

Yao Ji

H. Milton Stewart Postdoctoral Fellow

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EDUCATION

Purdue University, West Lafayette, Indiana Aug. 2019 — Aug. 2024

Ph.D. in Operation Research

Advisors: [Gesualdo Scutari](#), [Harsha Honnappa](#)

Committee: [Gesualdo Scutari](#), [Harsha Honnappa](#), [Raghu Pasupathy](#), [Alex L. Wang](#)

Beijing Normal University, Beijing, China Aug. 2016 — Jun. 2019

M.S. in Probability and Mathematical Statistics

Advisor: [Wenming Hong](#)

Thesis: Conditional Limit Theorem for Bellman-Harris Branching Process

Beijing Normal University, Beijing, China Aug. 2012 — Jun. 2016

B.S. in Mathematics

Thesis: Conceptual New Proofs of Geometric Convergence of Moment Generating Function for Galton-Waston Process in the Noncritical Case

RESEARCH INTERESTS

Large-scale Stochastic Optimization, Nonsmooth and Nonconvex Optimization, Distributed Machine Learning, Statistical Machine Learning, Distributed Estimation and Inference, High-dimensional Estimation and Inference, Branching Process, Random Walk in Random Environment

PUBLICATIONS

Distributed Sparse Regression via Penalization

Yao Ji, Gesualdo Scutari, Ying Sun, Harsha Honnappa

Journal of Machine Learning Research, 2023

Distributed (ATC) Gradient Descent for High Dimension Sparse Regression

Yao Ji, Gesualdo Scutari, Ying Sun, Harsha Honnappa

IEEE Transactions on Information Theory, 2023

Reduced critical Bellman-Harris branching processes for small populations

Vladimir Vatutin, **Yao Ji**, Wenming Hong

Discrete Mathematics and Applications, 2018

WORKING PAPERS

Distributed Stochastic Sparse Recovery

Yao Ji, Gesualdo Scutari, Harsha Honnappa

- *Stochastic optimization and sparse statistical recovery over a network*
- *Unification of decentralized stochastic dual averaging*

TEACHING EXPERIENCE

Purdue University, School of Industrial Engineering

Teaching Assistant:

IE 335 Operation Research

Fall, Spring 2023

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| IE 330 Probability and Statistics in Engineering | Fall 2022 |
| IE 590 Introduction to Optimization Algorithms (graduate level) | Fall 2022 |

Beijing Normal University, School of Mathematical Science

Co-lecture:

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|-----------------------------------|-------------|
| Large Deviation Theory | Spring 2018 |
| Brownian Motion | Fall 2017 |
| Random Walk in Random Environment | Spring 2017 |
| Galton-Waston Branching Process | Fall 2016 |

Teaching Assistant (Outstanding Teaching Assistant):

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| Measure Theory I | Fall 2017, Fall 2018 |
| Measure Theory II | Spring 2017, Spring 2018 |
| Stochastic Calculus for Finance (graduate level) | Fall 2016 |

AWARDS AND HONORS

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| H. Milton Stewart Postdoctoral Fellow, Georgia Institute of Technology | 2024 |
| Lee A Chaden Fellow IE Scholarship, Purdue University | 2023 |
| Graduate School Summer Research Grant, Purdue University | 2023 |
| Travel Grant from Industrial Engineering, Purdue University | 2022, 2023 |
| Ross Fellowship, Purdue University | 2019, 2020 |
| Dr. Theodore J. and Isabel M. Williams Fellowship in Industrial Control Systems, Purdue University | 2019 |
| First Prize Scholarship (Ranked 2/53, School of Mathematics), Beijing Normal University | 2018 |
| First Prize Scholarship (Ranked 1/12, Markov Process), Beijing Normal University | 2017 |
| Outstanding Teaching Assistant for Measure Theory, Beijing Normal University | 2017 |
| Outstanding Undergraduate Thesis in School of Mathematics, Beijing Normal University | 2016 |
| First Prize Scholarship (Top 5%), School of Mathematics, Beijing Normal University | 2015 |
| Second Prize Scholarship, School of Mathematics, Beijing Normal University | 2014 |
| Second Prize in China Undergraduate Mathematical Modeling Contest (Top 5%) | 2014 |

POSTER PRESENTATIONS

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| Cornell Young researchers Workshop , Ithaca | 2023 |
| Statistics and Optimization in Data Science Workshop, Purdue, West Lafayette | 2023 |
| Midwest Machine Learning Symposium, UIC, Chicago | 2023 |
| International Conference on Continuous Optimization and the Modeling and Optimization, Lehigh, Bethlehem | 2022 |

SERVICE

Referee for Stochastic Systems
 Referee for Mathematical Programming
 Referee for Operation Research
 Referee for IEEE International Symposium on Information Theory
 Referee for IEEE Transactions on Automatic Control
 President for INFORMS Student Chapter Board, School of Industrial Engineering, Purdue University