

Adel Javanmard

Associate Professor, Data Sciences and Operations Department
Marshall School of Business, University of Southern California

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Google Scholar

ACADEMIC POSITIONS

Marshall School of Business, University of Southern California, Los Angeles, CA.

Associate Professor (with tenure) April 2021-Present
Department of Data Sciences and Operations (Statistics group).

Assistant Professor Jun 2015-April 2021
Department of Data Sciences and Operations (Statistics group).

Viterbi School of Engineering, University of Southern California, Los Angeles, CA.

Associate Professor (by courtesy), Department of Computer Science. April 2021-Present

Assistant Professor (by courtesy), Department of Computer Science. Jan 2017-April 2021

Google Research, Visiting Faculty Researcher June 2022-Present

Simons Institute for the Theory of Computing, UC Berkeley.

Visiting Scientist, *Foundations of Data Science Program.* Fall 2018

Visiting Scientist, *Information Theory Program.* Spring 2015

Center for Science of Information, Worksite: UC Berkeley, Stanford University 2014-2015

NSF Post-Doctoral Research Fellow

Microsoft Corporation,

Research Intern, Microsoft Research New England Lab, Jun-Sep 2012

Research Intern, Microsoft Research Silicon Valley, Mountain View, CA Jun-Sep 2011

EDUCATION

Stanford University, Stanford, CA

Ph.D. in Electrical Engineering, Advisor: *Andrea Montanari, David Donoho* 2010-2014
Thesis Title: Inference and Estimation in High-Dimensional Data Analysis

Stanford University, Stanford, CA

M.Sc. in Electrical Engineering 2009-2011

Sharif University of Technology, Tehran, Iran

B.Sc. in Electrical Engineering 2004-2009

Sharif University of Technology, Tehran, Iran

B.Sc. in Mathematics 2005-2009

RESEARCH INTERESTS

- High-dimensional statistical inference and estimation
- Mathematical foundations of data science
- Statistical machine learning and applied statistics
- Non-convex optimization, applied probability, random matrix theory
- Structured learning: sparse regression, low-rank models, network data analysis
- Iterative algorithms, graphical models, message passing algorithms, statistical physics
- Dynamic and personalized decision-making

DISTINCTIONS

- Annals of Statistics Special Invited Session Speaker at the Joint Statistical Meetings (JSM 2023)
- Invited nominator for **The Shaw Prize** in Mathematical Sciences 2023.
- **Adobe Data Science Faculty Research Award**, 2022.
- **Golden Apple Teaching Award**, USC 2022.
Teaching award for the most impactful faculty, selected by students' votes.
Awarded for the core undergraduate course "operations management"
- **Alfred P. Sloan Research Fellow in Mathematics**, 2021.
- **Adobe Data Science Faculty Research Award**, 2020
- **IMS Tweedie New Researcher Award**, Institute of Mathematical Statistics, 2020.
"for novel contributions in high-dimensional statistical inference, iterative estimation methods, non-convex optimization, and network clustering"
Awarded annually to 1 recipient worldwide from the Institute of Mathematical Statistics.
- **NSF CAREER Award**, Division of Mathematical Sciences (Statistics Program), 2019
- **USC Marshall Outlier Research in Business (iORB) Fund**, 2018.
- **Dr. Douglas Basil Award for Junior Business Faculty**, 2018.
- **Zumberge Individual Award**, USC James H. Zumberge Faculty Research and Innovation Fund, 2017.
- **Google Faculty Research Award**, 2016.
1 of 6 recipients worldwide in the field of Algorithms and Optimization
- **Thomas M. Cover Dissertation Award**, IEEE Information Theory Society, 2015.
Awarded annually to 1 recipient worldwide for an outstanding doctoral dissertation
- **NSF CSoI Post-Doctoral Research Fellowship**, Center for Science of Information, 2014–2015.
- **Student Paper Award Finalist**, IEEE Intl Symp on Information Theory (ISIT), USA, 2012.
- **Student Paper Award Finalist**, IEEE Intl Symp on Information Theory (ISIT), Russia, 2011.
- **Stanford Graduate Fellowship**, 2010–2013.

