Sun Ju Lee

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EDUCATION

Georgia Institute of Technology, Atlanta, GA 8/2019 – Present
H. Milton Stewart School of Industrial and Systems Engineering
Ph.D., Operations Research (Expected 2024)
M.S., Operations Research 5/2022

Dartmouth College, Hanover, NH 9/2014 – 6/2018
B.A., Engineering Sciences
B.E., Mechanical Engineering

PUBLICATIONS

[P1] **S. J. Lee**, G.-G. P. Garcia, 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.

Submitted:

[S1] X. Gong, **S. J. Lee**, and G.-G. P. Garcia (2023). Analysis of Monotone Policy Iteration for Interpretable Policies in Markov Decision Processes: Impact of State Ordering Rules. (Preprint).

BOOK CHAPTERS

[B1] **S. J. Lee**, H. Pandey, and G.-G. P. Garcia (2022). Designing Interpretable Machine Learning Models Using Mixed Integer Programming. In: Pardalos, P. M., Prokopyev, O. A. (eds.) Encyclopedia of Optimization (Forthcoming).

PRESENTATIONS

Conference Presentations:

[C2] Composite Clustered Multi-task Learning for Prediction of Adverse Pregnancy Outcomes.

- INFORMS Annual Meeting, Phoenix, AZ (Upcoming)
- INFORMS Healthcare Conference, Toronto, ON, Canada 7/23

[C1] A Tolerance-based Approach to Lexicographic Multi-Objective Markov Decision Processes.

- INFORMS Annual Meeting, Indianapolis, IN 10/22
- SMDM Annual Meeting, Seattle, WA 10/22

Invited Seminar Presentations:

1. Interpretable Machine Learning for Adverse Pregnancy Outcomes. 9/23
   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

TEACHING EXPERIENCE

Teaching Assistant
Georgia Institute of Technology, Atlanta, GA 8/2019 – 12/2021
- 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 6/2016 – 11/2017
- 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 1/2020 – 4/2020
- ISyE 2027 Probability with Applications

EMPLOYMENT

Technical Solutions Engineer 8/2018 – 6/2019
Epic Systems Corporation, Verona, WI
- Supported various hospital organizations around the United States by providing software expertise and technical troubleshooting in the form of prompt solutions
- Provided support during and after the install of Epic software, transitioning from legacy EHR software
- Guided project management discussions of add-on modules of software
- Led quarterly discussions with operational and IT leaders at client hospital organizations to improve patient care by providing suggestions on best practices
- Built and maintained long-term relationships with IT staff at client hospital organizations

Product Management Intern 6/2017 – 8/2017
LuminAID, Chicago, IL
- Compiled internal documentation guide and external documentation sheets for testing of various specifications for all products in current product line
- Implemented quality control procedures through inspection checklists at manufacturing facility
- Revamped returns processing operations to ensure positive customer service experience and minimize loss of revenue on returns
- Prepared weekly reports on manufacturing defect trends and product return rates

Engineering Intern 1/2017 – 3/2017
STEMCO, Hayward, CA
- Developed data analytics system to troubleshoot automatic deploying TrailerTail units (a rear-mounted aerodynamic device for trailers)
- Presented key results and metrics to clients through automatically generated reports
- Initiated coordination of UV and Ozone testing with labs according to ASTM and ISO standards
- Assisted in optimizing design of TrailerTail rear-mounted aerodynamic device for use with drop-down trailer

LEADERSHIP AND SERVICE ACTIVITIES

Diversity, Equity, and Inclusion Committee Student Member 7/2023 – Present
H. Milton Stewart School of Industrial and Systems Engineering, Georgia Tech

Graduate Research Mentor 5/2022 – 7/2022
Summer Undergraduate Research in Engineering/Sciences Program, Georgia Tech

Teaching Assistant 5/2020 – 6/2020
Seth Bonder Camp in Computational and Data Science for Engineering, Georgia Tech

Secretary 2017 – 2018
Tau Beta Pi Engineering Honor Society, New Hampshire Beta Chapter

Cartoonist 2017 – 2018
The Dartmouth, Student Newspaper