

# Sébastien Martin, Associate Professor

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**Links:** Personal Website | Google Scholar | LinkedIn | Github

*Last Updated: 2025-11*

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SUMMARY	I am an associate professor of Operations at the Kellogg School of Management, Northwestern University. My research focuses on the interface of large-scale optimization and operations management, with applications to transportation, the gig economy, public sector operations and AI.
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EDUCATION	<b>Massachusetts Institute of Technology</b>   Cambridge, MA, USA Ph.D. - Operations Research	2014 — 2019
	<b>Ecole Polytechnique</b>   Palaiseau, France B.Sc. & M.Sc. - Applied Mathematics	2011 — 2015

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WORK	<b>Northwestern University - Kellogg</b>   Evanston, IL, USA Assistant Professor of Operations <i>I taught the Operations Management core course in the MBA program.</i>	2020 — 2025-09
	<b>Northwestern University - Kellogg</b>   Evanston, IL, USA Associate Professor of Operations <i>I teach the MBA course "AI Foundations for Managers, AgentOps".</i>	2025-09 — Current
	<b>ESAB Corporation</b>   North Bethesda, Maryland, U.S. AI advisor to the CEO <i>ESAB is a global leader in welding and cutting products. I advise the CEO on the use of AI to improve the company's operations.</i>	2025 — Current
	<b>Lyft, Inc.</b>   New York City, NY, USA Postdoctoral Fellow <i>I worked with the Marketplace Innovation Lab to improve dispatch algorithms.</i>	2019 — 2020
	<b>Google</b>   Mountain View, CA, USA Software Engineering Intern <i>Successfully passed the Google Software Engineer coding interviews. Worked for Google Maps. Researched, experimented and implemented novel algorithms to improve maps and navigation data using large geolocation datasets (&gt; 100Gb).</i>	2016-06 — 2016-08
	<b>UC Berkeley</b>   Berkeley, CA, USA Visiting Researcher	2014-04 — 2014-08

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PUBLICATIONS	<i>Only publicly available papers, in decreasing order of latest update. The current publication status is highlighted in <b>bold</b>.</i>	
	[22] Algorithmic Precision and Human Decision: A Study of Interactive Optimization for School Schedules   A. Delarue, Z. Lian, S. Martin <b>Management Science</b> <i>Accepted in EC 2024, semi-finalist if the 2024 Wagner Prize.</i>	2025
	[21] The Trap of Complexity in Experimentation   Y. Huang, S. Martin, Z. Qin <b>Submitted to Management Science</b>	2025
	[20] Labor Cost Free-Riding in the Gig Economy   Z. Lian, S. Martin, G. van Ryzin <b>Major revision, Management Science</b> <i>INFORMS RMP (Revenue Management and Pricing) Student Paper Award Finalist, 2021</i>	2025

[19] Trading Flexibility for adoption: Dynamic versus static walking in ridesharing | J. Yan, S. Martin, S. Taylor  
**Management Science** 2025

[18] Detours in Shared Rides | I. Lobel, S. Martin  
**Management Science** 2025

[17] Two-Sided Flexibility in Platforms | D. Freund, S. Martin, J. (K.) Zhao  
**Submitted to Operations Research** 2024  
*MIT ORC Best Student Paper Award, 2024*

[16] Human-AI Interactions and Societal Pitfalls | F. Castro, J. Gao, S. Martin  
**Working Paper (to be submitted to Operations Research)** 2024  
*Accepted in EC 2024. Featured in the Wall Street Journal & MIT Technology Review.*

[15] Dual-sourcing of capacity | S. Chopra, P. Mishra, K. Smilowitz  
**Submitted to MSOM** 2024

[14] Relative Monte Carlo for Reinforcement Learning | A. Bazerghi, S. Martin, G. van Ryzin  
**Working Paper** 2024

[13] Value of Sharing in Robots-as-a-Service Operations | A. Jacquillat, S. Martin, K. Zhang  
**To be resubmitted to Management Science** 2024

[12] Employees versus Contractors: An Operational Perspective. | I. Lobel, S. Martin, H. Song  
**Manufacturing & Service Operations Management (Frontiers in Operations)** 2024

[11] Autonomous Vehicles in Ride-Hailing and the Threat of Spatial Inequalities | F. Castro, J. Gao, S. Martin  
**Working Paper** 2024

[10] A Better Match for Everyone: Reinforcement Learning at Lyft | S. Martin and 10+ Lyft collaborators  
**INFORMS Journal on Applied Analytics** 2024  
*2023 Franz Edelman Award Laureate*

[9] Supply Prioritization in Hybrid Marketplaces | F. Castro, J. Gao, S. Martin  
**Working Paper** 2022

