JASON M. KLUSOWSKI

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EDUCATION

Yale University	2013-2018
Ph.D. in Statistics & Data Science	*New Haven, Connecticut, USA*

· Advisor: Professor Andrew R. Barron
· Thesis: "Density, Function, and Parameter Estimation with High-Dimensional Data"
· Francis J. Anscombe Award: "Given on an occasional basis for outstanding academic performance in the Department of Statistics."

University of Manitoba	2008-2013
B.Sc. (Honors) in Mathematics & Statistics	*Winnipeg, Manitoba, Canada*

· Governor General's Silver Medal: "Awarded to the undergraduate who achieves the highest academic standing upon graduation from a bachelor degree program."

EMPLOYMENT

Assistant Professor, Department of Operations Research & Financial Engineering	2020-Present
Princeton University	*Princeton, New Jersey, USA*

Assistant Professor, Department of Statistics	2018-2020
Rutgers, the State University of New Jersey	*Piscataway, New Jersey, USA*

GRANTS

NSF DMS-1915932 "Deep Learning & Random Forests for High-Dimensional Regression"	2019-2022
Principal Investigator	*$180,000*

NSF TRIPODS-1934924 "Data Science Principles of the Human-Machine Convergence"	2019-2022
Senior Personnel	*$500,000*

RESEARCH PAPERS

Published

1. Zhiqi Bu, Jason M Klusowski, Cynthia Rush, and Weijie Su. Algorithmic analysis and statistical estimation of SLOPE via approximate message passing. *IEEE Transactions on Information Theory*, 67(1):506–537, 2021

2. Jason M Klusowski. Sparse learning with CART. In *Advances in Neural Information Processing Systems*, 2020

3. Victor-Emmanuel Brunel, Jason M Klusowski, and Dana Yang. Estimation of convex supports from noisy measurements. *To appear, Bernoulli*, 2020

4. Jason M Klusowski and Yihong Wu. Estimating the number of connected components in a graph via subgraph sampling. *Bernoulli*, 26(3):1635–1664, 2020

5. Zhiqi Bu, Jason M Klusowski, Cynthia Rush, and Weijie Su. Algorithmic analysis and statistical estimation of SLOPE via approximate message passing. In *Advances in Neural Information Processing Systems*, 2019

6. Jason M Klusowski, Dana Yang, and WD Brinda. Estimating the coefficients of a mixture of two linear regressions by expectation maximization. *IEEE Transactions on Information Theory*, 65(6):3515–3524, 2019

7. WD Brinda, Jason M Klusowski, and Dana Yang. Hölder's identity. *Statistics & Probability Letters*, 148:150–154, 2019

8. Jason M Klusowski and Andrew R Barron. Approximation by combinations of ReLU and squared ReLU ridge functions with ℓ^1 and ℓ^0 controls. *IEEE Transactions on Information Theory*, 64(12):7649–7656, Dec 2018

9. Jason M Klusowski and Yihong Wu. Counting motifs with graph sampling. In Sébastien Bubeck, Vianney Perchet, and Philippe Rigollet, editors, *Proceedings of the 31st Conference On Learning Theory*, volume 75 of *Proceedings of Machine Learning Research*, pages 1966–2011. PMLR, 06–09 Jul 2018

10. WD Brinda and Jason M Klusowski. Finite-sample risk bounds for maximum likelihood estimation with arbitrary penalties. *IEEE Transactions on Information Theory*, 64(4):2727–2741, 2018

11. Jason M Klusowski and Andrew R Barron. Minimax lower bounds for ridge combinations including neural nets. In *Information Theory (ISIT), 2017 IEEE International Symposium on*, pages 1376–1380. IEEE, 2017

Under Review

1. Jason M Klusowski and Peter M Tian. Nonparametric variable screening with optimal decision stumps. *arXiv preprint arXiv:2011.02683*, 2020

2. Jason M Klusowski. Sparse learning with CART. *Revise and resubmit to IEEE Transactions on Information Theory*, 2020

3. Ryan Theisen, Jason M Klusowski, and Michael W Mahoney. Good linear classifiers are abundant in the interpolating regime. *arXiv preprint arXiv:2006.12625*, 2020

