Ciamac C. Moallemi

Graduate School of Business
Columbia University
Henry R. Kravis Hall, Room 1196
665 West 130th Street
New York, NY 10027
USA

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Research Interests

Analysis, optimization, and control of stochastic systems; applications in financial engineering, market microstructure, quantitative and algorithmic trading, and blockchain technology.

Academic Appointments

2007–present **Columbia University, Graduate School of Business** New York, NY
Decision, Risk, & Operations Division.
2022–present *Director, Briger Family Digital Finance Lab.*
2020–present *William von Mueffling Professor of Business.*
2015–2020 *Associate Professor of Business (with tenure).*
2013–2015 *Barbara and Meyer Feldberg Associate Professor of Business.*
2011–2012 *Associate Professor.*
2008–2011 *Assistant Professor.*
2007 *Instructor.*

Academic Degrees

2003–2007 **Stanford University** Stanford, CA
Ph.D., Electrical Engineering, 2007
Advisor: Benjamin Van Roy
Dissertation Title: *A Message-Passing Paradigm for Optimization*

1996–1997 **University of Cambridge (King's College)** Cambridge, UK
Master of Advanced Study in Mathematics, With Distinction, 1997
(Part III of the Mathematical Tripos)

1991–1996 **Massachusetts Institute of Technology** Cambridge, MA
S.B., Mathematics, 1996
S.B., Electrical Engineering & Computer Science, 1996

Professional Experience

2021–present **Compass Lexecon Inc** Chicago, IL
Senior Consultant. Economic consulting.

2014–2022 **Bourbaki LLC** New York, NY
Managing Member. Developed quantitative trading strategies.

1999–2003 **NeoGenesis Pharmaceuticals, Inc** Cambridge, MA
Director, Scientific Computing. Founded the informatics group at NeoGenesis, a technology start-up in the area of small molecule drug discovery. Co-designed and developed the NeoGenesis Quantized Surface Complementarity Diversity (QSCD) model, a computational framework for post-genomic drug discovery. Managed a group of developers and scientists responsible for development and implementation of mathematical algorithms for chemical library design, experimental data analysis, and bioinformatics. Engineered a computational cluster consisting of 100+ nodes and associated infrastructure. Acquired by Schering-Plough Corp.

1993–1999 **Delta Global Trading, LP** Boston, MA

Partner. Managed a fixed-income relative value hedge fund with US$200 million in assets under management. Developed mathematical and computational models for identifying and exploiting economic mispricings in sovereign debt markets. Used stochastic models to trade a relative value arbitrage portfolio consisting of fixed income securities and associated derivatives in G10 and emerging markets. Series 3 licensed. Responsible for all software development efforts. Supervised a group of 13 including quantitative traders, software developers, and support staff.

Journal Papers [1]

[1] O. Besbes, J. M. Chaneton, and C. C. Moallemi. The exploration-exploitation tradeoff in the newsvendor problem. *Stochastic Systems*, 12(4):319–339, December 2022.

[2] C. Maglaras, C. C. Moallemi, and M. Wang. A deep learning approach to estimating fill probabilities in a limit order book. *Quantitative Finance*, 22(11):1989–2003, October 2022.

[3] S. Min, C. Maglaras, and C. C. Moallemi. Cross-sectional variation of intraday liquidity, cross-impact, and their effect on portfolio execution. *Operations Research*, 70(2):830–846, March 2022.

[4] C. C. Moallemi and M. Wang. A reinforcement learning approach to optimal execution. *Quantitative Finance*, 22(6):1051–1069, March 2022.

[5] G. Huberman, J. Leshno, and C. C. Moallemi. Monopoly without a monopolist: An economic analysis of the Bitcoin payment system. *The Review of Economic Studies*, 88(6):3011–3040, November 2021.

[6] C. Maglaras, C. C. Moallemi, and H. Zheng. Queueing dynamics and state space collapse in fragmented limit order book markets. *Operations Research*, 69(4):1324–1348, June 2021.
Honorable Mention, INFORMS Financial Services Section Student Research Paper Competition, 2012

[7] S. Min, C. Maglaras, and C. C. Moallemi. Thompson sampling with information relaxation penalties. *Management Science*, forthcoming, March 2021.

