

JELENA DIAKONIKOLAS

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maiden name: Marašević

ACADEMIC APPOINTMENTS

- Assistant Professor* **Jan. 2020–Present**, University of Wisconsin-Madison, Madison, WI,
Department of Computer Sciences
- Postdoctoral Fellow* **2018–Dec. 2019**, UC Berkeley, Berkeley, CA,
UC Berkeley Foundations of Data Analysis Institute
Host: Prof. Michael I. Jordan
- Research Fellow* **Fall 2018**, UC Berkeley, Berkeley, CA,
Simons Institute for the Theory of Computing: Program on Foundations of Data Science
- Postdoctoral Associate* **2016–2018**, Boston University, Boston, MA,
College of Arts and Sciences, Department of Computer Science
Host: Prof. Lorenzo Orecchia

VISITING POSITIONS

- Visiting Professor* **Fall 2021**, Simons Institute for the Theory of Computing, Berkeley, CA
Program on Geometric Methods in Optimization and Sampling
- Visiting Scholar* **Fall 2017**, Simons Institute for the Theory of Computing, Berkeley, CA
Program on Bridging Continuous and Discrete Optimization
- Visiting Scholar* **2016–2017**, Massachusetts Institute of Technology, Cambridge, MA
Laboratory for Information & Decision Systems
Host: Prof. Eytan Modiano

EDUCATION

- Ph.D. in Electrical Engineering* **2012–2016**, Columbia University, New York, NY
Graduate School of Arts and Sciences, Department of Electrical Engineering
Cumulative GPA: 4.11/4.0, M.Phil. awarded in Oct. 2015
Thesis: Resource Allocation in Wireless Networks: Theory and Applications
Advisors: Prof. Gil Zussman and Prof. Cliff Stein
- M.S. in Electrical Engineering* **2011–2012**, Columbia University, New York, NY
School of Engineering and Applied Science, Department of Electrical Engineering
Final GPA: 4.09/4.0
Master of Science Award of Excellence
- B.S. in Electrical Engineering and Computing* **2007–2011**, University of Belgrade, Belgrade, Serbia
School of Electrical Engineering
Major: Communication Systems and Microwave Engineering
Final GPA: 9.82/10.0 (top 2%)
Thesis: Antenna Array Optimization Using a Genetic Algorithm
Thesis advisor: Prof. Dragan Olčan

AWARDS & HONORS

- Faculty Awards* **2025**, [Google ML and Systems Junior Faculty Award](#)
2025, [NSF CAREER Award](#)
2024, [AFOSR Young Investigator Award](#)
- Fellowship Awards* **2018**, Simons-Berkeley Research Fellowship and Microsoft Research Fellowship,

Foundations of Data Science program

2015, [Qualcomm Innovation Fellowship](#)

2010, Government of the Republic of Serbia, Ministry of Youth and Sports, *Dositeja* (Awarded annually to top 1% of senior undergraduate students from Serbian universities.)

2009, Government of the Republic of Serbia, Ministry of Education and Science – Republic Foundation for the Development of Scientific and Artistic Youth Fellowship (Awarded annually to 35 students from all engineering schools in Serbia.)

Academic Honors

2017, [Morton B. Friedman Memorial Prize for Excellence at Columbia Engineering](#)

2017, Columbia University, EE dept. Collaborative Research Award

2013, Columbia University, EE dept. Master of Science Award of Excellence

Teaching & Mentoring Awards

2023, UW-Madison, [Provost’s Award for Mentoring Undergraduates in Research, Scholarly, and Creative Activities](#)

2013, Columbia University, EE dept. Jacob Millman Prize for Excellence in Teaching Assistance

Recognitions

2016, Networking Networking Women, 10 Women in Networking/Communications That You Should Watch

2015, MIT EECS Rising Star

Service Awards

2023, Mathematical Programming Meritorious Service Award

2021, Golden bricks (CS department service award)

2019 NeurIPS Top Reviewer

PUBLICATIONS

Preprints & Manuscripts

I. Diakonikolas, J. [Diakonikolas](#), D. Kane, J. Lee, T. Pittas, “Linear Regression under Missing or Corrupted Coordinates,” arXiv preprint, arXiv:2509.19242, 2025.

J. [Diakonikolas](#), “Pushing the Complexity Boundaries of Fixed-Point Equations: Adaptation to Contraction and Controlled Expansion,” arXiv preprint, arXiv:2506.17698, 2025.

S. Li, I. Diakonikolas, J. [Diakonikolas](#), “Distributionally Robust Optimization with Adversarial Data Contamination,” arXiv preprint, arXiv:2507.10718, 2025. In submission.

R. Mehta, J. [Diakonikolas](#), Z. Harchaoui, “Min-Max Optimization with Dual-Linear Coupling,” arXiv:2507.06328, 2025. In submission.

J. Kim, C. Park, A. Ozdaglar, J. [Diakonikolas](#), E. Ryu “Mirror Duality in Convex Optimization,” arXiv:2311.17296, 2023. In submission.

J. [Diakonikolas](#), L. Orecchia, “Conjugate Gradients and Accelerated Methods Unified: The Approximate Duality Gap View,” arXiv preprint, arxiv:1907.00289, 2019. Unpublished note.

J. [Diakonikolas](#) and L. Orecchia, “Solving Packing and Covering Linear Programs in $\tilde{O}(\epsilon^{-2})$ Distributed Iterations with a Single Algorithm and Simpler Analysis,” arXiv preprint, arXiv:1710.09002, 2017. Unpublished note.

Conference Proceedings & Refereed Workshops

G. Cao, S. Li, S. Karmalkar, J. [Diakonikolas](#), “Robust Learning of a Group DRO Neuron,” to appear in AISTATS’26, 2026.

P. Wang, N. Zarifis, I. [Diakonikolas](#), J. [Diakonikolas](#), “Robustly Learning Monotone Single-Index Models,” in Proc. NeurIPS’25, 2025.

