

# Maxime C. Cohen

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My core expertise lies at the intersection of **data science** and **operations management**. I have worked on retail, ride-sharing, airline, sustainability, cloud computing, online advertising, peer-to-peer lending, and social networks. I have collaborated with many companies including Google, Waze, Oracle Retail, IBM Research, Via (ride-sharing), Spotify, Aldo Group, Couche-Tard/Circle K, Cargo, Staples as well as several retailers and startups.

## Education

- 2010 – 2015      **MIT**, Cambridge, MA  
Ph.D. in Operations Research - Operations Management Track - GPA: 5/5  
**Thesis:** Pricing for Retail, Social Networks, and Green Technologies
- 2006 – 2009      **Technion**, Haifa, Israel  
M.S. in Electrical Engineering - GPA: 96/100  
**Thesis:** Network Time Synchronization Using Decentralized Kalman Filtering
- 2002 – 2006      **Technion**, Haifa, Israel  
B.S. in Aerospace Engineering, Summa Cum Laude - GPA: 93.5/100 (top 2%)  
Courses in the EE Department - GPA: 98.1/100

## Current Positions

- 2019 –      **McGill University, BSRM and Desautels Faculty of Management**, Montreal, Canada  
Associate Professor of Retail Management and Operations Management (with tenure)
  - Co-Director of the McGill Retail Innovation Lab
  - Bensadoun Faculty Scholar
  - Associate Member, Electrical and Computer Engineering Department (by courtesy)
  - Member of CIRRELT - Research Center on Enterprise Networks, Logistics and Transportation
- 2020 –      **IVADO LABS**, Montreal, Canada  
Scientific Advisor in AI and Data Science
- 2018 –      **Conflict Analytics Lab and MyOpenCourt.org**, Canada  
Research in Data Science and AI
- 2017 –      **Turbodega, Cherre, Rebloc.io, Silverback.ai**, U.S., Canada, and Israel  
Member of Advisory Board
- 2017 –      **Sarona Ventures**, Tel Aviv, Israel  
Advisor

## Employment History

- 2019 – 2020      **Aldo Group**, Montreal, Canada  
Strategic Advisor in Pricing and Data Science
- 2018 –      **Google/Waze**, U.S. and Israel
  - 2018 – 2019: Advisor at Google (via Adecco) - Pricing and Incentives Lead at Waze
  - 2019 – present: Research Collaborator
- 2016 – 2019      **New York University, Stern School of Business**, New York, NY  
Assistant Professor of Technology, Operations, and Statistics
- 2015 – 2016      **Google AI, Research Team**, New York, NY  
Postdoctoral Research Scientist

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|-------------------------|--|
| 2012<br>(Summer)        | <b>IBM T. J. Watson Research Center</b> , Yorktown Heights, NY<br>Research Intern - Business Analytics and Math Sciences |
| 2012 & 2013<br>(Winter) | <b>Oracle Corporation</b> , Burlington, MA<br>Research Scientist Intern - Retail Global Business Unit                    |
| 2007 – 2011             | <b>Eurolaxo Ltd</b> , Israel<br>Co-Founder and Partner - Real Estate Investment Company                                  |
| 2009                    | <b>Matrix ABC Capital Markets Ltd</b> (merged into GHF group), Israel<br>High-Frequency Trader                           |

