Mawuli Agamah

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Experience

Senior Data Scientist London, UK

The Department for Business and Trade , UK Civil Service May. 2024 - Present

- Coded python/SQL analysis identifying UK businesses vulnerable to coercive acts, synthesized recommendations on policy to executive boards , enabling targeted business engagement strategies.
- Built and deployed ML models (quantile regression, XGBoost) to estimate disruptive event impacts on UK supply chains. Enabled trend identification across events and strategic forecasting for.
- Performed network analysis revealing shared suppliers across manufacturing supply chains, de-risking crown commercial services procurement strategies.
- Developed Python package automating data processing and reporting workflows increasing analytical quality and speed for a 15+ data scientist team.
- Trained Graph Neural Network to generate low-dimensional supply chain representations, identifying alternative supply networks for key businesses
- Developed scalable NLP solution with foundation models enabling semantic search of internal documents, accelerating project delivery and knowledge sharing for 15+ data scientist team

Assistant Economist London, UK

The Department for Business and Trade Nov. 2022 - May. 2024

- Implemented dimensionality reduction and clustering analysis (Python) on large-scale text data (Free Trade Agreements), quantifying hidden trade barriers supporting UK government's trade negotiation strategies.
- Built and maintained international trade models (difference-in-difference regressions) evaluating policy change impact. Directly informed UK government strategies and negotiations.
- Developed monitoring and evaluation strategy for novel government programmes, leading stakeholder workshops to assess data collection capabilities and identify gaps.
    - Created interactive R-shiny dashboard monitoring 40+ KPIs in real-time, enabling senior leadership strategic decision-making
- Forecast export trajectories of UK industrial sectors, identifying new growth markets and informing export promotion activities.

Student Economist London, UK

The Department for Environment Food and Rural Affairs, UK Civil Service , Sep. 2019 - Feb. 2020

- Drafted technical reports detailing economic forecasts and scenario analysis , collaborating with cross-government policy teams and external partners. Insights influenced UK trade strategy during EU exit negotiations.
- Automated the update of the primary economic model through R, this reduced the update from c2 months to minutes.
- Developed a browser based R shiny application to instantly compare observations across datasets, resulting in optimizing workflows for analyzing and interpreting economic modelling results.
- Implemented time series models (e.g. ARDL, error-correction models) in R to estimate price elasticities in agricultural markets.

Education

The University of Birmingham

M.S.c Economics Sep. 2021- Sep 2022

Grade : Pass

- Dissertation (75%) - Applied machine learning to infer the causal effects of public policy using observational data.
    - Specifically, graphical neural networks and alternative models for propensity score estimation.
- Future Leaders Certificate Programme - Completed consulting programme, sharpening skills in leadership, stakeholder engagement, and collaboration. Capstone project involved consulting the BBC on strategies to boost online engagement for the BBC Live platform.

The University of Keele Sep. 2017 - July. 2021

B.S.c - Mathematics & Economics

Grade : 1st Class Honors

Technical Skills

- **Data Visualization & Reporting**: : Expert in Excel (PivotTables, VLOOKUPs), PowerPoint, and R Shiny.
- **Programming & Analysis**: Python (5+years experience) - Highly proficient in Machine Learning and Data Science Libraries (Pytorch, Tensorflow, Langchain, LLamaIndex) , R (5+years experience) , **SQL** (5+ yrs): Strong experience in querying, joining, and optimizing large relational datasets.
- **Machine Learning & NLP**: Practical experience with causal inference, time-series modelling (ARDL, error correction), GNNs, and foundation models for NLP.