N. Zarifis, P. Wang, I. [Diakonikolas](#), J. [Diakonikolas](#), “Robustly Learning Monotone Generalized Linear Models via Data Augmentation,” in Proc. COLT’25, 2025.

X. Cai, J. [Diakonikolas](#), “Last Iterate Convergence of Incremental Methods as a Model of Forgetting,” in Proc. ICLR’25, 2025.

S. Li, S. Karmalkar, I. [Diakonikolas](#), J. [Diakonikolas](#), “Learning a Single Neuron Robustly to Distributional Shifts and Adversarial Label Noise,” in Proc. NeurIPS’24, 2024.

P. Wang, N. Zarifis, I. [Diakonikolas](#), J. [Diakonikolas](#), “Sample and Computationally Efficient

- Robust Learning of Gaussian Single-Index Models,” in Proc. NeurIPS’24, 2024.
- R. Mehta, J. Diakonikolas, Z. Harchaoui, “DRAGO: Primal-Dual Coupled Variance Reduction for Faster Distributionally Robust Optimization,” in Proc. NeurIPS’24, 2024.
- X. Cai, CY. Lin, J. Diakonikolas, “Tighter Convergence Bounds for Shuffled SGD via Primal-Dual Perspective,” in Proc. NeurIPS’24, 2024.
- N. Zarifis, P. Wang, I. Diakonikolas, J. Diakonikolas, “Robustly Learning Single-Index Models via Alignment Sharpness,” in Proc. ICML’24, 2024.
- X. Cai, A. Alacaoglu, J. Diakonikolas, “Variance-reduced Halpern Iteration for Finite-Sum Monotone Inclusions,” in Proc. ICLR’24, 2024.
- D. Chakrabarti, J. Diakonikolas, C. Kroer, “Block-coordinate Methods and Restarting for Solving Extensive-form Games,” in Proc. NeurIPS’23, 2023. (α - β ordering)
- I. Diakonikolas, J. Diakonikolas, D. Kane, P. Wang, N. Zarifis, “Near-optimal Bounds for Learning Gaussian Halfspaces with Random Classification Noise,” in Proc. NeurIPS’23, 2023. (α - β ordering)
- S. Li, Y. Cheng, I. Diakonikolas, J. Diakonikolas, R. Ge, S. Wright, “Robust Second-Order Nonconvex Optimization and Its Application to Low-Rank Matrix Sensing,” in Proc. NeurIPS’23, 2023. (α - β ordering of non-first authors)
- P. Wang, N. Zarifis, I. Diakonikolas, J. Diakonikolas, “Robustly Learning a Single Neuron via Sharpness,” in Proc. ICML’23, 2023. **Oral presentation.**
- CY. Lin, C. Song, J. Diakonikolas, “Accelerated Cyclic Coordinate Dual Averaging with Extrapolation for Composite Convex Optimization,” in Proc. ICML’23, 2023.
- X. Cai, C. Song, S. Wright, J. Diakonikolas, “Cyclic Block Coordinate Descent with Variance Reduction for Composite Nonconvex Optimization,” in Proc. ICML’23, 2023.
- I. Diakonikolas, J. Diakonikolas, D. Kane, P. Wang, N. Zarifis, “Information-Computation Tradeoffs for Learning Margin Halfspaces with Random Classification Noise,” in Proc. COLT’23, 2023. (α - β ordering)
- C. Song, CY. Lin, S. Wright, J. Diakonikolas, “Coordinate Linear Variance Reduction for Generalized Linear Programming,” in Proc. NeurIPS’22, 2022.
- J. Diakonikolas, C. Li, S. Padmanabhan, C. Song, “A Fast, Scale-Invariant Algorithm for Non-negative Least Squares with Non-negative Data,” in Proc. NeurIPS’22, 2022. (α - β ordering)
- X. Cai, C. Song, C. Guzmán, J. Diakonikolas, “A Stochastic Halpern Iteration with Variance Reduction for Stochastic Monotone Inclusion,” in Proc. NeurIPS’22, 2022.
- C. Song, S. Wright, J. Diakonikolas “Variance Reduction via Primal-Dual Accelerated Dual Averaging for Nonsmooth Convex Finite-Sums,” in Proc. ICML’21, 2021. **Long talk.**
- A. Carderera, J. Diakonikolas, E. Lin, S. Pokutta “Parameter-free Locally Accelerated Conditional Gradients,” in Proc. ICML’21, 2021. (α - β ordering)
- J. Diakonikolas, C. Daskalakis, M. I. Jordan, “Efficient Methods for Structured Nonconvex-Nonconcave Min-Max Optimization,” in Proc. AISTATS’21, 2021.
- J. Diakonikolas, “Halpern Iteration for Near-Optimal and Parameter-Free Monotone Inclusion and Strong Solutions to Variational Inequalities”, in Proc. COLT’20, 2020.
- N. Chatterji*, J. Diakonikolas*, M. I. Jordan, P. L. Bartlett, “Langevin Monte Carlo Without Smoothness,” in Proc. AISTATS’20, 2020. (*equal contribution)
- J. Diakonikolas, A. Carderera, S. Pokutta, “Locally Accelerated Conditional Gradients,” in Proc. AISTATS’20, 2020.
- J. Diakonikolas, A. Carderera, S. Pokutta, “Breaking the Curse of Dimensionality (Locally) to Accelerate Conditional Gradients,” NeurIPS OPT-ML’19, 2019.

