

LISA EVEREST

Operations Research Center, MIT

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EDUCATION

Massachusetts Institute of Technology

Ph.D. Candidate, Operations Research (Advisor: Prof. Dimitris Bertsimas) | GPA 5.0/5.0 2022 - Expected 2027

B.Sc. in Mathematics with Computer Science, B.Sc. in Management | GPA 5.0/5.0 2015 – 2019

Princeton University

Honors Single Variable Analysis, concurrent with high school 2014 – 2015

The Lawrenceville School in Lawrenceville, NJ

GPA: 4.02/4.0 unweighted, *Cum Laude Society* 2011 – 2015

PROJECTS

Interpretable Prescriptive Neural Networks submitted to Machine Learning 2024

D. Bertsimas, L. Everest, V. Stoumpou (alphabetical)

- Train prescriptive feedforward neural networks (“PNN”) to output prescriptions that optimize a desired outcome
- Recover interpretability by training an Optimal Classification Tree model using PNN’s optimal prescriptions as (multi)classification target classes
- Showed efficacy on real-world datasets including diabetes and spleen trauma treatments and retail pricing
- Ongoing: extending to *multimodal* datasets, including language and vision data

Towards Optimal Valve Prescription for Transcatheter Aortic Valve Replacement (TAVR) Surgery: A Machine Learning Approach in preparation for Health Care Management Science 2024

P. Paschalidis*, V. Stoumpou*, L. Everest*, Y. Ma*, ..., D. Bertsimas (*) = co-first author

- Develop novel data-driven machine learning-based prescriptive model to optimally prescribe treatment for TAVR surgery, to improve patient outcomes by minimizing risk of permanent pacemaker implantation (PPI), a postoperative complication
- Model improves PPI rate by 26% on an internal U.S. validation dataset and 16% on an external Greek validation dataset

Optimal Control of Markov Decision Processes: A Machine Learning Approach Sep 2024 – present

- Exploring machine learning approach for the optimal control of general Markov decision processes (MDP)
- Using numerical solutions of MDP problems as a training set for machine learning model to learn the control policies – the idea being while offline training could take a long time, online application could be fast

Multi-Modal Machine Learning with Hartford HealthCare

Orthopedics: Fragility Hip Fractures’ Readmission, Transfusion, Time to Surgery Feb 2024 – present

Pharmacy: Medication-Related Readmission Feb 2024 – present

- Developing predictive multimodal models using real-world tabular (demographic, labs, disease history), language (discharge summaries, nurse notes), and images (medical scans)

INDUSTRY

Goldman Sachs (New York, NY)

Quantitative Associate, Special Situations Group (Asset Management Division) Dec 2021 – Aug 2022

- Product manager and backend development– pipe millions of companies’ data into a MongoDB, join datasets based on key identifiers in Python, and aggregate data for display on UI; also handling PM work to integrate three teams globally (business, UX, and engineering) and present biweekly milestones to senior business leadership
- Portfolio management – analyses and pricing of various aspects of business portfolio, including FX exposure, public equity risk, and senior management reports of the entire business
- Deal modeling – extended knowledge beyond training to design creative solutions for obscure model failures
- Database uplift and support – developed strategic pipeline in Sybase database for automated business income statement

Quantitative Analyst, Special Situations Group (Asset Management Division) Mar 2020 – Dec 2021

Technology Analyst, Investment Banking Division Jul 2019 – Mar 2020

Technology Intern, Investment Banking Division Summer 2018

NERA Economic Consulting (New York, NY) Jan 2018

Securities Extern: explored cryptocurrencies, valuation techniques/uses in a technical paper; performed valuation via DCF

RELEVANT COURSEWORK AND SKILLS

- **Optimization:** Linear Programming, Integer Optimization, Robust Optimization, Nonlinear Optimization,
- **Computer Science:** Deep Learning, Algorithms, Machine Learning, Computability/Complexity Theory
- **Mathematics:** Real Analysis, Probability, Statistics, Differential Equations, Linear Algebra, Discrete Math Seminar
- **Skills:** Python (pandas, scikit-learn, pytorch, GenAI-APIs), Julia (Gurobi, JuMP), R, Java, Javascript (basic), SQL (basic), HTML (basic), MongoDB (basic)

HONORS AND AWARDS

- INFORMS Student Chapter Annual Award *Cum Laude*, MIT ORC (2023)
- Ida M. Green Fellowship, MIT Office of Graduate Education (2022 – 2023) *awarded to 1 student per year*
- Goldman Sachs Analyst/Associate Professional Development Council (2021 – present)
- MIT Vernon E. Altman Fund Scholarship (2015 – '16, '16 – '17, '17 – '18, '18 – '19)
- MIT NCAA Division III Varsity Softball Team (2015 – 2018)

Individual

NFCA National Academic Excellence (2016, 2017, 2018)

NEWMAC Academic All-Conference Team (2017, 2018)

Team

NCAA Division III World Series Finalist, Super Regional Champion, and Regional Champion (2016, 2018)

- Gordon Engineering Leadership Program (2017 – 2018)
- The Lawrenceville School Marcus D. French Memorial Prize (2012)

TEACHING

Computing in Optimization and Statistics | MIT | Software data, optimization, machine learning for Ph.D. students

Head Instructor

Jan 2025

Teaching Assistant

Jan 2024

Machine Learning Under a Modern Optimization Lens | MIT | Sparse, convex, robust, median regression, optimal trees and their relationship with neural networks; prescriptive algorithms for Ph.D./Masters of Business Analytics students

Teaching Assistant

current

Operations Research Common Experience | MIT | Deep learning and natural language inferencing project for Ph.D. first-year Ph.D. students as part of their General Exam process.

Teaching Assistant

Aug 2024

Data, Models, and Decisions | MIT | Basic analytics, including regression optimization, machine learning for MBA students.

Teaching Assistant (rating: 6.5/7)

Fall 2023

Mathematics for Computer Science | MIT | Elementary discrete mathematics for computer science undergraduate students.

Undergraduate Teaching Assistant

Fall 2018

Department of Mathematics | MIT | Multivariable calculus, linear algebra, differential equations, probability/statistics

Math Tutor

Fall 2018

Global Teaching Lab | MIT in Milan, Italy | Designed and taught courses in probability and programming in Python

High School Teacher in Math and Computer Science

Jan 2017

SWE #HelloWorld Middle-School Girls' Program | MIT

Computer Science Mentor

Fall 2015

LEADERSHIP, COMMUNITY INVOLVEMENT, AND ACTIVITIES

- MIT Alpha Chi Omega | *Graduate Residential Assistant* (2022 – '23, '23 – '24)
- MIT INFORMS Student Chapter | *President* (2023)
- MIT Sloan Undergraduate Explorations in Management | *Alumni Guest* (2022, 2023, 2024)
- Goldman Sachs New Analyst and Intern Committee (2019 – 2022)
 - Director of Corporate Engagement pillar (2021 – 2022)
 - Director of Career Advancement pillar (2020 – 2021)
- Goldman Sachs MIT Hiring Volunteer (2021 – 2022)
- Hobbies: snowboarding, figure skating, speed skating, knitting, violin, Ohio State football