

JACOMO CORBO

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Operations and Information Management
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PERSONAL Born April 1979, citizen of Canada and Italy, fluent in English, French, Italian.

EDUCATION

- 2002 - June 2008 **Harvard University** Cambridge, MA, USA
School of Engineering and Applied Sciences
Ph.D. in Computer Science
Thesis: "Multiparty Large-Scale Network Formation: Economic Models and Mechanisms"
Advisor: Professor David C. Parkes, parkes@eecs.harvard.edu
S.M. in Applied Mathematics, 2003
- 1998 - 2002 **McGill University** Montreal, Canada
Dept. of Electrical and Computer Engineering
B.Eng. (Honours) in Electrical Engineering
Graduated *summa cum laude*
Thesis: "Hierarchical Supervisory Control of Multi-Agent Systems by Product Synthesis"
Advisor: Professor Peter C. Caines, peterc@cim.mcgill.ca
Minor in Philosophy

RESEARCH INTERESTS

- Areas
- R&D joint ventures, R&D portfolio investment
 - Innovation diffusion, Production adoption, Targeted marketing
 - Incomplete markets, Mechanism design

Industries Internet, IT, high technology, aerospace

ACADEMIC RESEARCH EXPERIENCE

- Sep 08 - Present **The Wharton School of Business, University of Pennsylvania** Philadelphia, PA, USA
Postdoctoral Research Fellow, Operations and Information Management Department
Leading research on targeted advertising, product adoption dynamics and diffusion under NSF Grant CNS-0721610.
- Sep 02 – Sep 08 **Harvard University** Cambridge, MA, USA
Research Assistant
Includes Ph.D. research, Ph.D. and Masters level coursework, research projects, aiding in the writing of grants, reviewing of papers.
- Jun - Aug 02 **Queens' University** Belfast, UK
Summer Research Intern
Derived and implemented general predictive controller and neural network-based plant model of turbo-generator system (in C).
- May – Sep 00 **McGill University** Montreal, Canada
Research Intern, NSERC Undergraduate Research Grant
Derived collaboration protocols for distributed supply chain management

INDUSTRY EXPERIENCE

- Jul 08 - Present **QuantumBlack LLP** London, UK & New York, USA
Founding Partner
Partner in consultancy specializing in the development of operational and strategic analytics.
- Jan 06 - Mar 08 **ING Renault F1 Team Ltd.** Oxford, UK
Chief Strategist
- Responsible for the preparation and real-time execution of race strategies, competitor and risk analysis, strategic analysis techniques, and led the design and development of real-time software.
 - **[Strategy]** Designed novel strategy optimization and risk assessment algorithms based on techniques from computational game theory, cumulative prospect theory, real options analysis.
 - **[Portfolio Management]** Developed algorithms for R&D portfolio selection using game-theoretic methods for **The Boeing Company's** advanced R&D unit, *Phantom Works*.
 - Initiated and heading an extensive strategic data mining project, overseeing a small team for the development of business logic and software infrastructure.
 - Responsible for critical real-time strategic decisions, traveled to 29 races in 18 countries since 2006, working closely with both race engineers at track and engineers in the UK, winner of 2006 FIA Constructors' and Drivers' Championships.
- May - Aug 01 **Robert BOSCH GmbH** Stuttgart, Germany
Research Intern
Led the design and implementation of a steer-by-wire simulator, worked closely with control area network developers, managed the project's development budget.
- Jun 97 - May 01 **WEBHedz Inc.** Montreal, Canada
Founder of Internet start-up specializing in affordable online database solutions.

TEACHING EXPERIENCE

- Harvard University** Cambridge, MA, USA
Teaching Assistant
Responsible for assigning and grading homework, creating and supervising projects, holding office hours, weekly tutorial sections, and occasional lectures. Excellent student evaluations available upon request.
- Spring 2007 CS 286r: Graduate Seminar on Electronic Market Design
Students rated overall: 4.6 / 5.0
- Fall 2004, 2005 CS 182: Artificial Intelligence: Reasoning and Planning
Students rated overall: 4.7 / 5.0 (2005), 4.5 / 5.0 (2004)
- Spring 2004, 2005 AM 115: Mathematical Modeling
Students rated overall: 4.8 / 5.0 (2005), 4.6 / 5.0 (2004)