## Published and Accepted Papers

1. M. C. Cohen, R. Lobel, G. Perakis, "The Impact of Demand Uncertainty on Consumer Subsidies for Green Technology Adoption," **Management Science** 62(5):1235-1258, 2016
2. M. C. Cohen, Z. Leung, K. Panchamgam, G. Perakis, A. Smith, "The Impact of Linear Optimization on Promotion Planning," **Operations Research** 65(2):446-468, 2017
3. L. Baardman, M. C. Cohen, K. Panchamgam, G. Perakis, D. Segev, "Scheduling Promotion Vehicles to Boost Profits," **Management Science** 65(1):50-70, 2019
4. J. Chemama, M. C. Cohen, R. Lobel, G. Perakis, "Consumer Subsidies with a Strategic Supplier: Commitment vs. Flexibility," **Management Science** 65(2):681-713, 2019
5. M. C. Cohen, "Big Data and Service Operations," **Production and Operations Management** 27(9):1709-1723, 2018
6. M. C. Cohen, R. Lobel, G. Perakis, "Dynamic Pricing Through Data Sampling," **Production and Operations Management** 27(6):1074-1088, 2018
7. M. C. Cohen, P. Keller, V. Mirrokni, M. Zadimoghaddam, "Overcommitment in Cloud Services - Bin Packing with Chance Constraints," **Management Science** 65(7):3255-3271, 2019 and accepted to the 2017 ACM SIGMETRICS Conference
8. M. C. Cohen, P. Harsha, "Designing Price Incentives in a Network with Social Interactions," **Manufacturing & Service Operations Management** 22(2):292-309, 2020
9. M. C. Cohen, C. D. Guetta, K. Jiao, F. Provost, "Data-Driven Investment Strategies for Peer-to-Peer Lending," **Big Data** 6(3):191-213, 2018
10. M. C. Cohen, S. Gupta, J. J. Kalas, G. Perakis, "An Efficient Algorithm for Dynamic Pricing Using a Graphical Representation," **Production and Operations Management** 29(10):2326–2349, 2020
11. M. C. Cohen, I. Lobel, R. Paes Leme, "Feature-Based Dynamic Pricing," **Management Science** 66(11): 4921-4943, 2020 (**lead article**) and accepted to the 2016 ACM Conference on Economics & Computation
12. M. C. Cohen, G. Perakis, R. Pindyck, "A Simple Rule for Pricing with Limited Knowledge of Demand," Forthcoming in **Management Science** and accepted to the 2016 ACM Conference on Economics & Computation
13. M. C. Cohen, J. J. Kalas, G. Perakis, "Promotion Optimization for Multiple Items in Supermarkets," Forthcoming in **Management Science**

## Book and Book Chapter

L. Dubé, M. C. Cohen, N. Yang, B. Monla, eds. (2020), "Precision Retailing," University of Toronto Press, in progress

M. C. Cohen, G. Perakis, "Optimizing Promotions for Multiple Items in Supermarkets," Channel Strategies and Marketing Mix in a Connected World, (Eds.) S. Ray and S. Yin, Springer Series in Supply Chain Management 9, 2020

## Under Review and Working Papers

M. C. Cohen, M. D. Fiszer, B. J. Kim, "Frustration-Based Promotions: Field Experiments in Ride-Sharing," Minor Revision in **Management Science**

M. C. Cohen, K. Jiao, "The Impact of IPOs on Peer-to-Peer Lending Platforms," Major Revision in **Management Science**

M. C. Cohen, G. Perakis, C. Thraves, "Consumer Surplus Under Demand Uncertainty," Major Revision in **Production and Operations Management**

G. Allon, M. C. Cohen, W. P. Sinchaisri, "The Impact of Behavioral and Economic Drivers on Gig Economy Workers," Major Revision in **Manufacturing & Service Operations Management**

M. C. Cohen, D. Mitrofanov, "Lyft and Uber IPOs: Before and After," Major Revision in **Information Systems Research**

M. C. Cohen, R. Zhang, "Competition and Coopetition for Two-Sided Platforms," Major Revision in **Production and Operations Management**

M. C. Cohen, C. Fernandez, A. Ghose, "Empirical Analysis of Referrals in Ride-Sharing," Major Revision in **Information Systems Research**

M. C. Cohen, A. N. Elmachoub and X. Lei, "Price Discrimination with Fairness Constraints," Major Revision in **Management Science** and accepted for oral presentation at the 2020 Workshop on Mechanism Design for Social Good

D. Lopez Mateos, M. C. Cohen, N. Pyron, "Field Experiments (and the lack of thereof) for Testing Revenue Strategies in the Hospitality Industry," Under second round of review in **Cornell Hospitality Quarterly** (after Revise and Resubmit)

M. C. Cohen, A. Jacquillat, J. C. Serpa, "A Field Experiment on Airline Lead-in Fares," Under second round of review in **Management Science** (after Reject and Resubmit)

