

# Maxime C. Cohen

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My research lies at the intersection of data science and operations management. I am interested in applications such as retail, ride-sharing, airline, sustainability, cloud computing, online advertising, peer-to-peer lending, and social networks. I have collaborated on research and consulting projects with different companies including Google, Oracle Retail, IBM Research, Via (ride-sharing), Cargo, Staples as well as several startups.

## Employment

- 2016 - **New York University, Stern School of Business**, New York, NY  
Assistant Professor of Information, Operations, and Management Sciences  
Member of the Center for Business Analytics
- 2015 - 2016 **Google AI, Research Team**, New York, NY  
Postdoctoral Research Scientist  
Worked on developing mathematical models for pricing optimization in several applications: cloud computing, future contracts for online advertising, and Internet domain names
- 2012 (Summer) **IBM T. J. Watson Research Center**, Yorktown Heights, NY  
Research Intern - Business Analytics and Math Sciences  
Worked on improving pricing strategies by incorporating social and influence data. Proposed and implemented a practical formulation that allows efficient computation of the optimal pricing strategies while considering network and influence effects
- 2012 & 2013 (Winter) **Oracle Corporation**, Burlington, MA  
Research Scientist Intern - Retail Global Business Unit  
Analyzed and designed different methodologies to solve dynamic pricing optimization and promotion planning for retail environments. Implementation with actual clients' data
- 2009 **Matrix ABC Capital Markets Ltd** (merged into GHF group), Israel  
Trading of futures in the short-term interest rate European market (Euribor)
- 2007 - 2011 **Eurolaxo Ltd**, Israel  
Co-founder and Partner - Field: Private real estate investment company

## Education

- 2010 - 2015 **MIT**, Cambridge, MA  
Ph.D. in Operations Research - Operations Management track  
GPA: 5/5 - Thesis committee: Prof. Aharon Ben-Tal, Prof. Retsef Levi, and Prof. Georgia Perakis (chair)  
**Thesis Title:** Pricing for Retail, Social Networks, and Green Technologies
- 2006 - 2009 **Technion**, Israel Institute of Technology, Haifa, Israel  
M.S. in Electrical Engineering - GPA: 96/100 - Advisor: Prof. Nahum Shimkin  
**Thesis title:** Network Time Synchronization using Decentralized Kalman Filtering
- 2002 - 2006 **Technion**, Haifa, Israel  
B.Sc. in Aerospace Engineering, Summa Cum Laude - GPA: 93.5/100 (top 2%)  
Completion of several courses in the EE department - **GPA:** 98.1/100
- 2002 (Summer) **Harvard University**, Cambridge, MA  
High intermediate level intensive integrated skills English program

## 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," Forthcoming in **Management Science**
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," Forthcoming in **Management Science** (published online, January 2019) and accepted to the 2017 ACM SIGMETRICS Conference
8. M. C. Cohen, P. Harsha, "Designing Price Incentives in a Network with Social Interactions," Forthcoming in **M&SOM**
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

## Under Review and Working Papers

- M. C. Cohen, I. Lobel, R. Paes Leme, "Feature-Based Dynamic Pricing," Minor Revision in **Management Science** and accepted to the 2016 ACM Conference on Economics & Computation (EC)
- M. C. Cohen, M. D. Fiszer, B. J. Kim, "Frustration-Based Promotions: Field Experiments in Ride-Sharing," Major Revision in **Management Science**
- M. C. Cohen, G. Perakis, R. Pindyck, "Pricing with Limited Knowledge of Demand," 2<sup>nd</sup> Major Revision in **M&SOM** and accepted to the 2016 ACM Conference on Economics & Computation (EC)
- M. C. Cohen, J. J. Kalas, G. Perakis, "Optimizing Promotions for Multiple Items in Supermarkets," Major Revision in **Management Science**
- M. C. Cohen, R. Zhang, "Competition and Coopetition for Two-Sided Platforms," submitted, 2018
- M. C. Cohen, A. Jacquillat, J. C. Serpa, "A Field Experiment on Airline Lead-in Fares," submitted, 2018
- G. Allon, M. C. Cohen, W. P. Sinchaisri, "The Impact of Behavioral and Economic Drivers on Gig Economy Workers," submitted, 2018
- M. C. Cohen, K. Jiao, "The Impact of IPO on Peer-to-Peer Lending Platforms," submitted, 2019
- M. C. Cohen, G. Perakis, C. Thraves, "Consumer Surplus Under Demand Uncertainty," submitted, 2018

- M. C. Cohen, A. Desir, N. Korula, B. Sivan, "Allocation and Price Guarantees in an Uncertain Internet Advertising Market," working paper, 2018
- M. C. Cohen, S. Gupta, J. J. Kalas, G. Perakis, "An Efficient Algorithm for Dynamic Pricing using a Graphical Representation," working paper
- M. C. Cohen, G. Perakis, C. Thraves, "Competition and Externalities in Green Technology Adoption," working paper
- 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, Dec. 2010, pp. 97-104

## **Papers in Preparation**

- M. C. Cohen, C. Fernandez, A. Ghose, "Empirical Analysis of Referrals in Ride-Sharing"
- M. C. Cohen, A. Jacquillat, H. Song, "Revisiting Bertrand Competition in the Face of Quality Differentiation and Customer Heterogeneity"
- M. C. Cohen, B. J. Kim, "The Impact of Service Experience on Engagement: Empirical Evidence from Ride-Sharing"
- M. C. Cohen, A. Filippas, C. D. Guetta, "Reactivating Users in an Online Marketplace: Insights from Field Experiments"
- M. C. Cohen, G. Allon, W. P. Sinchaisri, "Structural Model of Gig Economy Workers"
- M. C. Cohen, K. Jiao, R. Zhang, "Clustering-Based Prediction Models"