- **Stanford Electrical Engineering Fellowship**, 2009–2010.
- **Silver medal**, 45th International Mathematical Olympiad (IMO), Greece, 2004.
- **Gold medal**, National Mathematical Olympiad, Tehran, IRAN, 2003.
- **Bronze medal**, National Mathematical Olympiad, Tehran, IRAN, 2002.

SCHOLARLY IMPACT

All numbers are based on the candidate’s google scholar.

- Total citations to articles: 4,187.
- h-index = 28; i10-index = 43.

PUBLICATIONS

- DISSERTATION

Adel Javanmard, “*Inference and Estimation in High-dimensional Data Analysis*,” Stanford University Ph.D. Dissertation, July 2014

Winner of the 2015 Thomas Cover Dissertation Award from the IEEE Information Theory Society.

Journal Publications

1. **Adel Javanmard**, Mohammad Meharbi, “*Adversarial robustness for latent models: Revisiting the robust-standard accuracies tradeoff*,” Accepted for publication in **Operations research**, 2023.
2. Hamed Hassani, **Adel Javanmard**, “The curse of overparametrization in adversarial training: Precise analysis of robust generalization for random features regression,” **Annals of Statistics** (minor revision), 2022.
3. **Adel Javanmard** and Mahdi Soltanolkotabi, “*Precise Statistical Analysis of Classification Accuracies for Adversarial Training*,” The **Annals of Statistics**, 50(4), 2127-2156, 2022.
4. Yash Deshpande, **Adel Javanmard**, Mohammad Mehrabi, “*Online Debiasing for Adaptively Collected High-dimensional Data with Applications to Time Series Analysis*,” **Journal of American Statistical Association (Theory and Methods)**, 1-14, 2021.
5. **Adel Javanmard** and Jason D. Lee, “*A Flexible Framework for Hypothesis Testing in High-dimensions*,” **Journal of Royal Statistical Society (Series B)**, 82(3), pp. 685–718, 2020.
6. Ery Arias-Castro, **Adel Javanmard**, Bruno Pelletier, “*Perturbation Bounds for Procrustes, Classical Scaling, and Trilateration, with Applications to Manifold Learning*,” **Journal of Machine Learning Research**, 21(15): pp. 1-37, 2020.
7. **Adel Javanmard**, Marco Mondelli and Andrea Montanari, “*Analysis of a Two-Layer Neural Network via Displacement Convexity*,” **Annals of Statistics**, 48(6): pages 3619-3642, 2020.
8. Negin Golrezaei, **Adel Javanmard** and Vahab Mirrokni, “*Dynamic Incentive-Aware Learning: Robust Pricing in Contextual Auctions*,” **Operations Research**, Vol 69, No 1, 2020.
9. **Adel Javanmard** and Hamid Javadi, “*False Discovery Rate Control via Debaised Lasso*,” **Electronic Journal of Statistics**, Volume 13, No .1, pages 1212-1253, 2019.
10. David S. Robertson, Jan Wildenhain, **Adel Javanmard**, and Natasha A. Karp, “*onlineFDR: an R package to control the false discovery rate for growing data repositories*,” **Bioinformatics Journal**, Volume 35, Issue 20, Pages 4196–4199, 2019.