HONOURS AND AWARDS

- 2005 Altran Engineering Academy Finalist, Altran Consulting, *2nd from 493 entries in 26 countries*
- 2004 - 2007 FCAR NATEQ Doctoral Scholarship, Harvard University
- 2002 - 2004 FCAR NATEQ Master's Scholarship, Harvard University
- 2004 Cambridge Science Foundation Graduate Fellowship, Harvard University
- 2002 NSERC Doctoral Scholarship, Harvard University, *declined*
- 2002 - present James Mills Pierce Scholarship, Harvard University
- 2000, 2001 NSERC Undergraduate Research Award, McGill University, *declined in 2001*
- 1998 - 2002 J.W. McConnell Full Scholarship, McGill University
- 1996 Canadian Governor-General's Medal, Loyola College

JOURNAL PUBLICATIONS

J. Corbo, A. Calvó-Armengol, D. C. Parkes. “A Study of the Nash Equilibrium in contribution games for peer-to-peer networks,” In *ACM SIGOPS Operating Systems Review* (40) 3, July 2006, pp.61-66.

CONFERENCE PROCEEDINGS

J. Corbo. “Product Adoption Dynamics in Networks,” The Association for Public Economic Theory (PET) 10th Annual Conference, Galway, Ireland, June 2009.

J. Corbo, S. Jain, M. Mitzenmacher, D. C. Parkes. “An Economically Principled Generative Model of the Internet Interdomain Graph,” In *Proceedings of IEEE INFOCOM*, Rio de Janeiro, Brazil, April 2009.

J. Corbo, D. C. Parkes. “Equilibria and Design in Local Strategic Substitute Games”, Workshop on Information Systems and Economics (WISE), Paris, France, December 2008.

J. Corbo, A. Calvó-Armengol, D. C. Parkes. “The Importance of Network Topology in Local Contribution Games,” In X. Deng and F. Chung Graham, editors, *Proceedings of the International Workshop on Internet and Network Economics (WINE)*, Lecture Notes in Computer Science (LNCS). Springer-Verlag, San Diego, California, USA, December 2007.

J. Corbo, S. Jain, M. Mitzenmacher, D. C. Parkes. “An Economically Principled Generative Model of AS Graph Connectivity,” In *Proceedings of the International Joint Workshop on The Economics of Networked Systems and Incentive-Based Computing*, San Diego, California, USA, June 2007.

J. Corbo, D. C. Parkes. “The Price of Selfish Behavior in Bilateral Network Formation,” In *Proceedings of the 24th ACM Symposium on Principles of Distributed Computing (PODC)*, Las Vegas, Nevada, USA, pp. 99-107, July 2005.

I. Romanovski, **J. Corbo**, P. Caines. “MAP View: An Analysis Tool for Multi-Agent Product Synthesized Hierarchical Supervisory Control,” In *Proceedings of the American Control Conference (ACC)*, Denver, Colorado, USA, 2003.

BOOK CHAPTERS

J. Corbo. “Industrial Applications of Game-Theoretic Modeling” *INFORMS Topics in Operations Research Book Series*, Forthcoming.

J. Corbo, T. Petermann. “Selfish Routing and Peering in the Internet,” In *Proceedings of the Santa Fe Institute School of Complexity Series*, vol. 14, pp. 141-147, Santa Fe, New Mexico, USA, August 2004.

WORKING PAPERS

J. Corbo, K. Hosanagar, R. Guerin. “Viral Marketing and Diffusion on Networks,” OPIM Working Paper, March 2009.

J. Corbo, Y. Vorobeychik. “The Effects of Quality and Price on Adoption Dynamics of Competing Technologies,” OPIM Working Paper, February 2009. *Submitted*.

J. Corbo, D. C. Parkes. “A Game-Theoretic Analysis of Race Strategy in F1: Lessons For the Real World,” Renault Technical Report Series 104921a, December 2007.

J. Corbo. “R&D Portfolio Selection as the Solution to a Strictly Competitive Game,” Renault Technical Report Series 104937, December 2007.