[8] N. Bhat, V. F. Farias, C. C. Moallemi, and D. Sinha. Near optimal A-B testing. *Management Science*, 66(10):4477–4495, October 2020.

[9] C. C. Moallemi, M. Sağlam, and M. Sotiropoulos. Short-term trading skill: An analysis of investor heterogeneity and execution quality. *Journal of Financial Markets*, 42:1–28, January 2019.

[10] C. C. Moallemi and M. Sağlam. Dynamic portfolio choice with linear rebalancing rules. *Journal of Financial and Quantitative Analysis*, 52(3):1247–1278, June 2017.

[11] P. Glasserman, C. C. Moallemi, and K. Yuan. Hidden illiquidity with multiple central counterparties. *Operations Research*, 64(5):1143–1158, September–October, 2016.

[12] M. Broadie, Y. Du, and C. C. Moallemi. Risk estimation via regression. *Operations Research*, 63(5):1077–1097, September–October, 2015.

[13] K. Iyer, R. Johari, and C. C. Moallemi. Information aggregation and allocative efficiency in smooth markets. *Management Science*, 60(10):2509–2524, July 2014.

[14] C. Chen, G. Iyengar, and C. C. Moallemi. An axiomatic approach to systemic risk. *Management Science*, 56(6):1373–1388, June 2013.
Honorable Mention, INFORMS George Nicholson Student Paper Competition, 2011

[15] C. C. Moallemi and M. Sağlam. The cost of latency in high-frequency trading. *Operations Research*, 61(5):1070–1086, September–October, 2013.
1st Place, INFORMS Financial Services Section Student Research Paper Competition, 2011
Selected for publication in the *Operations Research* Forum

[16] V. V. Desai, V. F. Farias, and C. C. Moallemi. Approximate dynamic programming via a smoothed linear program. *Operations Research*, 60(3):655–674, May–June, 2012.
1st Place, INFORMS Junior Faculty Paper Competition, 2011

[17] V. V. Desai, V. F. Farias, and C. C. Moallemi. Pathwise optimization for optimal stopping problems. *Management Science*, 58(12):2292–2308, December 2012.
Best Simulation Publication Award, INFORMS Simulation Society, 2014

[1] The standard convention in my area is that authorship is in alphabetical order.

[18] C. C. Moallemi, B. Park, and B. Van Roy. Strategic execution in the presence of an uninformed arbitrageur. *Journal of Financial Markets*, 15(4):361–391, January 2012.

[19] M. Broadie, Y. Du, and C. C. Moallemi. Efficient risk estimation via nested sequential simulation. *Management Science*, 57(6):1172–1194, June 2011.

[20] C. C. Moallemi and B. Van Roy. Resource allocation via message passing. *INFORMS Journal of Computing*, 23(2):205–219, Spring, 2011.

[21] V. F. Farias, C. C. Moallemi, B. Van Roy, and T. Weissman. Universal reinforcement learning. *IEEE Transactions on Information Theory*, 56(5):2441–2454, May 2010.

[22] C. C. Moallemi and B. Van Roy. Convergence of min-sum message passing for convex optimization. *IEEE Transactions on Information Theory*, 56(4):2041–2050, April 2010.

[23] C. C. Moallemi and B. Van Roy. Convergence of min-sum message passing for quadratic optimization. *IEEE Transactions on Information Theory*, 55(5):2413–2423, May 2009.

[24] C. C. Moallemi and B. Van Roy. Consensus propagation. *IEEE Transactions on Information Theory*, 52(11):4753–4766, November 2006.

[25] K. Mason, N. M. Patel, A. Ledell, C. C. Moallemi, and E. A. Wintner. Mapping protein pockets through their potential small-molecule binding volumes: QSCD applied to biological protein structures. *Journal of Computer-Aided Molecular Design*, 18(1):55–70, 2004.