11. **Adel Javanmard** and Hamid Nazerzadeh, “*Dynamic pricing in high-dimensions,*” **The Journal of Machine Learning Research** 20, no 1 (2019): 315-363.
12. Mahdi Soltanolkotabi, **Adel Javanmard** and Jason D. Lee “*Theoretical insights into the optimization landscape of over-parameterized shallow neural networks,*” **IEEE Transactions on Information Theory**, 65(2), pages 742-769, 2018.
13. **Adel Javanmard** and Andrea Montanari, “*Debiasing the Lasso: Optimal Sample Size for Gaussian Designs,*” **Annals of Statistics**, Volume 46, No. 6A, pages 2593-2622, 2018.
14. **Adel Javanmard** and Andrea Montanari, “*Online Rules for Control of False Discovery Rate and False Discovery Exceedance,*” **Annals of Statistics**, Vol. 46, No. 2, pages 526-554, 2018.
15. Adel Javanmard “*Perishability of Data: Dynamic pricing under varying-coefficient models,*” **Journal of Machine Learning Research**, 18(53):1-31, 2017.
16. Anand Bhaskar, **Adel Javanmard**, Thomas Courtade, David Tse, “*Novel probabilistic models of spatial genetic ancestry with applications to stratification correction in genome-wide association studies,*” In **Bioinformatics Journal**, March 2017, 33(6), pp. 879-885, doi: 10.1093/bioinformatics/btw720.
17. **Adel Javanmard**, Andrea Montanari and Federico Ricci-Tersenghi, “*Phase Transitions in Semidefinite Relaxations,*” In **Proceedings of the National Academy of Sciences (PNAS)**, 113(16): E2218-E2223, 2016. doi: 10.1073/pnas.1523097113.
18. S. Akbari, A. Daemi, O.Hatami, **A. Javanmard**, A. Mehrabian, “*Nowhere-zero Unoriented Flows in Hamiltonian Graphs,*” **Ars Combinatoria Journal**, 120:51-63, 2015.
19. **Adel Javanmard** and Andrea Montanari, “*Confidence Intervals and Hypothesis Testing for High-Dimensional Regression,*” **Journal of Machine Learning Research**, 15(1): 2869-2909, 2014.
20. **Adel Javanmard** and Andrea Montanari, “*Hypothesis Testing in High-Dimensional Regression under the Gaussian Random Design Model: Asymptotic Theory,*” **IEEE Transaction on Information Theory**, 60(10):6522-6554, 2014.
21. **Adel Javanmard** and Andrea Montanari, “*State Evolution for General Approximate Message Passing Algorithms, with Applications to Spatial Coupling,*” **Information and Inference (A Journal of the IMA)**, 2(2): 115-144, 2013.
22. David L. Donoho, **Adel Javanmard**, and Andrea Montanari, “*Information-Theoretically Optimal Compressed Sensing via Spatial Coupling and Approximate Message Passing,*” **IEEE Transaction on Information Theory**, 59(11):7434-7464, 2013.
23. **Adel Javanmard** and Andrea Montanari, “*Localization from Incomplete Noisy Distance Measurements,*” **Foundations of Computational Mathematics**, 13(3):297-345, June 2013.
24. S. Akbari, A. Daemi, O.Hatami, **A. Javanmard**, A. Mehrabian, “*Zero-Sum Flows in Regular Graphs,*” **Graphs and Combinatorics Journal**, 26(5):603-615, Sep 2010.
25. **Adel Javanmard**, and Farid Ashtiani, “*Analytical Evaluation of Average Delay and Maximum Stable Throughput along a Typical Two-Way Street for Vehicular Ad-Hoc Networks in Sparse Situation,*” **Elsevier Computer Communications**, 32(16):1768-1780, Oct. 2009.
26. G. Hosein Mohimani, Farid Ashtiani, **Adel Javanmard**, and Maziyar Hamdi, “*Mobility Modeling, Spatial Traffic Distribution, and Probability of Connectivity for Sparse and Dense Vehicular Ad Hoc Networks,*” **IEEE Transaction on Vehicular Technology**, 58(4):1998 - 2007, May 2009.

