

# SARAH FOBI MENSAH

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## EDUCATION

**Montana State University**  
PhD, Statistics

Bozeman, MT  
August 2024

MS, Statistics, GPA: 3.89

May 2024

**Kwame Nkrumah University of Science and Technology**  
BS, Actuarial Science, GPA: 3.89

Kumasi, Ghana  
September 2021

## RESEARCH INTERESTS

Multivariate analysis, 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