[26] J. M. Johnson, K. Mason, C. C. Moallemi, H. Xi, S. Somaroo, and E. Huang. Protein family annotation in a multiple alignment viewer. *Bioinformatics*, 19(4):544–545, 2003.

[27] E. A. Wintner and C. C. Moallemi. Quantized Surface Complementarity Diversity (QSCD): A model based on small molecule-target complementarity. *Journal of Medicinal Chemistry*, 43(10):1993–2006, 2000.

[28] C. C. Moallemi. Neural networks in the computer analysis of voided urine cells for bladder cancer. *IEEE Expert*, 6(6):8–12, December 1991.

Working Papers

[1] J. Milionis, C. C. Moallemi, and T. Roughgarden. A Myersonian framework for optimal liquidity provision in automated market makers. Working paper. Initial version: 19 2022. Revised: February 2023.

[2] J. Milionis, C. C. Moallemi, T. Roughgarden, and A. L. Zhang. Automated market making and loss-versus-rebalancing. Working paper. Initial version: August 2022.

[3] C. C. Moallemi and U. Patange. Hybrid scheduling with mixed-integer programming at Columbia Business School. Working paper. Initial version: August 2022.

[4] V. F. Farias, C. C. Moallemi, T. Peng, and A. T. Zheng. Synthetically controlled bandits. Working paper. Initial version: February 2022. Revised: December 2022.

[5] S. Min, C. C. Moallemi, and C. Maglaras. Risk-sensitive optimal execution via a conditional value-at-risk objective. Working paper. Initial version: January 2022.

[6] S. Min, C. C. Moallemi, and D. J. Russo. Policy gradient optimization of Thompson sampling policies. Working paper. Initial version: June 2020. Revised: August 2022.

[7] C. C. Moallemi and K. Yuan. A model for queue position valuation in a limit order book. Working paper. Initial version: December 2016. Revised: June 2017.

[8] C. C. Moallemi and K. Yuan. Portfolio liquidity estimation and optimal execution. Working paper. Initial version: December 2016. Revised: August 2019.

[9] C. Maglaras, C. C. Moallemi, and H. Zheng. Optimal execution in a limit order book and an associated microstructure market impact model. Working paper. Initial version: May 2015.

[10] K. Iyer, R. Johari, and C. C. Moallemi. Welfare analysis of dark pools. Working paper. Initial version: October 2014. Revised: June 2018.

[11] C. Chen, G. Iyengar, and C. C. Moallemi. Asset price-based contagion models for systemic risk. Working paper. Initial version: October 2014.

[12] P. Collin-Dufresne, K. Daniel, C. C. Moallemi, and M. Sağlam. Strategic asset allocation with predictable returns and transaction costs. Working paper. Initial version: August 2013. Revised: June 2015.

[13] N. Bhat, V. F. Farias, C. C. Moallemi, and Andy T. Zheng. Non-parametric approximate dynamic programming via the kernel method. *Stochastic Systems*, forthcoming, October 2012.

[14] C. C. Moallemi and D. Shah. On the flow-level dynamics of a packet-switched network. Working paper. Initial version: November 2009. Revised: October 2012.

[15] C. C. Moallemi, S. Kumar, and B. Van Roy. Approximate and data-driven dynamic programming for queueing networks. Working paper. Initial version: December 2006. Revised: January 2013.

Conference Papers

[1] J. Milionis, C. C. Moallemi, T. Roughgarden, and A. L. Zhang. Quantifying loss in automated market making. In *DeFi'22: Proceedings of the 2022 ACM CCS Workshop on Decentralized Finance and Security*, pages 71–74, November 2022.

[2] G. Huberman, J. Leshno, and C. C. Moallemi. An economist's perspective on the Bitcoin payment system. In *American Economic Association Papers and Proceedings*, volume 109, pages 93–96, May 2019.

[3] S. Min, C. Maglaras, and C. C. Moallemi. Thompson sampling with information relaxation penalties. In *Advances in Neural Information Processing Systems 32*, pages 3549–3558, 2019.

