CURRICULUM VITAE

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**SHENGBO WANG**

**Assistant Professor**

**Daniel J. Epstein Department of Industrial and Systems Engineering**

**University of Southern California**

**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.*