Jonathan R. Stewart

Curriculum Vitae

✉ *jrstewart@fsu.edu*
jrstew.github.io

Employment

Aug 2020–Present **Assistant Professor**, *Department of Statistics*, Florida State University.

Education

May 2020 **Ph.D.**, *Statistics*, Rice University.
Aug 2018 **M.A.**, *Statistics*, Rice University.
May 2013 **B.A.**, *Statistics*, Rice University.

Publications

Published papers and papers in press

1. Babkin, S., **Stewart, J. R.**, Long, X., and Schweinberger, M. Large-scale estimation of random graph models with local dependence. *Computational Statistics and Data Analysis*, (2020) 107029.
2. Schweinberger, M., Krivitsky, P. N., Butts, C. T., and **Stewart, J. R.** Exponential-family models of random graphs: inference in finite, super, and infinite population scenarios, *Statistical Science*, 25 (4) (2020), 627–662.
3. **Stewart, J. R.** Consistent estimation of high-dimensional random graph models with dependent edge variables, Ph.D. Thesis, *Rice University* (2020).
4. Schweinberger, M., and **Stewart, J.** Concentration and consistency results for canonical and curved exponential-family models of random graphs. *The Annals of Statistics*, 48 (2020), 374–396.
5. **Stewart, J.**, Schweinberger, M., Morris, M., and Bojanowski, M. Multilevel network data facilitate statistical inference for curved ergms with geometrically weighted terms. *Social Networks*, 59 (2019), 98–119.
6. Campbell, I. M., **Stewart, J. R.**, James, R. A., Lupski, J. R., Stankiewicz, P., Olofsson, P., and Shaw, C. A. Parent of origin, mosaicism, and recurrence risk: Probabilistic modeling explains the broken symmetry of transmission genetics. *The American Journal of Human Genetics*, 95 (4) (2014), 345–359

Submitted papers

1. **Stewart, J. R.** and Schweinberger, M. Pseudo-likelihood-based M-estimation of random graphs with dependent edges and parameter vectors of increasing dimension, (2021+) arXiv preprint arXiv:2012.07167.

Software

`mlergm` R package (**creator**, **author**, **maintainer**)
Multilevel exponential-family random graph models
More than 9,000 downloads since December 2018

`hergm` R package (**author**)
Hierarchical exponential-family random graph models with local dependence
More than 50,000 downloads

Presentations

Invited talks

1. 2021 **Department of Mathematics**, *University of Maryland, delivered virtually*
   Scalable estimation of random graph models with dependent edges and increasing numbers of parameters
2. 2020 **CMStatistics**, *delivered virtually*
   Maximum pseudolikelihood estimation for models of social network data
3. 2020 **Department of Statistics**, *Florida State University, Tallahassee, FL*
   Scalable and consistent estimation of random graph models using the pseudolikelihood
4. 2020 **Joint Statistical Meeting**, *delivered virtually*
   A probabilistic framework for models of dependent network data
5. 2020 **Department of Mathematics**, *Tulane University, New Orleans, LA*
   A probabilistic framework for models of dependent network data, with statistical guarantees
6. 2020 **Department of Statistics and data Science**, *Cornell University, Ithaca, NY*
   A probabilistic framework for models of dependent network data, with statistical guarantees
7. 2020 **Department of Statistical Science**, *Southern Methodist Unviversity, Dallas, TX*
   A probabilistic framework for models of dependent network data, with statistical guarantees
8. 2020 **Department of Statistics**, *Florida State University, Tallahassee, FL*
   A probabilistic framework for models of dependent network data, with statistical guarantees
9. 2019 **CMStatistics**, *London, UK*
   Generalized β-models with dependent edges and parameter vectors of increasing dimension

Contributed talks

1. 2019 **International Sunbelt Social Network Conference**, *Montreal, CA*
   Multilevel ERGMs with overlapping subsets of nodes: models, methods, and statistical theory
2. 2012 **Joint Statistical Meeting**, *San Diego, CA*
   Graphical inference and the hanging rootogram

Research support

2021 **Principal Investigator**, Florida State University CRC-FYAP Award
Subgraph-to-graph estimation and inference for sampled network data
Direct cost: $20,000

2018-2019 **Consultant**, NIH / NIMH award 1R01MH100021
YMAP: Young Men's Affiliation Project of HIV risk and prevention venue
PIs: Kayo Fujimoto, UTHealth Science Center, Houston
John A. Schneider, University of Chicago

Awards and honors

2019 **James R. Thompson Student Award**
Department of Statistics, Rice University
Awarded annually to up to two Ph.D. students for excellence in research

2019 **Travel Award**, Department of Statistics, Rice University
Funding to attend and present at the 2019 CMStatistics conference

2019 **Travel Award**, International Network for Social Network Analysis
Funding to attend and present at the 2019 INSNA Sunbelt conference in Montreal

2019 **Travel Award**, Department of Statistics, Rice University
Funding to attend and present at the 2019 INSNA Sunbelt conference in Montreal

Teaching

STA 3032 *Applied Statistics for Engineers and Scientists*
Calculus based introduction to probability and statistics for engineering and statistics students

STA 4321/5323 *Introduction to Mathematical Statistics*
Course teaching the foundations of probability necessary for a first course in mathematical statistics

Service to profession

- *Journal Referee*
  1. Bernoulli
  2. Sankhya: The Indian Journal of Statistics, Series A
  3. Biometrics
  4. Statistical Methods and Applications
  5. Wiley Interdisciplinary Reviews: Computational Statistics
  6. Acta Mathematica Scientia
  7. Results in Applied Mathematics
- CMStatistics 2021, *Invited speaker session organizer*
  December 18-20, 2021 at King's College London in London, UK
- A Symposium on Optimal Stopping Time, *Local co-organizer*
  June 25–29, 2018 at Rice University in Houston, TX
  `http://www.optimalstopping.com/`

Professional memberships

Institute of Mathematical Statistics

American Statistical Association