Conference Publications

1. Matthew Fahrback, **Adel Javanmard**, Vahab Mirrokni, Pratik Worah, “Learning rate schedules in the presence of distribution shift”, **International Conference on Machine Learning (ICML)** 2023.
2. CJ Carey, Travis Dick, Alessandro Epasto, **Adel Javanmard**, Josh Karlin, Shankar Kumar, Vahab Mirrokni, Andres Munoz, Gabriel Nunes, Sergei Vassilvitskii, Peilin Zhong, “Measuring Re-identification Risk”,
-**ACM SIGMOD/PODS International Conference on Management of Data**, 2023.
-**SecWeb workshop (Designing security for the Web)**, 2023
3. Mohammad Mehrabi, **Adel Javanmard**, Ryan A. Rossi, Anup Rao, Tung Mai, “*Fundamental Tradeoffs in Distributionally Adversarial Training*,” Proceedings of the 38th **International Conference on Machine Learning (ICML)**, PMLR 139:7544-7554, 2021.
4. **Adel Javanmard**, Mahdi Soltanolkotabi, Hamed Hassani, “*Precise Tradeoffs in Adversarial Training for Linear Regression*,” Proceeding of **Thirty Third Conference on Learning Theory (COLT)**, PMLR 125:2034-2078, 2020.
5. **Adel Javanmard**, Hamid Nazerzadeh and Simeng Shao, “*Multi-Product Dynamic Pricing in High-Dimensions with Heterogenous Price Sensitivity*,” **IEEE International Symposium on Information Theory (ISIT)**, pp. 2652-2657. IEEE, 2020.
6. Negin Golrezaei, **Adel Javanmard** and Vahab Mirrokni, “*Dynamic Incentive-Aware Learning: Robust Pricing in Contextual Auctions*,” Proceeding of **Advances in Neural Information Processing Systems (NeurIPS 2019)** 32, pp: 9759–9769, 2019.
7. **Adel Javanmard** and Hamid Nazerzadeh, “*Dynamic pricing in high-dimensions*,” Conference on **Two-sided Marketplace Optimization: Search, Pricing, Matching & Growth (TSMO)**, 2018.
8. Federico Ricci-Tersenghi, **Adel Javanmard** and Andrea Montanari, “*Performance of a community detection algorithm based on semidefinite programming*,” **Journal of Physics Series** 699(1):1-11, 2016.
9. Sonia Bhaskar and **Adel Javanmard**, “*1-Bit Matrix Completion under Exact Low-Rank Constraint*,” Proceedings of 49th Annual **Conference on Information Sciences and Systems (CISS)**, Baltimore, MD, 2015, pp: 1-6, doi: 10.1109/CISS.2015.7086879, 2015.
10. **Adel Javanmard** and Andrea Montanari, “*Confidence Intervals and Hypothesis Testing for High-Dimensional Regression*,” Proceeding of **Advances in Neural Information Processing Systems (NeurIPS 2013)**, 26, pages 1187-1195, 2013.
11. **Adel Javanmard** and Andrea Montanari, “*Model Selection for High-Dimensional Regression under the Generalized Irrepresentability Condition*,” Proceeding of **Advances in Neural Information Processing Systems (NeurIPS 2013)**, 26, pages 3012-3020, 2013.
12. **Adel Javanmard** and Andrea Montanari, “*Nearly Optimal Sample Size in Hypothesis Testing for High-Dimensional Regression*,” Proceedings of Annual **Allerton Conference** on Communication, Control and Computing, pages 1427-1434, 2013.
13. Animashree Anandkumar, Daniel Hsu, **Adel Javanmard**, and Sham M. Kakade, “*Learning Linear Bayesian Networks with Latent Variables*,” Proceeding of the 30th **International Conference on Machine Learning (ICML 2013)**, 28(1):249-257, 2013.
14. Morteza Ibrahimi, **Adel Javanmard**, and Benjamin Van Roy, “*Efficient Reinforcement Learning for High Dimensional Linear Quadratic Systems*,” Proceeding of **Advances in Neural Information Processing Systems (NeurIPS 2012)**, pages 2645-2653, 2012.

15. **Adel Javanmard** and Andrea Montanari, “*Subsampling at Information Theoretically Optimal Rates*,” Proc. of **IEEE International Symposium on Information Theory (ISIT)**, pages 2431-2435, 2012.
16. David L. Donoho, **Adel Javanmard**, and Andrea Montanari, “*Information-Theoretically Optimal Compressed Sensing via Spatial Coupling and Approximate Message Passing*,” Proceeding of **IEEE International Symposium on Information Theory (ISIT)**, pages 1231-1235, 2012.
17. **Adel Javanmard** and Li Zhang “*The minimax risk of truncated series estimators for symmetric convex polytopes*,” Proceeding of **IEEE International Symposium on Information Theory (ISIT)**, pp 1633-1637, 2012.
(*Best Student Paper Award Finalist*)
18. **Adel Javanmard**, Maya Haridasan, and Li Zhang, “*Multi-track Map Matching*”, Proceeding of **International conference on Advances in Geographic Information Systems (SIGSPATIAL)**, pages 394-397, 2012.
19. Mohammad Alizadeh, **Adel Javanmard**, Shang-Tse Chuang, Sundar Iyer, and Yi Lu “*Versatile Refresh: Low-Complexity Refresh Scheduling for High-throughput Multi-banked eDRAM*”, Proceeding of the 12th **ACM SIGMETRICS/PERFORMANCE**, pages 247-258, 2012.
20. Morteza Ibrahim, **Adel Javanmard**, Yashodhan Kanoria, and Andrea Montanari, “*Robust Max-Product Belief Propagation*,” **Asilomar Conference on Signals, Systems and Computers**, pages 43-49, 2011.
21. **Adel Javanmard** and Andrea Montanari, “*Localization from Incomplete Noisy Distance Measurements*,” Proceeding of **IEEE International Symposium on Information Theory (ISIT)**, pages 1584-1588, 2011.
(*Best Student Paper Award Finalist*)
22. Mohammad Alizadeh, **Adel Javanmard**, and Balaji Prabhakar, “*Analysis of DCTCP: Stability, Convergence, and Fairness*”, Proceeding of **ACM SIGMETRICS**, pages 73-84, 2011.
23. **Adel Javanmard**, Pedram Pad, Masoud Babaie-Zadeh and Christian Jutten, “*Estimating The Mixing Matrix In Underdetermined Sparse Component Analysis (SCA) Using Consecutive Independent component Analysis (ICA)*”, Proceeding of the 16th European Signal Processing Conference (**EUSIPCO**), Lausanne, Aug. 2008.

