

Maxime C. Cohen

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My research lies at the intersection of data analytics and operations management. More specifically, I am interested in pricing applications such as retail, ride-sharing, sustainability, cloud computing, online advertising, and social networks. I have collaborated on research and consulting projects with different companies including Google, Oracle Retail, IBM Research, Accenture, Via (ride sharing), 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 Research**, 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 and marketing strategies by incorporating social and influence data. Proposed and implemented a practical formulation that allows efficient computation of the optimal pricing strategies while taking into account 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
PhD in Operations Research - Operations Management track
GPA: 5/5 - Thesis committee: Prof. Aharon Ben-Tal, Prof. Georgia Perakis (chair), and Prof. Retsef Levi
Thesis Title: *Pricing for Retail, Social Networks and Green Technologies*
- 2006 - 2009 **Technion**, Israel Institute of Technology, Haifa, Israel
MS in Electrical Engineering - GPA: 96/100 - Advisor: Prof. Nahum Shimkin
Thesis title: *Network Time Synchronization using Decentralized Kalman Filtering*
- 2002 - 2006 **Technion**, Haifa, Israel
BSc. 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

M. Cohen, R. Lobel, G. Perakis, "*The Impact of Demand Uncertainty on Consumer Subsidies for Green Technology Adoption*", **Management Science** 62(5):1235-1258, 2016

M. Cohen, Z. Leung, K. Panchamgam, G. Perakis, A. Smith, "*The Impact of Linear Optimization on Promotion Planning*", **Operations Research**, 65(2):446-468, 2017

J. Chemama, M. Cohen, R. Lobel, G. Perakis, "*Consumer Subsidies with a Strategic Supplier: Commitment vs. Flexibility*", Forthcoming in **Management Science**

L. Baardman, M. Cohen, K. Panchamgam, G. Perakis, D. Segev, "*Scheduling Promotion Vehicles to Boost Profits*", Forthcoming in **Management Science**

M. Cohen, "*Big Data and Service Operations*", Forthcoming in **Production and Operations Management**

M. Cohen, R. Lobel, G. Perakis, "*Dynamic Pricing Through Data Sampling*", Forthcoming in **Production and Operations Management**

M. Cohen, P. Keller, V. Mirrokni, M. Zadimoghaddam, "*Overcommitment in Cloud Services - Bin packing with Chance Constraints*", Forthcoming in **Management Science**

Under Review and Working Papers

M. Cohen, I. Lobel, R. Paes Leme, "*Feature-based Dynamic Pricing*", Major Revision in Management Science (2nd round)

M. Cohen, P. Harsha, "*Designing Price-Incentives in a Network with Social Interactions*", Major Revision in M&SOM

M. Cohen, G. Perakis, R. Pindyck, "*Pricing with Limited Knowledge of Demand*", Major Revision in M&SOM

M. Cohen, J. Kalas, G. Perakis, "*Optimizing Promotions for Multiple Items in Supermarkets*", Major Revision in Management Science, 2017

M. Cohen, A. Desir, N. Korula, B. Sivan, "*Design of Futures Contract for Risk Averse Internet Advertisers*", soon to be re-submitted, 2018

M. Cohen, M. Fiszer, B. J. Kim, "*Frustration-Based Promotions: Field Experiments in Ride-Sharing*", submitted, 2018

M. Cohen, R. Zhang, "*Coopetition and Profit Sharing for Ride-sharing Platforms*", submitted, 2018

M. Cohen, A. Jacquillat, "*Matching or Not Matching? Strategic Pricing in a Competitive Airline Environment*", working paper, 2017

M. Cohen, G. Perakis, C. Thraves, "*A Unifying Framework for Consumer Surplus under Demand Uncertainty*", soon to be re-submitted, 2018

M. Cohen, S. Gupta, J. Kalas, K. Panchamgam, G. Perakis, "*An Efficient Algorithm for Dynamic Pricing using a Graphical Representation*", submitted

M. Cohen, G. Perakis, C. Thraves, "Competition and Externalities in Green Technology Adoption", working paper, 2017

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

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

Case Studies

M. Cohen, G. Perakis, "Optimizing Promotions for Supermarkets Using Data Analytics", Taught at NYU Stern and MIT Sloan and published at thecasecentre.org, March 2017