[8] Real-Time Rideshare Driver Supply Values using Online Reinforcement Learning | B.Han, H. Lee, S. Martin  
**KDD 2022 (Machine Learning Conference)** 2022

[7] Solving the ride-sharing productivity paradox: Priority dispatch and optimal priority sets | V. Krishnan, R. Iglesias, S. Martin, V. Pattabhiraman, S. Wang, G. van Ryzin  
**INFORMS Journal on Applied Analytics** 2022  
*Daniel H. Wagner Prize Finalist, 2022*

[6] Bus Routing Optimization Helps Boston Public Schools Design Better Policies | D. Bertsimas, A. Delarue, W. Eger, J. Hanlon, S. Martin  
**INFORMS Journal on Applied Analytics** 2020  
*2019 Franz Edelman Award Laureate*

[5] Optimizing schools' start time and bus routes | D. Bertsimas, A. Delarue, S. Martin  
**Proceedings of the National Academy of Science** 2019  
*Featured in the Wall Street Journal and the Boston Globe. MIT ORC Best Student Paper Award, 2018. Doing Good with Good OR INFORMS award, Second Place, 2019.*

[4] The Price of Interpretability | D. Bertsimas, A. Delarue, P. Jaillet, S. Martin  
**arXiv** 2019

[3] Travel Time Estimation in the Age of Big Data | D. Bertsimas, A. Delarue, P. Jaillet, S. Martin  
**Operations Research** 2019

[2] Online Vehicle Routing: The Edge of Optimization in Large-Scale Applications | D.  
Bertsimas, P. Jaillet, S. Martin  
**Operations Research** 2019  
*Best Presentation (2018 LIDS conference)*

[1] Creating complex congestion patterns via multi-objective optimal freeway traffic control with  
application to cyber-security | J. Reilly, M. Payer, A. Bayen  
**Transportation Research Part B** 2016

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RECOGNITIONS **INFORMS Journal on Computing Meritorious Reviewer Award** | INFORMS 2025  
*For my service as a reviewer for INFORMS Journal on Computing.*

**Chair Core Course Teaching Award** | Kellogg School of Management, Northwestern University  
*For "teaching excellence" in Kellogg's core course Operations Management* 2024

**Transportation Science Meritorious Service Award** | INFORMS TSL Society 2024  
*For my service as a reviewer for the journal Transportation Science.*

**Best Student Paper Award** | MIT ORC 2024  
*For my paper "Two-Sided Flexibility in Platforms", the student is my co-author Kamessi Zhao.*

**Franz Edelman Award Laureate (with Lyft)** | INFORMS 2023  
*Most important award for applied operations research, for my work on reinforcement learning with Lyft.*

**Daniel H. Wagner Prize Finalist** | INFORMS 2022  
*Award for "strong mathematics applied to practical problems", for my work on platform equilibrium optimization with Lyft.*

**RMP Student Paper Award Finalist** | INFORMS 2021  
*Award for the best student paper in revenue management and pricing for my paper on labor cost free-riding in the gig economy. The student was Zhen Lian.*

**George B. Dantzig Dissertation Award** | INFORMS 2019  
*For my PhD dissertation. The George B. Dantzig Award is given for the best dissertation in any area of operations research and the management sciences that is innovative and relevant to practice.*

**TSL dissertation prize** | INFORMS Transportation Science and Logistics Society 2019  
*For my PhD dissertation. Oldest dissertation INFORMS prize, in the general area of transportation science and logistics.*

**Franz Edelman Award Laureate (with Boston Public Schools)** | INFORMS 2019  
*Most important award for applied operations research, for my work on bus routing optimization with Boston Public Schools.*

**Doing Good with Good OR award, Second Place** | INFORMS 2019  
*For my paper "optimizing schools' start time and bus routes".*

**Best Student Paper Award** | MIT ORC 2018  
*For my paper "optimizing schools' start time and bus routes".*

**Best Presentation** | LIDS 2018  
*For my paper "Online Vehicle Routing: The Edge of Optimization in Large-Scale Applications".*

**Boston Public Schools Transportation Challenge Winner** | Boston Public Schools 2017  
*Winner of a \$30,000 contest to optimize school bus routes and school schedules.*

**Zodiac Aerospace – Gerondeau Innovation Prize** | Zodiac Aerospace & Ecole Polytechnique  
*Won a €10,000 prize for most innovative start-up, using machine learning to build a smart bicycle that automatically shifts gears.* 2013

**French Medal of National Defense, Bronze level** | France 2012  
*I received this French military honor for my cumulated time in external operations during my year of service as a military firefighter.*

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LANGUAGES      English (*Fluent*) , French (*Native speaker*) , Spanish (*Intermediate*)