

SARAH FOBI MENSAH

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PROFESSIONAL EXPERIENCE

Statistical Consultant

January 2024 – May 2024

Conducted analysis to evaluate the effectiveness of storybook-based training on Alzheimer's disease education for children and adults, using a mixed-effects model.

Graduate Research Assistant

December 2023 – May 2024

Explored the application of Sparse Contrastive PCA to high-dimensional metabolomics data, assessing its effectiveness in reducing dimensionality for enhanced interpretability and easier analysis.

Funded by: National Institute of Arthritis and Musculoskeletal and Skin Diseases (1R01AR081489-01A1)

Research Assistant

October 2021 - July 2022

Evaluated and compared six supervised machine learning algorithms to predict alcohol abuse and drug use across South Africa's nine provinces, aiming to propose an optimal predictive model for detecting substance misuse.

Data Analytics Intern

KPMG, Australia

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.

EDUCATION

Ph.D. Statistics

Expected 2027

Montana State University, Bozeman, MT

M.S. Statistics, GPA: 3.89

May 2024

Montana State University, Bozeman, MT

B.S. Actuarial Science, GPA: 3.89

September 2021

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

RESEARCH INTERESTS

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

PUBLICATIONS

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.

TEACHING EXPERIENCE

Graduate Teaching Assistant, Department of Mathematical Sciences, MSU

August 2022 – December 2023

Courses taught: STAT 216 (Introduction to Statistics), STAT 337 (Intermediate Statistics with R)

Conducted hands-on instruction with R software, facilitating practical learning in data wrangling, visualization, and interpretation, and guided students in statistical analysis and data-driven conclusions.

TECHNICAL SKILLS

R/R Studio (Markdown), Git/GitHub, SQL

PROFESSIONAL ASSOCIATIONS

Member, American Statistical Association

March 2024 - present

Member, Royal Statistical Society

January 2024 - present

AWARD/ LEADERSHIP EXPERIENCE

Scholarship Awardee, Ghana Scholarship Secretariat

May 2021

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