M. Cohen, W. Xiao, "Managing Champagne Inventory in a Liquor Store", Taught at NYU Stern

M. Cohen, 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 Stern and Columbia Business School

Patents

US20150081393 A1 – "Product promotion optimization system"
Published in March 2015 (M. Cohen, Z. Leung, K. Panchamgam, G. Perakis)

US20150006267 A1 - "Designing Price Incentives in a Network with Social Interactions"
Published in January 2015 (M. Cohen, P. Harsha, M. Ettl)

US20130275183 A1 – "Time-dependent Product Pricing Optimizer"
Published in October 2013 (M. Cohen, A. Vakhutinsky, K. Panchamgam)

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

Teaching Experience

- 2017 & 2018 (Spring) **NYU Stern**, New York, NY
Operations Management core course (undergraduate) - 131 students
- 2016 (Spring) **NYU Stern**, New York, NY
Lecturer for "**Applying Revenue Management: Optimization in Retail**" – Master of Science in Business Analytics program - 61 students
- 2013 & 2014 (Summer) **MIT**, Cambridge, MA
Instructor for "**Data, Models and Decisions: Pre-Term**" – MBA math refresher course. Sole instructor for 93 students
- 2013 (Fall) **MIT**, Cambridge, MA
TA for "**Introduction to Healthcare Delivery in the U.S: Market & System Challenges**" – Elective MBA and PhD course
- 2012 (Fall) **MIT**, Cambridge, MA
TA for "**Introduction to Operations Management**" – Elective/core MBA course

2006 – 2009 **Technion**, Haifa, Israel
TA for 3 different undergraduate/graduate level courses: *Random Signals, Control Systems* and *Non-Linear Control Systems*

Students

Kevin Jiao - OM PhD Student at NYU Stern
Baek Jung Kim - Marketing PhD Student at NYU Stern (main advisors: M. Ishihara and V. Singh)
Park Sinchaisri - OID PhD Student at Wharton (main advisor: Gad Allon)
Carlos Fernandez - IS PhD Student at NYU Stern (co-advisor: Anindya Ghose)
Weitao Lin - MS in Data Science at NYU
Marcos Galante - Senior at NYU Stern, Stern Honors Program
Thesis committee member for: Dmitry Mitrofanov (OM PhD Student at NYU Stern)

Professional Service

OM Seminar Coordinator at NYU Stern (2016-present)
Co-organizer of the first-ever annual New York City Operations Day (2018)
Senior Editor for Production and Operations Management (2017-present)
Reviewer for Management Science, Operations Research, M&SOM, Production and Operations Management, NRL, Networks, M&SOM SIG Conference
Reviewer for Hong Kong Research Grants Council (2017 and 2018)
Program Committee for the INFORMS Revenue Management and Pricing Conference (2016)
Session Chair (INFORMS 2016, 2017, and 2018, POMS 2016 and 2018)
Student Coordinator for the MIT ORC Seminar series (Spring 2013), Officer at the INFORMS student chapter at MIT (2010-2011)

Honors and Awards

2017: M&SOM Meritorious Service Award
2017: Honorable mention in the Best Cluster Paper Award - INFORMS Service Science Section
2016: INFORMS Revenue Management and Pricing Section Dissertation Award
2016: First Place in the Best Cluster Paper Award - INFORMS Service Science Section
2015: Finalist in the INFORMS Revenue Management and Pricing Section Practice Award
2015: First Place in the Best Student Paper POM Supply Chain Section
2015: Best Application of Theory award from the 2015 NEDSI Conference
2014: First Place in the Best Student Paper - INFORMS Service Science Section
2014-2015: UPS PhD Fellowship (awarded to a single MIT PhD 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 47th *Israel Annual Conference on Aerospace Sciences*
2002-2006: Technion Presidential Honors in 5 out of 8 semesters & Dean Honors in 2 semesters

