

# Sun Ju (Julie) Lee

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Updated 10/24/24

## EDUCATION

- Georgia Institute of Technology**, Atlanta, GA 2019 – Present  
*H. Milton Stewart School of Industrial and Systems Engineering*  
Ph.D., Operations Research (Expected 2025)  
*Advisor: Gian-Gabriel Garcia*  
*Thesis Committee: Lauren Steimle, Weijun Xie, Nicoleta Serban, Sheree Boulet*
- M.S., Operations Research 2022
- Dartmouth College**, Hanover, NH 2018  
B.A., Engineering Sciences  
B.E., Mechanical Engineering

## PUBLICATIONS

### Published and Accepted Papers

- [P2] **S. J. Lee**, X. Gong, and G.-G. P. Garcia (2024). Modified Monotone Policy Iteration for Interpretable Policies in Markov Decision Processes and the Impact of State Ordering Rules. *Annals of Operations Research*.
- [P1] **S. J. Lee**, G.-G. P. Garcia, K.H. Stanhope, M. H. Platner, and S. L. Boulet (2023). Interpretable Machine Learning to Predict Adverse Perinatal Outcomes: Examining Marginal Predictive Value of Risk Factors During Pregnancy. *American Journal of Obstetrics & Gynecology MFM*, 101096.

### Book Chapters

- [B1] **S. J. Lee**, H. S. Pandey, and G.-G. P. Garcia (2023). Designing Interpretable Machine Learning Models Using Mixed Integer Programming. In: Pardalos, P.M., Prokopyev, O.A. (eds) *Encyclopedia of Optimization*. Springer, Cham.

### Working Papers

- [W4] Y. Yang, T. Liu, **S. J. Lee**, C.-Y. Liao, H. Shao, F. Pasquel, M. B. Weber, E. Keyvanshokoh, G.-G. P. Garcia (2024). Survival Modeling for CVD Risk Estimation Among a Diverse Cohort with Type-2 Diabetes.
- [W3] **S. J. Lee** and G.-G. P. Garcia (2024). A Data-driven Optimization Approach to Designing Parsimonious, Interpretable, and Equitable Treatment Guidelines.
- [W2] **S. J. Lee**, G.-G. P. Garcia, K.H. Stanhope, M. H. Platner, and S. L. Boulet (2024). Composite Clustered Multi-Task Learning for Prediction of Adverse Pregnancy Outcomes.
- [W1] **S. J. Lee** and G.-G. P. Garcia (2024). A Tolerance-based Approach to Lexicographic Multi-Objective Markov Decision Processes.

## PRESENTATIONS

### Conference Presentations (Presenter)

- [C4] **S. J. Lee** and G.-G. P. Garcia. A Data-driven Optimization Approach to Designing Parsimonious Treatment Guidelines.  
– INFORMS Annual Meeting, Seattle, WA 10/2024
- [C3] Y. Yang, T. Liu, **S. J. Lee**, C.-Y. Liao, H. Shao, F. Pasquel, M. B. Weber, E. Keyvanshokoh, G.-G. P. Garcia. Survival Modeling for CVD Risk Estimation Among a Diverse Cohort with Type-2 Diabetes.  
– AI for Health Equity Symposium AIM-AHEAD Annual Meeting, Atlanta, GA 8/2024
- [C2] **S. J. Lee**, G.-G. P. Garcia, K.H. Stanhope, M. H. Platner, and S. L. Boulet. Composite Clustered Multi-task Learning for Prediction of Adverse Pregnancy Outcomes.  
– INFORMS Annual Meeting, Phoenix, AZ 10/2023  
– INFORMS Healthcare Conference, Toronto, ON, Canada 7/2023  
– INFORMS Annual Meeting, Seattle, WA 10/2024
- [C1] **S. J. Lee** and G.-G. P. Garcia. A Tolerance-based Approach to Lexicographic Multi-Objective Markov Decision Processes.  
– INFORMS Annual Meeting, Indianapolis, IN 10/2022  
– SMDM Annual Meeting, Seattle, WA 10/2022

### Invited Seminar Presentations

1. Interpretable Machine Learning for Adverse Pregnancy Outcomes. 9/2023  
School of Industrial and Systems Engineering, University of Oklahoma

## HONORS AND AWARDS

<b>George Family Fellow</b>	2024-2025
<i>H. Milton Stewart School of Industrial &amp; Systems Engineering, Georgia Institute of Technology</i>	
<b>Finalist</b> , Lee B. Lusted Prize in Quantitative Methods & Theoretical Developments	2022
<i>Society of Medical Decision-Making</i>	
<b>President's Fellow</b> , <i>Georgia Institute of Technology</i>	2019 – 2023
<b>Virtual Annual Meeting &amp; Membership Scholarship</b>	2021
<i>Society of Medical Decision-Making</i>	
<b>Thayer Scholar</b> , <i>Dartmouth College</i>	2014 – 2018

## STUDENTS MENTORED

Nathan Grodzinsky BS IE '24	2023 – 2024
Xingyu Gong BS IE '24	2022 – 2024

## TEACHING EXPERIENCE

### Teaching Assistant

<i>Georgia Institute of Technology, Atlanta, GA</i>	2019 – 2021
– ISyE 3133 Engineering Optimization (undergraduate)	
– ISyE 6669 Deterministic Optimization (graduate)	
– ISyE 6661 Linear Optimization (graduate)	
– ISyE 4134/8813 Constraint Programming (undergraduate/graduate)	

Dartmouth College, Hanover, NH 2016 – 2017  
– ENGS 76 Machine Engineering  
– ENGS 2 Integrated Design: Engineering, Architecture, and Building Technology  
– ENGS 25 Introduction to Thermodynamics

**Graduate Tutor**  
Georgia Institute of Technology, Atlanta, GA 2020  
– ISyE 2027 Probability with Applications

## PROFESSIONAL EXPERIENCE

**Technical Solutions Engineer** 2018 – 2019  
Epic Systems Corporation, Verona, WI

## LEADERSHIP AND SERVICE ACTIVITIES

**Volunteer** 2024  
*iExperience Summer Camp, Georgia Tech*

**Diversity, Equity, and Inclusion Committee Student Member** 2023 – Present  
*H. Milton Stewart School of Industrial and Systems Engineering, Georgia Tech*

**Graduate Research Mentor** 2022  
*Summer Undergraduate Research in Engineering/Sciences Program, Georgia Tech*

**Teaching Assistant** 2020  
*Seth Bonder Camp in Computational and Data Science for Engineering, Georgia Tech*