Alexandria Schmid

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Pronouns: she/her

Education

Massachusetts Institute of Technology — Cambridge, MA
PhD in Operations Research, GPA: 5.0/5.0 — Aug. 2020 – May 2025
Advisor: Alexandre Jacquillat

Georgia Institute of Technology — Atlanta, GA
B.S. Industrial & Systems Engineering, GPA: 3.9/4.0 — Aug. 2012 – May 2016

Research and Industry Experience

- **Massachusetts Institute of Technology** — Cambridge, MA
  Graduate Research Assistant — Sept. 2020 - Present
  - Conducting research in optimization and machine learning, with a focus in transportation and routing
  - Developed an integer optimization model for routing operations for a "relay"-based logistics company, along with an accompanying novel algorithm to solve the model efficiently
  - Created an optimization model for robot task assignment and routing in a warehouse setting
  - Developing a machine-learning-guided decomposition algorithm to solve the robot optimization problem

- **The Home Depot** — Atlanta, GA
  Senior Analyst - Supply Chain Analytics — May 2016 - Aug. 2020
  - Built logic and strategy for a new in-house replenishment system to unify and replace existing supply chain management systems
  - Designed new order aggregation logic to reduce inventory by $70 million, primarily targeting slow-moving inventory
  - Completed a comprehensive analysis of replenishment system usage and identified multiple company-wide inventory process issues that have since been addressed

- **Georgia Institute of Technology** — Atlanta, GA
  Undergraduate Research Assistant — Aug. 2015 - May 2016
  - Created an integer optimization model to automate class scheduling and instructor assignment for the School of Industrial and Systems Engineering

Publications

In Preparation

- Relay logistics: a multi-variable generation approach (with Alexandre Jacquillat and Kai Wang)
- Task assignment and route planning in robotic warehousing: a learning-enhanced large-scale neighborhood search approach (with Cynthia Barnhart, Alexandre Jacquillat, and Riley Lenaway)

Presentations

- Relay logistics: a multi-variable generation approach
  - 2021 INFORMS Annual Meeting
  - 2021 INFORMS Transportation and Logistics Workshop
  - 2022 Triennial Symposium on Transportation Analysis

Teaching Experience

- **Integer Programming and Combinatorial Optimization** (15.083) Jan. 2022 - Present
  Teaching Assistant
  - Prepared and taught weekly recitation sessions, held office hours, and supervised final projects
  - Integrated active learning activities, including in-class polls and think-pair-share-style group activities, into the existing recitation materials
- **Social and Ethical Responsibilities of Computing Scholar** Jan. 2022 - Present
  - Working with a small group of MIT faculty to develop a case study on the pitfalls of using algorithms for water resource allocation, as well as three complementary in-class activities to be deployed in a machine learning course, an optimization course, and an urban planning course
  - Developing a guided discussion activity for an undergraduate computing course to explore the ethical impacts of using historical quantitative indicators to inform future decisions
- **Computing for Optimization and Statistics** (15.S60) Jan. 2022
  Session Instructor
  - Designed and taught a workshop to Sloan graduate students on computing literacy in operations research, covering Git, Github, distributing computing, and LaTeX
- **Georgia Tech Center for Academic Success** Aug. 2015 - May 2016
  1-on-1 tutor
  - Tutored undergraduate students in calculus, statistics, computer science, and physics courses

Awards and Fellowships

- **MIT Teaching Development Fellow** 2022 - 2023
- **Social and Ethical Responsibilities of Computing Scholar** 2022
- **First Place in Georgia Tech Industrial Engineering Senior Design Competition** 2016
- **President's Undergraduate Research Award** 2015
- **Stamps President's Scholarship** 2012

Programming Skills

Languages: Julia, Python, SQL, R