

Yutian He

she/her/hers | 781-627-6158 | yutian-he@uiowa.edu | [personal webpage](#)

SUMMARY

Ph.D. candidate in Applied Mathematical and Computational Sciences with expertise in optimization, machine learning, business analytics, and large-scale data analytics. Research interests include stochastic programming, mixed-integer programming, bilevel optimization, convex and nonconvex optimization, distributionally robust optimization, first-order methods, and fairness-aware machine learning, with applications to transportation, capacity planning, and facility location.

EDUCATION

University of Iowa

Doctor of Philosophy - Applied Mathematical and Computational Sciences; GPA: 3.80/4.00
Advisors: Prof. Qihang Lin, and Prof. Beste Basciftci

Iowa City, IA

Aug 2022 - present

Northeastern University

Master of Science - Applied Mathematics; GPA: 3.89/4.00

Boston, MA

Aug 2020 - May 2022

Beijing Forestry University

Bachelor of Science - Mathematics and Applied Mathematics; GPA: 3.36/4.00

Beijing, China

Aug 2016 - May 2020

PUBLICATIONS AND WORKING PAPERS

[1] Enforcing Fair Predicted Scores on Intervals of Percentiles by Difference-of-Convex Constraints.

Yutian He, Yankun Huang, Yao Yao, Qihang Lin.

Proceedings of The 29th International Conference on Artificial Intelligence and Statistics.

PMLR 300:2269-2277, 2026.

URL <https://proceedings.mlr.press/v300/he26a.html>.

[2] Penalty-Based First-Order Methods for Bilevel Optimization with Minimax and Constrained Lower-Level Problems.

Yiyang Shen*, Yutian He*, Weiran Wang, Qihang Lin.

Accepted at *the 40th Annual Conference on Neural Information Processing Systems* (NeurIPS 2026).

URL <https://arxiv.org/abs/2605.08006>

[3] Distributionally Fair Bilevel Optimization.

Yutian He, Beste Basciftci, Qihang Lin.

Working paper, in preparation for submission to *Operations Research*.

[4] Decision Dependent Distributionally Robust Optimization for Facility Location Problem with Customer Behavior Considerations.

Yutian He, Beste Basciftci, Xian Yu.

Working paper, in preparation for submission to *Management Science*.

[5] Optimal layout of stacked graph for visualizing multidimensional financial time series data.

Yutian He, Hongjun Li. (2022).

Information Visualization, 21(1), 63-73.

URL <https://doi.org/10.1177/14738716211045005>.

*Equal contribution. Author ordering determined by a coin flip.

EXPERIENCE

Teaching Assistant

Aug. 2021 – May 2024

University of Iowa

- MATH1350: Quantitative Reasoning for Business. Fall 2022, Spring 2023, Fall 2023.
- MATH1020: Elementary Function. Spring 2024.

Northeastern University

- MATH7234: Optimization and Complexity. Spring 2022.
- MATH3081: Probability and Statistics. Fall 2021.

Data Analyst Internship

Jan. 2017 – Mar. 2017

Bairong Technology Co., Ltd

Beijing, China

- Utilized **R** to analyze and classify large-scale, real-world datasets containing one million numbers into high-risk, medium-risk, and low-risk categories for loan risk assessment.
- Created **Excel** visualizations to intuitively display risk categories, enhancing the effectiveness of customer data screening.

PRESENTATIONS

- *Decision Dependent Distributionally Robust Optimization for Facility Location Problem with Customer Behavior Considerations*. Mixed-integer Programming Workshop (MIPs). Stamford, CT, May 2026.
- *Distributionally Fair Bilevel Optimization*. 2026 INFORMS Optimization Society Conference. Atlanta, GA, March 2026.
- *Distributionally Fair Two-stage Stochastic Programming by Bilevel Optimization*. 2025 INFORMS Annual Meeting. Atlanta, GA, October 2025.
- *Distributionally Fair Two-stage Stochastic Programming by Bilevel Optimization*. International conference on continuous optimization (ICCOPT). Los Angeles, CA, July 2025.
- *Optimization Methods for Fairness-aware Decision Making*. Mixed-integer Programming Workshop (MIPs). Minneapolis, MN, June 2025.

TECHNICAL SKILLS

Programming Languages: Python, MATLAB, R, Julia, SQL

Optimization / ML Tools: Gurobi, CPLEX, PyTorch, Keras

Data Analysis: Pandas, scikit-learn

Other: GitHub, L^AT_EX

AWARDS AND SERVICE

- Graduate College Post-Comprehensive Research Award fellowship, University of Iowa, 2026.
- Mixed-Integer Programming Workshop travel award, University of Connecticut, 2026.
- INFORMS Optimization Society Conference travel award, University of Iowa, 2026.
- ICCOPT conference travel award, University of Southern California, 2025.
- INFORMS Annual Meeting travel award, University of Iowa, 2025.
- Mixed-Integer Programming workshop travel award, University of Florida, 2025.
- CIRTL Associate, Center for the Integration of Research, Teaching, and Learning, University of Iowa, 2025.
- Reviewer for the 40th Annual Conference on Neural Information Processing Systems (NeurIPS 2026).
- Reviewer for the International Conference on Learning Representations (ICLR) 2025.