

**Xian Yu**  
**Assistant Professor**  
**Department of Integrated Systems Engineering**  
**The Ohio State University**

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CONTACT INFORMATION	Baker Systems Engineering Building The Ohio State University Columbus, OH 43210 USA	<i>Work:</i> +1-734-239-1577 <i>E-mail:</i> <a href="mailto:yu.3610@osu.edu">yu.3610@osu.edu</a> <i>Website:</i> <a href="https://u.osu.edu/xianyu/">https://u.osu.edu/xianyu/</a>
RESEARCH INTERESTS	<ul style="list-style-type: none"> <li>• <b>Theory:</b> stochastic programming, distributionally robust optimization, integer programming, dynamic programming, reinforcement learning</li> <li>• <b>Application:</b> transportation, logistics, supply chain management</li> </ul>	
EMPLOYMENT	Assistant Professor of Integrated Systems Engineering, The Ohio State University, August 2022 - present	
EDUCATION	<p><b>University of Michigan</b>, Ann Arbor, MI <span style="float: right;"><i>September 2017 - April 2022</i></span></p> <ul style="list-style-type: none"> <li>• Ph.D. in Operations Research</li> <li>• Graduate Certificate in Computational Discovery &amp; Engineering (<a href="#">CDE</a>)</li> <li>• Professional Development Diversity, Equity, and Inclusion Certificate (<a href="#">DEI</a>)</li> <li>• Dissertation Title: Sequential Optimization Under Uncertainty: Models, Algorithms, and Applications</li> <li>• Advisor: <a href="#">Prof. Siqian Shen</a></li> </ul> <p><b>Xi'an Jiaotong University</b>, Xi'an, Shaanxi <span style="float: right;"><i>September 2013 - July 2017</i></span></p> <ul style="list-style-type: none"> <li>• B.S. in Mathematics and Applied Mathematics</li> <li>• Special Class for the Gifted Young</li> </ul> <p><b>Georgia Institute of Technology</b>, Atlanta, Georgia <span style="float: right;"><i>January 2016 - May 2016</i></span></p> <ul style="list-style-type: none"> <li>• Visiting Honor Student Program in Mathematics</li> </ul>	
AWARDS AND HONORS	<ul style="list-style-type: none"> <li>• First Place in IISE Pritsker Doctoral Dissertation Award <span style="float: right;"><i>2023</i></span></li> <li>• Katta Murty Prize for Best Research Paper on Optimization, IOE Department <span style="float: right;"><i>2021</i></span></li> <li>• Michigan Institute for Computational Discovery and Engineering (MICDE) Fellowship, University of Michigan <span style="float: right;"><i>2019</i></span></li> <li>• Mixed Integer Programming Workshop Student Travel Award <span style="float: right;"><i>2019</i></span></li> <li>• Travel Grant for Ph.D. Workshop on Transportation and Logistics <span style="float: right;"><i>2019</i></span></li> <li>• Rackham Travel Grant, University of Michigan <span style="float: right;"><i>2018</i></span></li> <li>• Dean and Engineering Graduate Fellowship, University of Michigan <span style="float: right;"><i>2017</i></span></li> </ul>	
JOURNAL PUBLICATIONS	<p>[1] Xinyu Fei, Xingmin Wang, <b>Xian Yu</b>, Yiheng Feng, Henry Liu, Siqian Shen, Yafeng Yin, "Optimization and decentralized algorithms for traffic signal control under uncertain travel demand and vehicle turning ratio," to appear in <i>European Journal of Operational Research</i>, 2023. [<a href="#">link</a>]</p> <p>[2] <b>Xian Yu</b>, Siqian Shen, Babak Badri-Koochi, Haitham Seada, "Time window optimization for attended home service delivery under multiple sources of uncer-</p>	

ainties,” to appear in *Computers and Operations Research*, 2022. [[link](#)]

- [3] Beste Basciftci, **Xian Yu**, Siqian Shen, “Resource distribution under spatiotemporal uncertainty of disease spread: Stochastic versus robust approaches,” to appear in *Computers and Operations Research*, 2022. [[link](#)]
- [4] Gongyu Chen, Xinyu Fei, Huiwen Jia, **Xian Yu**, Siqian Shen, “The University of Michigan Implements a Hub-and-Spoke Design to Accommodate Social Distancing in the Campus Bus System under COVID Restrictions,” to appear in *INFORMS Journal on Applied Analytics*, 2022. [[link](#)]
- [5] **Xian Yu**, Siqian Shen, Huizhu Wang, “Integrated vehicle routing and service scheduling under time and cancellation uncertainties with application in non-emergency medical transportation,” to appear in *Service Science*, 2021. [[link](#)]
- [6] **Xian Yu**, Siqian Shen, “Multistage distributionally robust mixed-integer programming with decision-dependent moment-based ambiguity sets,” to appear in *Mathematical Programming*, October 2020. [[link](#)]
- [7] **Xian Yu**, Siqian Shen, “An integrated decomposition and approximate dynamic programming approach for on-demand ride pooling,” *IEEE Transactions on Intelligent Transportation Systems*, 21(9), 3811-3820, 2020. [[link](#)]

CONFERENCE  
PROCEEDINGS

- [8] **Xian Yu**, Lei Ying, “On the global convergence of risk-averse policy gradient methods with expected conditional risk measures,” accepted in the 40th International Conference on Machine Learning (ICML 2023), Honolulu, Hawaii, 2023. [[current version](#)]
- [9] **Xian Yu**, Siqian Shen, “Risk-Averse Reinforcement Learning via Dynamic Time-Consistent Risk Measures”, in the Proceedings of the 61st IEEE Conference on Decision and Control (CDC 2022), Cancun, Mexico, December 2022.

