

Sébastien Martin, Assistant Professor

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Links: [Personal Website](#) | [Google Scholar](#) | [LinkedIn](#) | [Github](#)

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SUMMARY	I am an assistant 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 Ph.D. - Operations Research	2014 — 2019
	Ecole Polytechnique Palaiseau, France B.Sc. & M.Sc. - Applied Mathematics	2011 — 2015
WORK	Northwestern University - Kellogg Evanston, IL, USA Assistant Professor of Operations <i>I teach the Operations Management core course in the MBA program.</i>	2020 — Present
	Lyft, Inc. New York City, NY, USA Postdoctoral Fellow <i>I worked with the Marketplace Innovation Lab to improve dispatch algorithms.</i>	2019 — 2020
	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
	UC Berkeley Berkeley, CA, USA Visiting Researcher	2014-04 — 2014-08
PUBLICATIONS	<i>Only publicly available papers, in decreasing order of latest update. The current publication status is highlighted in bold.</i>	
	[21] Two-Sided Flexibility in Platforms D. Freund, S. Martin, J. (K.) Zhao Submitted to Operations Research <i>MIT ORC Best Student Paper Award, 2024</i>	2024
	[20] Human-AI Interactions and Societal Pitfalls F. Castro, J. Gao, S. Martin Working Paper (to be submitted to Operations Research) <i>Accepted in EC 2024. Featured in the Wall Street Journal & MIT Technology Review.</i>	2024
	[19] Dual-sourcing of capacity S. Chopra, P. Mishra, K. Smilowitz Submitted to MSOM	2024
	[18] Algorithmic Precision and Human Decision: A Study of Interactive Optimization for School Schedules A. Delarue, Z. Lian, S. Martin Minor Revision at Management Science <i>Accepted in EC 2024, semi-finalist of the 2024 Wagner Prize.</i>	2024
	[17] Relative Monte Carlo for Reinforcement Learning A. Bazerghi, S. Martin, G. van Ryzin Working Paper	2024
	[16] Trading Flexibility for adoption: Dynamic versus static walking in ridesharing J. Yan, S. Martin, S. Taylor Management Science	2024
	[15] Value of Sharing in Robots-as-a-Service Operations A. Jacquillat, S. Martin, K. Zhang To be resubmitted to Management Science	2024
	[14] Employees versus Contractors: An Operational Perspective. I. Lobel, S. Martin, H. Song Manufacturing & Service Operations Management (Frontiers in Operations)	2024
	[13] Detours in Shared Rides I. Lobel, S. Martin Management Science	2024
	[12] Autonomous Vehicles in Ride-Hailing and the Threat of Spatial Inequalities F. Castro, J. Gao, S. Martin Working Paper	2024
	[11] A Better Match for Everyone: Reinforcement Learning at Lyft S. Martin and 10+ Lyft collaborators INFORMS Journal on Applied Analytics <i>2023 Franz Edelman Award Laureate</i>	2024
	[10] Labor Cost Free-Riding in the Gig Economy Z. Lian, S. Martin, G. van Ryzin Major revision, Management Science <i>INFORMS RMP (Revenue Management and Pricing) Student Paper Award Finalist, 2021</i>	2023
	[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 <i>Daniel H. Wagner Prize Finalist, 2022</i>	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 <i>2019 Franz Edelman Award Laureate</i>	2020
	[5] Optimizing schools' start time and bus routes D. Bertsimas, A. Delarue, S. Martin Proceedings of the National Academy of Science <i>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.</i>	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 <i>Best Presentation (2018 LIDS conference)</i>	2019
	[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	Chair Core Course Teaching Award Kellogg School of Management, Northwestern University <i>For "teaching excellence" in Kellogg's core course Operations Management</i>	2024
	Transportation Science Meritorious Service Award INFORMS TSL Society <i>For my service as a reviewer for the journal Transportation Science.</i>	2024
	Best Student Paper Award MIT ORC <i>For my paper "Two-Sided Flexibility in Platforms", the student is my co-author Kamessi Zhao.</i>	2024
	Franz Edelman Award Laureate (with Lyft) INFORMS <i>Most important award for applied operations research, for my work on reinforcement learning with Lyft.</i>	2023
	Daniel H. Wagner Prize Finalist INFORMS <i>Award for "strong mathematics applied to practical problems", for my work on platform equilibrium optimization with Lyft.</i>	2022
	RMP Student Paper Award Finalist INFORMS <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>	2021
	George B. Dantzig Dissertation Award INFORMS <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>	2019
	TSL dissertation prize INFORMS Transportation Science and Logistics Society <i>For my PhD dissertation. Oldest dissertation INFORMS prize, in the general area of transportation science and logistics.</i>	2019
	Franz Edelman Award Laureate (with Boston Public Schools) INFORMS <i>Most important award for applied operations research, for my work on bus routing optimization with Boston Public Schools.</i>	2019
	Doing Good with Good OR award, Second Place INFORMS <i>For my paper "optimizing schools' start time and bus routes".</i>	2019
	Best Student Paper Award MIT ORC <i>For my paper "optimizing schools' start time and bus routes".</i>	2018
	Best Presentation LIDS <i>For my paper "Online Vehicle Routing: The Edge of Optimization in Large-Scale Applications".</i>	2018
	Boston Public Schools Transportation Challenge Winner Boston Public Schools <i>Winner of a \$30,000 contest to optimize school bus routes and school schedules.</i>	2017
	Zodiac Aerospace – Gerondeau Innovation Prize Zodiac Aerospace & Ecole Polytechnique <i>Won a €10,000 prize for most innovative start-up, using machine learning to build a smart bicycle that automatically shifts gears.</i>	2013
	French Medal of National Defense, Bronze level France <i>I received this French military honor for my cumulated time in external operations during my year of service as a military firefighter.</i>	2012
LANGUAGES	English (<i>Fluent</i>) , French (<i>Native speaker</i>) , Spanish (<i>Intermediate</i>)	