- J. Diakonikolas, C. Guzmán, “Lower Bounds for Parallel and Randomized Convex Optimization,” in Proc. COLT’19, 2019. (α - β ordering)
- M. Xu, J. Diakonikolas, E. Modiano, S. Subramaniam, “A Hierarchical and Reconfigurable WDM-based Data Center Network Architecture,” in Proc. IEEE ICC’19, 2019.
- M. B. Cohen, J. Diakonikolas, L. Orecchia, “On Acceleration with Noise-Corrupted Gradients,” in Proc. ICML’18, 2018. (α - β ordering)
- J. Diakonikolas, L. Orecchia, “Alternating Randomized Block Coordinate Descent,” in Proc. ICML’18, 2018. **Long talk.**
- J. Diakonikolas and L. Orecchia, “Accelerated Extra-Gradient Descent: A Novel Accelerated First-Order Method,” in Proc. ITCS’18, 2018.
- T. Chen, J. Diakonikolas, J. Ghaderi, G. Zussman, “Hybrid Scheduling in Heterogeneous Half- and Full-Duplex Wireless Networks” in Proc. IEEE INFOCOM’18, 2018.
- T. Chen, J. Diakonikolas, J. Ghaderi, G. Zussman, “Fairness and Delay in Heterogeneous Half- and Full-Duplex Wireless Networks,” in Proc. Asilomar’18, 2018, **invited paper.**
- J. Marašević, C. Stein, G. Zussman, “A Fast Distributed Stateless Algorithm for α -Fair Packing Problems,” in Proc. ICALP’16, 2016.
- J. Marašević, T. Chen, J. Zhou, N. Reiskarimian, H. Krishnaswamy, and G. Zussman, “Full-Duplex Wireless: Algorithms and Rate Improvement Bounds for Integrated Circuit Implementations,” in Proc. ACM HotWireless’16, Oct. 2016, **invited paper.**
- H. Krishnaswamy, G. Zussman, J. Zhou, J. Marašević, T. Dinc, N. Reiskarimian, and T. Chen, “Full-Duplex in a Hand-held Device - From Fundamental Physics to Complex Integrated Circuits, Systems, and Networks: An Overview of the Columbia FlexICoN Project,” in Proc. Asilomar’16, 2016, **invited paper.**
- J. Marašević, G. Zussman, “On the Capacity Regions of Single-Channel and Multi-Channel Full-Duplex Links,” in Proc. ACM MobiHoc’16, 2016.
- J. Marašević, J. Zhou, H. Krishnaswamy, Y. Zhong, G. Zussman, “Resource Allocation and Rate Gains in Practical Full-Duplex Systems,” in Proc. ACM SIGMETRICS’15, 2015.
- J. Marašević, C. Stein, G. Zussman, “Max-min Fair Rate Allocation and Routing in Energy Harvesting Networks: Algorithmic Analysis,” in Proc. ACM MobiHoc’14, 2014.
- J. Marašević, J. Janak, H. Schulzrinne, G. Zussman, “WiMAX in the Classroom: Designing a Cellular Networking Hands-on Lab,” in Proc. The Second GENI Research and Educational Experiment Workshop (GREE2013), Mar. 2013, **Best Educational Paper Award.**
- S. Li, S. Wright, J. Diakonikolas, “Outlier-Robust Nonsmooth Stochastic Optimization,” *Journal of Nonlinear and Variational Analysis*, vol. 10, no. 2, pp. 201–230 2026. **Invited contribution to the special issue in honor of Prof. Yurii Nesterov’s 70th birthday.**
- X. Cai, J. Altschuler, J. Diakonikolas, “Near-Linear Runtime for a Classical Matrix Preconditioning Algorithm,” *Journal of the ACM*, vol. 73, no. 1, pp. 1–25, 2026.
- J. Diakonikolas, C. Guzmán, “Optimization on a Finer Scale: Bounded Local Subgradient Variation Perspective,” *SIAM Journal on Optimization*, vol. 36, no. 1, pp. 152–184, 2026.
- J. Diakonikolas, “A Block Coordinate and Variance-Reduced Method for Generalized Variational Inequalities of Minty Type,” *ACM/IMS Journal of Data Science*, vol. 2, no. 2, pp. 1-30, 2025. **Invited contribution** to a special issue.
- J. Diakonikolas, C. Guzmán, “Complementary Composite Optimization, Small Gradients in General Norms, and Applications,” *Mathematical Programming Series A*, 208:319363, 2024.
- C. Song, J. Diakonikolas “Cyclic Coordinate Dual Averaging with Extrapolation,” *SIAM Journal on Optimization*, vol. 33, no. 4, pp. 2935–2961, 2023.
- J. Diakonikolas, P. Wang, “Potential Function-based Framework for Making the Gradients

Small in Convex and Min-Max Optimization,” *SIAM Journal on Optimization*, vol. 32, no. 3, 2022.

J. Diakonikolas, M. I. Jordan, “Generalized Momentum-Based Methods: A Hamiltonian Perspective,” *SIAM Journal on Optimization*, vol. 31, no. 1, pp. 915–944, 2021.

J. Diakonikolas, M. Fazel, L. Orecchia, “Fair Packing and Covering on a Relative Scale,” *SIAM Journal on Optimization*, vol. 30, no. 4, pp. 3284–3314, 2020.

J. Diakonikolas, C. Guzmán, “Lower Bounds for Parallel and Randomized Convex Optimization,” *Journal of Machine Learning Research*, vol. 21, no. 5, pp. 5:1-5:31, 2020. (α - β ordering)

T. Chen, J. Diakonikolas, J. Ghaderi, G. Zussman, “Hybrid Scheduling in Heterogeneous Half- and Full-Duplex Wireless Networks” *IEEE/ACM Transactions on Networking*, vol. 28, no. 2, pp. 764–777, 2020.

J. Diakonikolas and L. Orecchia, “The Approximate Duality Gap Technique: A Unified Theory of First-Order Methods,” *SIAM Journal on Optimization*, vol. 29, no. 1, pp. 660–689, 2019.