J. Corbo, S. Jain, M. Mitzenmacher, D. C. Parkes. “An Economically-Principled Model of the Internet Topology,” Harvard EECS Technical Report Series, TR-17-07, December 2007.

J. Corbo, A. Calvó-Armengol, D. C. Parkes. “Network Effects in Local Contribution Economies: Identification and Regulation,” UAB Working Paper Series 413, Universitat Autònoma de Barcelona, October 2007.

J. Corbo, A. Calvó-Armengol. “Investment Decisions in the Creation of Synergies: Lessons from Socio-Economic Networks,” UAB Working Paper Series 382, Universitat Autònoma de Barcelona, October 2007.

INVITED TALKS

“Product Adoption Dynamics in Networks,” *Special Session on Networks and Incomplete Information*, The Association for Public Economic Theory (PET) 10th Annual Conference, Galway, Ireland, June 2009.

“Equilibria and Design in Local Strategic Substitute Games”, Session on *Networks, Platforms and SaaS*, Workshop on Information Systems and Economics (WISE), Paris, France, December 2008.

“Network Effects in Local Contribution Economies: Identification and Regulation”, Roy-Adres Economic Theory Seminar, Paris School of Economics (PSE), Paris, France, October 2008.

“Discriminatory Pricing Strategies on Networks”, New York Computer Science and Economics (NYCE) Day, New York, USA, October 2008.

“The Optimality of Security-Level Strategies in Adversarial Settings”, *Session on Business Engineering: Risk-averse Decision Making Under Uncertainty*, INFORMS Annual Meeting, Washington DC, October 2008.

“R&D Joint Ventures: Contracting Lower Bounds on Investment to Avoid Moral Hazard”, *Session on Modeling and Computation in Business Engineering*, INFORMS Annual Meeting, Washington DC, October 2008.

“Multiparty Network Formation: Complex Structures and Dynamics”, New York University (NYU) Leonard N. Stern School of Business, New York, USA, April 2008.

“Multiparty Network Formation: Complex Structures, Dynamics, and Performance”, Technology and Operations Management Seminar, Harvard Business School, Cambridge, MA, USA, January 2008.

Strategy 2.0: Strategic Development in the Age of Uncertainty, SmithBayes / Financial Times, London, UK, November 2007.

“A Strategic Analysis of Strictly Competitive Games,” *ELSE Economics Seminar*, University College London, London, UK, November 2007.

“A Strategic Analysis of Strictly Competitive Games,” *Applied Mathematics Seminar Series*, Oxford University, Oxford, UK, August 2007.

“A Study of the Nash Equilibrium in Contribution Games for Peer-to-Peer Networks,” Universitat Autònoma de Barcelona, Barcelona, Spain, November 2006.

“The Price of Selfish Behaviour in Bilateral Network Formation,” *Control, Networks, Games Seminar Series*, McGill University, Montreal, Canada, May 2005.

“Selfish Routing and Peering in the Internet,” CSAIL, Massachusetts Institute of Technology, Cambridge, MA, USA, August 2004.

PROFESSIONAL ACTIVITIES

Co-Organizer of Digital Technologies, Management, and Innovations Track at International Conference on Electronic Commerce (ICEC), Taipei, Taiwan, August 2009.

Co-Organizer of Networks and Markets Tracks at the Association for Public Economic Theory Conference, Galway, Ireland, June 2009.

Program Committee Member : ACM Electronic Commerce (EC) 2009, International Conference on Electronic Commerce (ICEC) 2009, Public Economic Theory (PET) Conference 2009.

Reviewer: International Journal of Game Theory, Games and Economic Behavior, American Economic Review (AER), IEEE INFOCOM, ACM Electronic Commerce (EC), INFORMS Information Systems Research (ISR) Journal, Decision Support Systems (DSS) Journal, INFORMS Operations Research Journal, Workshop on Internet and Network Economics (WINE), Principles on Distributed Computing (PODC), Theoretical Computer Science (TCS), ACM SIGCOMM, NetEcon Workshop, IEEE JSAC, International Joint Conference on Artificial Intelligence (IJCAI), Autonomous Agents and Multi-Agent Systems (AAMAS), ACM-SIAM Symposium on Discrete Algorithms (SODA).

REFERENCES

Professor David C. Parkes

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