CONTACT Information Department of Statistical Science, Box 90251, 222 Old Chemistry

Duke University, Durham NC 27708-0251

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RESEARCH INTERESTS Bayesian modeling, models for editing erroneous data, multiple imputa-

tion, 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

RESEARCH EXPERIENCE Research Assistant

2014 - 2019

Department of Statistical Science, Duke University

Supervisor: Dr. Jerome P. Reiter

Developed nonignorable models for simultaneously dealing with unit and item nonresponse in survey data using auxiliary marginal information. Developed edit-imputation model for handling both missing data and measurement error in household data with structural zeros. Conducted empirical comparison of multiple imputation methods for categorical data.

Summer Research Fellow

Summer 2017

U.S. Food and Drug Administration

Office of Biostatistics, Center for Drug Evaluation and Research

Supervisors: Dr. Abel Eshete and Dr. Solomon Chefo

Evaluated several missing data methods, including multiple imputation and mixed effect models, for estimating drug effectiveness in clinical trials data on ophthalmic drugs. Developed and implemented selection models for missing not at random imputations for mixed data.

#### **PUBLICATIONS**

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.

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.

Akande, O., Reiter, J. P. and Barrientos, A. F. (2019), "Multiple Imputation of Missing Values in Household Data with Structural Zeros", Survey Methodology, forthcoming.

#### Submitted Manuscripts

Akande, O. and Reiter, J. P., "Multiple Imputation for Nonignorable Item Nonresponse in Complex Surveys Using Auxiliary Margins".

## ARTICLES IN PREPARATION

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", in preparation.

## SOFTWARE PACKAGES

NestedCategBayesImpute: 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.,)

# PRESENTATIONS AND POSTERS

"Leveraging Auxiliary Information on Marginal Distributions in Nonignorable Models for Item and Unit Nonresponse in Surveys"

- Duke Department of Statistical Science STA701 Seminar Series (2019)
- Society for Political Methodology, Brigham Young University, Utah (2018)

"Bayesian Simultaneous Edit and Imputation For Household Data with Structural Zeros"

- Joint Statistical Meetings, Vancouver, BC, Canada (2018)
- Advances in Interdisciplinary Statistics and Combinatorics, Greensboro NC (2018)
- Duke Department of Statistical Science STA701 Seminar Series (2018)

"Multiple Imputation of Missing Values in Household Data with Structural Zeros"

• Duke Department of Statistical Science STA701 Seminar Series (2017)

Teaching Experience	Instructor of Record Department of Statistical Science, Duke University	
	STA 111: Probability and Statistical Inference <sup>1</sup>	Summer 2018 Summer 2016 Summer 2014
	Teaching Assistant  Department of Statistical Science, Duke University	
	STA 440: Case Studies (senior undergrad) STA 723: Statistics Case Studies (PhD level) STA 732: Theoretical Statistics (PhD level) STA 111: Probability and Statistical Inference	Fall 2018 Spring 2018 Spring 2017 Spring 2014
	Guest Lecturer  Department of Statistical Science, Duke University	
	STA 210: Regression Analysis (undergrad) STA 723: Statistics Case Studies (PhD level)	Fall 2018 Spring 2018
Teaching Training	Duke Certificate in College Teaching Program Coursework:	2019
	<ul><li>GS 755: College Teaching and Course Design</li><li>STA 771S: Teaching Statistics</li></ul>	Spring 2018 Spring 2016
	Other training:  • Teaching Observation (Teaching Triangles)	Summer 2018
OTHER WORK Experience	Analyst  KPMG Professional Services, Nigeria	2012 - 2013
	Internal Audit, Risk and Compliance Services  Analyst     Aterios Capital Limited, Lagos, Nigeria Asset Management Division	2011
Awards	Presidential Special Scholarship for Innovation & Dev.  Federal Government of Nigeria  M.Sc./Ph.D scholarship	2012 - 2015

<sup>&</sup>lt;sup>1</sup>Evaluation reports available upon request.

SERVICE Student Mentor for incoming PhD students 2018

Department of Statistical Science, Duke University

ASA DataFest@Duke Co-organizer and Instructor 2017 and 2018

Department of Statistical Science, Duke University

References Available on request