M. C. Cohen, A. Jacquillat, H. Song "Revisiting Bertrand Competition in the Face of Customer Heterogeneity and Price Discrimination," Submitted

M. C. Cohen, A. Desir, N. Korula, B. Sivan, "Best of Both Worlds Ad Contracts: Guaranteed Allocation and Price with Programmatic Efficiency," Submitted

M. C. Cohen, M. D. Fiszer, A. Ratzon, R. Sasson, "Incentivizing Commuters to Carpool: A Large Field Experiment with Waze," Submitted

M. C. Cohen, A. Ratzon, R. Sasson, "The Impact of High-Occupancy Vehicle Lanes on Commuters: Field Evidence," Submitted

M. C. Cohen, K. Jiao, R. Zhang, "Data Aggregation and Demand Prediction," Submitted

M. C. Cohen, G. Perakis, C. Thraves, "Competition and Externalities in Green Technology Adoption," Submitted

## **Practitioner and Conference Publications**

M. C. Cohen, S. Dahan, C. Rule "Conflict Analytics: When Data Science Meets Dispute Resolution," Forthcoming in **Management and Business Review**

L. Baardman, M. C. Cohen, K. Panchamgam, G. Perakis, "Upgrading Promotions Using Business Analytics," Forthcoming in **Management and Business Review**

S. Zhu, M. C. Cohen, S. Ray, "Frictionless Retail: Present and Future," Submitted

M. C. Cohen, I. Lobel, R. Paes Leme, "Ellipsoids for Contextual Dynamic Pricing," SIGecom Exchanges, vol. 15, no. 2, pp. 40-44, 2017

M. C. Cohen, N. Shimkin, "Decentralized algorithms for sequential network time synchronization," Proc. NETCOOP 2010 – 4<sup>th</sup> Workshop on Network Control and Optimization, 2010, pp. 97-104

## **Theses**

M. C. Cohen, "Pricing for Retail, Social Networks and Green Technologies," Ph.D. Thesis, Massachusetts Institute of Technology, 2015

M. C. Cohen, "Network Time Synchronization Using Decentralized Kalman Filtering," M.S. Thesis, Technion, 2009

## **Case Studies**

M. C. Cohen, C. D. Guetta, W. Xiao, "Supply Chain Coordination and Contracts in the Sharing Economy - a Case Study at Cargo," Columbia CaseWorks 180203, 2018. Available via Harvard Business Publishing

M. C. Cohen, G. Perakis, "Optimizing Promotions for Supermarkets Using Data Analytics," Published at thecasecentre.org, 2017

M. C. Cohen, W. Xiao, "Managing Champagne Inventory in a Liquor Store" (available upon request)

M. C. Cohen, C. D. Guetta, M. Reed, "Modern Retail Analytics: Data Visualization Using Tableau," Featured as a content piece on the Tableau Instructor Resource Page, 2020

M. C. Cohen, A. Sylvestre, A. Corbasson, J. Abbou, "Danone & Digitad: Building a Data-Driven Digital Marketing Strategy," 2020

## **Patents**

**US20170140414 A1** – "Computerized Promotion Price Scheduling Utilizing Multiple Product Demand Model" Published in 2017 and granted in 2020 (M. C. Cohen, J. J. Kalas, K. Panchamgam, G. Perakis)

**US20150081393 A1** – "Product Promotion Optimization System" Published in 2015 (M. C. Cohen, Z. Leung, K. Panchamgam, G. Perakis)

**US20150006267 A1** – “Designing Price Incentives in a Network with Social Interactions”  
Published in 2015 (M. C. Cohen, P. Harsha, M. Ettl)

**US20130275183 A1** – “Time-Dependent Product Pricing Optimizer”  
Published in 2013 (M. C. Cohen, K. Panchamgam, A. Vakhutinsky)

