

CURRICULUM VITAE

SHENGBO WANG

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EDUCATION

Stanford University — Management Science and Engineering (Ph.D. Candidate) 2020-2025

- Co-advised by Prof. Peter Glynn and Jose Blanchet.
- Pursuing a Ph.D. in Operations Research with concentration in Applied Probability.

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

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

HONORS AND AWARDS

- 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

An Efficient High-dimensional Gradient Estimator for Stochastic Differential Equations

- Shengbo Wang, Jose Blanchet, Peter Glynn.
- Accepted by *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

Statistical Learning of Distributionally Robust Stochastic Control in Continuous State Spaces

- Shengbo Wang, Nian Si, Jose Blanchet, Zhengyuan Zhou.
- Submitted.
- arXiv:2406.11281

On the Foundation of Distributionally Robust Reinforcement Learning

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

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

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

Tractable Robust Markov Decision Processes

- Julien Grand-Clément, Nian Si, Shengbo Wang.
- Working Paper.

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

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

PRESENTATIONS

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.

TEACHING

Course Assistant at Stanford

- MS&E 220: Probabilistic Analysis
- MS&E 221: Stochastic Modeling
- MS&E 321: Stochastic Systems
- MS&E 324/CME 308/MATH 228: Stochastic Methods in Engineering

Course Assistant and Tutoring at Cornell

- ORIE 3510/5510: Introduction to Engineering Stochastic Processes I (Course Assistant)
- SYSEN 5200: Systems Analysis Behavior and Optimization (Tutor)

PROFESSIONAL SERVICES

- Journal reviewer for *Mathematics of Operations Research*, *Management Science*, and *Operations Research*.
- Conference reviewer for *Artificial Intelligence and Statistics (AISTATS)* and *International Conference on Learning Representations (ICLR)*.