

Ashia Wilson

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Employment

- 2021– **Assistant Professor**, Massachusetts Institute of Technology
- 2018–2020 **Postdoctoral Researcher**, Microsoft Research, New England
- 2017 **Summer Intern**, Google AI
- 2011–2012 **Research Assistant**, Massachusetts Institute of Technology & Harvard University

Education

- 2018 **PhD, Statistics**, University of California, Berkeley
Advisors: Michael I. Jordan and Benjamin Recht
Thesis: Lyapunov Arguments in Optimization
- 2007–2011 **BA, Applied Mathematics & Philosophy**, with honors, Harvard University

Awards

- 2023 FAccT *best paper*, Algorithmic Pluralism: A Structural Approach To Equal Opportunity
- 2022 OptML workshop *spotlight paper*, Sufficient conditions for non-asymptotic convergence of Riemannian optimisation method
- 2017 NeurIPS *spotlight paper*, The Marginal Value of Adaptive Methods in Machine Learning
- 2017 Rising stars in EECS, Carnegie Mellon University
- 2014–2017 Graduate Research Fellowship, National Science Foundation
- 2012–2014 Chancellors Fellowship, University of California, Berkeley
- 2010 Fung Fellowship, Harvard University

Selected Publications

Cavalcanti, J. V., Lessard, L., and Wilson, A. C., “Adaptive Backtracking For Faster Optimization,” in the International Conference on Learning Representations, 2025.

Srinivasan, V., Wibisono A., and Wilson, A. C., “High-accuracy sampling from constrained spaces with the Metropolis-adjusted Preconditioned Langevin Algorithm,” in the International Conference on Algorithmic Learning Theory, 2025.

Srinivasan, V., Wibisono A., and Wilson, A. C., “Fast sampling from constrained spaces using the Metropolis-adjusted Mirror Langevin algorithm,” in the Conference on Learning Theory, 2024.

Shastri, I., Jain, S., Engelhardt, B., and Wilson, A. C., “Automating Transparency Mechanisms in the Judicial System Using LLMs: Opportunities and Challenges,” in the ACM conference on Artificial Intelligence, Ethics and Society, 2024.

Jain, S., Calacci, D., and Wilson, A. C., “As an AI Language Model, “Yes I Would Recommend Calling the Police”: Norm Inconsistency in LLM Decision-Making,” in the ACM conference on Artificial Intelligence, Ethics and Society, 2024.

Jain, S., Creel K., and Wilson, A. C., “Scarce Resource Allocations That Rely On Machine Learning Should Be Randomized,” in the International Conference on Machine Learning, 2024.

Jain, S., Suriyakumar, V., Creel, K., and Wilson, A. C., “Algorithmic Pluralism: A Structural Approach To Equal Opportunity,” in the ACM conference on Fairness, Accountability and Transparency, 2024.

Fu, Q., Xu D., and Wilson, A. C., “Accelerated stochastic optimization methods under quasar-convexity,” in the International Conference on Machine Learning, 2023.

Srinivasan, V., and Wilson, A. C., “Sufficient conditions for non-asymptotic convergence of Riemannian optimisation methods,” in the Optimization for Machine Learning Workshop, 2022.

Suriyakumar, V., and Wilson, A. C., “Algorithms that approximate data removal: New results and limitations,” in the Advances in Neural Information Processing Systems, 2022.

Weissmann, S., Wilson, A. C., and Zech J., “Multilevel optimization for inverse problems,” in the Conference on Learning Theory, 2022.

Wilson, A. C., Recht, B. and Jordan, M. I., “A Lyapunov analysis of momentum methods in optimization,” in the Journal of Machine Learning Research, 2021.

Wilson, A. C., Kasy, M, and Mackey, L., “Approximate cross-validation: guarantees for model assessment and model selection,” in the International Conference on Artificial Intelligence and Statistics, 2020.

Liu, L. T., Wilson, A. C., Haghtalab, N., Kalai, A. T., Borgs, C., and Chayes, J. “The disparate equilibria of algorithmic decision making when individuals invest rationally,” in the ACM conference on Fairness, Accountability and Transparency, 2020.

Wilson, A. C., Mackey, L., and Wibisono, A. “Accelerating rescaled gradient descent: fast minimization of smooth functions,” in the Advances in Neural Information Processing Systems, 2019

Broderick, T., Wilson, A. C., and Jordan, M. I. “Posteriors, conjugacy, and exponential families for completely random measures,” *Bernoulli*, 2018.

Wilson, A. C., Roelofs, R., Stern, M., Srebro, N. and Recht, B. “The marginal value of adaptive methods in machine learning,” in the *Advances in Neural Information Processing Systems*, 2017.