PAPERS UNDER  
REVIEW/REVISION

- [1] **Xian Yu**, Siqian Shen, “On the value of risk-averse multistage stochastic programming in capacity planning,” under review, 2023. [[current version](#)]

INVITED TALKS

- [1] “On the global convergence of risk-averse policy gradient methods with expected conditional risk measures,” **International Conference on Machine Learning (Poster)**, Honolulu, Hawaii, July 2023.
- [2] “On the global convergence of risk-averse policy gradient methods with expected conditional risk measures,” **International Conference on Stochastic Programming**, Davis, California, July 2023.
- [3] “On the value of multistage risk-averse stochastic programming in capacity planning,” **SIAM Conference on Optimization**, Seattle, Washington, May 2023.
- [4] “On the value of multistage risk-averse stochastic facility location with or without prioritization,” **INFORMS Annual Meeting**, Indianapolis, Indiana, October 2022.
- [5] “On the value of multistage risk-averse stochastic facility location with or without prioritization,” seventh **International Conference on Continuous Optimization (ICCOPT)**, Bethlehem, Pennsylvania, July 2022.

- [6] “On the value of multistage facility location with risk aversion,” **INFORMS Optimization Society Conference**, Greenville, SC, March 2022.
- [7] “On the value of multistage facility location with risk aversion,” **INFORMS Annual Meeting**, Anaheim, CA, October 2021.
- [8] “Resource distribution under spatiotemporal uncertainty of disease spread: Stochastic versus robust approaches,” **IISE Annual Conference and Expo**, May 2021.
- [9] “Multistage distributionally robust mixed-integer programming with decision-dependent moment-based ambiguity sets,” **INFORMS Annual Meeting (Virtual)**, November 2020.
- [10] “Multistage stochastic and distributionally robust optimization with prioritization,” **INFORMS Annual Meeting**, Seattle, WA, October 2019.
- [11] “An integrated decomposition and Approximate Dynamic Programming approach for on-demand ride pooling,” **INFORMS Annual Meeting**, Seattle, WA, October 2019.
- [12] “Multistage distributionally robust mixed-integer programming with decision-dependent ambiguity sets,” **Mixed Integer Programming Workshop (Poster)**, Cambridge, MA, July 2019.
- [13] “On the value of multistage facility location with (or without) risk aversion,” **INFORMS Annual Meeting**, Phoenix, AZ, November 2018.

INDUSTRY EXPERIENCES	Research Scientist Intern, <b>Amazon.com</b>	<i>May 2021 - August 2021</i>
	Research Assistant, <b>Ford Motor Company</b>	<i>May 2019 - April 2021</i>
	Investment Research Intern, <b>Acadian Asset Management</b>	<i>June 2020 - August 2020</i>
TEACHING AND MENTORING	<b>Sole Instructor, The Ohio State University</b>	
	IOE 3210: Nonlinear and Dynamic Optimization	<i>Spring 2023</i>
	<ul style="list-style-type: none"> <li>• Class size: 70 undergraduate students</li> <li>• Student evaluation: Q10 = 4.8/5.0, 32/70 responded</li> </ul>	
	<b>Graduate Student Instructor, UM</b>	
	IOE 310: Introduction of Optimization Methods	<i>Fall 2018, Winter 2019</i>
	<ul style="list-style-type: none"> <li>• Class size: 120 undergraduate students</li> <li>• Responsibilities: weekly office hours, homework design</li> <li>• Student evaluation (Winter 2019): Q1 = 4.5/5.0, Q2 = 4.5/5.0, Q3 = 4.5/5.0, Q4 = 4.8/5.0, 38/93 responded</li> </ul>	
	<b>Guest Lecturer, UM</b>	
	IOE 512: Dynamic Programming	<i>Fall 2021</i>
	<ul style="list-style-type: none"> <li>• Developed a lecture on Markov Decision Processes with healthcare applications</li> <li>• Discussed state-of-the-art research papers on medical decision-making</li> </ul>	
	<b>IOE Mentorship Program, UM</b>	
	<ul style="list-style-type: none"> <li>• Xinyu Fei, Ph.D. student</li> </ul>	<i>Fall 2019 – Present</i>

PROFESSIONAL Reviewer:

SERVICE

- Management Science, Manufacturing and Service Operations Management, Service Science, European Journal of Operational Research, Naval Research Logistics, IEEE Transactions on Power Systems, IEEE Transactions on Transportation Electrification, Journal of Scheduling, IISE Conference

Panelist:

- National Science Foundation (NSF) proposal review

Conference organizer:

- Technical Program Committee (TPC) for IFIP Performance 2023 Conference
- Session chair for INFORMS 2021/2022 Annual Meeting, 2022 INFORMS Optimization Society Conference, 2022 ICCOPT Conference

Professional membership:

- Institute for Operations Research and Management Science (INFORMS)
- Society for Industrial and Applied Mathematics (SIAM)
- Mathematical Optimization Society (MOS)
- Institute of Industrial and Systems Engineering (IISE)