N. Reiskarimian, T. Dinc, J. Zhou, M. B. Dastjerdi, T. Chen, J. Diakonikolas, G. Zussman, H. Krishnaswamy, “A one-way ramp to a two-way highway: Integrated magnetic-free non-reciprocal antenna interfaces for full duplex wireless,” *IEEE Microwave Magazine*, vol. 20, no. 2, pp. 56–75, 2019, **invited paper**.

J. Marašević and G. Zussman, “On the Rate Regions of Single-Channel and Multi-Channel Full-Duplex Links,” *IEEE/ACM Transactions on Networking*, vol. 26, no. 1, pp. 47–60, Feb. 2018.

J. Zhou, N. Reiskarimian, J. Diakonikolas, T. Dinc, T. Chen, G. Zussman, H. Krishnaswamy, “Integrated Full-Duplex Radios,” *IEEE Communications Magazine*, vol. 55, no. 4, pp. 142–151, 2017, **invited paper**.

J. Marašević, C. Stein, G. Zussman, “Max-min Fair Rate Allocation and Routing in Energy Harvesting Networks: Algorithmic Analysis,” *Algorithmica*, vol. 78, no. 2, pp. 521–557, 2017.

J. Marašević, J. Zhou, H. Krishnaswamy, Y. Zhong, G. Zussman, “Resource Allocation and Rate Gains in Practical Full-Duplex Systems,” *IEEE/ACM Transactions on Networking*, vol. 25, no. 1, pp. 292–305, Feb. 2017.

TALKS

- UW-Madison Econ* **February 2026**, “Robust Learning of Single-Index Models,” Econometrics Seminar, UW-Madison, Madison, WI, **invited talk**
- UW Optimization* **January 2026**, “Efficient Solvers for Fixed Point Equations,” Frontiers of Convex Optimization Workshop, University of Washington, Seattle, WA, **invited talk**
- DeepMath* **November 2025**, “Efficient Learning of Single-Index Models,” DeepMath Conference, Ann Arbor, MI, **invited talk**
- Sorbonne* **November 2025**, “On Efficient Solvers for Fixed-Point Equations: Classical Results and New Twists,” Workshop on Regret, Optimization, and Games, Institut Henri Poincaré, Paris, France, **invited talk**
- GA Tech* **October 2025**, “Better Convergence Bounds for Cyclic Methods,” Algorithms and Randomness Center Colloquium Series, GA Tech, Atlanta, GA, **invited talk**
- AFOSR* **September 2025**, “Efficient Optimization on a Euclidean Sphere,” AFOSR Mathematical Optimization Program Review
- ICCOPT* **July 2025**, “On Efficient Solvers for Fixed-Point Equations: Classical Results and New

- Twists," International Conference on Continuous Optimization (ICCOPT), Los Angeles, CA, **invited talk**
- PKU* **June 2025**, "On Efficient Solvers for Fixed-Point Equations: Classical Results and New Twists," 2025 PKU Workshop on Optimization Theory and Methods, Peking University, Beijing, China, **invited talk**
- BIRS* **May 2025**, "Gradient alignment, Learning, and Optimization," Workshop on Strategies for Handling Applications with Nonconvexity, Banff International Research Station, Banff, AB, **invited talk**
- CMS* **December 2024**, "Faster Solutions to Variational Inequalities with Highly Nonuniform Component or Block Lipschitz Constants," Continuous Optimization Algorithms, Applications, and Analysis, Canada Mathematical Society (CMS) Winter Meeting, Vancouver, BC, **invited talk**
- INFORMS* **October 2024**, "Optimization on a Finer Scale: Bounded Local Subgradient Variation Perspective," INFORMS *invited* session OPT: Linear and Conic Optimization, Seattle, WA, **invited talk**
- AFOSR* **September 2024**, "Optimization on a Finer Scale: Bounded Local Subgradient Variation Perspective," AFOSR Mathematical Optimization Program Review
- WALE* **June 2024**, "Robust Learning of Single-Index Models: An Optimization Perspective," Workshop on Algorithms for Learning and Economics (WALE 2024), Kefalonia, Greece, **keynote talk**
- UWashingon* **April 2024**, "Fine-Grained Complexity of Nonsmooth Optimization," **Distinguished Seminar** in Optimization & Data, University of Washington, Seattle, WA, **invited talk**
- Berkeley IEOR* **March 2024**, "Cyclic Block Coordinate Methods on a Finer Scale: Tighter Bounds and New Methods," Berkeley IEOR Seminar Series, UC Berkeley, Berkeley, CA, **invited talk**
- IPAM* **February 2024**, "Robust Learning of a Single Neuron: Bridging Computational Gaps Using Insights from Optimization," IPAM EnCore Workshop on Computational vs Statistical Gaps in Learning and Optimization, IPAM UCLA, Los Angeles, CA, **invited talk**
- UPenn* **February 2024**, "Cyclic Block Coordinate Methods on a Finer Scale: Tighter Bounds and New Methods," Optimization Seminar, UPenn, Philadelphia, PA, **invited talk**
- Simons* **November 2023**, "Robust Learning of a Single Neuron via Sharpness," Workshop on Optimization and Algorithm Design, Simons Institute for the Theory of Computing, Berkeley, CA, **invited talk**
- ICSP* **July 2023**, "Robust ReLU Regression via Stochastic Optimization and Local Error Bounds," International Conference on Stochastic Programming, Davis, CA, **invited talk**
- SIAM OP23* **June 2023**, "Advances in Cyclic Block Coordinate Methods: Gradient Extrapolation, Acceleration, and Variance Reduction," SIAM Conference on Optimization, Minisymposium on Recent Advancements in Optimization Methods for Machine Learning, Seattle, WA, **invited talk**
- Purdue SODS* **May 2023**, "Advances in Cyclic Block Coordinate Methods: Gradient Extrapolation, Acceleration, and Variance Reduction," Statistics and Optimization in Data Science Workshop, Purdue University, West Lafayette, IN, **invited talk**
- OSL* **January 2023**, "Recent Advances in Cyclic Block Coordinate Methods," Optimization and Statistical Learning Workshop, Les Houches, France, **invited talk**
- IFDS Monthly* **June 2022**, "Halpern Iteration and Min-Max Problems," IFDS All-Hands Monthly Meeting, online, **invited talk**
- Columbia IEOR & DRO* **May 2022**, "Halpern Iteration and Min-Max Problems," Columbia University IEOR-DRO Seminar Series, online, **invited talk**
- ECOM* **April 2022**, "Faster Empirical Risk Minimization," East Coast Optimization Meeting, online,

