

Sébastien Martin, Associate Professor

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Links: Personal Website | Google Scholar | LinkedIn | Github

Last Updated: 2026-03

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	Massachusetts Institute of Technology Cambridge, MA, USA Ph.D. - Operations Research	2014 — 2019
	Ecole Polytechnique Palaiseau, France B.Sc. & M.Sc. - Applied Mathematics	2011 — 2015

ACADEMIC APPOINTMENTS	Northwestern University - Kellogg Evanston, IL, USA Associate Professor of Operations <i>I teach the MBA course "AI Foundations for Managers, AgentOps".</i>	2025-09 — Current
	Manufacturing & Service Operations Management (MSOM) Associate Editor, AI Department	2026-03 — Current
	Transportation Science Associate Editor	2024-10 — Current
	Northwestern University - Kellogg Evanston, IL, USA Assistant Professor of Operations <i>I taught the Operations Management core course in the MBA program.</i>	2020 — 2025-09
	Lyft, Inc. New York City, NY, USA Postdoctoral Fellow <i>I worked with the Marketplace Innovation Lab to improve dispatch algorithms.</i>	2019 — 2020
	UC Berkeley Berkeley, CA, USA Visiting Researcher	2014-04 — 2014-08

INDUSTRY AND ADVISORY	ESAB Corporation (NYSE: ESAB) North Bethesda, Maryland, U.S. Board Member <i>Member of the Board of Directors, providing strategic oversight with a focus on innovation, AI adoption, and operational excellence. ESAB is a global leader in fabrication and gas control technology (\$3B revenue, 10,000 employees).</i>	2026-01 — Current
	ESAB Corporation (NYSE: ESAB) North Bethesda, Maryland, U.S. AI advisor to the CEO <i>I served as a strategic advisor to ESAB, working with executive leadership to develop the company's AI strategy, establish its AI steering committee, and train the workforce on leveraging AI agents for innovation and productivity.</i>	2025 — 2025-12
	Google 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 (> 100Gb).</i>	2016-06 — 2016-08

PUBLICATIONS

*Only publicly available papers, in decreasing order of latest update. The current publication status is highlighted in **bold**.*

- [24] [The Value of a Little Flexibility in Stable Matching](#) | D. Freund, S. Martin, J. (K.) Zhao
Working Paper 2026
- [23] [AI homework increases student satisfaction: A field experiment at the Kellogg School of Management](#) | R. Bray, S. Martin
Major revision, INFORMS Transactions on Education 2026
- [22] [Human-AI Interactions and Societal Pitfalls](#) | F. Castro, J. Gao, S. Martin
Major revision, MSOM 2025
Accepted in EC 2024. Featured in the Wall Street Journal & MIT Technology Review.
- [21] [Value of Sharing in Routing-Scheduling Operations](#) | A. Jacquillat, S. Martin, K. Zhang
Major revision, Management Science 2025
- [20] [Two-Sided Flexibility in Platforms](#) | D. Freund, S. Martin, J. (K.) Zhao
Major revision, Operations Research 2025
MIT ORC Best Student Paper Award, 2024
- [19] [Algorithmic Precision and Human Decision: A Study of Interactive Optimization for School Schedules](#) | A. Delarue, Z. Lian, S. Martin
Management Science 2025
Accepted in EC 2024, semi-finalist if the 2024 Wagner Prize.
- [18] [The Trap of Complexity in Experimentation](#) | Y. Huang, S. Martin, Z. Qin
Working Paper 2025
- [17] [Labor Cost Free-Riding in the Gig Economy](#) | Z. Lian, S. Martin, G. van Ryzin
Major revision, Management Science 2025
INFORMS RMP (Revenue Management and Pricing) Student Paper Award Finalist, 2021
- [16] [Trading Flexibility for adoption: Dynamic versus static walking in ridesharing](#) | J. Yan, S. Martin, S. Taylor
Management Science 2025
- [15] [Detours in Shared Rides](#) | I. Lobel, S. Martin
Management Science 2025
- [14] [Dual-sourcing of capacity](#) | S. Chopra, P. Mishra, K. Smilowitz
Working Paper 2025
- [13] [Relative Monte Carlo for Reinforcement Learning](#) | A. Bazerghi, S. Martin, G. van Ryzin
Submitted to Management Science 2026
- [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 2023

[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 2020

[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

RECOGNITIONS

INFORMS Journal on Computing Meritorious Reviewer Award | INFORMS 2026
For my service as a reviewer for INFORMS Journal on Computing in 2025.

Poets and Quants Best 40 Under 40 MBA Professors | Poets and Quants 2025
Awarded to 40 best business school professors under 40 years old every year

INFORMS Journal on Computing Meritorious Reviewer Award | INFORMS 2025
For my service as a reviewer for INFORMS Journal on Computing in 2024.

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

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

Distinguished Service Award, Operations Research | INFORMS, Operations Research Journal 2024
For "extraordinary reviewer work for the journal".