Under Review

1. **Adel Javanmard**, Vahab Mirrokni, Jean Pouget-Abadie, “Causal Inference with Differentially Private (Clustered) Outcomes”, under review, 2023.
2. Rashmi Ranjan Bhuyan, **Adel Javanmard**, Sungchul Kim, Gourab Mukherjee, Ryan A. Rossi, Tong Yu, Handong Zhao, “Structured Dynamic Pricing: Optimal Regret in a Global Shrinkage Model”, under review, 2023.
3. **Adel Javanmard**, Vahab Mirrokni, “Learning via Look-Alike Clustering: A Precise Analysis of Model Generalization”, under review, 2023.
4. **Adel Javanmard**, Mohammad Mehrabi, “GRASP: A Goodness-of-Fit Test for Classification Learning”, major revision at **Journal of Royal Statistical Society (Series B)**, 2022.
5. Dmitrii M. Ostrovskii, Mohamed Ndaoud, **Adel Javanmard** and Meisam Razaviyayn, “*Near-Optimal Model Discrimination with Non-Disclosure*,” major revision at **Operations Research**, 2021.
6. **Adel Javanmard**, Mohammad Mehrabi, “*Pearson Chi-squared Conditional Randomization Test*,” major revision at **Biometrika Journal** 2021.

7. Simeng Shao, Jacob Bien, **Adel Javanmard**, “*Controlling the False Split Rate in Tree-Based Aggregation*,” major revision at **Journal of American Statistical Association (Theory and Methods)**, 2021.
8. Simeng Shao, **Adel Javanmard** and Jacob Bien, “*Prediction Sets for High-Dimensional Mixture of Experts Models*,” major revision at **Journal of Royal Statistical Society (Series B)**, 2022.
9. Amin Jalali, **Adel Javanmard** and Maryam Fazel, “*New Computational and Statistical Aspects of Regularized Regression with Application to Rare Feature Selection and Aggregation*,” under review 2019.

GRANT PROPOSALS

1. *NSF Award*: (\$275,000) National Science Foundation grant. Title: “Robust and scalable algorithms for learning hidden structures in sparse network data with the aid of side information”, 2023-2026.
2. *Adobe Data Science Faculty Research Award (2022)*: (\$50,000). Title: “Statistical Joint Modeling for Integrated Marketing Flows: Personalized Promotions Optimized Over Journey and Lifespan”.
3. *Sloan Research Fellowship in Mathematics (2021)*: \$75,000.
4. *Adobe Data Science Faculty Research Award (2020)*: (\$50,000). Title: “Learn Your Customer: Novel Statistical Methods for Segmenting Online Users and Their Behaviors”.
5. *NSF CAREER Award*: (\$402,189) National Science Foundation grant. Title: “Valid and Scalable Inference for High-dimensional Statistical Models.” Estimated time: ~ 1 summer month/year (2019–2024). [1 of 5 awarded in Statistics in 2019]
6. *USC Marshall Outlier Research in Business (iORB) grant (2018)*: (\$10,000). Title: “Reliable Inference for Statistical Models”.
7. *USC Zumberge Individual Faculty Award (2017)*: (\$26,174). Title: “Inference on Sparse Network Data via Semidefinite Programming.”
8. *Google Faculty Research Award (2016)*: (\$65,500). Title: “Statistical Learning Mechanisms for Online Ad Markets: Stability and Incentive Compatibility”.

