Contact Information

Social Science Research Institute
140 Science Drive, 256 Gross Hall
Box 90989, Durham NC 27708

Phone: (919)-681-1863
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Research Interests

Bayesian modeling, models for editing erroneous data, multiple imputation, missing data, mixture models, and hierarchical modeling.

Education

Ph.D. in Statistical Science, *Duke University* 2019
Dissertation: "Bayesian Models for Imputing Missing Data and Editing Erroneous Responses in Surveys"
Advisor: Jerome P. Reiter

M.S. in Statistical and Economic Modeling, *Duke University* 2015
Thesis: "A Comparison of Multiple Imputation Methods for Categorical Data"
Advisors: Jerome P. Reiter and Fan Li

B.Sc. in Mathematics and Statistics, *University of Lagos, Nigeria* 2010
First class honors

Positions

Instructor 2019 - present
Social Science Research Institute, Duke University

Research Assistant 2014 - 2019
Department of Statistical Science, Duke University

Summer Research Fellow Summer 2017
U.S. Food and Drug Administration

Analyst 2012 - 2013
KPMG Professional Services, Nigeria

Analyst 2011
Aterios Capital Limited, Lagos, Nigeria

Publications: Peer-reviewed & Invited Papers

1. **Akande, O.**, Reiter, J. P., and Barrientos, A. F. (2019), "Multiple Imputation of Missing Values in Household Data with Structural Zeros," *Survey Methodology*, 45:2, 271-294.
2. **Akande, O.**, Barrientos, A. F., and Reiter, J. P. (2018), "Bayesian Simultaneous Edit and Imputation For Household Data with Structural Zeros," *Journal of Survey Statistics and Methodology*, 0, 1-22.

3. **Akande, O.**, Li, F., and Reiter, J. P. (2017), "An Empirical Comparison of Multiple Imputation Methods for Categorical Data," *The American Statistician*, 71:2, 162-170.

Publications: Manuscripts Under Review

4. **Akande, O.**, Madson, G., Hillygus, D. S., and Reiter, J. P., "Leveraging Auxiliary Information on Marginal Distributions in Nonignorable Models for Item and Unit Nonresponse in Surveys," submitted to *Journal of the Royal Statistical Society A*.
5. **Akande, O.** and Reiter, J. P., "Multiple Imputation for Nonignorable Item Nonresponse in Complex Surveys Using Auxiliary Margins," in volume in memory of Steve Fienberg, Springer.
6. Hu, J., **Akande, O.**, and Wang, Q., "Data imputation and data synthesis with the R package NPBayesImputeCat," submitted.

Publications: Articles in Preparation

7. **Akande, O.**, Hu, J., Wang, Q., and Reiter, J. P., "Edit-Imputation and Synthetic Data Generation For Household Data with the R package NestedCategBayesImpute," in preparation.

Presentations, Workshops & Posters

1. "Leveraging Auxiliary Information on Marginal Distributions in Nonignorable Models for Item and Unit Nonresponse in Surveys," Joint Statistical Meetings, Denver, CO, USA, July 2019 (contributed talk).
2. "Leveraging Auxiliary Information on Marginal Distributions in Nonignorable Models for Item and Unit Nonresponse in Surveys," Duke Department of Statistical Science Seminar Series, March 2019 (presentation).
3. "Leveraging Auxiliary Information on Marginal Distributions in Nonignorable Models for Item and Unit Nonresponse in Surveys," Society for Political Methodology, Brigham Young University, Provo, UT, USA, July 2018 (poster).
4. "Bayesian Simultaneous Edit and Imputation For Household Data with Structural Zeros," Joint Statistical Meetings, Vancouver, BC, Canada, July 2018 (contributed talk).
5. "Bayesian Simultaneous Edit and Imputation For Household Data with Structural Zeros," Advances in Interdisciplinary Statistics and Combinatorics, Greensboro NC, USA October 2018 (contributed talk).
6. "Bayesian Simultaneous Edit and Imputation For Household Data with Structural Zeros," Duke Department of Statistical Science Seminar Series, January 2018 (presentation).
7. "Multiple Imputation of Missing Values in Household Data with Structural Zeros," Duke Department of Statistical Science Seminar Series, February 2017 (presentation).

Teaching

Instructor, *Social Science Research Institute, Duke University*

- IDS 702: Modeling and Representation of Data — Fall 2019

Instructor, *Department of Statistical Science, Duke University*

- STA 111: Probability and Statistical Inference — Summer 2014, Summer 2016, Summer 2018

Guest Lecturer, *Department of Statistical Science, Duke University*

- STA 210: Regression Analysis (undergrad) — Fall 2018
- STA 723: Statistics Case Studies (PhD level) — Spring 2018

Teaching Assistant, *Department of Statistical Science, Duke University*

- STA 440: Case Studies (senior undergrad) — Fall 2018
- STA 723: Statistics Case Studies (PhD level) — Spring 2018
- STA 732: Theoretical Statistics (PhD level) — Spring 2017
- STA 111: Probability and Statistical Inference — Spring 2014

Software

NestedCategBayesImpute: R package for Modeling & Generating Synthetic Versions of Nested Categorical Data in the Presence of Impossible Combinations
(Wang, Q., **Akande, O.**, Hu, J., Reiter, J.P. and Barrientos, A.,)

Awards

Presidential Special Scholarship for Innovation & Dev. — 2013 - 2015
Federal Government of Nigeria
Full funding for masters degree

University of Lagos Endowment Scholarship Program — 2009 - 2010
Award for first class students

Teaching Training

Duke Certificate in College Teaching Program — 2019

Professional Service

Journal Reviews: Demographic Research

University Service

Student Mentor for incoming Ph.D. students — 2018
Department of Statistical Science, Duke University

ASA DataFest@Duke Co-organizer and Instructor — 2017 – 2019
Department of Statistical Science, Duke University

Professional Affiliations

American Statistical Association
Society for Political Methodology