[4] N. Bhat, V. F. Farias, and C. C. Moallemi. Non-parametric approximate dynamic programming via the kernel method. In *Advances in Neural Information Processing Systems 22*, pages 395–403, 2012.

[5] M. Broadie, Y. Du, and C. C. Moallemi. Risk estimation via weighted regression. In *Proceedings of the 2011 Winter Simulation Conference*, pages 3854–3865, December 2011.

[6] K. Iyer, R. Johari, and C. C. Moallemi. Information aggregation in smooth markets. In *EC '10: Proceedings of the 11th ACM Conference on Electronic Commerce*, pages 199–206, June 2010.

[7] C. C. Moallemi and D. Shah. On the flow-level dynamics of a packet-switched network. In *SIGMETRICS '10: Proceedings of the ACM SIGMETRICS International Conference on Measurement and Modeling of Computer Systems*, pages 83–94, June 2010.

[8] V. V. Desai, V. F. Farias, and C. C. Moallemi. A smoothed approximate linear program. In *Advances in Neural Information Processing Systems 22*, pages 459–467, 2009.

[9] C. C. Moallemi and B. Van Roy. Convergence of the min-sum algorithm for convex optimization. In *Proceedings of the 45th Allerton Conference on Communication, Control and Computing*, pages 840–847, Monticello, IL, September 2007.

[10] C. C. Moallemi and B. Van Roy. Consensus propagation. In *Advances in Neural Information Processing Systems 18*, pages 899–906. MIT Press, 2006.

[11] V. F. Farias, C. C. Moallemi, and B. Prabhakar. Load balancing with migration penalties. In *Proceedings of the IEEE International Symposium on Information Theory*, pages 558–562, Adelaide, Australia, September 2005.

[12] V. F. Farias, C. C. Moallemi, B. Van Roy, and T. Weissman. A universal scheme for learning. In *Proceedings of the IEEE International Symposium on Information Theory*, pages 1158–1162, Adelaide, Australia, September 2005.

[13] C. C. Moallemi and B. Van Roy. Distributed optimization in adaptive networks. In *Advances in Neural Information Processing Systems 16*, pages 887–894. MIT Press, 2004.

[14] C. C. Moallemi and B. Van Roy. Decentralized protocols for optimization of sensor networks. In *Proceedings of the 42nd Allerton Conference on Communication, Control and Computing*, Monticello, IL, September 2003.

Book Chapters

[1] V. V. Desai, V. F. Farias, and C. C. Moallemi. Bounds for Markov decision processes. In F. L. Lewis and D. Liu, editors, *Reinforcement Learning and Approximate Dynamic Programming for Feedback Control*, pages 452–473. IEEE Press, December 2012.

Other Publications

[1] R. Dewey and C. C. Moallemi. The unsolved mystery of the Medallion Fund's success. *Bloomberg Businessweek*, November 2019.

[2] G. Huberman, J. Leshno, and C. C. Moallemi. The economics of the Bitcoin payment system. *Vox EU*, December 2017.

[3] C. C. Moallemi. *A Message-Passing Paradigm for Optimization*. PhD thesis, Stanford University, September 2007.

Honors and Awards

- Sponsored Research Gift, J.P. Morgan, 2019 ($150,000)
- Dean's Award for Teaching Excellence in a Core Course, Columbia Business School, 2014
- Best Simulation Publication Award, INFORMS Simulation Society, 2014
- NSF Grant CMMI-1235023, 2012–2015 ($229,782; co-PI: Garud Iyengar)
  Title: *Optimization Based Methods for Systemic Risk Management*
- Meritorious Service Award, *Operations Research*, 2011, 2012
- 1st Place, INFORMS Junior Faculty Paper Competition, 2011
- Benchmark Stanford Graduate Fellowship, 2003–2006
- Marshall Scholarship, 1996–1997
- 5th Place, Westinghouse Science Talent Search, 1991