PHD STUDENTS

- *Simeng Shao* (co-advised with Jacob Bien), Phd Student: Data Sciences and Operations, Marshall School of Business, University of Southern California, graduation date: July 2022. Now Applied Researcher at Amazon.
- *Mohammad Mehrabi*, Phd Student: Data Sciences and Operations, Marshall School of Business, University of Southern California, expected graduation date: July 2023. Next: Postdoctoral Researcher at Stanford Graduate School of Business

TEACHING

Courses Taught at University of Southern California:

BUAD 310: Applied Business Statistics

- *introductory class for undergraduate business students*
- taught Fall 2015, 2016

- *Course description*: Statistical methods for business analysis; data exploration and description. Topics include: sampling distributions, estimation, hypothesis testing, simple and multiple regression, model building. Extensive computer applications.

BUAD 311: Operations Management

- *Core course for undergraduate business students*
- taught Fall 2017, 2022, Spring 2019, 2020, 2021
- *Course description*: Fundamentals of operations management. Skills needed to analyze, manage, and improve business processes. Topics include: process, capacity, service, and inventory management and optimization.

DSO 699: Statistics Theory

- *Core course for PhD students*
- taught Fall 2021
- *Course description*: A Special topic PhD level course to expose students to modern ideas in statistical inference with big data: bias, heterogeneity and fairness. Topics include: testing problems in high dimensions, multiple testing problems, conformal prediction, conditional randomization test, fairness via equitable coverage.

SOFTWARE PACKAGES

- **hat**: Hierarchical Aggregation Teting (with Simeng Shao and Jacob Bien). [link to package and documentation].
- **onlineDebiasing**: Statistical Inference with Online Debiasing (with Yash Deshpande and Mohammad Mehrabi). [link to package and documentation].
- **onlineFDR**: an R package to control the false discovery rate for growing data repositories (with David S Robertson, Jan Wildenhain and Natasha A Karp). [link to package and documentation].
- **GAP**: General probabilistic models of spatial genetic ancestry with applications to stratification correction in genome-wide association studies (with Anand Bhaskar, Thomas Courtade and David Tse). [link to package and documentation].
- **SDPclustering**: Graph clustering and community detection via Semidefinite Programming (with Andrea Montanari and Federico Ricci-Tersenghi). [link to package and documentation].
- **sslasso**: Confidence Intervals and Hypothesis Testing for High- Dimensional Regression (with Hamid Javadi, Andrea Montanari and Sven Schmit). [link to package and documentation].

PRESENTATIONS

Precise Statistical Analysis of Classification Accuracies for Adversarial Training

63. Annals of Statistics invited session, JSM 2023.

Controlling the False Split Rate in Tree-Based Aggregation

62. Machine Learning Across Disciplines: New Theoretical Developments, June 2022.

The curse of overparamterization in adversarial training

61. Information Theory and Applications (ITA) Workshop, Feb 2023.

60. New Advances in Statistics and Data Science, May 2022.

Pearson Chi-squared Conditional Randomization Test

59. USC Econometrics Seminar, November 2021.

Mean field asymptotics in high-dimensional statistics

58. 12th International Conference on Multiple Comparison Procedures (MCP), September 2021

Statistical Inference for High-Dimensional Models

57. IMS Tweedie Invited Lecture, Bernoulli-IMS One World Symposium, August 2020

Precise Tradeoffs in Adversarial Training for Linear Regression

56. Invited talk at Fuqua School of Business, Duke University, March 2021.

55. Invited talk at UIUC Statistics Seminar, March 2021.

54. Invited talk at Yale University, Department of Statistics and Data Science, Dec 2020.

53. Invited talk at CMU Statistics and Data Science Seminar, October 2020

52. Thirty-third Annual Conference on Learning Theory, July 2020

Online Debiasing for Adaptively Collected High-dimensional Data

51. Invited talk at Simons Institute for the Theory of Computing (*Reunion workshop of Foundations of Data Science Program*), December 2019