4. Jason M Klusowski. Sharp analysis of a simple model for random forests. *arXiv preprint arXiv:1805.02587*, 2020

5. Andrew R Barron and Jason M Klusowski. Approximation and estimation for high-dimensional deep learning networks. *Revise and resubmit to IEEE Transactions on Information Theory*, 2019

TEACHING EXPERIENCE

Princeton University, Department of Operations Research & Financial Engineering   Spring 2021
Instructor   *Princeton, NJ, USA*

· ORF 504 / FIN 504 - Financial Econometrics

Rutgers University, Department of Statistics   Spring 2020
Instructor   *New Brunswick, NJ, USA*

· STAT 597 - Data Wrangling & Husbandry (MSDS)

Rutgers University, Department of Statistics   Fall 2019
Instructor   *New Brunswick, NJ, USA*

· STAT 534 - Statistical Learning for Data Science (MSDS)

Rutgers University, Department of Statistics   Fall 2018
Instructor   *New Brunswick, NJ, USA*

· STAT 581 - Probability & Statistical Inference (MSDS & FSRM)

Rutgers University, Department of Statistics   Spring 2019
Instructor   *New Brunswick, NJ, USA*

· STAT 597 - Data Wrangling & Husbandry (MSDS)

Yale University, Department of Statistics & Data Science   2014-2017
Teaching Fellow   *New Haven, CT, USA*

· STAT 664 - Information Theory
· STAT 541 - Probability Theory
· STAT 365 - Data Mining and Machine Learning
· STAT 312 - Linear Models
· STAT 238 - Probability and Statistics

INVITED TALKS & PRESENTATIONS

CMStatistics   December 19, 2020
Recent Advances Toward Understanding Deep Learning

NeurIPS   December 10, 2020
Virtual poster presentation

Merck & Co., Inc.   October 14, 2020
Biostatistics group

Purdue University   October 5, 2020
Department of Mathematics

One World Seminar Series on the Mathematics of Machine Learning September 30, 2020

Joint Statistical Meetings (JSM)   August 5, 2020
Theoretical Advances in Deep Learning

University of California, Berkeley   May 28, 2020
Invited virtual seminar for Michael Mahoney's group

Princeton University   November 22, 2019
Department of Operations Research & Financial Engineering

Rutgers University, New Brunswick   October 2, 2019
Department of Electrical and Computer Engineering

Pennsylvania State University   September 27, 2019
Department of Mathematics

Columbia University   September 16, 2019
Department of Statistics

Duke University   August 13, 2019
SAMSI Deep Learning Workshop

Colgate-Palmolive Company   August 6, 2019

Merck & Co., Inc.   July 17, 2019
Biostatistics group

Columbia University   June 19, 2019
Workshop on Machine Learning and Data Science

Virginia Tech   May 22, 2019
IMS/ASA Spring Research Conference

New England Statistics Symposium   May 17, 2019

Princeton University   April 8, 2019
Department of Operations Research & Financial Engineering

University of Maryland - College Park   October 16, 2018
Department of Mathematics

Georgia Institute of Technology   October 8, 2018
Workshop on Theoretical Foundation of Deep Learning

Simon Fraser University   July 26, 2018
20th IMS New Researchers Conference

Massachusetts Institute of Technology   June 11, 2018
Workshop on Sublinear Algorithms

Baruch College, Zickilin School of Business   February 14, 2018
Department of Information Systems and Statistics

University of North Carolina - Chapel Hill   February 5, 2018
Department of Statistics and Operations Research

Rutgers University   February 1, 2018
Department of Statistics and Biostatistics

University of Delaware   January 23, 2018
Department of Applied Economics and Statistics

Indiana University   January 16, 2018
Department of Statistics

University of Notre Dame   January 12, 2018
Department of Applied and Computational Mathematics and Statistics

Queen's University   November 29, 2017
Department of Mathematics and Statistics

IEEE International Symposium on Information Theory   June 27, 2017
Aachen, Germany

Boston Machine Learning Group   June 6, 2016
StubHub, Boston, MA, USA

Université de Montréal   July 2013
Canadian Undergraduate Mathematics Conference

UBC Okanagan   July 2012
Canadian Undergraduate Mathematics Conference

SERVICE

Students

· Felix Ackon, Princeton ORFE Graduate Research Advisor, 2020-2021
· Peter Tian, Princeton ORFE Graduate Research Advisor, 2020-2021
· Wilbur Wang, Princeton ORFE Senior Thesis Advisor, 2020-2021

