CURRICULUM VITAE

Address: 735 Campus Dr, Stanford, CA

Phone: 607-379-4806

Email: shengbo.wang@stanford.edu

Website: shengbo-wang.github.io

**SHENGBO WANG**

**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).*