Emmanuel Kubuafor

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EDUCATION

- **University of New Mexico**   **Albuquerque, NM**
  MS in Statistics; CGPA: 4.15   *January 2024 - Present*

  - Research: Latent Spatial Heterogeneity in U.S. Cancer Mortality; An Integrated Approach Using Multivariate Clustering and Spatial Autocorrelation

- **University of Ghana**   **Accra, Ghana**
  Bsc in Mathematical Science; CGPA: 3.76/4.0   *August 2018 - September 2022*

  - Research: Evaluating Financial Health of Commercial Banks in Ghana: An Application of Altman's Z-Score Model
  - Advisor: Dr. Benedict Mbeah-Baiden

AWARDS AND HONORS

- **American Statistical Association (ASA) Lester R. Curtain Award (2025)**: Recognized for the potential to enhance health statistics through ML-powered anomaly detection in EHR streams, enabling earlier outbreak response.

- **ASA Section for Statistical Programmers and AnalystsConference Grant**: Received conference travel grant for 2025 JSM.

- **ASA JSM Early Career Travel Award**: Awarded funds to attend the 2025 Joint Statistical Meetings in Nashville, TN.

- **Golden Key International Honor Society (2025)**: Recognized for placement in top 15% of UNM graduates based on academic excellence and leadership

- **University of New Mexico Student Research Grant Award (2025)**: Funded travel to participate in the ENAR Spring Meeting 2025 to advance biostatistical training.

- **University of New Mexico Graduate Teaching Scholar (2024)**: Recognized for excellence in pedagogical research and implementation of evidence-based teaching practices at UNM

- **Project for New Mexico Graduates of Color Scholarship (2024)**: Honored for transformative mentorship: Trained 2 peer mentors, hosted 4 grad-prep workshops, and advised STEM students.

- **Best Teaching Assistant Award - Dept. of Statistics & Actuarial Science, University of Ghana (2023)**: Selected as top-performing TA out of 20+ departmental TAs.

- **University of Ghana Actuarial and Statistics Society Certification of Honor (2022)**: Honored for tremendous service and commitment through 2 years of transformative leadership as Academic Committee President.

- **Most Hard Working Committee Executive -University of Ghana Actuarial and Statistics Society (2022)** : Honored for creating the society's first peer-tutoring program and professional development workshop series with industry partners

- **Dean's Honor Award for Academic Excellence (2020)** : Awarded by the University of Ghana's College of Basic and Applied Sciences for outstanding scholarly achievement (top 3%).

SKILLS SUMMARY

- **Programming**: R, SAS, SPSS, OpenBUGS

- **Systematic Review**: PRISMA, Covidence

- **Professional**: Leaderhsip, Mentoring, Team Building, Public Speaking

RESEARCH EXPERIENCE

- **University of New Mexico African-American Student Services**   **Albuquerque, NM**
  Project Assistant   *January 2025-Present*

  - Research ongoing barriers to retention among Black students, implementing interventions that maintain a 15% higher engagement rate with support programs compared to baseline.

  - Facilitate focus groups with 50+ participants annually to assess mentorship outcomes, with findings directly shaping 3 new student support policies this academic year.

  - Compile and analyze program outcomes data for grant reporting, demonstrating 85%+ achievement of proposed metrics to sustain recurring funding.

- **Graduate & Professional Students Association, University of New Mexico**   **Albuquerque, New Mexico**
  Grant Reviewer   *August 2024 - Present*
  - Advise applicants on proposal strengthening techniques, improving submission quality and award rates by 15%.
  - Evaluate 5+ grant proposals, awarding $5,000+ in research and professional development funds.
  - Assist in refining scoring rubric and review process, reducing evaluation time by 20% while ensuring equitable decision-making.

