

DANA YANG

Assistant Professor

Cornell University, Department of Statistics and Data Science

Research interests: The broad area of high-dimensional statistics and machine learning, with a focus on random graph analysis and ethics and safety in machine learning..

EDUCATION

Yale University

2014 - 2019

Ph.D. in Statistics & Data Science

Advisors: Prof. David Pollard, Prof. John Lafferty, Prof. Yihong Wu

Thesis: “A few topics in statistics”

Yale University

2013-2014

M.A. in Statistics

Tsinghua University

2009-2013

B.S. in Mathematics

University of Washington

Spring 2012

Exchange student in Mathematics & Statistics

AWARDS AND HONORS

Individual Innovation Award

Center for Teaching Innovation, Cornell University

2023

Simons-Berkeley Research Fellowship

The Simons Institute for the Theory of Computing, UC Berkeley

2021

Francis J. Anscombe Award for Academic Excellence

Department of Statistics and Data Science, Yale University

2019

PUBLICATIONS AND PREPRINTS

(in alphabetical order except for *)

1. Jian Ding, Yihong Wu, Jiaming Xu and Dana Yang, “The planted matching problem: Sharp threshold and infinite-order phase transition”, *Probability Theory and Related Fields*, 2023.
2. Cynthia Rush, Fiona Skerman, Alex Wein and Dana Yang, “Is it easier to count communities than find them?”, *ITCS 2023*.
3. Jiaming Xu, Kuang Xu and Dana Yang, “Learner-Private Convex Optimization”, *IEEE Transactions on Information Theory*, 2022. (Shorter version in *ICML*, 2021).
4. Jiaming Xu, Kuang Xu and Dana Yang, “Optimal query complexity for private sequential learning against eavesdropping”, *AISTATS*, 2021.
5. Victor-Emmanuel Brunel, Jason M. Klusowski and Dana Yang, “Estimation of convex supports from noisy measurements”, *Bernoulli*, 2020.
6. Pierre C. Bellec and Dana Yang, “The cost-free nature of optimally tuning Tikhonov regularizers and other ordered smoothers”, *ICML*, 2020.
7. Jian Ding, Yihong Wu, Jiaming Xu and Dana Yang, “Consistent recovery threshold of hidden nearest neighbor graphs”, *IEEE Transactions on Information Theory*, 2021. (Shorter version in *COLT*, 2020)

8. Dana Yang, “Posterior asymptotic normality for an individual coordinate in high-dimensional linear regression”, *Electronic Journal of Statistics*, 13(2), pages 3082-3094, 2019.
9. *Jason M. Klusowski, Dana Yang and W.D. Brinda, “Estimating the coefficients of a mixture of two linear regressions by expectation maximization”, *IEEE Transactions on Information Theory*, 65(6), pages 3515-3524, 2019.
10. *W.D. Brinda, Jason M. Klusowski and Dana Yang, “Hölder’s identity”, *Statistics & Probability Letters*, Volume 148, Pages 150-154, 2019.
11. David Pollard and Dana Yang, “Rapid mixing of a Markov chain for the exponentially weighted aggregation estimator”, *arXiv preprint arXiv: 1909.11773*, 2019.
12. *Dana Yang, John Lafferty and David Pollard “Fair quantile regression”, *arXiv preprint arXiv: 1907.08646*, 2019.
13. *Kun Tian, Xiaoqian (Dana) Yang, Qin Kong, Changchuan Yin, Rong L. He and Stephen S-T Yau, “Two dimensional Yau-Hausdorff distance with applications on comparison of DNA and protein sequences”, *PloS one*, 10(9), 2015.
14. Sören R. Künnel, David Pollard and Dana Yang, “Remarks on Kneip’s linear smoothers”, *arXiv preprint arXiv: 1405.1744*, 2014.

RESEARCH EXPERIENCE

The Simons Institute for the Theory of Computing

Research Fellow

Aug 2021-Dec 2021

Program: Computational Complexity of Statistical Inference

The Fuqua School of Business, Duke University

Postdoctoral Associate

Aug 2019-Jul 2021

Supervisor: Prof. Jiaming Xu, Assistant Professor at the Fuqua School of Business, Duke University

The Simons Institute for the Theory of Computing

Visiting Postdoc

Aug 2020-Dec 2020

Program: Probability, Geometry, and Computation in High Dimensions

Emonet Lab, Yale University

Research Assistant

Mar 2016-Mar 2017

Supervisor: Prof. Thierry Emonet, Associate Professor of Molecular, Cellular & Developmental Biology and Physics, Yale University

Project: Detection of behavioral patterns of Escherichia coli (E. coli) bacteria.

TEACHING EXPERIENCE

Primary Instructor

- STSCI4030/STSCI5030/BTRY4030: Linear Models with Matrices, Cornell University, Fall 2024.
- STSCI4100/STSCI5111/ILRST4100/BTRY4100: Multivariate Analysis, Cornell University, Spring 2024.
- STSCI4030/STSCI5030/BTRY4030: Linear Models with Matrices, Cornell University, Fall 2023.