## Teaching Experience

- 2020 & 2021 **McGill University**, Montreal, Canada  
Mini MBA, Executive Institute, Marketing modules for Integrated Management Thinking and Executive Development Course (co-taught with Carl Boutet)
- 2020 & 2021 **McGill University**, Montreal, Canada  
Operations Management undergraduate core course (2 sections of 65 students). Evaluations: 4.9, 4.6 (out of 5)
- 2020 & 2021 **McGill University**, Montreal, Canada  
Revenue Management elective course for Master of Management in Analytics. Evaluation: 5/5
- 2020 & 2021 **McGill University**, Montreal, Canada  
Service Analytics elective course for Master of Management in Analytics. Evaluation: 4.7/5
- 2017 – 2019 **NYU Stern**, New York, NY  
Operations Management undergraduate core course (2 sections of 70 students each year). Evaluations: 6.6, 6.7, 6.5, 6.7 (out of 7), 4.8, 4.8 (out of 5)
- 2019 **NYU Stern**, New York, NY  
Operations in the Sharing Economy (doctoral course). Evaluation: 5/5
- 2016 **NYU Stern**, New York, NY  
Lecturer for “Applying Revenue Management: Optimization in Retail” – M.S. in Business Analytics program - 61 students
- 2013 & 2014 **MIT**, Cambridge, MA  
Instructor for “Data, Models and Decisions: Pre-Term” – MBA refresher - 93 students
- 2012 – 2013 **MIT**, Cambridge, MA  
TA for “Introduction to Operations Management” – Elective/core MBA course  
TA for “Introduction to Healthcare Delivery” – Elective MBA and Ph.D. course
- 2006 – 2009 **Technion**, Haifa, Israel  
TA for Random Signals, Control Systems, and Non-Linear Control Systems

## Students

### Ph.D. Students and Postdocs

Baek Jung Kim (2019) - Marketing Ph.D. student at NYU (advisors: M. Ishihara and V. Singh). First position: Assistant Professor of Marketing, UBC Sauder School of Business

Kevin Jiao (2019) - OM Ph.D. student at NYU. First position: FINRA, Data Scientist

Dmitry Mitrofanov (2020) - OM Ph.D. student at NYU (advisor: Srikanth Jagabathula). First position: Assistant Professor of Operations Management, Boston College Carroll School of Management

Moshe Unger (2021) - Postdoctoral fellow at NYU (main host: Alex Tuzhilin). First position: Assistant Professor of Technology and Information Management, Tel Aviv University  
Carlos Fernandez - IS Ph.D. student at NYU (advisor: Foster Provost). First position: Assistant Professor of Information Systems at HKUST  
Park Sinchaisri - OID Ph.D. student at Wharton (advisor: Gad Allon)  
Haotian Song - OM Ph.D. student at NYU (advisor: Wenqiang Xiao)  
Xiao Lei - IEOR Ph.D. student at Columbia University (advisor: Adam Elmachtoub)

### **M.S. and UG Students**

Weitao Lin (2018) - M.S. in Data Science at NYU. First Position: RBC Capital Markets, Data Scientist  
Marcos Galante (2018) - NYU UG Stern Honors. First Position: Goldman Sachs, Investment Banking  
Junge Zhang (2020) - M.S. in Data Science at NYU. First position: BOSS直聘, Algorithm Engineer  
Matthieu Reed (2020) - McGill UG Integrated Management Student Fellow. First Position: Gorilla Group, Business Analyst  
Selena Zhu (2020) - McGill UG Integrated Management Student Fellow. First Position: Lazard, Investment Banking Analyst  
Arthur Pentecoste (2020) - McGill MMA. First Position: BCG GAMMA, Data Scientist  
Paul-Emile Gras (2020) - McGill MMA

## **Professional Service**

### **Editorial Service**

Associate Editor for Management Science (2020-present)  
Senior Editor for Production and Operations Management (2017-present)  
Guest Associate Editor for M&SOM (2020-2021)  
Guest Associate Editor for Naval Research Logistics (2020-2021)  
Associate Editor for M&SOM Special Issue on Smart City Operations (2019-2020)  
Associate Editor for M&SOM Special Issue on Sharing Economy and Marketplaces (2018-2019)  
Associate Editor for NRL Special Issue on Service Operations (2018-2019)  
Advisor for Management and Business Review (2019-present)  
Program committee for ACM conference on Economics and Computation (2019)

