

# Benjamin Osafo Agyare

✉ bosafoagyare@umich.edu




in linkedin.com/in/benjamin-osafo-agyare

id orcid.org/0009-0005-5202-5562







🌐 <https://bosafoagyare.netlify.app/>

🐙 github.com/bosafoagyare

## Education


- 2021 – 2026  **Ph.D Statistics, University of Michigan, Ann Arbor.**  
Advisor: *Prof. Kerby Shedden.*
- 2019 – 2021  **M.S Statistics & Data Science, University of Nevada, Reno.**  
*Recipient of Full Scholarship from the Department of Mathematics and Statistics.*
- 2013 – 2017  **B.S Actuarial Science, Kwame Nkrumah University of Science and Tech.**  
Thesis title: *A Survival Analysis on the Surrender of Life Insurance Policies in Ghana.*  
Advisor: *Prof. Gabriel Asare Okyere.*

## Honors & Awards

- 2024  **Best Poster Award**, The Michigan Student Symposium for Interdisciplinary Statistical Sciences.  
 **Outstanding Graduate Instructor Award**, - *Honorable Mention* - Dept. of Statistics, UM.
- 2022  **1st Place**, Capstone Project Competition in Statistical Learning, The University of Michigan.
- 2021  **IABA Foundation Scholar**, The International Association of Black Actuaries (IABA)- \$3,000.
- 2020  **1st Place**, Capstone Project Competition in Bayesian Statistics, The University of Nevada, Reno.
- 2019  **1st Place**, Capstone Project Competition in Statistical Computing, The University of Nevada, Reno.

## Research Publications

### In Preparation

- 1  **B. Osafo Agyare** and K. Shedden, “Kernel-based expectile regression with inference for dependent data,”

## Teaching Experience

### Graduate Student Instructor, University of Michigan, Ann Arbor

- **STATS 401 - Applied Statistical Methods II** (~ 120 students) *Winter 2024/Fall 2023*
- **STATS 513 - Regression and Data Analysis** (Graduate Level ~ 51 students) *Winter 2023*
- **STATS 501 - Applied Statistics II** (GLMs, Mixed Models & Semi-Parametric Models) *Winter 2023*
- **STATS 306 - Introduction to Statistical Computing** (~ 40 students) *Winter/Fall 2022*
- **STATS 406 - Computational Methods in Data Science** (~ 75 students) *Fall 2021*

### Graduate Teaching Assistant, University of Nevada, Reno

- **MATH 127 - Pre-Calculus II** (~ 70 students) *Spring 2021*
- **MATH 181 - Calculus I** (~ 90 students) *Fall 2020*
- **MATH 126 - Pre-Calculus I** (~ 140 students) *Fall 2019*

### Teaching Assistant, University of Ghana

- **STAT 224 - Introductory Probability II** (~ 60 students) *Spring 2018*

- **STAT 222 - Data Analysis I** (~ 95 students) Spring 2018
- **STAT 221 - Introductory Probability I** (~ 60 students) Fall 2017
- **ACTU 409 - Introduction to Actuarial Mathematics** (~ 140 students) Fall 2017

## Work Experience

JUNE – AUG 2024	<b>Research Intern</b> , <i>Center for Global Health Equity, University of Michigan</i> . - Work on NIH funded projects on health equity problems in developing countries.
MAY – AUG 2020	<b>Predictive Modeling Intern</b> , <i>EMPLOYERS Insurance Group</i> . - Conducted Territorial Analysis on claim frequencies by employing Spatially Constrained Clustering Algorithms and Generalized Additive Models, leading to the re-clustering of rating territories for enhanced pricing models. - Developed Loss Development Models utilizing Elastic-Net Poisson GLM, significantly enhancing the predictive accuracy of future losses and optimizing reserve setting for the company. - Constructed Pure Premium models through GLMs and Zero-Inflated Models for accurate prediction of future loss costs.
JAN – MAY 2020	<b>Graduate Researcher</b> , <i>University of Nevada, Reno</i> . - Applied Bayesian frameworks to analyze federal election results for each state from 1992 to 2018, employing a novel Bayesian multilevel linear model for efficient simultaneous analysis of all states' data.

## Presentations & Posters

### Presentations

- 2024
- Joint Statistical Meetings, Portland, OR, USA.
  - The 32nd International Biometric Conference, Atlanta, GA, USA.

### Posters

- The Michigan Student Symposium for Interdisciplinary Statistical Sciences, Ann Arbor, MI, USA

## Computing Skills

- Programming/Frameworks    R, Python, SQL, PyTorch, TensorFlow, HTML, PHP, Javascript.
- Reproducible Research/HPC     $\LaTeX$ , Markdown, Terminal, git, Slurm.

## Service & Professional Memberships

### Service






- 2023+    Computing Committee, Dept. of Stats, University of Michigan, *Member*.
- 2023+    Curriculum Committee, Dept. of Stats, University of Michigan, *Member*.
- 2022+    Recruitment & Admissions Committee, Dept. of Stats, University of Michigan, *Member*.

## Service & Professional Memberships (continued)

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2015-2016        **Actuarial Science Students Association**, KNUST, *Vice President*.

### Professional Memberships

- 2024+        American Statistical Society (ASA).
-     Institute of Mathematical Statistics (IMS)
-     International Biometrics Society (IBS).
- 2020+        Royal Statistical Society (RSS).
- 2019+        International Association of Black Actuaries (IABA).

## Miscellaneous Experience

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### Mentoring

- 2024+        **Undergraduate Research Program in Statistics (URPS)**, co-supervise two undergraduate students with Prof. Kerby Shedden, focusing on robust matrix factorization techniques for analyzing biomedical data.

### Certification

- 2021        **Certificate in Teaching Practice in Higher Education**, ssociation of College and University Educators (ACUE), USA.

### Actuarial Exams

- SOA Exams        **Financial Mathematics, Probability, Statistics for Risk Modeling.**
- VEE        **Applied Statistical Methods, Economics, Corporate Finance.**