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
<i>Most important award for applied operations research, for my work on reinforcement learning with Lyft.</i>	
Daniel H. Wagner Prize Finalist INFORMS	2022
<i>Award for "strong mathematics applied to practical problems", for my work on platform equilibrium optimization with Lyft.</i>	
RMP Student Paper Award Finalist INFORMS	2021
<i>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.</i>	
George B. Dantzig Dissertation Award INFORMS	2019
<i>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.</i>	
TSL dissertation prize INFORMS Transportation Science and Logistics Society	2019
<i>For my PhD dissertation. Oldest dissertation INFORMS prize, in the general area of transportation science and logistics.</i>	
Franz Edelman Award Laureate (with Boston Public Schools) INFORMS	2019
<i>Most important award for applied operations research, for my work on bus routing optimization with Boston Public Schools.</i>	
Doing Good with Good OR award, Second Place INFORMS	2019
<i>For my paper "optimizing schools' start time and bus routes".</i>	
Best Student Paper Award MIT ORC	2018
<i>For my paper "optimizing schools' start time and bus routes".</i>	
Best Presentation LIDS	2018
<i>For my paper "Online Vehicle Routing: The Edge of Optimization in Large-Scale Applications".</i>	
Boston Public Schools Transportation Challenge Winner Boston Public Schools	2017
<i>Winner of a \$30,000 contest to optimize school bus routes and school schedules.</i>	
Zodiac Aerospace – Gerondeau Innovation Prize Zodiac Aerospace & Ecole Polytechnique	2013
<i>Won a €10,000 prize for most innovative start-up, using machine learning to build a smart bicycle that automatically shifts gears.</i>	
French Medal of National Defense, Bronze level France	2012
<i>I received this French military honor for my cumulated time in external operations during my year of service as a military firefighter.</i>	

PRESS

Podcast: AI & Fintech — Fintech Frontlines by FinTech @ Kellogg Spotify	2026
<i>Interview on AI trends in fintech, covering data privacy, credit scoring, and agentic commerce.</i>	
Teaching with AI — Talk at Kellogg All Hands Meeting YouTube	2026
<i>Talk on teaching with AI at the Kellogg School of Management, January 27, 2026.</i>	
Building AI foundations for the future Kellogg News	2026
<i>About my AIML 901 course.</i>	
Say Hello to Your New AI Study Buddy Kellogg Insight	2026
<i>Co-authored with Robert Bray, about our AI homework research.</i>	

ESAB Appoints Dr. Sébastien Martin to Board; Announces Retirement of Director Patrick Allender ESAB Corporation	2025
<i>Press release announcing my appointment to ESAB's Board and Audit Committee.</i>	
AI Is Teaching the Next Generation of M.B.A.s the Classic Case Study Wall Street Journal	2025
<i>Coverage of the first AI case I created for Kellogg.</i>	
Sure, AI Can Automate. But How Can You Use It to Innovate? Kellogg Insight	2025
<i>On using domain expertise and experimentation to build AI case studies.</i>	
No Code, No Problem: Kellogg Says Its New AI Course Is Built For Every MBA Poets & Quants	2025
<i>About the launch of AIML 901 across five departments.</i>	
2025 Best 40 Under 40 MBA Professors: Sébastien Martin Poets & Quants	2025
<i>Recognized among Poets & Quants' 40 Under 40 MBA professors.</i>	
The Hidden Costs of Successful Experiments Kellogg Insight	2025
<i>Explores pitfalls when scaling positive experiment results.</i>	
Does Generative AI Impose a Creativity Tax? MIT Sloan Management Review	2024
<i>Article on creativity trade-offs in generative AI collaboration.</i>	
Podcast: When AI Becomes a TA Kellogg Insight	2024
<i>Podcast conversation about AI teaching assistants.</i>	
If AI Gives You Bad Answers, Tell It to Do Better Wall Street Journal	2024
<i>Discussed research on improving chatbot responses via feedback.</i>	
Human-AI Interactions and Societal Pitfalls Montreal AI Ethics Institute	2024
<i>Essay on the societal risks of human-AI collaboration.</i>	
The Big Trade-off at the Heart of Generative AI Kellogg Insight	2023
<i>Reprinted in Fortune China, Exame, América Economia, and World Economic Forum.</i>	
Podcast: Using AI Comes with a Trade-off. Now Multiply That by 8 Billion. Kellogg Insight	2023
<i>Podcast episode on systemic consequences of widespread AI adoption.</i>	
AI from AI: a Future of Generic and Biased Online Content? UCLA Anderson Review	2023
<i>Interview on risks of AI-generated online content.</i>	
At Their Best, Self-Learning Algorithms Can Be a “Win-Win-Win” Kellogg Insight	2023
<i>Highlights benefits of self-learning algorithms when aligned with stakeholders.</i>	
Podcast: What One School District’s Fiasco Says About the Strengths and Limits of AI Kellogg Insight	2022
<i>Podcast episode on lessons from school district AI deployment.</i>	
Building an O.R. framework to drive school district policies ORMS Today	2022
<i>Feature on operations research for equitable school schedules.</i>	
I helped design the 2021-22 school schedule changes in San Francisco SFUSD	2021
<i>Includes project site schoolbelltimes.org.</i>	
2 Ways to Improve Rideshares for Drivers and Customers Kellogg Insight	2021
<i>Strategies to reduce rideshare costs, emissions, and pickup times.</i>	

Researchers Designed an Algorithm to Save Schools Money and Improve Equity. The District Loved it. Then Things Got Messy.	Kellogg Insight	2020
<i>Case study on implementation challenges in school transportation optimization.</i>		
The Equity Machine	The Boston Globe	2018
<i>Interactive feature on Boston Public Schools bus routing.</i>		
What the Boston School Bus Schedule Can Teach Us About AI	Wired	2018
<i>Story on AI-informed scheduling in Boston.</i>		
A School Bus Trip to the Crossroads of Policy and Optimization	SIAM News	2017
<i>Profile of optimization work for school buses.</i>		
2 MIT Engineers Use Math To Plot A Path For Boston's School Buses	WBUR	2017
<i>Radio coverage on redesigning Boston bus routes.</i>		
How Do You Fix a School-Bus Problem? Call MIT	Wall Street Journal	2017
<i>Feature on the Boston bus scheduling project.</i>		

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