

BRIAN KIM

1218 LeFrak Hall 7251 Preinkert Dr. University of Maryland, College Park, MD 20742
kimbrian@umd.edu

EDUCATION

University of California, Los Angeles
Ph.D. in Statistics

October 2017

Dissertation: Population Size Estimation using Multiple Respondent-Driven Samples

I develop a model for estimating the size of a hard-to-reach population (e.g. people at high risk for HIV) using respondent-driven sampling (RDS) data, applying capture-recapture concepts and using the respondents' personal network size and ordered nature of RDS data.

Amherst College
B.A. in Mathematics & Philosophy
Graduated with Honors in Mathematics

June 2012

RESEARCH INTERESTS

- Respondent-Driven Sampling
- Population Size Estimation: Capture-Recapture and Multiple List methods
- Social Network Analysis
- Network Sampling Methods
- Machine Learning with Survey Data
- Data Science Education

EXPERIENCE

Assistant Research Professor
Lecturer

8/20 - Present
10/17 - 8/20

Joint Program in Survey Methodology
University of Maryland, College Park

- Managed and oversaw the development and day-to-day operations of a ten-day data analytics training course at the National Center for Science and Engineering Statistics (NCSES) at the National Science Foundation (NSF).
- Provided guidance as a facilitator with the Applied Data Analytics (ADA) program for teaching data analytics (including record linkage, text analysis, network analysis, and machine learning) to working professionals in public policy.
- Developed and taught introductory statistics material for both undergraduate and graduate students, utilizing both traditional and flipped classroom formats in online and in-person settings.
- Wrote, edited, and maintained an online textbook on Introductory Python and SQL with executable code to be used in various classes.

Statistical Consultant
Institute for Digital Research and Education
University of California, Los Angeles

5/14 - 6/16

- Assisted clients in cleaning, merging, and preparing data for analysis.
- Helped graduate students and professors with their dissertations, publications, and other projects using methods such as mixed modeling, PCA, simulation, and more using a variety of statistical software.

JOURNAL ARTICLES

Kim, Brian J., McLaughlin, K., Johnston, L., Grigoryan, T., Papoyan, A., and Grigoryan, S. (Submitted) *Hidden Population Size Estimation and Diagnostics using Capture-Recapture from Respondent-Driven Samples in Armenia*. Journal of the Royal Statistical Society, Series C.

Kim, Brian J. and Henke, G. (Conditional Accept) *Easy-to-Use Cloud Computing for Teaching Data Science*. Journal of Statistics Education

Kreuter, F., Barkay, N., Bilinski, A., Bradford, A., Chiu, S., Eliat, R., Fan, J., Galili, T., Haimovich, D., **Kim, B.**, LaRocca, S., Li, Y., Morris, K., Presser, S., Sarig, T., Salomon, J. A., Stewart, K., Stuart, E. A., & Tibshirani, R. (2020). *Partnering with a global platform to inform research and public policy making*. Survey Research Methods, 14(2), 159-163. <https://doi.org/10.18148/srm/2020.v14i2.7761>

Kim, Brian J., Ogwal, M., Sande, E., Kiyangi, H., Serwadda, D., and Hladik, W. (2020) *Using Geographical Data and Rolling Statistics for Diagnostics of Respondent-Driven Sampling*. Social Networks. <https://doi.org/10.1016/j.socnet.2020.05.001>

Kim, Brian J. and Handcock, M. (2019) *Population Size Estimation Using Multiple Respondent-Driven Sampling Surveys*. Journal of Survey Statistics and Methodology. <https://doi.org/10.1093/jssam/smz055>

CONFERENCE PRESENTATIONS

Kim, Brian J. (August 2020) *Machine Learning Model Selection for Complex Sample Survey Data*. Presented at the Symposium on Data Science and Statistics.

Kim, Brian J. and Handcock, M. (August 2019) *Population Size Estimation Using Multiple Respondent-Driven Sampling Surveys*. Presented at the Joint Statistical Meetings, Denver, CO.

Kim, Brian J. and Henke, G. (May 2019) *Teaching Data Science Using Jupyter Notebooks and Binder* Presented at the Symposium on Data Science and Statistics, Bellevue, WA.

Kim, Brian J., Ogwal, M., Sande, E., Kiyangi, H., Serwadda, D., and Hladik, W. (November 2018) *Assessing Respondent-Driven Sampling Using Geographical Data*. Presented at the North American Social Network Conference, Washington, D.C.