Analysis of a two-layer neural networks via displacement convexity

50. Invited talk at Institute for Outlier Research (iORB) mini-conference, USC Marshall, December 2019

49. Invited talk at INFORMS Annual Meeting, Seattle, Washington, October 2019

48. Invited talk at International Conference on Continuous Optimization (ICCOPT), Berlin, August 2019

47. Invited talk at American Mathematical Society (AMS) Meeting, Honolulu, Hawaii, March 2019

46. Invited talk at Wilks Seminar, Princeton University, March 2019

45. Invited talk at workshop of Rough Landscapes: From Physics to Algorithms, Kavli Institute for Theoretical Physics, January 2019

A Flexible Framework for Hypothesis Testing in High-Dimensions

44. Invited talk at Simons Institute for the Theory of Computing (*Foundations of Data Science Program*), November 2018

43. Invited talk at Information Theory and Applications Workshop (ITA), February 2018

42. Invited talk at Conference on Information Sciences and Systems (CISS), Princeton, March 2018

Dynamic Incentive-Aware Learning: Robust Pricing in Contextual Auctions

41. Invited talk at ISE seminar, University of Southern California, October 2020

40. Invited talk at IEOR/DRO seminar, Columbia University, October 2020

39. Invited talk at INFORMS Annual Meeting, Seattle, Washington, October 2019

38. Invited talk at Simons Institute for the Theory of Computing (*Foundations of Data Science Program*), September 2018

37. Invited talk at Google Research, New York, May 2018

36. Invited talk at MIT Stochastics and Statistics Seminar, May 2018

Dynamic Pricing in High-dimensions

35. Invited talk at Information Theory and Applications Workshop (ITA), February 2017
34. Invited talk at MIT Operation Research Seminar, March 2017
33. Invited talk at INFORMS Annual Meeting, Houston, TX, October 2017

Online Control of False Discovery Rate

32. Invited talk at the 10th International Conference on Multiple Comparison Procedures, June 2017
31. Invited talk at Probability and Statistics seminar, Math Department, University of Southern California, January 2017
30. Invited talk at INFORMS Annual Meeting, Nashville, TN, November 2016
29. Invited talk at Joint Statistical Meetings, Seattle, August 2015
28. Invited talk at Statistical Learning and Data Science Conference, University of North Carolina, Chapel Hill, June 2016

Phase Transitions in Semidefinite Programming

27. Invited talk at CommNetS Seminar, Electrical Engineering Department, University of Southern California, January 2016

Extracting Biomedical Relationships from Unstructured Documents

26. Invited talk at INFORMS Annual Meeting, Philadelphia, PA, November 2015

De-biasing the Lasso: Optimal Sample Size for Gaussian Designs

25. Invited talk at Symposium on Sparse Modeling and Its Applications, UCLA, Statistics department, October 2015

Reasoning about Uncertainty in High-Dimensional Data Analysis

24. Invited talk at AIM workshop on Inference in High-Dimensional Regression, Palo Alto, January 2015
23. Invited talk at UC Berkeley, November 2014
22. Invited talk at Massachusetts Institute of Technology (MIT), March 2014
21. Invited talk at University of California, Los Angeles (UCLA), March 2014
20. Invited talk at Princeton University, February 2014
19. Invited talk at University of California, San Diego (UCSD), February 2014
18. Invited talk at University of Washington, February 2014
17. Invited talk at Microsoft Research, NYC, February 2014
16. Invited talk at Wharton School of the University of Pennsylvania, February 2014
15. Invited talk at Yale University, February 2014
14. Invited talk at University of Southern California (USC), January 2014
13. Invited talk at Microsoft Research, Silicon Valley, January 2014

Confidence Intervals and Hypothesis Testing for High-Dimensional Regression

12. Invited talk at University of Illinois (UIUC), November 2013

Reasoning about Uncertainty in Social Network Analysis

11. Invited talk at INFORMS annual meeting, Minneapolis, MN, October 2013

Nearly Optimal Sample Size in Hypothesis testing for High-Dimensional Regression

10. Invited talk at Annual Allerton Conference on Communication, Control and Computing, October 2013

Information-Theoretically Optimal Compressed Sensing

9. Invited talk at University of Southern California (USC), January 2014
8. Invited talk at Information Theory Forum, Stanford, February 2013
7. Invited talk at Asilomar Conference on Signals, Systems, and Computers, November 2012
6. IEEE International Symposium on Information Theory (ISIT), Cambridge, MA, July 2012