(invited) guest lecture

- Simons* **February 2022**, “Halpern Iteration and Equilibria Problems,” Workshop on Adversarial Approaches in Machine Learning, Simons Institute, UC Berkeley, **invited talk**
- NeurIPS OPT-ML* **December 2021**, “Faster Empirical Risk Minimization,” NeurIPS OPT-ML Workshop, online, **plenary talk**
- MIT* **November 2021**, “How to Make the Gradients Small in Convex and Min-Max Optimization,” Operations Research Center Colloquium Series, MIT, **invited talk**
- HIM* **October 2021**, “Locally Accelerated Frank-Wolfe Methods,” Workshop on Continuous Approaches to Discrete Optimization, Hausdorff Institute for Mathematics, **invited talk**
- OPTML++* **September 2021**, “Faster Empirical Risk Minimization,” MIT LIDS OPTML++ Seminar Series, **invited talk**
- ICML* **July 2021**, “Faster Empirical Risk Minimization,” ICML Workshop: Beyond First-Order Information in Machine Learning Systems, **plenary talk**
- SIAM OP21* **July 2021**, “Structure in Min-Max Optimization (and How to Use It!),” SIAM Conference on Optimization, Minisymposium on New Results on Minimax (Saddle-Point) Problems, **invited talk**
- MTL MLOpt* **June 2021**, “Structure in Min-Max Optimization (and How to Use It!),” Montreal MLOpt Seminar Series, **invited talk**
- Digital Futures* **June 2021**, “Structure in Min-Max Optimization (and How to Use It!),” Digital Futures Fly-high Fika Seminars, KTH, **invited talk**
- Google* **May 2021**, “Fair Packing and Applications to Congestion Control,” Google Algorithms Workshop – Mobility Workshop, **invited talk**
- Cornell ORIE* **April 2021**, “Structure in Min-Max Optimization (and How to Use It!),” Cornell ORIE, **colloquium talk**
- IMSI* **April 2021**, “On Min-Max Optimization and Halpern Iteration,” The Multifaceted Complexity of Machine Learning Workshop, Institute for Mathematical and Statistical Innovation (IMSI), Chicago, IL, **invited talk**
- WiTML* **April 2021**, “Structure in Min-Max Optimization (and How to Use It!),” Women in Theoretical Machine Learning Symposium, TTIC & IMSI, **invited talk**
- JHU MINDS/CIS* **September 2020**, “On Min-Max Optimization and Halpern Iteration,” Johns Hopkins University, **MINDS & CIS Seminar, invited**
- UW-Madison* **February 2020**, “Langevin Monte Carlo Without Smoothness,” University of Wisconsin-Madison, Madison, WI, **Probability seminar**
- Simons* **December 2019**, “Langevin Monte Carlo Without Smoothness,” Foundations of Data Science Reunion, Simons Institute for the Theory of Computing, Berkeley CA
- TTIC* **November 2019**, “Langevin Monte Carlo Without Smoothness,” TTIC, Chicago, IL, **invited talk**
- BAIR Seminar* **November 2019**, “Langevin Monte Carlo Without Smoothness,” UC Berkeley, Berkeley, CA, **BAIR seminar**
- INFORMS* **October 2019**, “Distributed Algorithms For Fair Packing and Covering Problems,” INFORMS session Bridging Discrete and Continuous Optimization, Seattle, WA
- INFORMS* **October 2019**, “On Acceleration With Noise-corrupted Gradients,” INFORMS session Optimization in Machine Learning: Accelerated Methods and Stochastic Optimization, Seattle, WA
- INFORMS* **October 2019**, “A Hamiltonian Perspective On Momentum-based Methods,” INFORMS session Continuous-time Perspective in Optimization, Seattle, WA
- UW-Madison* **September 2019**, “Continuous-time Perspective on Optimization Algorithms in Machine

