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Jonathan P Williams

EDUCATION

University of North Carolina, Chapel Hill, NC 2014 - 2019
Department of Statistics and Operations Research
PhD Statistics
Advisors: Dr. Jan Hannig (UNC) and Dr. Curtis Storlie (Mayo Clinic)

New York University, New York, NY 2012 - 2014
Courant Institute of Mathematical Sciences
MS Mathematics
Thesis: *Penalized Least Squares Estimation of the Linear Mixed Effect Model*
Advisor: Dr. Ying Lu

Eastern Michigan University, Ypsilanti, MI 2008 - 2012
Honors College
BS double major in Economics and Mathematics, minor in Finance
Summa Cum Laude
Thesis: *Entropy and Related Principles*
Advisor: Dr. Ovidiu Calin

PEER-REVIEWED PAPERS

1. **J P Williams**, C B Storlie, T M Therneau, C R Jack Jr, and J Hannig (2019). A Bayesian approach to multi-state hidden Markov models: application to dementia progression. *To appear in the Journal of the American Statistical Association.*
2. **J P Williams** and J Hannig (2019). Non-penalized variable selection in high-dimensional linear model settings via generalized fiducial inference. *The Annals of Statistics* 47 (3), 1723-1753.
3. I Carmichael and **J P Williams** (2018). An exposition of the false confidence theorem. *Stat*, 7 (1), p.e201.
4. **J P Williams** and Y Lu (2015). Covariance Selection in the Linear Mixed Effect Model, *Journal of Machine Learning Research: Workshop and Conference Proceedings*, 44, pp.277–291. (NIPS conference session)

PAPERS IN PREPARATION

1. **J P Williams**, Y Xie, and J Hannig (2018+). Nonpenalized graph selection in multivariate vector autoregressive settings via generalized fiducial inference. *In preparation.*
2. **J P Williams**, C B Storlie, D J Kor, M A Warner, and J Hannig (2018+). Hierarchical Bayesian latent bleeding classification via Gaussian processes regression and natural language processing. *In preparation.*
3. D Ommen, J Hannig, and **J P Williams** (2018+). Generalized fiducial inference for forensic identification of source problems. *In preparation.*

PRESENTATIONS

1. Non-penalized variable selection in high-dimensional settings via generalized fiducial inference. *Seminar*, Department of Statistics, University of Florida Gainesville, January 2019.

2. Non-penalized variable selection in high-dimensional settings via generalized fiducial inference. *Seminar*, Department of Statistics, Iowa State University, January 2019.

3. Non-penalized variable selection in high-dimensional settings via generalized fiducial inference. *Seminar*, Department of Statistics, University of Illinois Urbana–Champaign, December 2018.

4. Non-penalized variable selection in high-dimensional settings via generalized fiducial inference. *Seminar*, Department of Statistics, North Carolina State University, December 2018.

5. Non-penalized variable selection via generalized fiducial inference. *Graduate Seminar*, Department of Statistics and Operations Research, UNC Chapel Hill, November 2018.

6. Non-penalized variable selection via generalized fiducial inference. *AISC 2018 International Conference on Advances in Interdisciplinary Statistics and Combinatorics*, UNC Greensboro, October 2018.

7. Non-penalized variable selection in high-dimensional settings via generalized fiducial inference. *27th Nordic Conference in Mathematical Statistics*, Tartu, Estonia, June 2018 (**invited**).

8. A Bayesian approach to multi-state hidden Markov models: application to dementia progression. *Graduate Seminar*, Department of Statistics and Operations Research, UNC Chapel Hill, September 2017.

9. Non-penalized variable selection in high-dimensional linear model settings via generalized fiducial inference. *Graduate Seminar*, Department of Statistics and Operations Research, UNC Chapel Hill, February 2017.

10. A Bayesian approach to multi-state hidden Markov models: application to dementia progression. *Tea Time for Science*, Biomedical Statistics and Informatics, Health Sciences Research, Mayo Clinic, Rochester, MN, August 2016.

POSTER PRESENTATIONS

1. Non-penalized variable selection via generalized fiducial inference. *Fifth Bayesian, Fiducial, and Frequentist Conference*, University of Michigan Ann Arbor, May 2018.

2. Generalized fiducial inference for high dimensional problems. *Invited Poster Session, Joint Statistical Meeting*, Baltimore, MD, July 2017 (**invited** poster with Jan Hannig).

3. Non-penalized variable selection in high-dimensional linear model settings via generalized fiducial inference. *Fourth Bayesian, Fiducial, and Frequentist Conference*, Harvard University, May 2017.

4. Covariance Selection in the Linear Mixed Effect Model. *Feature Extraction: Modern Questions and Challenges, NIPS*, Montreal, Canada, December 2015.

AWARDS

Graduate Student Travel Grant – 1,000 USD	Summer 2018
Carl M. Erikson Mathematics Department Scholarship	2011 - 2012
Regents Scholarship	2009 - 2012
National Scholars Program Scholarship	2008 - 2012
Leader Award Scholarship	2009 - 2011

PROFESSIONAL ACTIVITIES

Referee for *Journal of Computational and Graphical Statistics* (once)
Referee for *Stat* (3 times)

TEACHING

STOR-BIOS Dept Boot Camp for incoming stat and biostat grad students Summer 2017

· Manager of the two-week Boot Camp, and instructor of the real analysis section.

Teaching Fellow, UNC, Chapel Hill, NC 2014 - 2016

· Introduction to Statistics (Full teaching responsibilities for a class of 46 and for a class of 83 students).

· Introduction to Statistics (Teaching Assistant).

· Undergraduate Regression Analysis (Teaching Assistant).

WORK EXPERIENCE

· Research Collaborator, Mayo Clinic, Rochester, MN 2017 - Present

· Biostatistics Intern, Mayo Clinic, Rochester, MN Summer 2016

· Statistical Consultant, Caster Concepts, Inc, Albion, MI 2011 - 2014

· Tutor (economics and mathematics), Eastern Michigan University, Ypsilanti, MI 2009 - 2012

OTHER ACTIVITIES

Fed Challenge Competition - Chicago Federal Reserve District March 2008, November 2008, 2009, 2010, 2011