Subsampling at Information Theoretically Optimal Rates

5. IEEE International Symposium on Information Theory (ISIT), Cambridge, MA, July 2012

Minimax Risk of Truncated Series Estimators over Symmetric Convex Polytopes

4. IEEE International Symposium on Information Theory (ISIT), Cambridge, MA, July 2012

Localization from Incomplete Noisy Distance Measurements

3. IEEE International Symposium on Information Theory (ISIT), August 2011
2. Invited talk at Microsoft Research, Silicon Valley, August 2011
1. Invited talk at the IDEAL group, Stanford, October 2011

SELECTED PROFESSIONAL ACTIVITIES & SERVICE

• SERVICE TO PROFESSION:

- **Committee member:** INFORMS Dantzig Dissertation Prize (1/2022-present).
- **Associate Editor:** Operations Research, Machine Learning and Data Science Section, 2020-present.
- **NSF panelist:** Proposal review panelist for DMS (2021), AMPS (2023).
- **National Science Centre panelist:** (Poland) grant review panelist 2016, 2020
- **Journal Review:** Referee for *Proceedings of the National Academy of Sciences*, *Annals of Statistics*, *Journal of the American Statistical Association*, *Journal of Royal Statistical Society*, *Biometrika*, *Electronic Journal of Statistics*, *JSTAT (Journal of Statistical Mechanics: Theory and Experiment)*, *Journal of Econometrics*, *Bernoulli Journal*, *Statistics Surveys*, *IEEE Transactions on Information Theory*, *IEEE Transactions on Signal Processing*, *IEEE ACM Transactions on Sensor Networks*, *Journal of Machine Learning Research*, *Operations Research*, *Management Science*, *Statistical Science*.
- **Conference Review:** Referee for *Advances in Neural Information Processing Systems (NeurIPS 2013-2016, 2019-2021)*, *IEEE International Symposium on Information Theory (ISIT 2011-2021)*, *International Conference on Machine Learning (ICML 2012, 2017, 2021)*, *Conference on Learning Theory (COLT 2013, 2017, 2021)*, *IEEE Information Theory Workshop (ITW 2012, 2017)*.
- **Program Committee**, IEEE International Symposium on Information Theory (ISIT), 2019-2020.
- **Program Committee**, IEEE International Symposium on Information Theory (ISIT), 2018.
- **Session Chair** for “sparsity” at the Information Theory and Application (ITA), 2017.
- **Session Chair** on “Network Modeling and Inference” at the INFORMS Annual Meeting, 2016.

• SERVICE TO UNIVERSITY:

- Courtesy appointment: Department of Computer Science, USC Viterbi School of Engineering (2017-present)

- Mentor of Assistant Professor Matteo Sesia (2021-present).
- PEG committee member for promotion of Assistant professor Gourab Mukherjee (2021).
- DSO APR committee member (2022-2023)
- Marshall Grade Appeal committee member (2022-2023)
- Marshall BUAD311 course coordinator (Fall 2022)
- PhD advisor: Simeng Shao (2017-2022), Mohammad Mehrabi (2018-present)
- Doctoral dissertation and qualification exam committee member at Marshall School, Viterbi School of Engineering, Economic departments, Mathematics department. (Rashmi Ranjan Bhuyan, Simeng Shao, Mohammad Mehrabi, Chien-Sheng Yang, Mohammadreza Mousavi, Liying Yang, Liyan Li)
- Instructor of microseminar “Optimal use of data: How to come up with better predictions” for incoming USC students, 2020 (invited by the USC Office of Undergraduate Programs).
- DSO Statistics faculty recruiting committee member (2015- present)
- DSO PhD admission committee member (2015- present)
- DSO Statistic seminar organizer (2019-2021)
- Faculty speaker for DSO (Statistics) Prospective PhD Visit Day (February 2016, March 2018)
- Faculty speaker at DSO 621 for Marshall PhD students (September 2016, March 2020)
- DSO Statistics Committee for Screening/Qualification exams (2016-present)
- Presenter at the Junior Faculty Research Day, USC Marshall School of Business (December 2019)
- Review committee member for the USC Zumberge individual Grant program (2018)

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