Professional Activities

- Member, INFORMS
- Member, Columbia Business School Program for Financial Studies
- Member, Columbia University Center for Financial Engineering
- Member, Columbia University Data Science Institute
- Member, Columbia University Center for Applied Probability
- Associate Editor, *Operations Research*, 2010–present
- Associate Editor, *Management Science*, 2012, 2015–present
- Guest Editor, Special Issue on FinTech, *Information Systems Research*, 2017–2018
- Associate Editor, *Operations Research Letters*, 2014–2015
- Council Member, INFORMS Applied Probability Society, 2011–2013
- Committee Member, INFORMS George Nicholson Student Paper Competition, 2013, 2014
- Technical Reviewer (Journals): *Management Science*, *Operations Research*, *Mathematics of Operations Research*, *Stochastic Systems*, *Quantitative Finance*, *SIAM Journal on Financial Mathematics*, *Mathematical Finance*, *Journal of Computational Finance*, *Journal of Financial Markets*, *Market Microstructure and Liquidity*, *Queueing Systems*, *European Journal of Operations Research*, *Computational Optimization and Applications*, *IIE Transactions*, *IEEE Trans. Information Theory*, *IEEE Trans. Signal Processing*, *IEEE Trans. Automatic Control*, *IEEE Trans. Wireless*, *Journal of Machine Learning Research*, *IEEE J. Selected Areas in Communications*, *Automatica*
- Technical Reviewer (Conferences): Winter Simulation Conference, IEEE ISIT, NIPS, IEEE Infocom, IEEE CDC, IJCAI, MSOM
- Technical Reviewer (Funding Agencies): National Science Foundation, Research Grants Council (Hong Kong)

Doctoral Students Supervised

[1] Vijay V. Desai (Ph.D. 2011, Columbia IEOR)
Thesis title: *Approximate Dynamic Programming for Large Scale Systems*
First position: SAS Institute

[2] Yiping Du (Ph.D. 2011, Columbia IEOR, co-advisor: Mark Broadie)
Thesis title: *Efficient Methods for Estimating Risk Measures*
First position: Barclays Capital

[3] Mehmet Sağlam (Ph.D. 2012, Columbia GSB)
Thesis title: *Dynamic Trading Strategies in the Presence of Market Frictions*
First position: Postdoctoral Associate, Bendheim Center for Finance, Princeton University

[4] Chen Chen (Ph.D. 2014, Columbia IEOR, co-advisor: Garud Iyengar)
Thesis title: *Theory of Systemic Risk*
First position: Assistant Professor, ShanghaiTech University

[5] Juan Chaneton (Ph.D. 2015, Columbia GSB, co-advisors: Omar Besbes & Garrett van Ryzin)
Thesis Title: *Decision Making with Coupled Learning: Applications in Inventory Management and Auctions*
First Position: Celect (acquired by Nike)

[6] Hua Zheng (Ph.D. 2015, Columbia GSB, co-advisor: Costis Maglaras)
Thesis Title: *Microstructure Analysis of Dynamic Markets: Limit Order Books and Dynamic Matching Markets*
First Position: J.P. Morgan

[7] Nikhil Bhat (Ph.D. 2015, Columbia GSB)
Thesis Title: *Tractable Algorithms for Sequential Decision Making Problems*
First Position: Airbnb

[8] Kai Yuan (Ph.D. 2017, Columbia GSB)
Thesis Title: *Essays on Liquidity Risk and Modern Market Microstructure*
First Position: Two Sigma Investments

[9] Seungki Min (Ph.D. 2021, Columbia GSB, co-advisor: Costis Maglaras)
Thesis Title: *Modern Dynamic Programming Approaches to Sequential Decision Making*
First Position: Assistant Professor, KAIST (Korea Advanced Institute of Science and Technology)

[10] Muye Wang (Ph.D. 2021, Columbia GSB, co-advisor: Costis Maglaras)
Thesis Title: *Essays on the Applications of Machine Learning in Financial Markets*
First Position: Two Sigma Securities

