Ayina Anyachebelu

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EDUCATION

University College London, Department of Geomatic Engineering **London, UK**
MSc in Geospatial Data Science Expected Grad Dec 2023

- **Thouron Award Winner,** Full tuition covering master's program in the UK plus £35,000 yearly stipend
- **Current Coursework:** Databases and Data Management, Spatio-Temporal Data Mining, Machine Learning, Deep Learning for Edge Computing, Statistics and Geocomputation, Web and Mobile Apps, Agent-Based Modelling

University of Pennsylvania, Huntsman Program, GPA: 3.99/4.0 **Philadelphia, PA, USA**
B.S. Applied Economics (Concentration in Analytics) and B.A. International Studies; Minor in Spanish May 2022

- Graduated Summa Cum Laude and Phi Beta Kappa, Dean's Award for Academic Excellence, Rhodes Finalist, Marshall Finalist
- **Relevant Coursework:** Machine Learning for Remote Sensing, Econometrics, Linear Algebra, Probability, Big Data Analytics

SKILLS AND INTERESTS

- **Python:** numpy, pandas, geopandas, scikit-learn, Tensorflow, keras, PyTorch | **R**: dplyr, tidyr, shiny, caret, fixest, mlr3
- **Data Visualization and Databases**: SQL, Python (matplotlib, seaborn), BigQuery, R (ggplot2), Tableau
- **Web and Mobile Applications**: Javascript, Node.js, HTML/CSS, Leaflet, jQuery, Rest APIs, Docker
- **Geospatial Analysis and Mapping:** Python, R, QGIS, Google Earth Engine, Spatial Statistics and Econometrics

WORK EXPERIENCE

Microsoft Research **Redmond, WA, USA**
Computing Research Intern, Project Eclipse May – Aug 2022

- Ideated and conducted empirical study to highlight the effectiveness of team's novel real-time network of hyperlocal sensors
- Utilized python for data collection, wrangling and geographical feature engineering including self-generated dataset of Chicago fires from Twitter, Project Eclipse public API (first API user as proof of concept) and hourly meteorological data
- Implemented econometric models in R to identify spatial and temporal causal effect of house fires on pollution in Chicago
- Presented results to Illinois Environmental Protection Agency, explaining implications for public health and future sensing work
- First author of forthcoming paper: "Pollution Effects of Hyperlocal Events: Characterizing House Fires with a Dense Sensing Network"

J.P. Morgan Chase & Co. **New York, NY, USA**
Equity Research and Credit Trading Summer Analyst June – Aug 2021

- Conducted analysis on relationship between social media mentions and quarterly revenues for video game companies using scraped Twitter posts to provide content used by Media Equity Head Researcher for creative published report
- Performed geospatial analysis on investments in Python saving 20+ hours to support valuation research for distressed debt team
- Completed 10-page investment recommendation report on a movie theater stock based on analysis of historical box office trends

Suyo **Medellin, Colombia**
Business Data Intelligence Intern June – Aug 2019

- Designed online customer surveys (taken by 1000+), expediting data collection and community outreach to expand market research
- Cleaned and validated dataset of 100K+ readings from 2K+ clients and performed analysis to discover property rights trends
- Developed customer profiles and unique affordable customer payment plans based on socioeconomic analysis that would save team hundreds of hours per year in customer services and subsidize cost for low-income resident customers by 20-40%

ACADEMIC EXPERIENCE

Honors Senior Thesis, Department of Statistics (advised by Dr. Shane Jensen) **Published June 2022**
"Who Gets Green in Philadelphia: A Spatial Analysis of Philadelphia's Tree Distribution Program" (Grade: A+)

- Developed spatial models and geographically weighted regressions in R to evaluate the equity of TreePhilly's yard tree distribution
- Integrated data in python from US Census API, proprietary municipal geolocated tree datasets, and Landsat 8 satellite imagery using Google Earth API for land surface temperature calculations to identify inequities based on heat severity and socioeconomic factors

Teaching Assistant, Department of Statistics - The Wharton School of Business **Aug 2021 – May 2022**

- Teaching Assistant for "Data Science for Finance" (80 students) and "Introduction to Statistics - Honors" (60 students)
- Reinforced student learning by holding recitations and office hours 3 hrs/week and evaluated student python/R data labs and exams

Research Presenter, Master's of Spatial Analytics Deep Learning Symposium **Presented May 2021**

- Executed end-to-end development of deep learning CNN for classification of aerial images of forest fires with 96% accuracy
- Experimented with various dimensionality reduction techniques including convolutional autoencoder and principal component analysis
- Built and compared multiple machine learning algorithms using parameter tuning including SVM, KNN and random forest models