

Alexandria Schmid

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EDUCATION

Massachusetts Institute of Technology
PhD in Operations Research
Advisor: Alexandre Jacquillat

Cambridge, MA
Aug. 2020 – Dec. 2025

Georgia Institute of Technology
B.S. Industrial & Systems Engineering

Atlanta, GA
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

- Wrote order quantity logic 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, targeting slow-moving inventory
- Completed a comprehensive analysis of replenishment system usage and identified multiple company-wide inventory process issues

PUBLICATIONS

- C. Barnhart, A. Jacquillat, and A. Schmid, “Robotic warehousing operations: a learning-enhanced large-scale neighborhood search approach”. *INFORMS Journal on Optimization*.

WORKING PAPERS

- K. Cummings, A. Jacquillat, B. Martin-Idrissi, A. Schmid, “Deviated fixed-route microtransit: design and operations”. Under revision at *Operations Research*.
- A. Jacquillat, A. Schmid and K. Wang, “Optimizing relay operations toward sustainable logistics”. Under revision at *Manufacturing & Service Operations Management*.
- C. Barnhart, F. Cordera, A. Jacquillat, A. Schmid, “Order picking in large-scale robotic mobile fulfillment systems”.

PRESENTATIONS

- Relay logistics: a multi-variable generation approach
 - 2021 INFORMS Transportation and Logistics Workshop
 - 2022 Triennial Symposium on Transportation Analysis XI
 - 2024 INFORMS Annual Meeting
- Task assignment and route planning in robotic warehousing
 - 2022 INFORMS Annual Meeting
 - 2023 Manufacturing and Service Operations Management Conference
 - 2023 INFORMS Annual Meeting
- Deviated Fixed-route Microtransit: Design and Operations
 - 2025 INFORMS Computing Society (*upcoming*)
 - 2025 Triennial Symposium on Transportation Analysis XII (*upcoming*)

TEACHING EXPERIENCE

- **Analytics Edge (15.071)** Feb. 2025 - May 2025
Teaching Assistant
 - Prepared assignments, held office hours, and supervised final projects for a large class of MBA students
 - Designed new practice problems for weekly recitations
- **Optimization Methods (15.093)** Sept. 2023 - Dec. 2023
Teaching Assistant
 - Prepared and taught recitation sessions, held office hours, and supervised final projects for a class of undergraduate, masters, and PhD students with diverse backgrounds
 - Introduced poll questions to create opportunities for interaction in large (100+ students) recitation sessions
- **Computing for Optimization and Statistics (15.S60)** Jan. 2023
Instructor of Record
 - 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 for a class of PhD students
 - Integrated active learning activities into the existing recitation materials

AWARDS AND FELLOWSHIPS

- **Dick and Jerry Smallwood Fellowship**, for graduate students who are applying mathematical models to problems of sustainability and climate 2024 - 2025
- **Goodwin Medal**, MIT's highest teaching award for a graduate instructor "who performed above and beyond the norm, and whose teaching efforts can truly be characterized as conspicuously effective" 2024
- **First Place in Georgia Tech Industrial Engineering Senior Design Competition** 2016
- **President's Undergraduate Research Award** 2015
- **Stamps President's Scholarship** 2012 - 2016

SERVICE

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- MIT ORC Spring Seminar Student Co-coordinator 2024
 - MIT Teaching Development Fellow 2022 - 2023
 - Social and Ethical Responsibilities of Computing Scholar 2022

PROGRAMMING SKILLS

Languages: Julia, Java, Python, SQL, R