- Learning," Machine Learning and Optimization Research Consortium Industry Affiliates Day, University of Wisconsin-Madison, Madison, WI, **invited talk**
- ADSI Summer School* **August 2019**, "A Tutorial on Convex Optimization: First-order Methods," ADSI Summer School on Foundations of Data Science, UW-Seattle, Seattle, WA, **invited lecture**
- MLSE* **June 2019**, "The Approximate Duality Gap Technique and Applications," Machine Learning in Science and Engineering Conference, Atlanta, GA, **invited talk**
- MMLS* **June 2019**, "Lower Bounds for Parallel and Randomized Convex Optimization," Midwest Machine Learning Symposium, Madison, WI, **invited talk**
- UC Chile* **April 2019**, "Invariance in First-Order Optimization," Instituto de Ingeniería Matemática y Computacional, Universidad Católica de Chile, Santiago, Chile, **invited talk**
- OSL* **March 2019**, "Invariance in First-Order Optimization," Optimization and Statistical Learning Workshop, Les Houches, France, **invited talk**
- ITA* **February 2019**, "Lower Bounds for Parallel and Randomized Convex Optimization," Information Theory and Applications Workshop, San Diego, CA, **invited talk**
- UC Davis* **February 2019**, "Invariance in First-Order Convex Optimization," Math of Data and Decisions Seminar, UC Davis, Davis, CA, **invited talk**
- Simons* **December 2018**, "Lower Bounds for Parallel and Randomized Convex Optimization," Data Science Mini-Workshop, Simons Institute for the Theory of Computing, Berkeley CA
- Simons* **December 2018**, "Width-Independence Beyond Linear Objectives: Distributed Algorithms for Fair Packing and Covering Problems," Bridging Continuous and Discrete Optimization Reunion, Simons Institute for the Theory of Computing, Berkeley CA
- WoLA* **June 2018**, "Block Coordinate Descent and Exact Minimization," Workshop on Local Algorithms, MIT, Cambridge, MA, **invited talk**
- USC* **May 2018**, "Conservation Laws and First-Order Optimization: Novel Insights and Algorithms," University of Southern California, Los Angeles, CA, **ISE colloquium talk**
- UW-Madison* **April 2018**, "Conservation Laws and First-Order Optimization: Novel Insights and Algorithms," University of Wisconsin-Madison, Madison, WI, **CS colloquium talk**
- Dartmouth* **March 2018**, "Conservation Laws and First-Order Optimization: Novel Insights and Algorithms," Thayer School of Engineering at Dartmouth, Hanover, NH, **special seminar**
- Schloss Dagstuhl* **March 2018**, "Fairness, Congestion Control, and Scheduling," Schloss Dagstuhl Seminar on Scheduling, Wadern, Germany, **invited talk**
- MSR* **February 2018**, "A Unifying Theory of First-Order Methods and Applications," Microsoft Research, Redmond, WA, **invited talk**
- USC* **April 2017**, "From Networked Systems to Theory and Back: Full-Duplex Wireless and Beyond," University of Southern California, Los Angeles, CA, **CS colloquium talk**
- Caltech* **April 2016**, "A Fast Distributed Algorithm for α -Fair Packing Problems," Caltech, Pasadena, CA, **RSRG seminar**
- Bell-Labs* **November 2015**, "Full-Duplex Wireless: Resource Allocation and Rate Gains for Realistic Hardware Models," Bell-Labs, Murray Hill, NJ, **invited talk**
- Google Research* **June 2015**, "A Fast Distributed Algorithm for α -Fair Packing Problems," Google Research, New York, NY, **invited talk**
- USC* **May 2015**, "Full-Duplex Wireless: Resource Allocation and Rate Gains for Realistic Hardware Models," University of Southern California, Los Angeles, CA, **CS colloquium talk**
- MSR* **May 2015**, "A Fast Distributed Algorithm for α -Fair Packing Problems," Microsoft Research Redmond Theory Group, Redmond, WA, **invited talk**
- UCSB* **May 2015**, "Full-Duplex Wireless: Resource Allocation and Rate Gains for Realistic

Hardware Models,” UCSB, Santa Barbara, CA, **CS colloquium talk**

GENI **March 2014**, “GENI in the Classroom: Teaching Cellular Networking with WiMAX Hands-on Labs,” 19th GENI Engineering Conference (GEC19), Atlanta, GA, **invited talk**

FUNDING

Google **07/01/2025–06/30/2026**, Google ML & Systems Junior Faculty Award
Amount awarded: \$100K
Role: award recipient

NSF MFAI **09/01/2025–08/31/2028**, National Science Foundation, Mathematical Foundations of Artificial Intelligence, “MFAI: Mathematical Frontiers of Generative AI”
Amount awarded: \$1M; share \$200K
Role: co-PI, with PI Zaid Harchaoui (U. Washington, Statistics), and co-PIs Soumik Pal (U. Washington Math), Sewoong Oh (U. Washington CSE), Sean Welleck (CMU CS)

NSF CAREER **01/15/2025–12/31/2029**, National Science Foundation, Algorithmic Foundations, “CAREER: Optimization and Learning with Changing Distributions”
Amount awarded: \$700K
Role: (sole) PI

AFOSR **06/01/2024–05/31/2027**, Air Force Office of Scientific Research **Young Investigator Program**, Mathematical Optimization, “Towards Fine-Grained Complexity of Nonsmooth Optimization”
Amount awarded: \$450K
Role: (sole) PI

ONR **04/01/2022–03/31/2025**, Office of Naval Research, Mathematical Data Science Program, “Structure-Based Optimization for Data Science”
Amount awarded: \$360K
Role: (sole) PI

NSF Small AF **10/01/2020–9/30/2023**, National Science Foundation, “AF: RI: Small: Computationally Efficient Approximation of Stationary Points in Convex and Min-Max Optimization”
Amount awarded: \$350K
Role: (sole) PI

WARF Fall Competition **09/01/2022–06/30/2023**, Wisconsin Alumni Research Foundation (WARF), Fall Research Competition, “Robust Stochastic Optimization for Machine Learning”
Amount awarded: \$42.2K
Role: (sole) PI

exploreCSR **10/21/2022–08/31/2023**, Google Research, “[Wisconsin Science and Computing Emerging Research Stars \(WISCERS\)](#)”
Amount awarded: \$32K
Role: program organizer, jointly with Shivaram Venkataraman

exploreCSR **10/21/2021–08/31/2022**, Google Research, “[Wisconsin Science and Computing Emerging Research Stars \(WISCERS\)](#)”
Amount awarded: \$29K
Role: program organizer, jointly with Shivaram Venkataraman

exploreCSR **10/21/2020–08/31/2021**, Google Research, “[Wisconsin Science and Computing Emerging Research Stars \(WISCERS\)](#)”
Amount awarded: \$18K
Role: program organizer, jointly with Shivaram Venkataraman

MENTORING AND ADVISING

Postdoc **Nov. 2020–April 2022**, Chaobing Song, UW-Madison CS & IFDS (now at Huawei)

Ph.D. **Fall 2024–Present**, Guyang Cao, CS M.S./Ph.D. student at UW-Madison
Fall 2021–Present, Puqian Wang, CS Ph.D. student at UW-Madison
Fall 2021–Summer 2025, Shuyao Li, CS Ph.D. student at UW-Madison. Graduated and joined Meta as an ML Research Scientist.
Fall 2020–Spring 2025, Xufeng Cai, CS Ph.D. student at UW-Madison. Graduated and joined Meta as an ML Research Scientist.
Spring 2020–Spring 2025, Cheuk Yin (Eric) Lin, CS Ph.D. student at UW-Madison. Graduated and joined Meta as an ML Research Scientist.

