Sébastien Martin, Associate Professor

sebastien.martin@kellogg.northwestern.edu | +1 (510) 229-2758 | Evanston, Illinois, US

Links: Personal Website | Google Scholar | LinkedIn | Github

Last Updated: 2026-02

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.

EDUCATION

Massachusetts Institute of Technology | Cambridge, MA, USA — 2014 — 2019
Ph.D. - Operations Research

Ecole Polytechnique | Palaiseau, France — 2011 — 2015
B.Sc. & M.Sc. - Applied Mathematics

ACADEMIC APPOINTMENTS

Northwestern University - Kellogg | Evanston, IL, USA — 2025-09 — Current
Associate Professor of Operations
I teach the MBA course "AI Foundations for Managers, AgentOps".

Northwestern University - Kellogg | Evanston, IL, USA — 2020 — 2025-09
Assistant Professor of Operations
I taught the Operations Management core course in the MBA program.

Lyft, Inc. | New York City, NY, USA — 2019 — 2020
Postdoctoral Fellow
I worked with the Marketplace Innovation Lab to improve dispatch algorithms.

UC Berkeley | Berkeley, CA, USA — 2014-04 — 2014-08
Visiting Researcher

INDUSTRY AND ADVISORY

ESAB Corporation | North Bethesda, Maryland, U.S. — 2026-01 — Current
Board Member
Member of the Board of Directors, providing strategic oversight with a focus on innovation, AI adoption, and operational excellence.

ESAB Corporation | North Bethesda, Maryland, U.S. — 2025 — 2025-12
AI advisor to the CEO
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.

Google | Mountain View, CA, USA — 2016-06 — 2016-08
Software Engineering Intern
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).

PUBLICATIONS

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

[23] AI homework increases student satisfaction: A field experiment at the Kellogg School of Management | R. Bray, S. Martin
Submitted to INFORMS Transactions on Education — 2025

[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 Robots-as-a-Service 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
Submitted to Management Science   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
Submitted to MSOM   2024

[13] Relative Monte Carlo for Reinforcement Learning | A. Bazerghi, S. Martin, G. van Ryzin
Working Paper   2025

[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

| RECOGNITIONS | **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.

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.

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

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   2013
bicycle that automatically shifts gears.*

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.

PRESS   **Building AI foundations for the future** | Kellogg News   2026
About my AIML 901 course.

Say Hello to Your New AI Study Buddy | Kellogg Insight   2026
Co-authored with Robert Bray, about our AI homework research.

ESAB Appoints Dr. Sébastien Martin to Board; Announces Retirement of Director Patrick Allender | ESAB Corporation   2025
Press release announcing my appointment to ESAB's Board and Audit Committee.

AI Is Teaching the Next Generation of M.B.A.s the Classic Case Study | Wall Street Journal
Coverage of the first AI case I created for Kellogg.   2025

Sure, AI Can Automate. But How Can You Use It to Innovate? | Kellogg Insight   2025
On using domain expertise and experimentation to build AI case studies.

No Code, No Problem: Kellogg Says Its New AI Course Is Built For Every MBA | Poets & Quants   2025
About the launch of AIML 901 across five departments.

2025 Best 40 Under 40 MBA Professors: Sébastien Martin | Poets & Quants   2025
Recognized among Poets & Quants' 40 Under 40 MBA professors.

The Hidden Costs of Successful Experiments | Kellogg Insight   2025
Explores pitfalls when scaling positive experiment results.

Does Generative AI Impose a Creativity Tax? | MIT Sloan Management Review   2024
Article on creativity trade-offs in generative AI collaboration.

Podcast: When AI Becomes a TA | Kellogg Insight   2024
Podcast conversation about AI teaching assistants.

If AI Gives You Bad Answers, Tell It to Do Better | Wall Street Journal   2024
Discussed research on improving chatbot responses via feedback.

Human-AI Interactions and Societal Pitfalls | Montreal AI Ethics Institute   2024
Essay on the societal risks of human-AI collaboration.

The Big Trade-off at the Heart of Generative AI | Kellogg Insight   2023
Reprinted in Fortune China, Exame, América Economia, and World Economic Forum.

Podcast: Using AI Comes with a Trade-off. Now Multiply That by 8 Billion. | Kellogg Insight
Podcast episode on systemic consequences of widespread AI adoption.   2023

AI from AI: a Future of Generic and Biased Online Content? | UCLA Anderson Review 2023
Interview on risks of AI-generated online content.

At Their Best, Self-Learning Algorithms Can Be a "Win-Win-Win" | Kellogg Insight   2023
Highlights benefits of self-learning algorithms when aligned with stakeholders.

Podcast: What One School District's Fiasco Says About the Strengths and Limits of AI |
Kellogg Insight   2022
Podcast episode on lessons from school district AI deployment.

Building an O.R. framework to drive school district policies | ORMS Today   2022
Feature on operations research for equitable school schedules.

I helped design the 2021-22 school schedule changes in San Francisco | SFUSD   2021
Includes project site schoolbelltimes.org.

2 Ways to Improve Rideshares for Drivers and Customers | Kellogg Insight   2021
Strategies to reduce rideshare costs, emissions, and pickup times.

**Researchers Designed an Algorithm to Save Schools Money and Improve Equity. The District
Loved it. Then Things Got Messy.** | Kellogg Insight   2020
Case study on implementation challenges in school transportation optimization.

The Equity Machine | The Boston Globe   2018
Interactive feature on Boston Public Schools bus routing.

What the Boston School Bus Schedule Can Teach Us About AI | Wired   2018
Story on AI-informed scheduling in Boston.

A School Bus Trip to the Crossroads of Policy and Optimization | SIAM News   2017
Profile of optimization work for school buses.

2 MIT Engineers Use Math To Plot A Path For Boston's School Buses | WBUR   2017
Radio coverage on redesigning Boston bus routes.

How Do You Fix a School-Bus Problem? Call MIT | Wall Street Journal   2017
Feature on the Boston bus scheduling project.

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