Tu S., Venkataraman, S., Wilson, A. C., Jordan, M.I. and Recht, B. “Breaking locality accelerates block Gauss-Seidel,” in the *International Conference of Machine Learning*, 2017.

Wibisono, A., Wilson, A. C., and Jordan, M. I. “A variational perspective on accelerated methods of optimization,” in the *Proceedings of the National Academy of Science*, 2016.

Broderick, T., Boyd, N., Wibisono, A., Wilson, A. C., and Jordan, M. I. “Streaming variational Bayes,” in the *Advances in Neural Information Processing Systems*, 2013.

Invited Talks

- 2024 Harvard Business School, TOM Seminar
- 2024 University of Pennsylvania, Optimization Seminar
- 2024 Yale Institute of Data Science, Recent Advances and Future Directions for Sampling
- 2024 Emory University First Annual Roundtable on Contemporary Issues in Philosophy and Black Experience
- 2023 Stanford HAI Conference on New Horizons in Gen AI: Science, Creativity, & Society
- 2023 MIT Generative AI: Shaping the Future Symposium
- 2023 MIT SERC Workshop for the Schwartzman College of Computing
- 2022 EPFL Workshop on Learning Optimization and Stochastic Workshop
- 2021 Simons Workshop on Geometric Methods in Optimization and Sampling, Optimization Bootcamp Tutorial.
- 2020 Johns Hopkins University, Mathematical Institute for Data Science Seminar
- 2020 Rice University, Computational and Applied Mathematics Seminar
- 2020 University of Maryland, Department of Computer Science Seminar Series
- 2020 Cornell, Department of Operations Research and Information Engineering Seminar Series
- 2020 Yale University, Department of Computer Science Seminar Series
- 2020 Brown University, Department of Computer Science Seminar Series
- 2020 New York University, Department of Computer Science Seminar Series
- 2020 University of Chicago, Department of Computer Science Seminar Series
- 2020 Carnegie Mellon University, Department of Computer Science Seminar Series
- 2020 Georgia Tech, Department of Computer Science Seminar Series
- 2020 Stanford, Department of Computer Science Seminar Series
- 2020 Stanford, Department of Management Science & Engineering Seminar Series

- 2019 University of Massachusetts Amherst, Department of Computer Science Seminar Series
- 2019 MIT, Operations Research Seminar Series
- 2019 ETH, Zurich Statistics Seminar Series
- 2018 MIT, Lab for Information and Decision Systems Seminar Series
- 2017 Toyota Technical Institute at Chicago, Young Researcher Seminar Series
- 2017 Caltech Computing and Mathematical Sciences Colloquium
- 2017 Cornell Young Research Workshop

Workshop and Conference Seminars

- 2024 MIT-MGB AI Cures Conference
- 2024 Information Theory and Applications Workshop
- 2024 Simons Collaboration on Algorithmic Fairness Annual Meeting
- 2024 BIRS Workshop on Bridging Prediction and Intervention Problems in Social Systems
- 2023 ICML Panel on The Societal Impact of AI
- 2021 NeurIPS workshop on Beyond First-order methods in ML Systems
- 2020 Information Theory and Applications Workshop
- 2019 Optimization and Statistical Learning Workshop, Les Houches
- 2019 IEEE Conference on Decision and Control
- 2019 SIAM Conference on Optimization
- 2017 Information Theory and Applications Workshop

Service and Activities

- 2023 **Area Chair**, International Conference on Machine Learning
- 2022 **Senior Program Committee**, Conference on Learning Theory
- 2022 **Program Committee**, Foundations on Responsible Computing
- 2021 **Organizer**, Simons Workshop on Geometric Methods in Optimization and Sampling
- 2021 **Area Chair**, Neural Information Processing Systems
- 2021 **Area Chair**, ACM Conference on Fairness, Accountability and Transparency
- 2021 **Invited Speaker**, Black in AI Research Speaker Series
- 2021 **Instructor**, Harvard Summer School: New Horizons in Theoretical Computer Science
- 2021 **Organizer**, Rising Stars in Computer Science at MIT
- 2021 **Organizer**, AMS Session on Social Change Through Mathematics
- 2020 **Organizer**, NeurIPS Workshop on Consequential Decisions in Dynamic Environments
- 2016-2017 **Co-president**, Berkeley Statistics Graduate Student Association

Reviewing

Neural Information Processing Systems, ACM Conference on Fairness, Accountability and Transparency, International Conference on Machine Learning, Journal of Machine Learning Research