

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, sustainability, cloud computing, online advertising and social networks. I have collaborated on research projects with different companies including Oracle Retail, IBM Research, Accenture, British Airways and Google

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), 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

Publications and Working 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
- M. Cohen, Z. Leung, K. Panchamgam, G. Perakis, A. Smith, "*The Impact of Linear Optimization on Promotion Planning*", 3rd round R&R in *Operations Research*
- J. Chemama, M. Cohen, R. Lobel, G. Perakis, "*Consumer Subsidies with a Strategic Supplier: Commitment vs. Flexibility*", Minor revision in *Management Science*
- M. Cohen, P. Harsha, "*Designing Price-Incentives in a Network with Social Interactions*", submitted
- M. Cohen, G. Perakis, C. Thraves, "*Competition and Externalities in Green Technology Adoption*", submitted
- M. Cohen, I. Lobel, R. Paes Leme, "*Feature-based Dynamic Pricing*", R&R in *Management Science*
- M. Cohen, R. Lobel, G. Perakis, "*Dynamic Pricing Through Data Sampling*", R&R in *Production Operations Management*
- L. Baardman, M. Cohen, K. Panchamgam, G. Perakis, D. Segev, "*Scheduling Promotion Vehicles to Boost Profits*", soon to be submitted
- M. Cohen, G. Perakis, R. Pindyck, "*Pricing with Limited Knowledge of Demand*", submitted
- M. Cohen, S. Gupta, J. Kalas, K. Panchamgam, G. Perakis, "*An Efficient Algorithm for Dynamic Pricing using a Graphical Representation*", submitted
- M. Cohen, J. Kalas, K. Panchamgam, G. Perakis, "*Optimizing Promotions for Multiple Items in Supermarkets*", in progress
- M. Cohen, G. Perakis, C. Thraves, "*A Unifying Framework for Consumer Surplus under Demand Uncertainty*", in progress
- M. Cohen, P. Keller, V. Mirrokni, M. Zadimoghaddam, "*Overcommitment in Cloud Services - Bin packing with Chance Constraints*", submitted
- 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
- S. Tsach, L. Ankri, M. Cohen, Y. Ehrlich, T. Goldenberg, H. Levy, I. Regev, A. Vladimirovsky, A. Weider, Z. Yossef, "*Sunsailor: Solar Powered UAV*", Proc. 47th Israel Annual Conf. on Aerospace Sciences, Feb. 2007

Patents

- ORA130647-US-NP (104402.00657)** – "*Computationally Efficient and Near-optimal Mixed Integer Programming Approximation for a Nonlinear Time-dependent Single Product Promotion Optimization Problem*"
Filed in Sept .2013 (M. Cohen, Z. Leung, K. Panchamgam, G. Perakis)
- YOR 920130565-US2** - "*Designing Price Incentives in a Network with Social Interactions*"
Filed in Sept. 2013 (M. Cohen, P. Harsha, M. Ettl)

ORA120817-US-NP (104402.00564) – "Time-dependent Product Pricing Optimizer"
Filed in May 2012 (M. Cohen, A. Vakhutinsky, K. Panchamgam)

ORA160032-US-NP (14/942,225) – "Computerized Promotion Price Scheduling Utilizing Multiple Product Demand Model"
Filed in January 2016 (M. Cohen, J. Kalas, K. Panchamgam, G. Perakis)

Honors and Awards

2015: Finalist for 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

Teaching Experience

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. Responsibilities included: teaching lectures, preparing slides and designing a contest based on a case study

2013
(Fall) **MIT**, Cambridge, MA
TA for "**Introduction to Healthcare Delivery in the U.S: Market & System Challenges**" – Elective MBA and PhD course (30 students). Responsibilities included: class organization, reviewing multiple case analyses and guiding students' projects

2012
(Fall) **MIT**, Cambridge, MA
TA for "**Introduction to Operations Management**" – Elective/core MBA course (87 students). Responsibilities include: teaching weekly recitations, reviewing multiple case studies and managing simulation games

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

Research Presentations

- M. Cohen, P. Keller, V. Mirrokni, M. Zadimoghaddam, "*Overcommitment in Cloud Services - Bin packing with Chance Constraints*", (Google Cloud Analytics Seminar 2016; RMP 2016; INFORMS 2016)
- 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*", (RM&P 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)
- 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; RM&P 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. Panchamgam, 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: Matlab, Maple, C/C++, R, Gurobi/CPLEX/Julia

Leadership: Member of the MIT Electricity Student Group (2011-2012) and of the Consulting Club at MIT (2011-2012). Leader of the volunteering non-profit organization "*Dereh' Eretz Kadima*" (2006-2009)

Professional activities: Student Coordinator for the MIT ORC Seminar series (Spring 2013), Officer at the Informs student chapter at MIT (2010-2011). Reviewer for *Management Science*, *Operations Research*, *MSOM*, *POMS*, *NRL* and *Networks*

Citizenship: France

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