

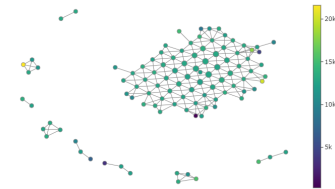
Bright Effah

Research and Data Enthusiast

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Professional Profile

A Research and Data professional with over five (5) years experience in Data modelling, research, analysis, forecasting and reporting for decision making. I bring to bear a demonstrated skill set of driving business performance through; big data query(SQL), data mining, accurate model prediction, model evaluation, monitoring of model performance in production, interpretation of outputs, and development of recommendations.

Education

Program	Institution	Year
MSc. (Mathematics.)	Nipissing University North Bay, ON	Jan,2021-Jan,2023
BA. (Economics & Mathematics.)	University of Cape Coast Cape Coast, Ghana	Aug,2013-May,2017

Experience

1. [Research Assistant](#)

Jan, 2021 - Dec 2022

(MSc / Supervisor: Prof. Karashev)

Nipissing University

- Member of sociology-mathematics interdisciplinary research group on analysis BBC loneliness survey [link](#).
- I used simple graphs to connect similarities between sentences in unsupervised data.
- Used several algorithms to rank the words in the Loneliness survey and score the most important ones. eg. TF-IDF, Key Word Extractor, RankText, etc
- I applied natural language processing techniques to Loneliness data from the BBC, London.
- Cleaned and analyzed Big Data from the BBC Loneliness Team(UK) assigned by my supervisor.
- Taught Maths and Technical Statistics for 1st and 3rd year courses assigned to me.
- Marking and grading Maths and Statistics for 1st and 3rd year courses assigned to me.
- Tools: Python, scikit-learn, docker, pandas, HTML, T-SVD, UMAP, DBScan, Tableau, SQL, etc.

2. [Machine Learning Engineer](#)

Jun-Nov 2022

(eCommerce Platform in North Bay, ON)

OneRedMaple

- Built and trained machine learning and deep learning models that classified product into twenty (20) categories.
- Leveraged on pre-trained models and fine-tune to predict similarities between product titles.
- Used MLOps(Azure) to run several testing and scaled models for accuracy.
- I deployed and monitored models performance on Azure and worked with the team through Agile.
- Built image search algorithm for enhancing the product search on the app.
- Projects: Product classification, Product tagging and labelling, Image similarity search, Text similarity search.
- Researched on several articles and implemented most to provide AI solutions for the OneRedMaple App.
- Tools: PySpark, Pytorch, Tensorflow, Scikit-learn, Jupyter, Google Colab, Docker, linux, shell, cloud computing

3. [Data Scientist/Analytics](#)

Sept, 2017-Jan 2021

(Headoffice, Accra-Ghana)

Ministry of Trade and Industry

- Innovated, created, and supported corporate data quality assessment, data modeling methodologies, data integration best practices, process models and data flows.
- Queried, manipulated, extracted, updated, inserted and transformed data from the database with SEQUEL.
- Developed and implemented databases, data collection systems, surveys, data analytics and other strategies that optimize efficiency and quality.
- Identified, built model, analyzed, and interpret trends and patterns in complex datasets against key performance indicators and industry benchmarks on Trade directions in Ghana for non-traditional exports.
- Used machine learning algorithms and imports from other Africa countries to forecast trade and investment.
- Interpreted data using statistical modelling to provide ongoing reports and data visualization dashboards (Tableau/PowerBI)

that expands an understanding of business process, targets, compliance and opportunities for improvement

- Tools: Relational Database, Mysql, Excel, SQL, SPSS, PowerBI, Python, SKlearn, etc

Research Projects

1. MSc. Thesis

(MSc / Supervisor: Prof. Alexandre Karassev)

Jan-Dec 2022
Nipissing University

Thesis: Topological Data Analysis of Open-Ended Responses.

- Proposed a dimension reduction steps to Natural Language Processing, embeddings on text.
- Clustering Algorithms eg. KMeans, DBScan, Hierarchical clustering, etc
- Created functions to recall the responses from a cluster and HTML file to show clusters on a web page.
- Tools: Python, scikit-learn, scikit-learn-TDA, pandas, HTML, T-SVD, UMAP, DBScan, NLP, etc.

2. Project Work

(BA / Faculty: Late Prof. Isaac K. Acheampong)

Jan-May 2019
University of Cape Coast

- **Project Work** Relationship Between Inflation and Interest Rate in Ghana
- Tools: SPSS, Econometric Views, Excel, Multiple Regression etc.

Online Courses

- Coursera: [Introduction to Databases for Back-End Development](#) , [Version Control](#), [Programming in Python](#), [Introduction to Back-End Development](#), [Data Analysis with Python](#), [Tools for Data Science](#), [What is Data Science](#) , [Data Science Methodology](#), [Machine Learning](#)
- Udemy: [Natural Language Processing: NLP With Transformers in Python](#), [TensorFlow Developer Certificate in 2022: Zero to Mastery](#) , [Learn Python Programming Masterclass](#)
- World Trade Organization(WTO): [Trade Finance and the WTO](#)

Course Work

Key Courses

(Core and electives)

MSc & BA

- Course: Optimization, General Topology, Time Series Analysis, Econometrics, Advanced Economics, Mathematics for Economics, Statistical Methods, Linear Models, Stochastic Processes, Insurance Economics, Linear and Modern Algebra, Advanced Calculus, Complex Analysis
- Lab: Data Analysis, Numerical Analysis

Technical Skills

- Programming Language: C, Python
- Database System: Mysql, Postgresql, Sqlite, MangoDB
- Framework: LAMP stack, GPU, Django
- Tools: Latex, Anaconda, VI, VIM, EMACS, Microsoft Office, MLOps
- Web Technology: HTML, CSS,
- Operating System: Windows, Linux
- Cloud platform: Azure, AWS, Google cloud

Workshops

- Speaker for Topology Workshop [The mapper algorithm on open ended responses](#), 17th Annual Workshop on Topology and Dynamical Systems (May, 2022).
- Speaker for, [The language of loneliness through data visualization and interpretation of open-ended survey responses](#) conducted by The Retired Teachers of Ontario (RTOERO) Foundation and Nipissing University (2021).

Others

- Hobbies: Teaching, Cooking

Declaration

I do hereby declare that all the details furnished above are true to the best of my knowledge and belief.

References are available upon request

(Bright Effah)