Research Presentations

- M. Cohen, M. Fiszer, B. J. Kim, "*Frustration-Based Promotions: Field Experiments in Ride-Sharing*", (NYU OM Seminar; NYU IS Seminar; OMEGA Seminar at Baruch College, CUNY; Fashion Retail Conference, McGill University; Technion IE&M Seminar)
- M. Cohen, R. Zhang, "*Coopetition and Profit Sharing for Ride-sharing Platforms*", (University of Maryland, 2017; NYU Stern OM Seminar, 2017; INFORMS 2017)
- M. Cohen, A. Jacquillat, "*Matching or Not Matching? Strategic Pricing in a Competitive Airline Environment*", (MSOM 2017; INFORMS 2017)
- M. Cohen, P. Keller, V. Mirrokni, M. Zadimoghaddam, "*Overcommitment in Cloud Services - Bin packing with Chance Constraints*", (ACM SIGMETRICS 2017, Google Cloud Analytics Seminar 2016; RMP 2016; INFORMS 2016, NYU Stern IOMS Colloquium 2016, ISMP 2018)
- M. Cohen, I. Lobel, R. Paes Leme, "*Feature-based Dynamic Pricing*", (POMS 2016; Google Algorithms Seminar 2016; ACM conference on Economics and Computation 2016)
- M. Cohen, G. Perakis, R. Pindyck, "*Pricing without Knowledge of Demand*", (RMP 2015; MSOM 2015; INFORMS 2015; ACM conference on Economics and Computation 2016)
- L. Baardman, M. Cohen, K. Panchamgam, G. Perakis, D. Degev, "*Scheduling Promotion Vehicles to Boost Revenues: A Provably-Good Analytical Approach*", (ISMP 2015; INFORMS 2015)
- M. Cohen, Z. Leung, J. Kalas, K. Panchamgam, G. Perakis, A. Smith, "*When Data Analytics Meets Promotion Pricing*", 2014–2015 (Technion; UBC Sauder; Northwestern Kellogg; 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)
- M. Cohen, Z. Leung, K. Panchamgam, G. Perakis, A. Smith, "*Optimization models and insights for promotion planning*", (Big Data Workshop, Cornell, Ithaca, October 2014; MSOM and INFORMS 2014, Oracle Retail Seminar October 2014, MIT Sloan OM Seminar November 2014; NEDSI 2015; RMP 2015)
- M. Cohen, S. Gupta, K. Panchamgam, G. Perakis, A. Smith, "*When Dynamic Pricing Meets Graph Theory*", (MSOM 2014 & 2015; RMP 2015; INFORMS 2014 & 2015)
- M. Cohen, G. Perakis, C. Thraves, "*Competition and Externalities in Green Technology Adoption*", (MSOM 2013 & 2014; INFORMS 2014; POMS 2015)
- M. Cohen, Z. Leung, K. Panchamgam, G. Perakis, A. Smith, "*The Impact of Linear Optimization on Promotion Planning*", (MSOM 2013; INFORMS 2013 & 2014)
- M. Cohen, R. Lobel, G. Perakis, "*Designing Consumer Subsidies for Green Technology Adoption*", (Aug. 2012, ISMP, Berlin Germany; June 2012, MSOM, Columbia University, NY; April 2012, POMS, Chicago IL; March 2012, OM seminar series, Sloan, MIT; Dec. 2011, *Student Workshop on Smarter Cities*, IBM T. J. Watson Research Center, Hawthorne NY; Nov. 2011, INFORMS, Charlotte NC; Oct. 2011, MIT Energy Research Conference, Cambridge MA)

J. Chemama, M. Cohen, R. Lobel, G. Perakis, "Designing *Subsidies with Industry Response Dynamics: Commitment vs. Flexibility*", (Oct 2012, INFORMS, Phoenix AZ; June 2012, MSOM, Columbia University, NY; April 2012, POMS, Chicago IL, MSOM 2013 & 2014)

M. Cohen, P. Harsha, "Designing *Price-Incentives in a Network with Social Interactions*", (Optimization Seminar, IBM T. J. Watson Research Center, Yorktown Heights NY; MSOM, INSEAD, Fontainebleau, June 2013; INFORMS, Minneapolis, Oct 2013)

M. Cohen, Z. Leung, K. Panchangam, G. Perakis, A. Vakhutinsky, "Multi-Period *Price Optimization for Grocery Retailers*", (INFORMS, Phoenix AZ, Oct 2012)

Languages, Computer Skills and Personal

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

Programming languages: R, Matlab, Maple, C/C++, Gurobi/CPLEX/Julia

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

Citizenship: France and US permanent resident