Invited Presentations

2022/10	Raposa Research
2022/09	Cornell Tech, Financial Data Science Seminar
2022/09	HAP Capital
2022/07	a16z Crypto Research
2022/03	Ai4 Finance Conference
2021/09	Columbia University, Dept of Statistics, Mathematical Finance Seminar
2021/06	SIAM Conference on Financial Mathematics & Engineering
2021/03	Lyft, Rideshare Labs
2020/05	TGS Management Company
2020/02	CFM-Imperial College Quantitative Finance Seminar
2019/10	Dartmouth Tuck School of Business
2019/09	SAMSI Blockchain Workshop
2019/08	UBS/Santa Fe Institute Machine Learning, Complexity, and Market Behavior Symposium
2019/06	SIAM Conference on Financial Mathematics & Engineering
2019/04	Engineers Gate LP
2019/01	Utah Winter Operations Management Conference
2018/11	Moody's, Innovation Speaker's Series
2018/08	Goldman Sachs, Equities Execution
2018/07	SIAM Annual Meeting, Mini-symposium on Financial Technology
2018/04	Simons Institute, Foundations of Data Science Workshop
2018/03	Columbia University, Program for Financial Studies
2018/02	Cornell Tech, Financial Engineering in Manhattan
2017/12	University of Cincinatti Lindner College of Business
2017/11	Columbia University, Applied Mathematics Department
2017/11	Columbia University, Graduate School of Business, Finance & Economics Division
2017/06	Clinton Group
2017/03	Symposium on High Frequency Trading, Carnegie Mellon University and University of Pittsburgh, Keynote Talk
2016/11	Stevens Institute, High Frequency Finance and Data Analytics Conference
2016/04	Columbia University, Graduate School of Business, Decision, Risk, & Operations Division
2016/01	Citadel LLC
2015/10	Deutsche Bank Annual Quantitative Strategy Conference
2015/10	Columbia-JAFEE Conference on Financial Mathematics and Statistics

2015/09	Manhattan College School of Business
2015/06	IMS-FIPS Workshop on on Probability and Statistics in Finance
2015/06	Market Innovation Workshop, Columbia University Center for Pricing and Revenue Management
2015/05	Federal Reserve Bank of New York, Financial Institution Supervision Group
2015/05	Kepos Capital
2015/04	Cornell University, Financial Engineering in Manhattan / Global Association of Risk Professionals
2015/03	USC Marshall School of Business
2015/03	IPAM Workshop on Systemic Risk and Financial Networks
2014/12	Institut Louis Bachelier Conference on Market Microstructure
2014/11	SIAM Conference on Financial Mathematics, Plenary Talk
2014/11	SIAM Conference on Financial Mathematics, Mini-symposium on Systemic Risk
2014/09	Newton Institute Workshop on Monitoring Systemic Risk
2014/07	Banff International Research Station, New Directions in Financial Mathematics Workshop
2014/06	London Business School
2014/06	University College London
2014/05	SIAM Conference on Optimization, Mini-symposium on Advances in Stochastic Dynamic Programming
2014/05	MIT, Operations Research Center
2014/03	International Association of Financial Engineers, Thalesians Seminar Series
2014/02	AQR Capital Management
2013/10	Stevens Institute, Modeling High Frequency Data in Finance Conference
2013/10	INFORMS Annual Conference, Tutorial Speaker
2013/05	University of Chicago, High-Frequency Trading Conference
2013/04	Syracuse University, Whitman School of Management, Finance Group
2013/04	Cornell University, School of Operations Research & Information Engineering
2013/02	Stanford University, Management Science & Engineering Dept
2012/12	Barclays Capital, Portfolio and Risk Research Group
2012/11	New York University, Stern School of Business, Operations Management Department
2012/10	Stanford University, Management Science & Engineering Dept, New Directions Lecture Series
2012/07	Stevens Institute, Modeling High Frequency Data in Finance Conference
2012/07	SIAM Conference on Financial Mathematics, Mini-symposium on Limit Order Books
2012/05	IMS Workshop on Probability and Statistics in Finance
2012/05	Two Sigma Investments LLC
2012/03	Goldman Sachs, Equity Strategy Group
2012/02	Pragma Trading Quantference
2011/12	University of Utah, Eccles School of Business, Finance Group
2011/10	Columbia University, High Frequency Trading and Market Microstructure Conference
2011/09	JP Morgan, Quantitative Research Group
2011/07	Stevens Institute, Modeling High Frequency Data in Finance Conference
2011/03	Duke University, Fuqua School of Business, Decision Sciences Group
2011/02	Carnegie Mellon University, Tepper School of Business, Operations Management Group
2011/01	Tata Institute for Fundamental Research
2010/12	National Bureau of Economic Research, Market Microstructure Group (discussant)
2010/11	Rutgers University, Mathematical Finance and Probability Seminar
2010/11	Stanford University, 2nd Stanford Conference in Quantitative Finance
2010/11	University of Texas Austin, McCombs School of Business, Texas Quantitative Finance Festival
2010/10	New York University, Stern School of Business, Operations Management Department
2010/05	Knight Capital Group
2010/04	New York University, Courant Institute of Mathematical Sciences
2010/04	Columbia University, Statistics Department
2010/03	Fields Institute, Workshop on Computational Methods in Finance
2010/02	Cornell University, Financial Engineering in Manhattan
2009/11	Columbia University, Center for Financial Engineering
2009/11	SAC Capital Advisors