- **University of New Mexico Center for Teaching & Learning**   **Albuquerque, NM**
  Teaching Scholar   *August 2024- May 2025*
  - Assist in pedagogical research on active learning, with findings directly impacting 5+ departmental teaching workshops per year.
  - Analyze course evaluation data (1,000+ responses), identifying trends that boost student satisfaction.
  - Design and implement machine learning models to analyze student engagement patterns in hybrid courses.

- **University of Ghana Department of Actuarial Science & Statistics**   **Accra, Ghana**
  Research Assistant   *October 2022 - December 2023*
  - Conducted statistical analysis on malaria incidence rates, contributing to a 10% improvement in predictive modeling for outbreaks.
  - Processed large datasets (5,000+ records) on healthcare access, supporting a government policy brief.
  - Assisted in actuarial risk assessments for insurance projects, reducing calculation errors by 15%.

TEACHING EXPERIENCE

- **Department of Mathematics & Statistics, University of New Mexico**   **Albuquerque, NM**
  Graduate Teaching Assistant   *January 2024 - Present*
  - Teach weekly recitation sections for Statistics (MATH 1350) and College Algebra (MATH 1250), implementing active learning strategies to improve exam scores by 10-15%.
  - Provide 8+ scheduled office hours weekly while maintaining a 4.8/5.0 average in "teaching clarity" on student evaluations.
  - Develop weekly RStudio lab exercises that help statistics students visualize complex concepts through New Mexico demographic data.

- **African American Student Services, University of New Mexico**   **Albuquerque, NM**
  Mathematics Tutor   *February 2025 - Present*
  - Provide 1:1 and group tutoring in Math courses to 10+ underrepresented students weekly, implementing strategies that maintain a 20% higher pass rate compared to non-participating peers.
  - Co-facilitate biweekly "Math Anxiety" workshops for 50+ students, with pre/post surveys showing 70% of participants report increased confidence in quantitative coursework.
  - Develop and update culturally responsive algebra materials that are now adopted as standard resources for all 15+ peer tutors in the program.

- **Department of Actuarial Science & Statistics, University of Ghana**   **Accra, Ghana**
  Teaching Assistant   *October 2022 - December 2023*
  - Led tutorials for 60+ students in Statistical Modeling, contributing to a 15% increase in course completion rates.
  - Assisted professors in modernizing curriculum with R/Python modules, now required for 4 core courses.
  - Created video solutions for complex actuarial problems, increasing online student engagement by 40%.

- **University Practice Senior High School**   **Cape Coast, Ghana**
  Science & Math Quiz Team Coach   *January 2019 - July 2019*
  - Trained 5 students for national competitions; team placed 11th nationally (top 15% of 100+ schools)
  - Implemented gamified learning techniques that improved team's speed and accuracy by 25%.
  - Mentored 2 students who later received full STEM scholarships to U.S. universities.

PUBLICATIONS AND ACADEMIC PROJECTS

- **Kubuafor, E**., Baidoo, D.,Okeke, O. J., et al. (2024). Evaluation of Time Series Forecasting Models for Predicting Lung Cancer Mortality Rates in the United States: A Comparison with Altuhaifa (2023) Study.*Proceedings of the Mediterranean Life Sciences Union Annual Meeting* (MEDLIFE-24), Istanbul, Turkey, 08-10 December 2024. [under review]   Link

    - ***Compared SES, HDES, and ARIMA models for forecasting U.S. lung cancer mortality. HDES and ARIMA performed best, with updated data confirming a downward trend.***

- Baidoo, D., Okeke, O. J.,**Kubuafor, E.** et al. (2024). Comparing Malaria Trends in Comoros Island: ARIMA Modeling and Retrospective Anaysis.*Proceedings of the Mediterranean Life Sciences Union Annual Meeting* (MEDLIFE-24), Istanbul, Turkey, 08-10 December 2024. [under review]. Link

    - ***Used ARIMA to analyze malaria trends in Comoros, revealing seasonal spikes missed in annual reports and highlighting the value of time-sensitive modeling for targeted interventions.***

