SARAH FOBI MENSAH

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EDUCATION

Montana State University   Bozeman, MT
PhD, Statistics   August 2024

MS, Statistics, GPA: 3.89   May 2024

Kwame Nkrumah University of Science and Technology   Kumasi, Ghana
BS, Actuarial Science, GPA: 3.89   September 2021

RESEARCH INTERESTS

Dimensionality reduction techniques for high dimensional data (application on health-related data), Machine learning.

RESEARCH EXPERIENCE

Montana State University   Bozeman, MT
Graduate Research Assistant, Advisor: Mark Greenwood   December 2023 – May 2024
- Sparse Contrastive PCA and its Feasibility for Metabolomics Data.
Funded by: National Institute of Arthritis and Musculoskeletal and Skin Diseases (1R01AR081489-01A1)

Kwame Nkrumah University of Science and Technology   Kumasi, Ghana
Research Assistant, Advisor: Alexander Boateng   July 2022
Predictive Analysis of misuse of alcohol and drugs using machine learning algorithms: The case of using an imbalanced dataset from South Africa.
- Conducted an extensive review of relevant literature to inform the research framework.
- Contributed to implementing machine learning algorithms, leveraging R and relevant libraries, to predict and analyse patterns of alcohol and drug misuse.

TEACHING EXPERIENCE

Montana State University   Bozeman, MT
Graduate Teaching Assistant   August 2022 – December 2023

Courses
- STAT 216 -Introduction to Statistics   Summer 2024
- STAT 337 – Intermediate Statistics with R   Fall 2023
- STAT 216 – Introduction to statistics   Spring 2023
- STAT 216 – Introduction to statistics   Fall 2022

Kwame Nkrumah University of Science and Technology   Kumasi, Ghana
Undergraduate Teaching Assistant   October 2021 – July 2022

Courses
- STAT 371– Regression Analysis   Spring 2022
- STAT 153 – Statistical Methods I   Fall 2021

RELATED WORK EXPERIENCE

Data Analytics Intern
KPMG, Australia (Remote)   July 2020 – August 2020
- Identified data quality issues with the dataset presented by the Sprocket Central company and visualized the data to help the company visualize its customers.
- Analysed the company's dataset using RMF (Recency, Frequency and Monetary) analysis to help the company determine which customers it should target to increase its revenue and value.

PUBLICATION

Odoom, Christopher, Alexander Boateng, Sarah Fobi Mensah, and Daniel Maposa. "Modeling of the Daily Dynamics in Bike Rental System Using Weather and Calendar Conditions: A Semi-Parametric Approach." *Scientific African* (2024): e02211.

Boateng, Alexander, Christopher Odoom, Eric Teye Mensah, Sarah Mensah Fobi, and Daniel Maposa. "Predictive Analysis of Misuse of Alcohol and Drugs using Machine Learning Algorithms: The Case of using an Imbalanced Dataset from South Africa." *Appl. Math* 17, no. 2 (2023): 261-271.

CERTIFICATIONS
- Git (Simplilearn)   November 2023
- Data Visualization in R with ggplot2 (LinkedIn)   November 2021
- The Data Scientist's Toolbox (Coursera)   March 2021
- SQL for Data Science (Coursera)   December 2020
- Excel/VBA for Creative Problem Solving, Part 1 (Coursera)   November 2020
- Python Data Structures (Coursera)   November 2020
- Programming for Everybody, Getting Started with Python (Coursera) October 2020

PROFESSIONAL ASSOCIATIONS

American Statistical Association
Royal Statistical Society

HONOR SOCIETY

The Honor Society of Phi Kappa Phi

AWARD

Scholarship recipient, Ghana Scholarship Secretariat   May 2021

LEADERSHIP EXPERIENCE

Judicial Committee Chair
Actuarial Science Students' Association-KNUST Chapter   September 2020 – August 2021

Deputy Finance Chair
Actuarial Science Students' Association of Ghana   September 2019 – May 2020