OTHER ACADEMIC WORK

Reviewer

- Journal of Survey Statistics and Methodology
- Journal of Statistical Software
- Public Opinion Quarterly

Committees

- **Chair**, Search Committee for Executive Director of the Center for Advances in Data and Measurement.
- **Chair**, Committee for Social Data Science Major.

TEACHING

University of Maryland

10/17 - Present

Instructor

- SURV 699U: Machine Learning for Social Sciences (Fall 2020)
- SURV 673: Introduction to Python & SQL (Fall 2020)
- SURV 673: Introduction to Python & SQL (Summer 2020)

- SURV 699M: Review of Statistical Concepts (Summer 2020)
- SURV 622: Fundamentals of Data Collection (Spring 2020)
- BSOS 233: Data Science for Social Sciences (Spring 2020)
- BSOS 233: Data Science for Social Sciences (Fall 2019)
- SURV 673: Introduction to Python & SQL (Fall 2019)
- SURV 673: Introduction to Python & SQL (Summer 2019)
- SURV 699M: Review of Statistical Concepts (Summer 2019)
- SURV 699C: Introduction to Python & SQL (Summer 2018)
- SURV 699C: Introduction to Python & SQL (Spring 2019)
- INST 354: Decision Making for Information Science (Spring 2019)
- INST 314: Statistics for Information Science (Fall 2018)
- SURV 699C: Introduction to Python & SQL (Fall 2018)
- SURV 699M: Review of Statistical Concepts (Summer 2018)

University of Maryland

3/18

Teaching Assistant

- SURV 751: Big Data and Machine Learning (Spring 2018)

University of California, Los Angeles

1/17 - 3/17

Instructor

- Stat 98T: Six Degrees of Separation: Studying the World Through Social Networks (Winter 2017)

University of California, Los Angeles

9/13 - 6/16

Teaching Assistant

- Stat 10: Introduction to Statistical Reasoning (Spring 2016)
- Stat 10: Introduction to Statistical Reasoning (Winter 2016)
- Stat 10: Introduction to Statistical Reasoning (Fall 2015)
- Stat 10: Introduction to Statistical Reasoning (Spring 2015)
- Stat 10: Introduction to Statistical Reasoning (Winter 2015)
- Stat 10: Introduction to Statistical Reasoning (Fall 2014)
- Stat 10: Introduction to Statistical Reasoning (Spring 2014)
- Stat 10: Introduction to Statistical Reasoning (Winter 2014)
- Stat 10: Introduction to Statistical Reasoning (Fall 2013)

OTHER TEACHING ACTIVITIES

Applied Data Analytics Program

10/17 - Present

Coleridge Initiative

Instructor

GRANTS AND AWARDS

National Science Foundation, NCSES BAA

9/20 - 8/21

Modernizing NCSES Data Collection Approaches (co-PI)

National Science Foundation, ECR: 1956114 (\$401,716) <i>Collaborative Research: Impacts of Hard/Soft Skills on STEM Workforce Trajectories (co-PI)</i>	5/20 - 5/25
Teaching Innovations Grant (\$18,000)	6/20 - 8/20
Teaching Innovations Grant (\$5,000)	6/20 - 8/20
Year of Data Science (\$17,500) <i>Developing a New Course in Data Science: Introduction to Data Science for Social Sciences (PI)</i>	7/19 - 5/20
Governor's Office of Crime Control and Prevention (\$30,000) <i>Feasibility Testing of a Respondent-Driven Sampling Approach to Recruit Human Trafficking Victims</i>	12/18 - 7/19
Dissertation Year Fellowship	9/16-6/17
Collegium of University Teaching Fellows	9/16-6/17
Graduate Dean's Scholar Award	6/12-9/14

TECHNICAL STRENGTHS

Statistical Software	Highly skilled in R, including integrating C++ with R using Rcpp, and in the use of SQL and Python.
Statistics	Highly skilled in a variety of methods, including but not limited to hypothesis testing, regression, mixed models, clustering analysis, social network analysis, social network models, network sampling methods, Monte Carlo simulation, Bayesian models, Machine Learning, and more.
Other Software	Skilled or proficient in the use of many other programs, including, but not limited to, Microsoft Word, Excel and Powerpoint; LaTeX.