Xingyu Wang

Contact 2145 Sheridan Road (224) 307-0602

Information Evanston, IL 60208 xingyuwang2017@u.northwestern.edu

Webpage: https://joshwang0322.github.io

RESEARCH Interests

• Rare Event Analysis, Large Deviations and Metastability, Heavy Tails

• Machine Learning Theory

• Stochastic Simulation

EDUCATION

Northwestern University, McCormick School of Engineering

Evanston, IL

• Ph.D. in Industrial Engineering and Management Sciences, GPA: 4.0/4.0 2018 - Present Advisor: Chang-Han Rhee

• M.S. in Analytics, GPA: 3.98/4.00

2016 - 2017

Peking University

Beijing, China

• B.S. in Psychology (GPA: 3.8/4.0) and Applied Mathematics (GPA: 3.94/4.00) 2011 - 2016

WORKING PAPERS Large Deviations and Metastability Analysis for Heavy-Tailed Dynamical Systems [pdf]

Xingyu Wang, Chang-Han Rhee

To be submitted to Probability Theory and Related Fields

Finalist for George Nicholson Student Paper Competition, 2023

Strongly Efficient Rare-Event Simulation for Multiple Jump Events in Regularly Varying Lévy Processes with Infinite Activities [pdf]

Xingyu Wang, Chang-Han Rhee

To be submitted to Mathematics of Operation Research

SELECTED **PUBLICATIONS**

Importance Sampling Strategy for Heavy-Tailed Systems with Catastrophe Principle pdf

Xingyu Wang, Chang-Han Rhee

Proceedings of Winter Simulation Conference (WSC), 2023

Eliminating Sharp Minima from SGD with Truncated Heavy-Tailed Noises [pdf]

Xingyu Wang, Sewoong Oh, Chang-Han Rhee

Proceedings of International Conference on Learning Representations (ICLR), 2022

Nemhauser Prize for Best Student Paper, 2022

Efficient Rare-Event Simulation for Multiple Jump Events in Regularly Varying Lévy Processes with Infinite Activities [pdf]

Xingyu Wang, Chang-Han Rhee

Proceedings of Winter Simulation Conference (WSC), 2020

Competitive Multi-Agent Inverse Reinforcement Learning with Sub-Optimal Demonstrations [pdf]

Xingyu Wang, Diego Klabjan

Proceedings of International Conference on Machine Learning (ICML), 2018

## OF Finalist for George Nicholson Student Paper Competition, INFORMS **Terminal Year Fellowship, Northwestern University** 2023 **Nemhauser Prize for Best Student Paper, Department of Industrial Engineering and Management Sciences, Northwestern University* 2022 **Benjamin A. Sachs Graduate Fellowship, Northwestern University* 2022 **Arthur P. Hurter Award for Academic Excellence among First Year Graduate Students, Department of Industrial Engineering and Management Sciences, Northwestern University 2019 **Lee Wai Wang Scholarship, Department of Psychology, Peking University 2013 **Invited** **PRESENTATIONS** **Large Deviation and Metastability Analysis for Heavy-Tailed Dynamical Systems** **InFORMS Annual Meeting, Phoenix, AZ** **Cornell ORIE Young Researchers Workshop, Ithaca, NY** **Scheduled for Oct, 2023** **Importance Sampling Strategy for Heavy-Tailed Systems with Catastrophe Principle** **Winter Simulation Conference (Advanced Tutorial), San Antonio, TX** **Scheduled for Oct, 2023** **InFORMS Annual Meeting, Phoenix, AZ** **Applied Probability Society 2023 Conference, Nancy, France** **INFORMS Annual Meeting, Phoenix, AZ** **Applied Probability Society 2023 Conference, Nancy, France** **INFORMS Annual Meeting, Indianapolis, IN** **Oct, 2022** **International Conference on Learning Representations (2022), Virtual** **DeepMath (2021), Virtual** **DeepMath (2021), Virtual** **DeepMath (2021), Virtual** **Teaching Assistant** **Efficient Rare-Event Simulation for Multiple Jump Events in Regularly Varying Lévy Processes with Infinite Activities [slides]* **Winter Simulation Conference, Virtual** **EMS 317 Discrete Event Systems Simulation** **EMS 315 Stochastic Models** **Course Grader** **OPNS 450 Decision models & Prescriptive Analytics** **EMS 315 Stochastic Simulation** **EMS 315 Stochastic Simulation** **EMS 315 Stochastic Simulation** **Decaption** **Decaption** **Decaption** **Decaption** **Decaption** **Decaption** **Decaption** **Decaption** **Decaption**				
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Professional Services

- Reviewer, INFORMS Journal on Computing, Winter Simulation Conference (WSC)
- \bullet Webmaster, Stochastic Networks, Applied Probability, and Performance (SNAPP) seminar (2023)
- Mentor, 1st-year mentorship program (2020,2021), NU INFORMS Student Chapter

Industrial	Graduate Student Analytics Consultant, Chicago Park District	Chicago, IL
Experience		Oct 2016 - May 2017

Data Analyst Intern, 17zuoye (aka Homework Together, K12 education platform)Beijing, China Aug - Dec 2015

REFERENCES Anton Braverman, Assistant Professor of Operations, Kellogg School of Management, Northwestern University, anton.braverman@kellogg.northwestern.edu

Barry Nelson, Walter P. Murphy Professor Emeritus of Industrial Engineering and Management Sciences, Northwestern University, nelsonb@northwestern.edu

Sewoong Oh, Professor, Allen School of Computer Science & Engineering, University of Washington, sewoong@cs.washington.edu

Chang-Han Rhee, Assistant Professor, Industrial Engineering and Management Sciences, Northwestern University, chang-han.rhee@northwestern.edu