

# Violet (Xinying) Chen

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EMPLOYMENT **Stevens Institute of Technology** Hoboken, NJ  
Assistant Professor, School of Business From September 2022

EDUCATION **Carnegie Mellon University** Pittsburgh, PA  
Ph.D. in Operations Research May 2022  
*Dissertation: Fairness Methods in Optimization and Artificial Intelligence*  
*Committee: Hoda Heidari, John Hooker (chair), Fatma Kılınç-Karzan, Alec Morton*  
M.S. in Operations Research May 2019

**Georgia Institute of Technology** Georgia, GA  
B.S. in Applied Mathematics May 2017  
B.S. in Business Administration May 2017

## PUBLICATIONS **Peer-review Journals:**

**A Guide to Formulating Fairness in an Optimization Model**, V. Chen, J.N. Hooker. *Annals of Operations Research*, Volume 326, 581-619. 2023.

**Combining Leximax Fairness and Efficiency in a Mathematical Programming Model**, V. Chen, J.N. Hooker. *European Journal of Operational Research*, Volume 299, Issue 1, 235-248. 2022.

## **Refereed Conference Proceedings:**

**Task as Context Prompting for Accurate Medical Symptom Coding Using Large Language Models**, C. He, W. Zhang, V. Chen, Y. Ning, P. Wang. *Accepted, regular paper, 2025 IEEE/ACM Conference on Connected Health: Applications, Systems, and Engineering Technologies (CHASE)*.

**Local Causal Discovery for Structural Evidence of Direct Discrimination**, J. Maasch, K. Gan, V. Chen, A. Orfanoudaki, N. Akpınar, F. Wang. *Proceedings of the AAAI Conference on Artificial Intelligence*. Vol. 39. No. 18. 2025.

**Assessing Group Fairness with Social Welfare Optimization**, V. Chen, J.N. Hooker, D. Leben. *Integration of Constraint Programming, Artificial Intelligence, and Operations Research. Lecture Notes in Computer Science*, Volume 14742. 2024.  
*Best Paper Award, CPAIOR 2024.*

**Equipping Federated Graph Neural Networks with Structure-aware Group Fairness**, N. Cui, X. Wang, W. H. Wang, V. Chen and Y. Ning. *2023 IEEE International Conference on Data Mining (ICDM)*, 980-985. 2023.

**Local Justice and Machine Learning: Modeling and Inferring Dynamic Ethical Preferences toward Allocations**, V. Chen, J. Williams, D. Leben, H. Heidari. *Proceedings of the AAAI Conference on Artificial Intelligence, Volume 37(5)*, 5956-5964. 2023.

**A Just Approach Balancing Rawlsian Leximax Fairness and Utilitarianism**, V. Chen, J.N. Hooker. *Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society*, 221-227. 2020.

MANUSCRIPTS UNDER REVIEW **Modeling and Learning Dynamic Moral Judgments towards Allocations in High-stakes Domains**, V. Chen, J. Williams, D. Leben, H. Heidari. *Major Revision. Management Science. September 2025.*

**End-to-End Fairness Optimization with Decision Focused Learning**, Y. Wang, V. Chen. *Under Review. Management Science. August 2025.*  
*Preliminary version accepted, non-archival abstract, ACM Conference on Fairness, Accountability, and Transparency (FAccT), June 2025.*

**Fairness-Efficiency Symbiosis**, D. Rea, V. Chen. *Under Review. Management Science. August 2025.*

**Evaluating Multidimensional Fairness in Shared Micromobility: Case Studies of Docked and Dockless Systems**, T. Zibandehkhooy, V. Chen. *Submitted. Case Studies on Transport Policy. November 2025.*

GRANTS National Science Foundation CMMI-2309668. Title: Collaborative Research: Advancing Fairness for Emerging Infrastructure Systems with High Operational Dynamics. Role: PI (Co-PI: Yu Yang) July 2023–June 2026

AWARDS Best Paper Award, International Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research May 2024  
 Jack Howe Fellowship, Stevens School of Business September 2022–August 2025

TALKS **Fairness-Efficiency Symbiosis**  
 Invited Talk, INFORMS Annual Meeting, Atlanta, GA October 2025

**Fairness Framework for Shared Electric Micromobility Systems**  
 Invited Talk, Annual POMS Conference, Atlanta, GA May 2025

**Local Justice and Machine Learning: Modeling and Inferring Dynamic Ethical Judgments around High Stakes Allocations**  
 Summer Workshop on Innovations in Management Science, Crete, Greece July 2024  
 Flash Talk, Conference on Health IT and Analytics, Washington D.C. May 2023  
 Poster, AAAI Conference on Artificial Intelligence, Washington D.C. February 2023

Poster, ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization, Washington D.C. October 2022

**Balancing Fairness and Efficiency in a Mathematical Programming Model**

Invited Talk, Annual POMS Conference, Minneapolis, MN April 2024

**Formulating Fairness in Optimization Models**

International Symposium on Artificial Intelligence and Mathematics, Fort Lauderdale, FL January 2024

**Bridging Two Fairness Perspectives: Group Parity Metrics and Social Welfare Functions**

Modeling and Optimization: Theory and Applications, Bethlehem, PA August 2023

Invited Talk, INFORMS Annual Meeting, Phoenix, AZ October 2023

**Uncovering (Un)fairness in Liver Transplants via Causal Discovery Methods**

Invited Talk, INFORMS Healthcare Conference, Toronto, Canada July 2023

**Equality for Small and Medium Sized Enterprises (SMEs) through Trade Credit Distribution**

Invited Talk, Annual POMS Conference, Orlando, FL May 2023

TEACHING  
EXPERIENCE

**Stevens Institute of Technology, Instructor**

**Applied Models and Simulation**, BT 223 Fall 2025, Fall 2024

**Data Analytics and Machine Learning**, MIS 637 Fall 2022–Spring 2024

**Carnegie Mellon University, Instructor**

**Operations Management**, 70-371 Hybrid, Spring 2020

STUDENTS

Tara Zibandehkhooy, Ph.D. in Business Administration From Fall 2023

Yu (Dennis) Wang, Ph.D. in Data Science, co-advised with Yue Ning From Fall 2023

ACTIVITIES

Fostering Inclusion: A Workshop to Advance Research on Diversity, Equity, and Inclusion May 2025

Invited as discussant for Fintech and Financial Institutions Conference April 2025

Summer Workshop on Innovations in Management Science July 2024

Annual POMS Conference, Emerging Scholars Program May 2023, May 2025

Institute for Mathematical and Statistical Innovation (IMSI) workshop: Machine Learning and Artificial Intelligence for Personalized Medicine April 2023

## SERVICES

Program Committee, The 40th Annual AAAI Conference on Artificial Intelligence (AAAI 2026), ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO 2025)

Ad-hoc reviewer for journal: Operations Research, European Journal of Operational Research, Annals of Operations Research, Transportation Research Part C, Socio-Economic Planning Sciences, Optimization and Engineering, Omega, Machine Learning, Decision Analysis, EURO Journal on Decision Processes

Ad-hoc reviewer for conference: International Conference on Learning Representations (ICLR), International Conference on Information Systems (ICIS)

Search Committee for Stevens School of Business Tenure-track faculty position in Analytics  
Fall 2022, Fall 2023

### **Professional Organization**

INFORMS Education Strategy Committee

October 2019–June 2025

CMU INFORMS Chapter

June 2020–June 2021

*President, Awarded Magna Cum Laude Chapter*