### **Reviewer**

Management Science, Operations Research, Manufacturing & Service Operations Management, Production and Operations Management, The Review of Economics and Statistics, Naval Research Logistics, Management and Business Review, International Journal of Case Studies in Management, Networks, MSOM SIG (Service and iFORM), INFORMS Behavioral OM Best Paper Award, Hong Kong Research Grants Council, Canadian Mitacs Accelerate Research Program

### **University and Community Service**

Committee Member for “Capacités Technologiques du Commerce Numérique,” mandated by the Quebec Minister of Economy and Innovation (2020)  
Scale AI's Chairs evaluation committee (2021-2021)  
Co-founder and co-organizer of NYC Operations Day (2018-2019)  
INFORMS Revenue Management and Pricing cluster chair (2019)  
McGill ECE Capstone Advisor (2020-2021)  
McGill BSRM committee: hiring, UG major and Master, courses (2019-present)  
NYU Stern MSBA Capstone Faculty Advisor (2019-2020)

Co-organizer of McGill Annual Retail Summit (2019-2020)  
Advisory committee member for the Master of Management in Retailing at McGill (2020-2021)  
OM faculty recruitment committee member at NYU Stern (2018-2019)  
OM seminar coordinator at NYU Stern (2016-2019)  
OM Ph.D. program committee member at NYU Stern (2016-2019)  
Committee member of the New Frontiers in Research Fund (2019)  
Program committee for the INFORMS Revenue Management and Pricing Conference (2016)  
Session chair (INFORMS 2016-2020; POMS 2016, 2018)  
Student coordinator for the MIT ORC Seminar series (Spring 2013), Officer at the INFORMS student chapter at MIT (2010-2011)

## **Awards**

2020: POMS Wickham Skinner Early-Career Research Accomplishments Award  
2020: Honorable Mention in the POMS Service Operations Emerging Scholar Award  
2020: Finalist in the POMS College of Behavioral Operations Junior Scholar Paper Competition  
2020: M&SOM Meritorious Service Award  
2019: First Place in the Best OM Paper in Management Science Award  
2019: Finalist in the INFORMS Data Mining Section Best Paper Competition  
2019: Finalist in the INFORMS BOM Section Best Working Paper Competition  
2019: Best Paper Award in Operations and Supply Chain Management, Academy of Management  
2019: Honorable Mention in the ENRE Best Publication Award in Environment and Sustainability  
2019: Finalist in the INFORMS Case Competition  
2019: M&SOM Meritorious Service Award  
2018: M&SOM Meritorious Service Award  
2018: First Place in the Best Cluster Paper Award - INFORMS Service Science  
2018: Finalist in the M&SOM Student Paper Competition (student: Baek Jung Kim)  
2018: First Place in the INFORMS Case Competition  
2018: Best Technical Presentation, AGIFORS Annual Symposium  
2017: M&SOM Meritorious Service Award  
2017: Honorable mention in the Best Cluster Paper Award - INFORMS Service Science  
2016: INFORMS Revenue Management and Pricing Dissertation Award  
2016: First Place in the Best Cluster Paper Award - INFORMS Service Science  
2016: Finalist for the 2016 Service Science Section Student Paper Competition  
2015: Finalist in the INFORMS Revenue Management and Pricing Practice Award  
2015: First Place in the Best Student Paper POM Supply Chain  
2015: NEDSI Conference Best Application of Theory Award  
2014: First Place in the Best Student Paper - INFORMS Service Science  
2007: Winner of the Technion Creativity in Science and Technology competition  
2007: Best student project of the 47<sup>th</sup> Israel Annual Conference on Aerospace Sciences

## **Grants**

2020-2022: SSHRC Insight Development Grant: Using Data Science and Behavioral Analytics to Alleviate Traffic Congestion - \$67,152; Role: PI  
2020-2021: Mitacs Accelerate: Adapting Retail Practices to the Post-Pandemic - \$30,000; Role: Co-PI (with J. Clark)

