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

🖵 **Graduate Teaching Assistant**, *University of Nevada, Reno*

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

🖵 **Teaching Assistant**, *University of Ghana*

– **STAT 224 - Introductory Probability II** ($\sim$ 60 students)	*Spring 2018*

    – **STAT 222** - **Data Analysis I** ($\sim$ 95 students)   *Spring 2018*

    – **STAT 221** - **Introductory Probability I** ($\sim$ 60 students)   *Fall 2017*

    – **ACTU 409** - **Introduction to Actuarial Mathematics** ($\sim$ 140 students)   *Fall 2017*

Work Experience

JUNE – AUG 2024	**Research Intern**, *Center for Global Health Equity, University of Michigan.* - Work on NIH funded projects on health equity problems in developing countries.
MAY – AUG 2020	**Predictive Modeling Intern**, *EMPLOYERS Insurance Group.* - 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	**Graduate Researcher**, *University of Nevada, Reno.* - 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

2024   🔖 **The Michigan Student Symposium for Interdisciplinary Statistical Sciences**, Ann Arbor, MI, USA

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.

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*.
	▌	**Curriculum Committee**, Dept. of Stats, University of Michigan, *Member*.
2022+	▌	**Recruitment & Admissions Committee**, Dept. of Stats, University of Michigan, *Member*.
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).

Miscellaneous Experience

Certification

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

Actuarial Exams

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