2009/10	Northwestern University, Industrial Engineering & Management Sciences Department
2009/06	US Commodity Futures Trading Commission
2009/05	MIT, Sloan School of Management, Operations Management Department
2009/04	FDIC, Center for Financial Research
2009/03	University of Pennsylvania, Electrical & Systems Engineering Department
2008/06	Cornell University, School of Operations Research & Information Engineering
2008/05	ETH Zürich, Department of Information Technical & Electrical Engineering
2008/04	Columbia University, Graduate School of Business, Finance & Economics Division
2008/02	Columbia University, Statistics Department
2007/03	UC Berkeley, Department of Electrical Engineering & Computer Science
2007/03	Stanford University, Information Systems Laboratory
2007/02	Northwestern University, Kellogg School of Management, MEDS Department
2007/02	New York University, Stern School of Business, IOMS Department
2007/01	Columbia University, Graduate School of Business, Decision, Risk, & Operations Division

Teaching Experience

	Columbia University, Graduate School of Business New York, NY
2022 Fall	*Lecturer*, Business Analytics (B6101–004, MBA Core)
2022 Fall	*Lecturer*, Business Analytics (B6101–005, MBA Core)
2022 Fall	*Lecturer*, Business Analytics (B6101–006, MBA Core)
2022 Fall	*Lecturer*, Business Analytics (B6101–008, MBA Core)
2022 Fall	*Lecturer*, Business Analytics (B6101–009, MBA Core)
2022 Spring	*Lecturer*, The Analytics Advantage (B8148–001, MBA Elective)
2022 Spring	*Lecturer*, The Analytics Advantage (B8148–002, MBA Elective)
2021 Fall	*Lecturer*, Business Analytics (B6101–002, MBA Core)
2021 Fall	*Lecturer*, Business Analytics (B6101–006, MBA Core)
2021 Fall	*Lecturer*, Business Analytics (B6101–007, MBA Core)
2021 Fall	*Lecturer*, Business Analytics (B6101–008, MBA Core)
2021 Spring	*Lecturer*, The Analytics Advantage (B8148–001, MBA Elective)
2021 Spring	*Lecturer*, The Analytics Advantage (B8148–002, MBA Elective)
2021 Spring	*Lecturer*, DRO Topics Seminars (B9137-001, PhD Elective)
2020 Fall	*Lecturer*, Business Analytics (B6101–005, MBA Core)
2020 Fall	*Lecturer*, Business Analytics (B6101–006, MBA Core)
2020 Fall	*Lecturer*, Business Analytics (B6101–007, MBA Core)
2020 Fall	*Lecturer*, Business Analytics (B6101–008, MBA Core)
2020 Spring	*Lecturer*, The Analytics Advantage (B8148–001, MBA Elective)
2020 Spring	*Lecturer*, The Analytics Advantage (B8148–002, MBA Elective)
2019 Fall	*Lecturer*, Business Analytics (B6101–005, MBA Core)
2019 Fall	*Lecturer*, Business Analytics (B6101–006, MBA Core)
2019 Fall	*Lecturer*, Business Analytics (B6101–007, MBA Core)
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2016 Fall	*Lecturer*, Business Analytics (B6101–007, MBA Core)
2016 Fall	*Lecturer*, Business Analytics (B6101–008, MBA Core)
2015 Fall	*Lecturer*, Business Analytics (B6101–005, MBA Core)
2015 Fall	*Lecturer*, Business Analytics (B6101–006, MBA Core)
2015 Fall	*Lecturer*, Business Analytics (B6101–007, MBA Core)
2015 Fall	*Lecturer*, Business Analytics (B6101–008, MBA Core)
2014 Fall	*Lecturer*, Business Analytics (B6101–001, MBA Core)
2014 Fall	*Lecturer*, Business Analytics (B6101–002, MBA Core)
2014 Fall	*Lecturer*, Business Analytics (B6101–005, MBA Core)
2014 Fall	*Lecturer*, Business Analytics (B6101–007, MBA Core)
2014 Spring	*Lecturer*, Business Analytics (B6101–001, MBA Core)
2014 Spring	*Lecturer*, Business Analytics (B6101–002, MBA Core)
2014 Spring	*Lecturer*, Business Analytics (B6101–003, MBA Core)
2013 Fall	*Lecturer*, Foundations of Optimization (B9118–001, PhD Core)
2012 Fall	*Lecturer*, Foundations of Optimization (B9824–001, PhD Core)
2012 Spring	*Lecturer*, Quantitative Finance: Models & Computation (B8835–001, MBA Elective)
2012 Spring	*Lecturer*, Quantitative Finance: Models & Computation (B8835–002, MBA Elective)

