Linyun He

https://he-linyun.github.io/

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Education

- **Ph.D. in Operations Research** *2025 (expected)*
  Advisor: Dr. Eunhye Song
  Georgia Institute of Technology Atlanta, GA
- **M.A. in Statistics** *2019*
  Columbia University New York, NY
- **B.S. in Mathematics and Applied Mathematics** *2017*
  Fudan University Shanghai, China

Research Interest

- Methodologies: robust simulation analysis, simulation optimization under model risk, non-parametric methods and high-dimensional statistics.
- Applications: smart manufacturing and digital twins.

Publications

[7] **Linyun He**, Luke Rhodes-Leader, and Eunhye Song (2024). Digital Twin Validation with Multi-Epoch, Multi-Variate Output Data. In *Proceedings of the 2024 Winter Simulation Conference (WSC)*, 347–358.

[6] **Linyun He** and Eunhye Song (2024). Introductory Tutorial: Simulation Optimization under Input Uncertainty. In *Proceedings of the 2024 Winter Simulation Conference (WSC)*, 1338–1352.

[5] **Linyun He**, Uday V Shanbhag, and Eunhye Song (2024). Stochastic Approximation for Multi-period Simulation Optimization with Streaming Input Data. *ACM Transactions on Modeling and Computer Simulation*, 34(2):1–27.

[4] **Linyun He**, Eunhye Song, and Ben Feng (2023). Efficient Input Uncertainty Quantification for Regenerative Simulation. In *Proceedings of the 2023 Winter Simulation Conference (WSC)*, 385–396.

[3] Zhunxuan Wang, **Linyun He**, Chunchuan Lyu, and Shay Cohen (2022). Nonparametric Learning of Two-Layer ReLU Residual Units. *Transactions on Machine Learning Research*, 1–41.

[2] **Linyun He** and Eunhye Song (2021). Nonparametric Kullback-Liebler Divergence Estimation Using M-spacing. In *Proceedings of the 2021 Winter Simulation Conference (WSC)*, 1–12.

[1] Zihao Wang, **Linyun He**, Zhenyun Qin, Roger Grimshaw, and Gui Mu (2019). High-order Rogue Waves and Their Dynamics of the Fokas–Lenells Equation Revisited: A Variable Separation Technique. *Nonlinear Dynamics*, 98:2067–2077.

Preprints and Working Papers

[2] **Linyun He**, Ben Feng, and Eunhye Song (2024). Efficient Input Uncertainty Quantification for Ratio Estimator. Under Major Revision at *INFORMS Journal on Computing*.

[1] **Linyun He**, Luke Rhodes-Leader, and Eunhye Song (2024). Nonparametric Digital Twin Validation with Multi-Epoch, Multivariate and Dependent Output Data. In Preparation.

Awards and Honors

[4] Finalist of the 2023 Winter Simulation Conference Best Theoretical Contributed Paper Award **(5/209)** 2023

[3] Overseas Exchange Scholarship by Fudan University Education Development Foundation 2017

[2] Third Prize of the Scholarship for Outstanding Students at Fudan University 2014, 2015, 2016

[1] Major Scholarship of School of Mathematical Sciences at Fudan University 2014, 2015, 2016

Conference Presentations

[8] 2024 Winter Simulation Conference Orlando, FL, *2024.12*
Title a: Digital Twin Validation with Multi-epoch, Multi-variate Output Data
Title b: Introductory Tutorial: Simulation Optimization under Input Uncertainty

[7] 2024 INFORMS Annual Meeting Seattle, WA, *2024.10*
Title: Digital Twin Validation with Multi-Epoch, Multi-Dimensional Data

[6] 2023 Winter Simulation Conference San Antonio, TX, *2023.12*
Title: Efficient Input Uncertainty Quantification for Regenerative Simulation

[5] 2023 INFORMS Annual Meeting Phoenix, AZ, *2023.10*
Title: Efficient Input Uncertainty Quantification for Regenerative Simulation

[4] 2023 IISE Annual Conference New Orleans, LA, *2023.05*
Title: Efficient Input Uncertainty Quantification for Steady-state Simulation

[3] 2022 IISE Annual Conference Seattle, WA, *2022.05*
Title: Statistical Analysis of Data-driven Simulation: Model Calibration and Optimization

[2] 2021 Winter Simulation Conference Phoenix, AZ, *2021.12*
Title: Nonparametric Kullback-Liebler Divergence Estimation Using M-Spacing

[1] 2020 INFORMS Annual Meeting online, *2020.11*
Title: Stochastic Approximation for Simulation Optimization with Streaming Input Data

Teaching Experience

- *Instructor* for ISYE 3044 Simulation Analysis and Design — Georgia Tech, summer 2023
- *Teaching Assistant* for IE425 Stochastic Models in Operations Research — Penn State Univeristy, spring 2021
- *Teaching Assistant* for IE453 Simulation Modeling For Decision Support — Penn State Univeristy, fall 2020

Industrial Experience

- *Research Scientist Intern* at **Amazon.com Inc** — Bellevue, Washington *2022.05-2022.08*
- *Quantitative Analyst Intern* at **COFCO Futures Co., LTD** — Shanghai, China *2017.01-2017.03*
- *Quantitative Analyst Intern* at **Everbright Securities Co., LTD** — Shanghai, China *2016.06-2016.08*
- *Audit Intern* for **KPMG** — Shanghai, China *2016.01-2016.02*

Service

- Session Chair for 2024 INFORMS Annual Meeting
- Session Chair for 2023–2024 Winter Simulation Conferences

Software

- `alocv`: R package for computationally efficient approximation of the leave-one-out cross validation risk