- A Bayesian Investigation into the Effects of Beta-Carotene Supplementation on Serum Levels of Beta-Carotene and Vitamin E.(Comprehensive Project Report). Link

    - ***Modeled serum beta-carotene and vitamin E responses to supplementation using a Bayesian mixed model. Found early increases in beta-carotene with signs of saturation and modest vitamin E changes, suggesting nutrient interaction and individual variability.***

- Modeling Global Student-Teacher Ratios Across Education Levels: A Mixed-Effects Framework (Comprehensive Project Report). Link

    - ***Used a mixed effects model to examine student-teacher ratios across education levels, finding that Primary Education had notably larger class sizes. The results point to a need for better resource distribution in early education.***

- Meteorological and Seasonal Drivers of Ozone Concentrations in Bernalillo, New Mexico: A Multiple Regression Analysis(Comprehensive Project Report). Link

    - ***Analyzed ozone concentration in Bernalillo, New Mexico using multiple regression, identifying key meteorological and seasonal drivers. The model explained 55% of the variation with all predictors significant, offering a reliable framework for forecasting ozone levels.***

ACADEMIC CONFERENCES

- **Kubuafor, E.** (2025, April 29- May 2). I attended the Symposium on Data Science and Statistics.Salt-Lake City Utah.

- **Kubuafor, E.** (2025, March 23-26). I attended the Eastern North American Region International Biometric Society Spring Meetings. New Orleans.

- **Kubuafor, E.** (2025, March 8-9). I attended the South Central Topology Conference IV. Texas A & M University, College Station.

- **Kubuafor, E.** (2024, August 3-8). I attended the American Statistical Association Joint Statistical Meetings. Portland, OR. Link

VOLUNTEER EXPERIENCE AND EXTRACURRICULAR ACTIVITIES

- **Career Orientation Lead, Global Education Office, University of New Mexico (2025)**

    - Served as a speaker at career development workshops for international students, focusing on professional skills and cross-cultural workplace navigation.

- **Math Camp Counselor, Campersand (2024)**

    - Facilitated engaging math activities and mentored students in both virtual and in-person settings, fostering mathematical curiosity and problem-solving abilities

- **Research Evaluator, McNair Scholars Research Competition Conference (2024)**

    - Assessed undergraduate research projects, provided constructive feedback and supported first-generation college students in developing scholarly presentation skills.

- **Statistics Aide, Department of Marine and Fisheries Sciences, University of Ghana (2023)**

    - Assisted researchers with statistical analysis of marine ecosystem data, contributing to environmental conservation efforts and scientific publications.

- **President of Academic Committee, University of Ghana Actuarial & Statistics Society (2021 & 2022)**
    - Led initiatives to enhance academic excellence through peer learning sessions, professional development seminars, and industry networking events.

- **Board Member - Quiz Committee, University of Ghana Actuarial & Statistics Society (2022)**
    - Developed challenging statistical competitions and academic quizzes that strengthened technical knowledge and promoted collaborative learning among members.

CERTIFICATIONS

- Graduate Statistician Accreditation (American Statistical Association) Link
- Essentials of Clinical Research.Link
- Advanced Epidemiological Study Design, Implementation, and Analysis. Link
- Scientific Writing And Publishing. Link
- Conducting And Visualizing Systematic Reviews. Link
- Survival Analysis & Cox Regression. Link

PROFESSIONAL MEMBERSHIP

- American Statistical Association.
- American Mathematical Society.
- Golden Key International Honor Society.
- Eastern North American Region of the International Biometric Society.

STUDENT ORGANISATIONS

- Member - Graduate and Professional Student, University of New Mexico.
- Member - African American Student Association, University of New Mexico.
- Member - Association of African Quantitative Scientist
- President - Academic Committee, Department of Actuarial Science & Statistics, University of Ghana.
- Member-University of Ghana Actuarial Science and Statistics Society.
- Member - University of Ghana Alumni Association.

References available upon request