Intern **Summer 2021**, Swati Padmanabhan, Ph.D. student at University of Washington (next position: postdoc at MIT; joined U. Minnesota ISyE as a tenure-track faculty in Fall 2025)

M.S. **Spring 2023–Spring 2024**, Rahul Choudhary, optimization on a relative scale, M.S. student at UW-Madison CS

Spring 2023, Govind Gopakumar, strategic classification, M.S. student at UW-Madison CS

Summer 2022, Lakshmi Muraleedharan, fast optimization for packing & covering linear programs, M.S. student at UW-Madison ISyE

Undergraduate **Spring 2026–Present**, Runbo Yu, incremental gradient methods, Math undergrad at UW-Madison

Summer 2025–Present, Rishit Malpani, **honors thesis**: Distributionally robust optimization approaches for instructions tuning in Large Language Models, CS & Stats undergrad at UW-Madison

Spring 2025–Present, Qiushi Lu, **honors thesis**: Adaptive gradient-based methods for eigenvalue/eigenvector computation, CS, DS, & Math undergrad at UW-Madison

Summer 2024–Present, Chris Cai, linear classification under distributional shifts, CS & Math undergrad at UW-Madison (now an M.S. student at Princeton)

Spring 2024–Present, Yi Wei, adaptive methods for variational inequalities, CS & Math undergrad at UW-Madison, **David DeWitt Scholarship & Hilldale Scholarship** recipient (now a Ph.D. student at U. Washington)

Spring 2023–Fall 2023, Nott Laoaron, multiplicative gradient methods, CS undergrad at UW-Madison, **David DeWitt Scholarship** recipient (now a Ph.D. student at U. Maryland)

Spring 2022–Spring 2023, Xintong Li, adaptive gradient methods, CS undergrad at UW-Madison (now a Ph.D. student at UCSD)

Summer 2022–Spring 2023, Binhao Chen, faster optimization for packing & covering linear programs, CS undergrad at UW-Madison, **David DeWitt Scholarship** recipient (now a Ph.D. student at Brown)

Summer & Fall 2020, Puqian Wang, project on optimal complexity of minimizing gradients in convex and min-max optimization, math undergrad exchange student from Shandong University at UW-Madison (now a Ph.D. student at UW-Madison)

TEACHING EXPERIENCE

Instructor **2020–Present** University of Wisconsin-Madison, Madison, WI

Spring 2026, CS 541 Theory & Algorithms for Data Science

Fall 2025, CS 839 Learning & Optimization [**new course**]

Spring 2025, CS 541 Theory & Algorithms for Data Science [**new course**]

Fall 2024, CS 839 Advanced Topics in Nonlinear Optimization [**new course**]

Spring 2024, CS 639 Theoretical Foundations of Data Science

Fall 2023, CS/ISyE/Math/Stat 726 Nonlinear Optimization I

Spring 2023, CS 639 Foundations of Data Science
Fall 2022, CS/ISyE/Math/Stat 726 Nonlinear Optimization I
Spring 2022, CS 639 Foundations of Data Science [new course]
Fall 2020, CS/ISyE/Math/Stat 726 Nonlinear Optimization I
Spring 2020, CS/ISyE/Math/Stat 726 Nonlinear Optimization I

SERVICE AND OUTREACH

Workshops & Symposia

2026, *Frontiers of Flows for Generative AI*, Mathematical Foundations of AI Workshop, CMU, Pittsburgh, PA. Workshop co-organizer.
2026, *Algorithms & Optimization: From Foundations to Future Directions*, A Workshop on the Enduring and Ongoing Impact of Cliff Stein, Columbia University, New York, NY. Workshop co-organizer.
2026, *ELLIIT Symposium on Optimization for Learning*, ELLIIT Focus Periods (<https://elliit.se>), Lund, Sweden. Scientific Committee member.
2026, *Learning & Optimization at SIAM OP'26*. Minisymposium co-organizer.
2024, *Optimization for Machine Learning (OPT 2024 @ NeurIPS'24)*. Workshop co-organizer.
2023, *Advances in First-Order Primal-Dual Methods Minisymposium at SIAM OP'23*. Minisymposium co-organizer.
2022, *Order Up! The Benefits of Higher-Order Optimization in Machine Learning, NeurIPS'22 Workshop*. Workshop co-organizer.
2021, *Sampling Algorithms and Geometries on Probability Distributions, Simons Institute for the Theory of Computing*. Workshop chair.
2021, *INFORMS sessions: Frontiers in Stochastic Optimization and Faster Conditional Gradient Methods*. Session chair.
2019, *Conference on Optimization, Focus Program on Data Science and Optimization, Fields Institute Toronto*. Workshop co-organizer.
2019, *INFORMS session: Continuous-time Perspective in Optimization*. Session chair.