## **Book Chapter and Theses**

- M. C. Cohen, G. Perakis, "Promotion Optimization in Retail," Channel Strategies and Marketing Mix in a Connected World, (Eds.) Saibal Ray and Shuya Yin, Springer, Forthcoming
- M. C. Cohen, "Pricing for Retail, Social Networks and Green Technologies," Ph.D. Thesis, Massachusetts Institute of Technology, Sept. 2015
- M. C. Cohen, "Network Time Synchronization Using Decentralized Kalman Filtering," M.S. Thesis, Technion, Oct. 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, April 2018. Taught at NYU and at Columbia. Available through Harvard Business Publishing
- M. C. Cohen, G. Perakis, "Optimizing Promotions for Supermarkets Using Data Analytics," Taught at NYU and MIT and published at thecasecentre.org, March 2017
- M. C. Cohen, W. Xiao, "Managing Champagne Inventory in a Liquor Store," Taught at NYU

## Patents

**US20150081393 A1** – “Product Promotion Optimization System”

Published in March 2015 (M. C. Cohen, Z. Leung, K. Panchamgam, G. Perakis)

**US20150006267 A1** – “Designing Price Incentives in a Network with Social Interactions”

Published in January 2015 (M. C. Cohen, P. Harsha, M. Ettl)

**US20130275183 A1** – “Time-Dependent Product Pricing Optimizer”

Published in October 2013 (M. C. Cohen, K. Panchamgam, A. Vakhutinsky)

**US20170140414 A1** – “Computerized Promotion Price Scheduling Utilizing Multiple Product Demand Model” - Published in May 2017 (M. C. Cohen, J. J. Kalas, K. Panchamgam, G. Perakis)

## Teaching Experience

- 2017 - 2019     **NYU Stern**, New York, NY  
Operations Management undergraduate core course (2 sections of 70 students each year).  
Teaching evaluations: 6.6, 6.7, 6.5, 6.7 (out of 7)
- 2019            **NYU Stern**, New York, NY  
Operations in the Sharing Economy (doctoral course)
- 2016            **NYU Stern**, New York, NY  
Lecturer for “**Applying Revenue Management: Optimization in Retail**” – Master of Science  
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 in the U.S: Market & System Challenges**” –  
Elective MBA and PhD course
- 2006 - 2009   **Technion**, Haifa, Israel  
TA for Random Signals, Control Systems, and Non-Linear Control Systems

## Students

Baek Jung Kim (2019) - Marketing Ph.D. student at NYU (main 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

Haotian Song - OM Ph.D. student at NYU (co-advisor: Wenqiang Xiao)

Park Sinchaisri - OID Ph.D. student at Wharton (main advisor: Gad Allon)

Carlos Fernandez - IS Ph.D. student at NYU (co-advisor: Anindya Ghose)

Weitao Lin (2018) - M.S. in Data Science at NYU. First Position: RBC Capital Markets, Data Scientist

Marcos Galante (2018) - Senior at NYU, Stern Honors Program. First Position: Goldman Sachs, Investment Banking

Junge Zhang (2020) - M.S. in Data Science at NYU

Thesis committee member for: Dmitry Mitrofanov (OM Ph.D. student at NYU)

## Professional Service

Senior editor for Production and Operations Management (2017-present)  
Guest 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)  
Co-founder and co-organizer of NYC Operations Day (2018-2019)  
INFORMS Revenue Management and Pricing cluster chair (2019)  
Program committee for ACM conference on Economics and Computation (2019)  
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)  
Reviewer for Management Science, Operations Research, M&SOM, Production and Operations Management, NRL, Networks, M&SOM SIG, INFORMS Behavioral OM Best Paper Award  
Reviewer for Hong Kong research grants council (2017-2018)  
Reviewer for the Canadian Mitacs accelerate research program (2018-2019)  
Program committee for the INFORMS Revenue Management and Pricing Conference (2016)  
Session chair (INFORMS 2016-2019; POMS 2016, 2018)  
Student coordinator for the MIT ORC Seminar series (Spring 2013), Officer at the INFORMS student chapter at MIT (2010-2011)

## Awards

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  
2015: Finalist in the INFORMS Revenue Management and Pricing Practice Award  
2015: First Place in the Best Student Paper POM Supply Chain  
2015: 2015 NEDSI Conference Best Application of Theory Award  
2014: First Place in the Best Student Paper - INFORMS Service Science  
2014-2015: UPS PhD 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  
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  
2002-2006: Technion Presidential Honors in 5 out of 8 semesters & Dean Honors in 2 semesters

## Seminars and Research Presentations

**2019:** POMS Conference (scheduled), Triennial Invitational Choice Symposium (scheduled), INFORMS Annual Meeting (scheduled)

**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, M&SOM Service SIG and M&SOM 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, M&SOM 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, M&SOM Conference, ISMP, POMS Conference, INFORMS Annual Meeting

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

**2013:** M&SOM Conference, INFORMS Annual Meeting

**2012:** ISMP, Optimization Seminar IBM Watson Research Center, M&SOM 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, MATLAB, Python, Maple, C/C++, Gurobi/CPLEX/Julia

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

Citizenship: France and U.S. permanent resident