

Xingyu Wang

CONTACT INFORMATION	Roetersstraat 11 1018 WB Amsterdam, NL Webpage: https://joshwang0322.github.io	+31 6 16566325 x.wang4@uva.nl
RESEARCH INTERESTS	<ul style="list-style-type: none">• Rare Event Analysis, Large Deviations and Metastability, Heavy Tails• Machine Learning Theory• Stochastic Simulation	
EMPLOYMENT	University of Amsterdam, Amsterdam School of Economics • Postdoc Researcher, Quantitative Economics <i>Hosts: Roger J.A. Laeven, Bert Zwart</i>	Amsterdam, NL 2024 - 2026 (Expected)
EDUCATION	Northwestern University, McCormick School of Engineering • Ph.D. in Industrial Engineering and Management Sciences <i>Advisor: Chang-Han Rhee</i> • M.S. in Analytics Peking University • B.S. in Psychology and Applied Mathematics	Evanston, IL, US 2018 - 2024 2016 - 2017 Beijing, China 2011 - 2016
SUBMITTED AND WORKING PAPERS	Strongly Efficient Rare-Event Simulation for Regularly Varying Lévy Processes with Infinite Activities [pdf] Xingyu Wang, Chang-Han Rhee Major Revision at <i>Mathematics of Operations Research</i> ; arXiv:2309.13820 Tail Asymptotics of Cluster Sizes in Multivariate Heavy-Tailed Hawkes Processes [pdf] Jose Blanchet, Roger J. A. Laeven, Xingyu Wang, Bert Zwart Submitted to <i>The Annals of Applied Probability</i> ; arXiv:2503.01004 Sample Path Large Deviations for Multivariate Heavy-Tailed Hawkes Processes and Related Lévy Processes [pdf] Jose Blanchet, Roger J. A. Laeven, Xingyu Wang, Bert Zwart Submitted to <i>Bernoulli</i> ; arXiv:2503.01004 Large Deviations and Metastability Analysis for Heavy-Tailed Dynamical Systems [pdf] Xingyu Wang, Chang-Han Rhee Resubmitted to <i>The Annals of Applied Probability</i> ; arXiv:2307.03479 <i>Second Place, George Nicholson Student Paper Competition</i> , 2023 Multi-agent Multi-armed Bandit with Fully Heavy-tailed Dynamics [pdf] Xingyu Wang, Mengfan Xu; arXiv:2501.19239	
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

HONORS AND
AWARDS

- **Second Place, George Nicholson Student Paper Competition**, INFORMS 2023
- **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 2015
- **National Scholarship for Undergraduates**, Department of Psychology, Peking University 2013

INVITED
PRESENTATIONS

Large Deviations for Multivariate Heavy-Tailed Hawkes Processes

- Stochastic Seminars at Korteweg-de Vries Institute for Mathematics, Amsterdam, NL Feb, 2025

Sharp Characterization and Control of Global Dynamics of SGDs with Heavy Tails

- Data-Driven Queueing Challenges Conference, Eindhoven, NL Nov, 2024
- INI Satellite Programme on Heavy Tails in Machine Learning, London, UK Apr, 2024
- SNAPP Seminar, Lightning Talk Session, Virtual [\[slides\]](#) [\[video\]](#) Dec, 2023

Importance Sampling Strategy for Heavy-Tailed Systems with Catastrophe Principle

- Winter Simulation Conference (Advanced Tutorial), San Antonio, TX Dec, 2023

Large Deviation and Metastability Analysis for Heavy-Tailed Dynamical Systems

- Neurips 2023, Heavy Tails in ML Workshop (Poster), New Orleans, LA Dec, 2023
- INFORMS Annual Meeting, Phoenix, AZ Oct, 2023
- Cornell ORIE Young Researchers Workshop, Ithaca, NY Oct, 2023

Eliminating Sharp Minima from SGD with Truncated Heavy-Tailed Noises [\[slides\]](#)

- INFORMS Annual Meeting, Phoenix, AZ Oct, 2023
- Applied Probability Society 2023 Conference, Nancy, France Jun, 2023
- INFORMS Annual Meeting, Indianapolis, IN Oct, 2022

	<ul style="list-style-type: none"> • International Conference on Learning Representations (2022), Virtual • DeepMath (2021), Virtual 	<p>Apr, 2022</p> <p>Nov, 2021</p>
	Efficient Rare-Event Simulation for Multiple Jump Events in Regularly Varying Lévy Processes with Infinite Activities [slides]	
	<ul style="list-style-type: none"> • Winter Simulation Conference, Virtual • INFORMS Annual Meeting, Virtual 	<p>Dec, 2020</p> <p>Nov, 2020</p>
TEACHING EXPERIENCE	Instructor <ul style="list-style-type: none"> • IEMS Bootcamp (Probability) for PhD Students 	<p>2022 Fall, 2023 Fall</p>
	Teaching Assistant <ul style="list-style-type: none"> • UvA Non-Life Insurance: Statistical Techniques and Data Analytics • NU IEMS 317 Discrete Event Systems Simulation • NU IEMS 315 Stochastic Models 	<p>2024 Fall</p> <p>2022 Winter; 2021 Winter</p> <p>2021 Spring, Fall; 2020 Spring, Fall</p>
	Course Grader <ul style="list-style-type: none"> • NU OPNS 450 Decision Models & Prescriptive Analytics • NU IEMS 435 Stochastic Simulation 	<p>2022 Winter</p> <p>2020 Winter</p>
SERVICES	<ul style="list-style-type: none"> • Referee: <i>Operations Research, Management Science, INFORMS Journal on Computing, ICML (2025), Winter Simulation Conference (WSC, 2023), Communications Physics</i> • Volunteer: <i>NU MORE-REACH panel (2024)</i> • Webmaster: <i>Stochastic Networks, Applied Probability, and Performance (SNAPP) seminar (2023 - 2024)</i> • Mentor: <i>1st-year mentorship program at NU INFORMS Student Chapter (2020, 2021)</i> 	
INDUSTRIAL EXPERIENCE	Graduate Student Analytics Consultant , Chicago Park District	<p>Chicago, IL</p> <p>Oct 2016 - May 2017</p>
	Data Analyst Intern , 17zuoye (aka Homework Together, K12 education platform)	<p>Beijing, China</p> <p>Aug - Dec 2015</p>