Alexandria Schmid

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Pronouns: she/her

Education

Massachusetts Institute of Technology — Cambridge, MA
PhD in Operations Research — Aug. 2020 – Dec. 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 in a high-fidelity simulation

- **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 company-wide inventory process issues

Published Papers

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

Under Review and Working Papers

- B. Martin-Iradi, A. Schmid, K. Cummings, and A. Jacquillat, "A double decomposition algorithm for network planning and operations in deviated fixed-route microtransit". Major revision at *Operations Research*.
- A. Jacquillat, A. Schmid and K. Wang, "Optimizing relay operations toward sustainable logistics". Major revision at *Manufacturing & Service Operations Management*.
- C. Barnhart, F. Cordera, A. Jacquillat, A. Schmid, "Order picking in large-scale robotic mobile fulfillment systems".
- A. Jacquillat, S. Karam, A. Schmid, K. Wang, and W. Zhang. "Vehicle-Customer Coordination for High Capacity Microtransit".
- T. Cao, A. Jacquillat, A. Schmid, and L. Zhao. "Service Network Design in Intra-City Express Delivery".

Presentations

- Optimizing relay operations toward sustainable logistics
  - 2021 INFORMS Transportation and Logistics Workshop
  - 2022 Triennial Symposium on Transportation Analysis XI
  - 2024 INFORMS Annual Meeting
- Robotic warehousing operations: a learning-enhanced large-scale neighborhood search approach
  - 2022 INFORMS Annual Meeting
  - 2023 Manufacturing and Service Operations Management Conference
  - 2023 INFORMS Annual Meeting
- A double decomposition algorithm for network planning and operations in deviated fixed-route microtransit
  - 2025 INFORMS Computing Society Conference
  - 2025 ISyE-MS&E-IOE Rising Stars Workshop
  - 2025 Manufacturing and Service Operations Management Conference

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)
  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 for a class of PhD students
  - Integrated active learning activities into the existing recitation materials

Awards and Fellowships

- **Finalist for TSL Student Paper Prize Competition**, winner to be announced October 2025 — 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
- **Dick and Jerry Smallwood Fellowship**, for graduate students who are applying mathematical models to problems of sustainability and climate — 2024 - 2025
- **First Place in Georgia Tech Industrial Engineering Senior Design Competition** — 2016
- **President's Undergraduate Research Award** — 2015
- **Stamps President's Scholarship** — 2012 - 2016

Service

- **MIT ORC Spring Seminar Student Co-coordinator** — 2024
- **MIT Teaching Development Fellow** — 2022 - 2023
- **Social and Ethical Responsibilities of Computing Scholar** — 2022
- **Reviewer:** *Transportation Science*, *INFORMS Journal on Applied Analytics*

Programming Skills

Languages: Julia, Java, Python, SQL, R