

Sun Ju Lee

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Updated 8/12/24

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.

Working Papers:

- [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.

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.

PRESENTATIONS

Conference Presentations:

- [C3] 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] 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
- [C1] 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

- Finalist**, SMDM Lee B. Lusted Prize in *Quantitative Methods & Theoretical Developments* 2022
- President's Fellow**, Georgia Institute of Technology 2019 – 2023
- Virtual Annual Meeting & Membership Scholarship**, SMDM 2021
- Thayer Scholar**, Dartmouth College 2014 – 2018

STUDENTS MENTORED

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

TEACHING EXPERIENCE

Teaching Assistant

- Georgia Institute of Technology*, Atlanta, GA 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 <i>iExperience Summer Camp, Georgia Tech</i>	2024
Diversity, Equity, and Inclusion Committee Student Member <i>H. Milton Stewart School of Industrial and Systems Engineering, Georgia Tech</i>	2023 – Present
Graduate Research Mentor <i>Summer Undergraduate Research in Engineering/Sciences Program, Georgia Tech</i>	2022
Teaching Assistant <i>Seth Bonder Camp in Computational and Data Science for Engineering, Georgia Tech</i>	2020