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

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

Positions

Assistant Professor of the Practice

2020 - present

Social Science Research Institute, Duke University

Department of Statistical Science, Duke University (Secondary)

Instructor 2019 - 2020

Social Science Research Institute, Duke University

Research Assistant 2014 - 2019

Department of Statistical Science, Duke University

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

B.Sc. in Mathematics and Statistics, University of Lagos, Nigeria

First class honors

2010

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), "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.

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," revision submitted to *Journal* of the Royal Statistical Society A. [arXiv Link]
- 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.

Manuscripts in Preparation

- 7. Wongkamthong, C., and **Akande, O.**, "A Comparative Study of Statistical and Machine Learning Methods for Imputing Ordinal Data," in preparation.
- 8. **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.

TEACHING

As Instructor

Social Science Research Institute, Duke University

- IDS 702: Modeling and Representation of Data
 - Fall 2020, Fall 2019.

Department of Statistical Science, Duke University

- STA 602L: Bayesian and Modern Statistics
 - Summer II 2020, Spring 2020.
- STA 360: Bayesian and Modern Statistics
 - Summer II 2020
- STA 111: Probability and Statistical Inference
 - Summer I 2018, Summer I 2016, Summer II 2014.

As 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

PRESENTATIONS, WORKSHOPS & POSTERS

1. "Multiple Imputation for Nonignorable Item Nonresponse in Complex Surveys Using Auxiliary Margins," Contributed talk at Joint Statistical

- Meetings. August 2020.
- 2. "Leveraging Auxiliary Information on Marginal Distributions in Nonignorable Models for Item and Unit Nonresponse in Surveys," Contributed talk at Joint Statistical Meetings, Denver, CO. July 2019.
- "Leveraging Auxiliary Information on Marginal Distributions in Nonignorable Models for Item and Unit Nonresponse in Surveys," Department of Statistical Science seminar series talk at Duke University, Durham, NC. March 2019.
- 4. "Handling Missing Data and Faulty Responses in Household Data," Invited faculty candidate seminar talk at University of Toronto, ON, Canada. January 2019.
- 5. "Handling Missing Data and Faulty Responses in Household Data," Invited faculty candidate seminar talk at Bucknell University, Lewisburg, PA. December 2018.
- "Handling Missing Data and Faulty Responses in Household Data," Invited faculty candidate seminar talk at Duke University, Durham, NC. November 2018.
- 7. "Bayesian Simultaneous Edit and Imputation For Household Data with Structural Zeros," Contributed talk at Advances in Interdisciplinary Statistics and Combinatorics, Greensboro NC. October 2018.
- 8. "Bayesian Simultaneous Edit and Imputation For Household Data with Structural Zeros," Contributed talk at Joint Statistical Meetings, Vancouver, BC, Canada. July 2018.
- "Leveraging Auxiliary Information on Marginal Distributions in Nonignorable Models for Item and Unit Nonresponse in Surveys," Contributed poster at Society for Political Methodology, Brigham Young University, Provo, UT. July 2018.
- 10. "Bayesian Simultaneous Edit and Imputation For Household Data with Structural Zeros," Seminar talk at Duke University, Department of Statistical Science. January 2018.
- 11. "Multiple Imputation of Missing Values in Household Data with Structural Zeros," Department of Statistical Science seminar series talk at Duke University, Durham, NC. February 2017.

Professional Experience 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

Software

NestedCategBayesImpute: R package for Modeling & Generating Synthetic Versions of Nested Categorical Data in the Presence of Impossible Combina-

tions

(Wang, Q., $\mathbf{Akande},\,\mathbf{O.},\,\mathrm{Hu},\,\mathrm{J.},\,\mathrm{Reiter},\,\mathrm{J.P.}$ and Barrientos, A.)

TEACHING TRAINING	Duke Certificate in College Teaching Program	2019
Professional Service	Journal Reviews: Demographic Research	
University Service	Admissions Committee Co-Chair MIDS Program, SSRI, Duke University	2020 - present
	Student Mentor for incoming Ph.D. students Department of Statistical Science, Duke University	2018
	ASA DataFest@Duke Co-organizer and Instructor Department of Statistical Science, Duke University	2017 – 2019
Professional Affiliations	American Statistical Association Society for Political Methodology	2017 - present 2018 - 2019
Awards	Presidential Special Scholarship for Innovation & Dev. Federal Government of Nigeria Full funding for masters degree	2013 - 2015
	University of Lagos Endowment Scholarship Program Cash award for first class students	2009 - 2010