# Jamie Morgenstern

Curriculum Vitae

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## Education

2010–2015 **Ph.D. in Computer Science**,
*Carnegie Mellon University*, Pittsburgh, PA.
Advisor: Avrim Blum

2012 **M.S. in Computer Science**,
*Carnegie Mellon University*, Pittsburgh, PA.

2006–2010 **B.S. in Computer Science and B.A. in Mathematics**,
*University of Chicago*, Chicago, IL.,
Honors in Computer Science and General Honors.
Four-year merit scholarship.

## Research Interests

**Machine learning for economics, fairness in machine learning, algorithmic game theory, learning theory, privacy, mechanism design**.

## Appointments

Jan. 2018 **Assistant Professor**, *Georgia Institute of Technology*, School of Computer Science.

Fall 2017 **Visiting Researcher**, *Microsoft Research, New York.*

2015–2017 **Warren Fellow of Computer Science and Economics**, *University of Pennsylvania*, w. Michael Kearns, Rakesh Vohra, Aaron Roth.

Summer 2013 **Research Internship**, *Microsoft Research Redmond*, w. Nikhil Devanur.

Summer 2012 **Research Internship**, *Bell Labs, Alcatel Lucent Technologies*, w. Lisa Zhang, Gordon Wilfong.

## Honors, Awards, and Funding

2016 **Penn Fels Policy Research Initiative RFP**,
*Collaborative research grant*,
w. Sampath Kannan, Mallesh Pai, Aaron Roth, and Rakesh Vohra.

2014-2016 **Simons Award for Graduate Students in Theoretical Computer Science**.

2010-2011 **Microsoft Graduate Women's Scholarship**.

2010-2013 **NSF Graduate Research Fellowship**.

2006 **National Merit Scholar**.

## Workshops and Tutorial Organization

2017 **Tutorial Presentation**, *The Sample Complexity of Single-Parameter Auction Design*,
at Dagstuhl workshop on "Algorithmic Game Theory meets Computational Learning Theory",
June 2017, Dagstuhl, GE.

2017 **Organizer of Workshop on Fairness in Machine Learning**, *January 2017, University of Pennsylvania*,
w. Sampath Kannan, Mallesh Pai, Aaron Roth, and Rakesh Vohra.

2016 **Organizer of EC Tutorial on Algorithmic Game Theory and Data Science**,
*Maastricht University*, w. Vasilis Syrgkanis.

## Long-term Visits

Fall 2016 **Postdoctoral Visitor**, *Simons Institute*, Semester on Algorithms and Uncertainty.

Fall 2014 **Visitor**, *Stanford University*, hosted by Tim Roughgarden.

Oct. 2013 **Visitor**, *University of Pennsylvania*, hosted by Aaron Roth.

## Refereed Conference Proceedings (Author Order Alphabetical)

2017 Shahin Jabbari, Matthew Joseph, Michael Kearns, Jamie Morgenstern, and Aaron Roth. "Fair Learning in Markovian Environments." In: *International Conference on Machine Learning* **(ICML)**, to appear.

2017 Sampath Kannan, Michael Kearns, Jamie Morgenstern, Mallesh Pai, Aaron Roth, Rakesh Vohra, and Zhiwei Steven Wu. "Fairness Incentives for Myopic Agents". In: *Economics and Computation* **(EC)**, to appear.

2016 Matthew Joseph, Michael Kearns, Jamie Morgenstern, and Aaron Roth. "Fairness in Learning: Classic and Contextual Bandits". In: *Neural Information Processing Systems* **(NIPS)**, pp. 325–333.

2016 Jamie Morgenstern and Tim Roughgarden. "Learning Simple Auctions". In: *Conference on Learning Theory* **(COLT)**, pp. 1298–1318.

2016 Justin Hsu, Jamie Morgenstern, Ryan Rogers, Aaron Roth, and Rakesh Vohra. "Do Prices Coordinate Markets?" In: *Symposium on the Theory of Computation* **(STOC)**, pp. 440–453.

2016 Michal Feldman, Ophir Friedler, Jamie Morgenstern, and Guy Reiner. "Simple Auctions with Complements". In: *Economics and Computation* **(EC)**, pp. 251–267.