Program Committees

2027, *ISMP'27*. Program Committee member/stream organizer for Random Methods for Continuous Optimization.
2026, *COLT'26*. Senior PC Member.
2026, *STOC'26*. Program Committee member.
2026, *INFORMS Optimization Society'26 Conference*. Program Committee member/chair for Optimization in Data Science track.
2025, *NeurIPS'25*. Area Chair and Workshop Review Committee member.
2025, *COLT'25*. Senior PC Member.
2025, *ICLR'25*. Area Chair.
2025, *ICCOPT'25*. Cluster chair for Fixed Points and Variational Inequalities.
2025, *SODA'25*. Program Committee member.
2024, *FOCS'24*. Program Committee member.
2024, *NeurIPS'24*. Workshop Review Committee member (declined AC invitation).
2024, *COLT'24*. Senior PC Member.
2024, *ICML'24*. Area Chair.
2024, *INFORMS Optimization Society'24 Conference*. Program Committee member/co-chair for Optimization in Data Science track.
2024, *ITCS'24*. Program Committee member.
2024, *ICLR'24*. Area Chair.
2023, *NeurIPS'23*. Workshop Review Committee member (declined AC invitation).
2023, *COLT'23*. Senior PC Member.
2023, *ICML'23*. Area Chair.
2023, *ICLR'23*. Area Chair.
2022, *NeurIPS'22*. Area Chair.
2022, *COLT'22*. Senior PC Member.

Thesis Committees

- 2022, *ICLR'22*. Area Chair.
- 2021, *NeurIPS'21*. Area Chair.
- 2021, *ICML'21*. Workshop Review Committee member.
- 2021, *ICLR'21*. Area Chair.
- 2020, *ICML'20*. Area Chair.
- 2020, *ICALP'20*. Program Committee member.
- 2018, *ICNP'18*. Technical Program Committee member.
- 2018, *NETGCOOP'18*. Technical Program Committee member.
- 2026, *UW-Madison*. Committee member on Augustine Tang's Ph.D. thesis committee (advisor: Anru Zhang).
- 2026, *UW-Madison*. Committee member on Thanasis Pittas' Ph.D. thesis committee (advisor: Ilias Diakonikolas).
- 2026, *UW-Madison*. Committee member on Lisheng Ren's Ph.D. preliminary exam committee (advisor: Ilias Diakonikolas).
- 2025, *UW-Madison*. Committee member on Yixuan Zhang's Ph.D. preliminary exam committee (advisor: Qiaomin Xie).
- 2025, *UW-Madison*. Committee member on Jingyi Gao' Ph.D. qual exam committee (advisor: Ilias Diakonikolas).
- 2025, *UW-Madison*. Committee member on Giannis Iakovidis' Ph.D. qual exam committee (advisor: Ilias Diakonikolas).
- 2025, *UW-Madison*. Committee member on Dekun Zhou's Ph.D. thesis committee (advisor: Alberto Del Pia).
- 2025, *UW-Madison*. Committee member on Nikos Zarifis's Ph.D. thesis committee (advisor: Ilias Diakonikolas).
- 2025, *UW-Madison*. Committee member on Rahul Choudhary's Ph.D. qualifying exam committee (advisor: Hanbaek Lyu).
- 2024, *DI Ecole Normale Supérieure, Université PSL*. Committee member on Benjamin Paul-Dubois-Taine's Ph.D. thesis committee (advisor: Alexandre d'Aspremont).
- 2024, *Polytechnique Paris*. Committee member on Baptiste Goujaud's Ph.D. thesis committee (advisors: Aymeric Dieuleveut and Adrien Taylor).
- 2024, *UW-Madison*. Committee member on William Powell's Ph.D. preliminary exam committee (advisor: Hanbaek Lyu).
- 2024, *UW-Madison*. Committee member on Thanasis Pittas' Ph.D. preliminary exam committee (advisor: Ilias Diakonikolas).
- 2023, *EPFL*. Committee member on Maria-Luiza Vladarean's Ph.D. thesis committee (advisor: Nicolas Flammarion).
- 2023, *UW-Madison*. Committee member on Augustine Tang's Ph.D. preliminary exam committee (advisor: Anru Zhang).
- 2023, *UW-Madison*. Committee member on Sourav Pal's Ph.D. preliminary exam committee (advisor: Vikas Singh).
- 2023, *UW-Madison*. Committee member on Thanasis Pittas' Ph.D. qualifying exam committee (advisor: Ilias Diakonikolas).
- 2023, *UW-Madison*. Committee member on Nikos Zarifis' Ph.D. preliminary exam committee (advisor: Ilias Diakonikolas).
- 2023, *UW-Madison*. Committee member on Yue Gao's Ph.D. thesis committee (advisor: Garvesh Raskutti).
- 2023, *UW-Madison*. Committee member on Dekun Zhou's Ph.D. preliminary exam committee (advisor: Alberto Del Pia).
- 2022, *UW-Madison*. Committee member on Sourav Pal's Ph.D. qualifying exam committee (advisor: Vikas Singh).
- 2021, *Georgia Institute of Technology*. Committee member on Alejandro Carderera's Ph.D. thesis committee (advisor: Sebastian Pokutta).
- 2021, *UW-Madison*. Committee member on Yue Gao's Ph.D. preliminary exam committee

(advisor: Garvesh Raskutti).

2021, *UW-Madison*. Committee member on Yuxin Sun's Ph.D. preliminary exam committee (advisor: Ilias Diakonikolas).

2021, *Université Toulouse 1 Capitole and D.I. École Normale Supérieure*. Committee member on Radu-Alexandru Dragomir's Ph.D. thesis committee (advisors: Jérôme Bolte and Alexandre d'Aspremont).

2020, *UW-Madison*. Committee member and reader on Michael O'Neill's Ph.D. thesis committee (advisor: Stephen Wright).

2020, *Tsinghua University*. Committee member and reviewer on Chaobing Song's Ph.D. thesis committee (advisors: Yi Ma and Yong Jiang).

2018, *MIT*. Reader on Thomas Stahlbuhk's Ph.D. thesis committee (advisor: Eytan Modiano).

*Broadening
Participation*

2020–Present, *WISCERS exploreCSR*. Co-organizing a research-focused mentorship program whose goal is to increase research participation among undergraduate students from historically underrepresented groups in computing.

2020/2021, *UW-Mercile J. Lee Scholars Program (MJLSP)*. Served as a "mentor-friend:" a faculty mentor to one of the undergraduate Powers-Knapp Scholars.