Kellie Ottoboni

Curriculum Vitae

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University of California, Berkeley
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Education

2014–present **PhD, Statistics**, *University of California, Berkeley*.
Advisor: Philip B. Stark
Anticipated May 2019

2010–2014 **BA, Applied Mathematics and BA, Statistics**, *University of California, Berkeley*.
High Distinction in General Scholarship
Honors in Statistics

Research Interests

Nonparametric statistics, causal inference, reproducibility and open science, applications in health and social science

Awards

2018–2019 UC Dissertation Year Fellowship
2018 E-VOTE-ID 2018 Best PhD Colloquium Presentation Award
2018 UC Berkeley Statistics KAG Graduate Student Travel Award
2018 Institute of Mathematical Statistics Hannan Graduate Student Travel Award
2015–2018 Berkeley Institute for Data Science Fellowship
2015 Microsoft Research Graduate Women's Scholarship
2014 UC Berkeley Statistics Department Citation
2010 Ligurians of the World Scholarship

Publications

[1] **Kellie Ottoboni**, Matthew Bernhard, J. Alex Halderman, Ronald L. Rivest, and Philip B Stark. Bernoulli ballot polling: A manifest improvement for risk-limiting audits. *arXiv preprint arXiv:1812.06361*, 2019. Accepted at Voting'19 Workshop.

[2] Philip B. Stark and **Kellie Ottoboni**. Random sampling: Practice makes imperfect. *arXiv preprint arXiv:1810.10985*, 2018.

[3] **Kellie Ottoboni**, Philip B Stark, Mark Lindeman, and Neal McBurnett. Risk-limiting audits by stratified union-intersection tests of elections (SUITE). In *International Joint Conference on Electronic Voting*, pages 174–188. Springer, 2018.

[4] **Kellie Ottoboni** and Philip B Stark. Random problems with R. *arXiv preprint arXiv:1809.06520*, 2018.

[5] **Kellie Ottoboni**, Fraser Lewis, and Luigi Salmaso. An empirical comparison of parametric and permutation tests for regression analysis of randomized experiments. *Statistics in Biopharmaceutical Research*, 10(4):264–273, 2018.

[6] Mark Lindeman, Neal McBurnett, **Kellie Ottoboni**, and Philip B. Stark. Next steps for the Colorado risk-limiting audit (CORLA) program. *arXiv preprint arXiv:1803.00698*, 2018.

[7] **Kellie Ottoboni**. A statistical analysis of salt and mortality at the level of nations. In Justin Kitzes, Daniel Turek, and Fatma Deniz, editors, *The Practice of Reproducible Research: Case Studies and Lessons from the Data-Intensive Sciences*. University of California Press, Oakland, CA, 2017.

[8] K. Jarrod Millman, **Kellie Ottoboni**, Naomi A. P. Stark, and Philip B. Stark. Reproducible applied statistics: Is tagging of therapist-patient interactions reliable? In Justin Kitzes, Daniel Turek, and Fatma Deniz, editors, *The Practice of Reproducible Research: Case Studies and Lessons from the Data-Intensive Sciences*. University of California Press, Oakland, CA, 2017.

[9] Anne Boring, **Kellie Ottoboni**, and Philip B. Stark. Student evaluations of teaching (mostly) do not measure teaching effectiveness. *ScienceOpen Research*, January 2016.

Presentations

2018 **Risk-limiting Audits by Stratified Union-Intersection Tests of Elections (SUITE)**, *International Joint Conference on Electronic Voting*, contributed talk.

2018 **The Risk Limit of Bayesian Audits**, *International Joint Conference on Electronic Voting*, PhD colloquium presentation.

2018 **From Paper to Program: Challenges of Implementing Permutation Tests**, *International Society for Nonparametric Statistics Conference*, contributed talk.

2017 **Nonparametric Risk Attribution for Factor Models of Portfolio Returns**, *Center for Risk Management Research Seminar*, invited talk.