2016 Sanjeev Goyal, Shahin Jabbari, Sanjeev Khanna, Michael Kearns, and Jamie Morgenstern. "Strategic Network Formation with Attack and Immunization". In: *Conference on Web and Internet Economics* **(WINE)**, to appear.

2015 Jamie Morgenstern and Tim Roughgarden. "The Pseudo-Dimension of Near-Optimal Auctions". In: *Neural Information Processing Systems* **(NIPS)**, pp. 136-144. Selected for spotlight presentation, 3.6% acceptance rate.

2015 Avrim Blum, Yishay Mansour, and Jamie Morgenstern. "Learning What's Going On: Reconstructing Preferences and Priorities from Opaque Transactions". In: *Economics and Computation* **(EC)**, pp. 601–618.

2015 Nikhil Devanur, Jamie Morgenstern, Vasilis Syrgkanis, and S. Matthew Weinberg. "Simple Auctions with Simple Strategies". In: *Economics and Computation* **(EC)**, pp. 305–322.

2015 Sampath Kannan, Jamie Morgenstern, Aaron Roth, and Ryan Rogers. "Private Pareto-Optimal Exchange". In: *Economics and Computation* **(EC)**, pp. 261–278.

2015 Sampath Kannan, Jamie Morgenstern, Aaron Roth, and Steven Wu. "Approximately Stable, School Optimal, and Student-Truthful Many-to-One Matchings (via Differential Privacy)". In: *Symposium on Discrete Algorithms* **(SODA)**, pp. 1890–1903.

2015 Avrim Blum, Jamie Morgenstern, Ankit Sharma, and Adam Smith. "Privacy-preserving Public Information in Sequential Games". In: *Innovations in Theoretical Computer Science* **(ITCS)**, pp. 173–180.

2015 Avrim Blum, Yishay Mansour, and Jamie Morgenstern. "Learning Valuation Distributions from Partial Observation". In: *Conference on Artificial Intelligence* **(AAAI)**, pp. 798–804.

2015 David Kurokawa, Omer Lev, Jamie Morgenstern, and Ariel Procaccia. "Impartial Peer Review". In: *International Joint Conference on Artificial Intelligence* **(IJCAI)**, pp. 582–588.

2013 Simina Branzei, Ioannis Caragiannis, Jamie Morgenstern, and Ariel D. Procaccia. "How Bad Is Selfish Voting?" In: *Proceedings of the Twenty-Seventh Conference on Artificial Intelligence* **(AAAI)**, pp. 138–144.

2013 William Sean Kennedy, Jamie Morgenstern, Gordon Wilfong, and Lisa Zhang. "Hierarchical community decomposition via oblivious routing techniques". In: *Proceedings of the first ACM Conference on Online Social Networks* **(COSN)**, pp. 107–118.

2012 Pranjal Awasthi, Avrim Blum, Jamie Morgenstern, and Or Sheffet. "Additive Approximation for Near-Perfect Phylogeny Construction". In: *Workshop on Approximation Algorithms* **(APPROX)**, pp. 25–36.

2012 Steven J. Brams, Michal Feldman, John K. Lai, Jamie Morgenstern, and Ariel D. Procaccia. "On Maxsum Fair Cake Divisions". In: *Proceedings of the Twenty-Sixth Conference on Artificial Intelligence* **(AAAI)**, pp. 1285–1291.

2011 Jamie Morgenstern, Deepak Garg, and Frank Pfenning. "A Proof-carrying File System with Revocable and Use-once Certificates". In: *Proceedings of the 7th International Conference on Security and Trust Management* **(STM)**, pp. 40–55.

2010 Jamie Morgenstern and Daniel R. Licata. "Security-typed Programming Within Dependently Typed Programming". In: *Proceedings of the 15th ACM SIGPLAN International Conference on Functional Programming* **(ICFP)**, pp. 169–180.

## Journal Articles

2017 Sampath Kannan, Jamie Morgenstern, Aaron Roth, and Ryan Rogers. "Private Pareto-Optimal Exchange". In: **TEAC** 5. Invited to Special Edition of ***TEAC***.