2020-2022: IVADO Fundamental Research Project Grant: Retail Innovation Lab: Data Science for Socially Responsible Food Choices - \$221,000; Role: Co-PI (with S. Ray, J. Clark, A. Moon)  
 2020-2023: Fonds de Recherche du Québec – Société et Culture (FRQSC): Data-Driven Smart City Operations Management: A System Coupling Perspective - \$145,061; Co-Investigator (with W. Qi, M. Gendreau, X. Liu)  
 2020-2021: Internal Social Sciences and Humanities Development Grant - \$5,000  
 2019-2022: Bensadoun Faculty Scholar Award - \$60,000  
 2019: Cherre's Gift for Research Excellence: Applying Data Science to Real Estate - \$10,400, Role: PI  
 2019-2021: SSHRC New Frontiers Grant: AI-Tribunal for Small Claims: Building an Intelligent Dispute Resolution System - \$244,562, Role: Co-applicant (with S. Dahan, X. Zhu, J. Serpa, Y. Levin, J. Touboul)  
 2014-2015: UPS Ph.D. Fellowship (awarded to a single MIT Ph.D. student)  
 2013-2014: Martin's Fellowship for Sustainability  
 2011-2012: MIT Energy Initiative Fellowship  
 2006-2008: Technion Excellence Scholarship and Lady Davis Fellowship

## Seminars and Research Presentations

**2021:** UBC Sauder (scheduled)

**2020:** Aldo Group Advanced Analytics, Polytechnique Montreal and GERAD, Air Canada RM Seminar, HEC Montreal and CIRRELT, IVADO Labs, McGill Alumni Webcast, Lowes Canada, University of Science and Technology Beijing, Conseil Québécois du Commerce de Détail TAG, IVADO Reverse Pitch, Smart-City Operations and Analytics Conference, University of Toronto OM Seminar, INFORMS Annual Meeting

**2019:** Cornell Tech, Google Product Analytics, POMS Conference, Triennial Invitational Choice Symposium, INFORMS Annual Meeting, Microsoft Research Economics Seminar, Conflict Analytics Queens Law Seminar, Queen's University OM Seminar, DTL Quebec Retail Council of Canada, McGill Decision Neuroscience Seminar

**2018:** NYU OM Seminar, OMEGA Baruch College Seminar, Via Growth and Data Science Meeting, NYU IS Seminar, Fashion Retail Conference, Technion IE&M Seminar, Marketplace Innovation Workshop, RMP Conference, MSOM Service SIG and MSOM Conference, MIT OM Seminar, McGill Retail Seminar, UT Austin McCombs, Spotify Research and ML Seminar, INFORMS Annual Meeting

**2017:** University of Maryland, NYU OM Seminar, MSOM Conference, ACM SIGMETRICS, INFORMS Annual Meeting

**2016:** Google Cloud Analytics Seminar, RMP Conference, NYU Stern IOMS Colloquium, POMS Conference, Google Algorithms Seminar, ACM Conference on Economics and Computation, INFORMS Annual Meeting

**2015:** Cornell Johnson, Cornell ORIE, Duke Fuqua, UNC Chapel Hill, UT Dallas, Chicago Booth, NYU Stern, Boston College, Harvard Business School, Michigan Ross, Berkeley Haas, Stanford GSB, Yale SOM, Columbia DRO, CMU Tepper, UCLA Anderson, INSEAD, Cornell Tech, Google NYC, McGill, RMP Conference, NEDSI, MSOM Conference, ISMP, POMS Conference, INFORMS Annual Meeting

**2014:** Technion IE&M Seminar, UBC Sauder, Northwestern Kellogg, Cornell Big Data Workshop, MSOM Conference, Oracle Retail Seminar, MIT Sloan OM Seminar, INFORMS Annual Meeting

**2013:** MSOM Conference, INFORMS Annual Meeting

**2012:** ISMP, Optimization Seminar IBM Watson Research Center, MSOM Conference, POMS Conference, INFORMS Annual Meeting



2011: MIT Sloan OM Seminar, IBM Student Workshop on Smarter Cities, MIT Energy Research Conference, POMS Conference, INFORMS Annual Meeting

## **Languages, Computer Skills, and Personal**

Languages: French (native), English (fluent), Hebrew (fluent)

Programming languages: R, Python, MATLAB, C/C++, Maple, Gurobi/CPLEX/Julia, Tableau

Extracurricular activities: hiking, travelling, and sports: squash, soccer, tennis