2011 Fall	*Lecturer*, Foundations of Optimization (B9824–001, PhD Core)
2011 Spring	*Lecturer*, Security Pricing: Models & Computation (B8835–001, MBA Elective)
2011 Spring	*Lecturer*, Security Pricing: Models & Computation (B8835–002, MBA Elective)
2010 Fall	*Lecturer*, Foundations of Optimization (B9824–001, PhD Core)
2010 Spring	*Lecturer*, Security Pricing: Models & Computation (B8835–001, MBA Elective)
2010 Spring	*Lecturer*, Security Pricing: Models & Computation (B8835–002, MBA Elective)
2009 Fall	*Lecturer*, Foundations of Optimization (B9824–001, PhD Core)
2009 Spring	*Lecturer*, Security Pricing: Models & Computation (B8835–001, MBA Elective)
2009 Spring	*Lecturer*, Security Pricing: Models & Computation (B8835–002, MBA Elective)
2008 Fall	*Lecturer*, Foundations of Optimization (B9824–001, PhD Core)
2008 Summer	*Lecturer*, Decision Models (B6015–002, MBA Core)
2008 Summer	*Lecturer*, Decision Models (B6015–003, MBA Core)
2008 Spring	*Lecturer*, Security Pricing: Models & Computation (B8835–002, MBA Elective)

Outside Activities (2015–present)

Columbia Business School requires its faculty members to disclose any activities that might present a real or apparent conflict of interest. The list below complies with this requirement.

2022–present	**Raposa Research Inc** *Advisor.*	New York, NY
2022	**a16z Crypto** *Research Visitor.*	New York, NY
2021–present	**Compass Lexecon Inc** *Senior Consultant.*	Chicago, IL
2014–present	**Bourbaki LLC** *Managing Member.*	New York, NY
2020–2021	**EverQuote Inc** *Member, Advisory Board.*	Cambridge, MA
2020	**TGS Management Company** *Invited Speaker.*	Irvine, CA
2019	**UBS Investment Bank** *Invited Speaker.*	New York, NY
2019	**Engineers Gate LP** *Invited Speaker.*	New York, NY

Personal

- Male; Citizenship: USA; Year of Birth: 1975