AIMS on digital monitoring needs and data sources with over 50 attendees including government officials and expert
- Defined a methodological framework for modeling air pollution in Sub-Saharan African cities
- Held regular meetings with Imperial College and Universities Space Research Association on data analytics and methodologies

CERTIFICATE

- **Programming for data science**
- **AWS Machine Learning Foundations**

Online Classes

It is important for me to stay up to date with the newest topics in the field of AI and Data Science. In these fields it is also important to have a general overview and a hands-on experience on them. Therefore, besides intense article studies, I also keep myself up to date with online classes.

Data scientist (Machine learning researcher) June 19 - Sep 20

Rwanda Environment Management Authority

Responsible for collecting satellite imagery and building machine learning models for Land Use, Land Use Change and Forestry.

- Implemented classification models for land use
- Analyzed air quality data for health recommendations
- Data quality assurance
- Python training across 3 departments
- Set up and managed database PostgreSQL

Technologies include:

- Google Earth Engine
- Python
- PostgreSQL
- QGIS

Achievements include:

- Led 12 members of Rwanda national satellite data collection across 7 national departments and cut down 75% of data collection time on Land Use
- Authored a peer review conference paper published by Association for Computing Machinery (ACM)
- Mentored 3 interns from the African Leadership University
- Reviewed Rwanda's Biennial Update Reports for UNFCCC
- Presented research findings in renowned conferences such as NeuRIPS's "Tackling climate change with machine learning" and ACM's "Computing and Sustainable Societies"

Data Science intern May 18 - Dec 19

Orange Telecommunication

Responsible for building a machine learning model to predict multi-SIM owners within the subscriber base of Orange Senegal

- Construct a social network of subscribers from Call Detail Records
- Analysis of subscribers network
- Identification of multi-SIM owners

Technologies include:

- Python for data and network analysis
- Scala for Big Data handling
- Neo4j for graph database

Achievements include:

- Constructed a graph database of 10 million nodes

- Developed a hybrid machine learning model to predict multi-SIM owners.
- Python for in-depth analysis
- Standard Linux tools, such as awk, sed, grep, ...