2017 **Simple Random Sampling: Not So Simple**, *Center for Risk Management Research Seminar*, invited talk.

2017 **A Statistical Analysis of Salt and Mortality at the Level of Nations**, *Book Launch: The Practice of Reproducible Research*, lightning talk.

2016 **permuter: An R Package for Randomization Inference**, *UseR! Conference*, contributed talk.

2016 **permute: A Python Package for Randomization Inference**, *International Society for Nonparametric Statistics Conference*, contributed talk.

2016 **Model-based matching for causal inference in observational studies**, *Center for Risk Management Research Seminar*, invited talk.

2016 **Model-based matching for causal inference in observational studies**, *BSTARS Conference*, lightning talk.

2015 **Student Evaluations of Teaching (Mostly) Do Not Measure Teaching Effectiveness**, *Moore-Sloan Data Science Environments Summit*, lightning talk.

2015 **Is Salt Bad for Nations?**, *BSTARS Conference*, poster.

2014 **Undergraduate commencement speech**, *Statistics Department Commencement*.

2014 **A Greedy Algorithm for Gene Set Enrichment Analysis Using the Protein Network**, *Cal Day*, poster.

Academic Experience

2018 **Volunteer Software Developer**, *Michigan Risk-limiting Audit Pilots*.
Wrote a Python tool, including user interface and risk calculations, and facilitated in person at pilot risk-limiting audits at three cities in Michigan

2018 **Researcher**, *UCANR Nutrition Policy Institute*.
Prepared and analyzed meal participation and plate waste data for a randomized experiment measuring the effects of new school lunch policies in San Francisco schools

2015–present **Graduate Student Researcher**, *Berkeley Institute for Data Science*.
–Spent 50% of my time at the institute, attended weekly talks and participated in events to spread data science concepts and tools across domains
–Active member of the Reproducibility and Open Science Working Group

2013–2014 **Research Assistant**, *Nielsen Lab*.
–Developed a network-based multiple testing correction procedure
–Performed statistical analysis of gene expression data in a study of rheumatoid arthritis

2010 **Biostatistics Intern**, *Stanford School of Medicine*.
–Created presentations to teach doctors how to gather data using new database system
–Performed exploratory data analysis on clinical data

Teaching

2018 **Instructor**, *Software Carpentry Workshop*, BIDS.
Taught Unix shell and git in a two-day workshop for graduate students.

2016 **Graduate Student Instructor**, *UC Berkeley Department of Statistics*.
Statistics 215B: Statistical Models: Theory and Application

2015 **Graduate Student Instructor**, *UC Berkeley Department of Statistics*.
Statistics 20: Introduction to Probability and Statistics

2013–2014 **Grader**, *UC Berkeley Department of Mathematics*.
Math 53, Multivariable Calculus; Math 54, Linear Algebra and Differential Equations

2012–2014 **Lab Assistant and Grader**, *UC Berkeley Department of Statistics*.
–Lab Assistant: Statistics 133, Computing with Data
–Grader: Statistics 133, Computing with Data; Statistics 154, Machine Learning

Service

2016–2017 **Co-president**, *Statistics Graduate Student Association.*

2015–2016 **Social Chair**, *Statistics Graduate Student Association.*

2014 **Mentor**, *Berkeley Undergraduate Mathementoring Program.*

2014 **Hospitality Committee**, *Statistics Graduate Student Association.*

Work Experience

2017 **Summer Intern**, *State Street Global Exchange, GX Labs.*
Developed methods for risk attribution in simulated portfolio risk using factor models

2011–2012 **Student Research Analyst**, *Berkeley Law Financial Aid.*
Aggregated data from databases to administer financial aid and identify trends

2008–2010 **Oboe teacher**.
Taught basic musicianship, music theory, and instrument technique to preteen students

Skills

Mathematical Computing	R, Rstudio, Python, Matlab
Publishing	LaTeX, Jupyter, knitR, Sphinx
Other	Unix, git, GitHub, Microsoft Office