- Cristina Hain, Princeton ORFE Senior Thesis Advisor, 2020-2021
- Ting Yang, Rutgers PhD Thesis Defense Committee Member, 2019

Princeton University, Committee Member   Fall 2020-Present

- S. S. Wilks Memorial Seminar in Statistics Chair

Rutgers University, Committee Member   Fall 2018-Spring 2020

- Financial Statistics and Risk Management Program
- Professional Master's Program in Data Science
- Undergraduate Studies
- Student Outreach
- Social / Retreat

NSF DMS Panelist in Statistics   March 2020

Ad-hoc Reviewer   2016-Present

- *Annals of Statistics*
- *Electronic Journal of Statistics*
- *Journal of the American Statistical Association*
- *Statistica Sinica*
- *Journal of Machine Learning Research*
- *IEEE Transactions on Signal and Information Processing over Networks*
- *IEEE Transactions on Information Theory*
- *Entropy*
- *Applied and Computational Harmonic Analysis*
- *Journal of Nonparametric Statistics*
- *Statistical Science*
- *Neural Networks*
- *Operations Research*
- *Mathematics of Operations Research*
- *SIAM Journal on Mathematics of Data Science*
- *Annales de l'Institut Henri Poincaré (B) Probabilités et Statistiques*
- *Biometrics*
- *Probability & Statistics Letters*
- *2018 IEEE International Symposium on Information Theory (ISIT)*
- *2019 IEEE International Symposium on Information Theory (ISIT)*
- *2019 International Conference on Machine Learning (ICML)*
- *The Thirty-fourth Conference on Neural Information Processing Systems (NeurIPS)*
- *The 24th International Conference on Artificial Intelligence and Statistics (AISTATS)*

University of Manitoba, Department of Statistics Departmental Council   2012

- Undergraduate Student Representative (voting member)

AFFILIATIONS

IEEE Information Theory Society
American Statistical Association

AWARDS & SCHOLARSHIPS

Yale University   2014-2016

· *Clarke Fellow*
Wedworth W. Clarke (B.A. 1906) Scholarship Fund

Government of Canada   2013

· *NSERC Alexander Graham Bell Canada Graduate Scholarship* ($17,500)
NSERC Postgraduate Scholarship accepted in its place

Government of Canada   2011-2013

· *NSERC Undergraduate Summer Research Award* ($4,500)

University of Manitoba   2013

· *Governor General's Silver Medal*
For highest academic standing at the undergraduate level
· *Faculty of Science Medal in B.Sc. (Honours)*
For highest standing in a faculty or school program
· *Robert Ross McLaughlin Scholarship in Mathematics* For a full-time student who has achieved the highest
standing in the third year of any mathematics honours program

University of Manitoba   2012

· *St. Paul's College, Patrick Burke-Gaffney Prize in Mathematics*
For academic achievement
· *Dr. Cyril H. Goulden Memorial Scholarship in Statistics*
For high standing in honours statistics
· *University of Manitoba Student's Union Scholarship*
For excellence in academic achievement at the University of Manitoba
· *University of Manitoba Merit Award*

University of Manitoba   2011

· *Agnes Stewart Hart Award in Mathematics*
For high standing in the major or honours program in mathematics by a second or third year degree student in
the Faculty of Science
· *University of Manitoba Student's Union Scholarship*
For excellence in academic achievement at the University of Manitoba

University of Manitoba   2010

· *Isbister Scholarship in University 1*
For highest standing in University 1 and continuation in any degree program at the University of Manitoba
· *Rosabelle Searle Leach Scholarship in Science*
For highest standing in first year science)
· *Science Classes of 1943 and 1968 Reunion Scholarship (2x)*
For academic achievement in the first year of an undergraduate program in science
· *University of Manitoba Student's Union Scholarship*
For excellence in academic achievement at the University of Manitoba
· *University of Manitoba Calculus Prize - Nelson Education*

TECHNICAL STRENGTHS

Computer Languages   R, Python, MATLAB

December 30, 2020