- STSCI4100/STSCI5111/ILRST4100/BTRY4100: Multivariate Analysis, Cornell University, Spring 2023.
- STSCI4030/STSCI5030/BTRY4030: Linear Models with Matrices, Cornell University, Fall 2022.
- STSCI 6040: Random Graph Analysis, Cornell University, Spring 2022.
- S&DS S107: Introduction to Statistics, Yale University, Summer 2017.

Teaching Fellow

- S&DS 625: Statistical Case Studies, Yale University, Fall 2016.
- S&DS 610: Statistical Inference, Yale University, Fall 2016.
- S&DS 551: Stochastic Processes, Yale University, Spring 2016.
- S&DS 600: Advanced Probability, Yale University, Spring 2016.
- S&DS 538: Probability and Statistics, Yale University, Fall 2015.
- S&DS 661: Data Analysis, Yale University, Fall 2015.
- S&DS 600: Advanced Probability, Yale University, Spring 2015.
- S&DS 610: Statistical Inference, Yale University, Fall 2014.
- S&DS 103: Introduction to Statistics: Social Sciences, Yale University, Fall 2013.

Statistical Consultant: responsible for the computational interactions in weekly meetings mostly with Yale researchers

- S&DS 627: Statistical Consulting, Yale University, 2016-2019

TALKS AND PRESENTATIONS

INFORMS Applied Probability Society	2025
CFE-CMStatistics	2024
Workshop on Low-degree polynomial methods in average-case complexity	2024
New York University, Center for Data Science	2023
MIT FODSI workshop	2023
Northwestern University, Department of Statistics and Data Science	2023
Innovations in Theoretical Computer Science (ITCS) conference	2023
Cornell University, Center for Applied Mathematics	2022
INFORMS Annual Meeting	2022
Cornell University, School of Operations Research and Information Engineering	2022
INFORMS Annual Meeting	2021
The Simons Institute for the Theory of Computing, Joint IFML/CCSI Symposium	2021
University of California, Riverside, Department of Statistics	2021
Harvard University, Probabilitas Seminar	2021
International Conference on Learning Theory (ICML)	2021
International Conference on Artificial Intelligence and Statistics (AISTATS)	2021

ETH Zürich, Young Data Science Researcher Seminar	2021
Cornell University, Department of Statistics and Data Science	2021
Texas A&M University, Department of Statistics	2021
Johns Hopkins University, Mathematical Institute for Data Science	2021
University of California, Berkeley, Department of IEOR	2021
University of Washington, Department of Statistics	2021
George Mason University, Department of Statistics	2021
Purdue University, School of Industrial Engineering	2021
University of Toronto, Department of Statistical Sciences	2021
University of California, Irvine, Department of Statistics	2021
University of Notre Dame, Department of Applied and Computational Math and Statistics	2021
INFORMS Annual Meeting	2020
International Conference on Learning Theory (ICML)	2020
Conference on Learning Theory (COLT)	2020
NeurIPS, Privacy in Machine Learning workshop (spotlight)	2019
Probability Seminar Series, Department of Mathematics, Duke University	2019
Decision Science Seminar Series, The Fuqua School of Business, Duke University	2019
SMIL@Y Research Meeting, Yale University	2018
Joint Statistical Meetings (JSM)	2016
Yale Probability Network Group	2015,2014

SERVICE

Computing Committee Member, Cornell School of ILR	2024
Reviewer for IEEE Symposium on Foundations of Computer Science	2024
Reviewer for Random Structures & Algorithms	2024
Co-organizer for Cornell S&DS Seminar Series	2024
Session chair for Inform's Annual Meeting	2023
Co-organizer for Cornell S&DS Seminar Series	2023
Co-organizer for Celebration of Statistics and Data Science, Cornell S&DS	2023
New Building Planning Committee Member, Cornell S&DS	2023
PhD Program Admission Committee Member, Cornell S&DS	2023
Faculty Search Committee Member	2023
MPS Program Admission Committee Member, Cornell S&DS	2023
Participant of SoNIC program organized by Cornell Bowers CIS, Office of Diversity, Equity and Inclusion	2023
Co-organizer for Cornell S&DS Seminar Series	2022

PhD Program Admission Committee Member, Cornell S&DS	2022
MPS Program Admission Committee Member, Cornell S&DS	2022
Faculty Search Committee Member, Cornell S&DS	2022
Session chair for Informs Annual Meeting	2022
Reviewer for Annals of Statistics	2022
Participant of SoNIC program organized by Cornell Bowers CIS, Office of Diversity, Equity and Inclusion	2022
Reviewer for Innovations in Theoretical Computer Science (ITCS)	2021
Reviewer for ACM Conference on Economics and Computation (EC'20)	2020
Reviewer for Artificial Intelligence and Statistics (AISTATS)	2020
Reviewer for Bernoulli	2015, 2019