Kevin **Lin**

PhD Candidate in Statistics · Carnegie Mellon

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Education

Carnegie Mellon University — *Pittsburgh, PA*

PhD in Statistics (In Progress) — *2014-Present*

- Advisers: Dr. Kathryn Roeder (Carnegie Mellon University), Dr. Han Liu (Princeton University)

Princeton University — *Princeton, NJ*

B.S.E. in Operations Research and Financial Engineering — *2010-2014*

- Certificate in Statistics and Machine Learning, Applications of Computing
- Graduated with Honors

Awards & Distinguishments

2017	**Teaching Assistant Award Recipient**, Carnegie Mellon University, Statistics Department (Service for "Statistical Computing" in Fall 2016)	*Pittsburgh, PA*
2015	**Interviewed Researcher**, Spectrum News (Autism Research Magazine, about results at ASHG Conference)	*Baltimore, MD*
2014	**Award Recipient**, Kenneth H. Condit Prize (Excellence in service to department)	*Princeton, NJ*

Publications

Longitudinal Gaussian Graphical Models for Autism Risk Gene Detection — *Journal of American Statistical Association (In Submission)*

Kevin Lin, Han Liu, Kathryn Roeder — *2016 (Applications and Case Study)*

- Refine existing graphical model techniques adapted for heterogeneous brain microarray expression data
- Develop a procedure to combine heterogeneous samples
- Improve autism risk gene detection by showing detecting genes are more tightly clustered and a larger percentage of genes were independently found by another lab

Approximate Recovery in Changepoint Problems, from ℓ_2 Estimation Error Rates — *Annals of Statistics (In Submission)*

Kevin Lin, James Sharpnack, Alessandro Rinaldo, Ryan J. Tibshirani — *2016 (arXiv: 1606.06746)*

- Prove the asymptotic rate of fused lasso under fixed number of jumps
- Bound the Hausdorff distance between the true and estimated jump locations based on the error rate of the mean function estimation
- Extend above results to trend filtering and image denoising

Revisiting compressed sensing: Exploiting the efficiency of simplex and sparsification methods — *Mathematical Programming Computation*

Robert Vanderbei, Kevin Lin, Han Liu, Lie Wang — *2016: Volume 8, Issue 3*

- Advocate to use a specialized parametric simplex method for compressed sensing when the true signal is extremely sparse
- Propose to use sensing matrices that is the Kronecker product of two smaller sensing matrices to enhance computational speed of solvers that exploit sparsity in the optimization problem

Presentation

Joint Statistical Meeting — *Baltimore, MD*

Contributed Session Speaker — *To be given in Aug. 2017*

- Presenting "Hypothesis Testing for Simultaneous Variable Clustering and Correlation Network Estimation, with Application to Gene Co-Expression Networks" in session "Selected Topics on Hypothesis Testing and Statistical Inference'

Joint Statistical Meeting — *Chicago, IL*

Contributed Session Speaker — *Aug. 2016*

- Presenting "Longitudinal Gaussian Graphical Model for Autism Risk Gene Detection" in session "Network and Graphical Models for Analysis of Genomic Data"

American Society of Human Genetics — *Baltimore, MD*

Poster Presenter — *Oct. 2015*

- Presenting "Longitudinal Gaussian Graphical Model Integrating Gene Expression and Sequencing Data for Autism Risk Gene Detection"

Modeling and Optimization: Theory and Applications *Bethlehem, PA*

Technical Session Speaker *Aug. 2014*

- Presenting "Optimization for Compressed Sensing: New Insights and Alternatives" in session "Algorithms for Big Data"

Teaching Experience

2015-16 **Teaching Assistant**, "Statistical Computing" under Dr. Ryan Tibshirani *Carnegie Mellon U.*

2015 **Teaching Assistant**, "Probability Theory and Random Processes" under Dr. Alessandro Rinaldo *Carnegie Mellon U.*

2014 **Teaching Assistant**, "Introduction to Probability and Statistical Inference" under Dr. Chad Schafer *Carnegie Mellon U.*

2012-14 **Course Designer**, "Analysis of Big Data" under Dr. Han Liu *Princeton U.*

Skills

Programming R, C/C++, JAVA, Python, Matlab, LaTeX

Web Drupal 7

Profession Affiliation

Member, American Statistical Association

Member, American Society of Human Genetics

Professional Service

Reviewer, Biometrika

Reviewer, Annals of Statistics