

Benjamin Osafo Agyare

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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

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|-----------------|---|
| JUNE – AUG 2024 | Research Intern , <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 | Predictive Modeling Intern , <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 re-serve setting for the company.
- Constructed Pure Premium models through GLMs and Zero-Inflated Models for accurate prediction of future loss costs. |
| JAN – MAY 2020 | Graduate Researcher , <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

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

Service & Professional Memberships






Service

- | | |
|-------|---|
| 2023+ | <ul style="list-style-type: none"> Computing Committee, Dept. of Stats, University of Michigan, <i>Member.</i> Curriculum Committee, Dept. of Stats, University of Michigan, <i>Member.</i> |
| 2022+ | <ul style="list-style-type: none"> Recruitment & Admissions Committee, Dept. of Stats, University of Michigan, <i>Member.</i> |



Service & Professional Memberships (continued)

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

Professional Memberships

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

Mentoring



-  **Yunxuan "Haytham" Tang**, (*currently* BS EECS at UM) *Winter 2024*
- Co-supervise Undergraduate Research Program in Statistics (URPS) project with Prof. Kerby Shedden, focusing on robust matrix factorization techniques for analyzing biomedical data.
-  **Shuge Ouyang**, (*currently* BS Math at UM) *Winter 2024*
- Co-supervise Undergraduate Research Program in Statistics (URPS) project with Prof. Kerby Shedden, focusing on robust matrix factorization techniques for analyzing biomedical data.

Miscellaneous Experience

Certification

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

Actuarial Exams

SOA Exams  Financial **M**athematics, **P**robability, **S**tatistics for **R**isk **M**odeling.
VEE  Applied Statistical Methods, Economics, Corporate Finance.