

CURRICULUM VITAE

SHENGBO WANG

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Assistant Professor

Daniel J. Epstein Department of Industrial and Systems Engineering
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EDUCATION

Stanford University — Management Science and Engineering (Doctor of Philosophy) 2020-2025

- Ph.D. in Operations Research with a concentration in Applied Probability.
- Co-advised by Prof. Peter Glynn and Jose Blanchet.
- Dissertation title: *Learning and Optimal Control of Dynamic Stochastic Systems: Robustness and Scalability*

Cornell University — College of Engineering (Bachelor of Science) 2017-2020

- Summa cum laude.
- Major: Operations Research (honor program).
- Minor: Applied Mathematics.

HONORS AND AWARDS

- Meritorious Reviewer Award *Mathematics of Operations Research*, 2024
- Merrill Presidential Scholar (top 1%). Cornell University, 2020
- Byron W. Saunders Award. Cornell ORIE, 2020

JOURNAL PAPERS

Sample Complexity of Variance-Reduced Distributionally Robust Q-learning

- Shengbo Wang, Nian Si, Jose Blanchet, Zhengyuan Zhou.
- Accepted by *Journal of Machine Learning Research*.

CONFERENCE PAPERS

Statistical Learning of Distributionally Robust Stochastic Control in Continuous State Spaces

- Shengbo Wang, Nian Si, Jose Blanchet, Zhengyuan Zhou.
- *Artificial Intelligence and Statistics Conference (AISTATS) 2025*.
- Oral presentation (top 2% of all submissions).

An Efficient High-dimensional Gradient Estimator for Stochastic Differential Equations

- Shengbo Wang, Jose Blanchet, Peter Glynn.
- *Neural Information Processing Systems (NeurIPS) 2024*.

Optimal Sample Complexity for Average Reward Markov Decision Processes

- Shengbo Wang, Jose Blanchet, Peter Glynn.
- *International Conference on Learning Representations (ICLR) 2024*.

A Finite Sample Complexity Bound for Distributionally Robust Q-learning

- Shengbo Wang, Nian Si, Jose Blanchet, Zhengyuan Zhou.
- *Artificial Intelligence and Statistics Conference (AISTATS) 2023*.

PREPRINTS

Sample Complexity of Distributionally Robust Average-Reward Reinforcement Learning

- Zijun Chen, Shengbo Wang, Nian Si.
- Submitted.
- arXiv:2505.10007.

Near-Optimal Sample Complexities of Divergence-based S-rectangular Distributionally Robust Reinforcement Learning

- Zhenghao Li, Shengbo Wang, Nian Si.
- Submitted.
- arXiv:2505.12202.

Tractable Robust Markov Decision Processes

- Julien Grand-Clément, Nian Si, Shengbo Wang.
- Under revision.
- arXiv:2411.08435.

On the Foundation of Distributionally Robust Reinforcement Learning

- Shengbo Wang, Nian Si, Jose Blanchet, Zhengyuan Zhou.
- Under revision.
- arXiv:2311.09018.

Optimal Sample Complexity of Reinforcement Learning for Mixing Discounted Markov Decision Processes

- Shengbo Wang, Jose Blanchet, Peter Glynn.
- Under revision.
- arXiv:2302.07477.

Exact Exponential Tail Asymptotics of Markov Chain Additive Functionals Stopped at a Hitting Time

- Shengbo Wang, Jose Blanchet, Peter Glynn.
- Working Paper.

PRESENTATIONS

Statistical Learning of Distributionally Robust Stochastic Control in Continuous State Spaces

Presented at INFORMS 2024 and ICCOPT 2025.

On the Foundation of Distributionally Robust Reinforcement Learning

Presented at CISS 2024, Berkeley and Stanford Seminars.

Reinforcement Learning for Mixing Systems

Presented at INFORMS 2023.

Distributionally Robust Q-Learning: Formulations, Algorithms, and Sample Complexities

Presented at SIAMOP 2023.

A Finite Sample Complexity Bound for the Distributionally Robust Q-learning

Presented at INFORMS 2022. Poster presentation at AISTATS 2023.

Distributionally Robust Q-Learning: Algorithm Designs and Sample Complexities

Presented at Stanford OR Seminar.

PROFESSIONAL SERVICES

- Journal reviewer for *Journal of Machine Learning Research*, *Mathematics of Operations Research*, *Management Science*, and *Operations Research*.
- Conference reviewer for *AISTATS*, *ICLR*, *ICML*, and *NeurIPS*.