Alexandria Schmid

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EDUCATION

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

Georgia Institute of Technology   Atlanta, GA
B.S. Industrial & Systems Engineering   Aug. 2012 – May 2016

RESEARCH AND INDUSTRY EXPERIENCE

- **Massachusetts Institute of Technology**   Cambridge, MA
  Graduate Research Assistant   Sept. 2020 - Present
  - Conducting research in large-scale optimization, with a focus in transportation and routing

- **Amazon Robotics**   North Reading, MA
  Research Science Intern   May 2023 - Aug. 2023
  - Developed a robust optimization model to schedule robots to deliver work to stations, with dependence between tasks and highly variable robot travel times
  - Solved the model via an adversarial scenario generation algorithm, providing efficiency benefits of 10-20% over baseline heuristics
  - Implemented the model and algorithm in a high-fidelity Java simulation for further study

- **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

WORKING PAPERS

- A. Jacquillat, A. Schmid and K. Wang, "Optimizing relay operations toward sustainable logistics". Submitted.

- C. Barnhart, A. Jacquillat, and A. Schmid, "Task design and assignment in robotic warehousing". Under revision at *INFORMS Journal on Optimization*.

Presentations

- Relay logistics: a multi-variable generation approach
  - 2021 INFORMS Annual Meeting
  - 2021 INFORMS Transportation and Logistics Workshop
  - 2022 Triennial Symposium on Transportation Analysis XI
- Task assignment and route planning in robotic warehousing
  - 2022 INFORMS Annual Meeting
  - 2023 Manufacturing and Service Operations Management Conference
  - 2023 INFORMS Annual Meeting

Teaching Experience

- **Optimization Methods** (15.093)   Sept. 2023 - Dec. 2023
  Teaching Assistant
  - Prepared and taught recitation sessions, held office hours, and supervised final projects
  - Introduced poll questions to create opportunities for interaction in large (100+ students) recitation sessions

- **Computing for Optimization and Statistics** (15.S60)
  Instructor of Record   Jan. 2023
  - Coordinated an eight session course on computational research pipeline design: data and visualization in R, machine learning in Python, optimization in Julia, high-performance computing, and version control
  - Designed and taught sessions on Git and high-performance computing

  Session Instructor   Jan. 2022
  - Designed and taught a workshop on Git, Github, distributing computing, and LaTeX

- **Integer Programming and Combinatorial Optimization** (15.083)   Jan. 2022 - May 2022
  Teaching Assistant
  - Prepared and taught weekly recitation sessions, held office hours, and supervised final projects
  - Integrated active learning activities into the existing recitation materials

- **Georgia Tech Center for Academic Success**   Aug. 2015 - May 2016
  1-on-1 tutor

Awards and Fellowships

- **Goodwin Medal**, MIT's highest teaching award for a student, awarded every year to one graduate instructor "who performed above and beyond the norm, and whose teaching efforts can truly be characterized as conspicuously effective"   2024
- **MIT Teaching Development Fellow**   2022 - 2023
- **MIT 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, Java, Python, SQL, R