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Aaron Fisher

Education

2011–Present **PhD Candidate in Biostatistics**, *Johns Hopkins Bloomberg School of Public Health*, Baltimore, MD.
Advisors: Vadim Zipunnikov & Brian Caffo

2006–2010 **BA in Economics**, *University of Rochester*, Rochester, NY.
Summa cum laude

Academic Papers

Peer-Reviewed Publications

A. J. Fisher, G. B. Anderson, R. Peng, J. Leek (2014). A randomized trial in a massive online open course shows people don't know what a statistically significant relationship looks like, but they can learn. *PeerJ.* (link; 6,428 unique visitors as of September 1, 2015).

To Appear

A. J. Fisher, B. Caffo, B. Schwartz, V. Zipunnikov (2015). Fast, Exact Bootstrap Principal Component Analysis for $p > 1$ million. *Journal of the American Statistical Association (TM)*. (link).

Submitted

R. Y. Coley, **A. J. Fisher**, M. Mamawala, H. B. Carter, K. J. Pienta, S. L. Zeger (2015). Bayesian Joint Hierarchical Model for Prediction of Latent Health States with Application to Active Surveillance of Prostate Cancer. (link).

T. Qian, E. Colantuoni, **A. J. Fisher**, M. Rosenblum (2015). Impact of Delayed Outcomes, Accrual Rates, and Prognostic Variables on a Simulated Randomized Trial with Adaptive Enrichment. (link).

Y. Webb-Vargas, S. Chen, **A. J. Fisher,** A. Mejia, Y. Xu, C. Crainiceanu, B. Caffo, M. A. Lindquist (2014). Big Data and Neuroimaging. *Statistics in Biosciences (Invited Submission).*

A. J. Fisher, H Jaffee, M Rosenblum (2014). interAdapt – An Interactive Tool for Designing and Evaluating Randomized Trials with Adaptive Enrollment Criteria. (link).

Technical Reports

A. J. Fisher, R. Y. Coley, S. L. Zeger (2015). Fast Out-of-Sample Predictions for Bayesian Hierarchical Models of Latent Health States. (link).

Reviewer

2014 Risk Analysis (2)

Software

bootSVD An R package for implementing fast, exact bootstrap principal component analysis and singular value decompositions for high dimensional data (i.e. >1 million covariates). Matrices too large for memory can be entered as class `ff` objects, with contents stored on disk. (CRAN link; GitHub link)

ggBrain An R package for beautiful brain image figures (GitHub link)

interAdapt An interactive tool for designing and evaluating randomized trials with adaptive enrollment criteria (Shiny App link; CRAN link; Github link).

Professional Experience

2010 (Summer) **Structured Decisions Corporation**, *Newton*, MA.
Intern Analyst - Background research project for a linear programming application

Computer Skills

Advanced Skills: R

Basic Skills: git, Python, MATLAB, C, D3.js, stata, shell scripting, LaTeX

Awards and Scholarships

2014 **The June B. Culley Award:** Honors outstanding achievement by a Biostatistics student on his or her school-wide oral examination paper

2012-present **Doctoral Training Grant in Environmental Biostatistics:** Provides funding for at least three years

2006-2010 **Undergraduate Awards:** Phi Beta Kappa; John Dows Mairs Prize (University of Rochester Economics Dept); Omicron Delta Epsilon International Honor Society for Economics; Theta Chi Long, Walter, Ott Award; Theta Chi Valentine H. Zahn Fund

Teaching

Co-Instructor

2015 Statistical Reasoning I and II: My role included teaching independently for 13 hours of lectures *(JHSPH Summer Institute of Epidemiology and Biostatistics)*

Guest Lecturer

2013 Essentials of Probability and Statistical Inference I-II *(JHSPH)*

Lab Lecturer with Content Design

2012-2014 Essentials of Probability and Statistical Inference I-IV: Designed and administered a weekly 1-hour lab lecture *(JHSPH)*

Lab Lecturer without Content Design

2014-2015 Statistical Methods in Public Health II *(JHSPH)*

Educational Presentations

2013-2015 JHU Biostatistics Computing Club: I have given talks on environments in R, and on LaTeX

2013-2015 JHU Biostatistics Journal Club: I have given talks on high dimensional asymptotics, and on adaptive clinical trials

General TA Roles

2014-2015 Statistical Methods in Public Health I and IV *(JHSPH)*

2012 Statistical Reasoning I and II, *(JHSPH Summer Institute of Epidemiology and Biostatistics)*

Conference Presentations

2015 "A Randomized Trial in a Massive Online Open Course Shows People Don't Know What a Statistically Significant Relationship Looks Like, but They Can Learn." JSM, Seattle WA. *Contributed Speed Session & Poster.*

2015 "Fast Exact Bootstrap Principal Component Analysis for $p > 1$ million." ENAR, Miami, FL. *Contributed Talk.*

2014 "Fast, Exact Bootstrap Principal Component Analysis for $p > 1$ Million." 4th Annual Hopkins Imaging Conference (link). Baltimore, MD, *Invited Short Talk & Poster.*

2014 "Fast Exact Bootstrap Principal Component Analysis for $p > 1$ million: Leveraging Low-Dimensional Structure Across High-Dimensional Bootstrap Samples." JSM, Boston, MA. *Contributed Speed Session & Poster.*

2014 "People Can't See Statistical Significance: A Massive Randomized Trial on the Visual Perception of Relationships." ENAR Spring Meeting, Baltimore, MD, *Contributed Talk.*

Other Leadership & Service Roles

2015-present Volunteer with Thread

Thread is an mentorship and tutoring program that enrolls underperforming high school students who face significant barriers outside of the classroom. Students are supported for ten years after joining Thread, both during and after high school. I work on the Specialist Team, mostly tutoring Thread students in college.

2015 Facilitator at JHU Data Science Hackathon: Assisted a team through the process of scraping web data and building a shiny app (3-day event)

2014-2015 JHU Biostatistics Meat Chili Champion

2013-2014 JHU Biostatistics Vegetarian Chili Champion

2012-2013 Co-organizer of JHU Biostatistics Computing Club, with Prasad Patil (speaker schedule link)

Last updated: November 1, 2015