## Submitted Journal Articles

2016 Avrim Blum, Yishay Mansour, and Jamie Morgenstern. *Learning What's Going On: Reconstructing Preferences and Priorities from Opaque Transactions*. Invited to Special Edition of ***TEAC***.

## Invited Talks and Seminars

**Towards a Theory of Fairness in Machine Learning**

Feb. 2017 *Stanford University*, Department of Computer Science.

Feb. 2017 *Massachussetts Institute of Technology*, EECS and the Institute for Data, Systems and Society (IDSS).

Feb. 2017 *Princeton University*, Computer Science Department.

Jan. 2017 *Calinfornia Institute of Technology*, Computing and Mathematical Sciences.

Nov. 2016 *University of Massachussetts, Amherst*, College of Information and Computer Sciences.

Oct. 2016 *University of Texas, Austin*, Department of Electrical and Computer Engineering.

Oct. 2016 *University of Michigan*, Department of Electrical Engineering and Computer Science.

Oct. 2016 *University of Washington*, Computer Science, Theory Seminar.

Oct. 2016 *Georgia Institute of Technology*, School of Computer Science.

Sept. 2016 *Carnegie Mellon University*, AI Lunch.

**Fairness in Learning**

June 2016 *Microsoft Research New York*.

**Do Prices Coordinate Markets?**

Oct. 2016 *University of Michigan*, Theory Seminar.

Dec. 2015 *Tel Aviv University*.

**Learning Simple Auctions**

Apr. 2016 *Cornell University Theory Seminar*.

Apr. 2016 *Bellairs Workshop on Algorithmic Game Theory*.

**The Pseudo-Dimension of Nearly-Optimal Auctions**

Nov. 2015 *University of Wisconsin-Madison Theory Seminar*.

Aug. 2015 *Microsoft Research New York Theory Seminar*.

Sept. 2015 *Pennsylvania State University*.

Mar. 2015 *University of Pennsylvania Theory Seminar*.

Feb. 2015 *Carnegie Mellon University Theory Lunch*.

**Approximately Stable, School Optimal, and Student-Truthful Many-to-one Matchings (via Differential Privacy)**

Nov. 2015 *Northwestern University Theory Seminar*.

Apr. 2015 *California Institute of Technology Privacy Day 2015*.

Feb. 2015 *ARC Colloquium, Georgia Tech*.

Dec. 2014 *Carnegie Mellon University Theory Lunch*.

Dec. 2014 *Microsoft Research New York Computer Science and Economics Day*.

Oct. 2014 *Stanford University Theory Lunch*.

Oct. 2014 *Stanford University Social Algorithms Lunch*.

**Privacy-Preserving Public Information in Sequential Games**

Apr. 2014 *Boston University Theory Lunch.*

Mar. 2014 *University of Pennsylvania.*

**Simple Auctions with Simple Strategies**

Nov. 2014 *University of California Berkeley, Theory Lunch.*

Oct. 2013 *University of Pennsylvania Theory Seminar.*

Nov. 2013 *Carnegie Mellon Theory Lunch.*

Aug. 2013 *Microsoft Research Redmond Theory Lunch.*

**Impartial Peer Review**

Apr. 2014 *Harvard University AI Reading Group.*

Apr. 2014 *Carnegie Mellon University Theory Lunch.*

Feb. 2014 *University of Pennsylvania Theory Seminar.*

**How Bad Is Selfish Voting?**

June 2013 *Microsoft Research Redmond Theory Lunch.*

May 2013 *Pennsylvania State University.*

Apr. 2013 *University of Washington Theory Seminar.*

Apr. 2013 *Carnegie Mellon Theory Lunch.*

**An Algorithm with Additive Error for Near-Perfect Phylogenies**

Oct. 2011 *Carnegie Mellon University Theory Lunch.*

## Teaching

2012 **Instructor for CS 15122, Principles of Imperative Computation**
*Carnegie Mellon University.*

2011 **Head TA for CS 15122, Principles of Imperative Computation**
*Carnegie Mellon University.*

2009 **TA for Discrete Mathematics**
*University of Chicago.*

2006-2010 **Polk Brothers Program TA and student visitor**
*Chicago Public Schools*,
TA for continuing education course in number theory for Chicago Public School teachers, student visitor to public school classrooms.

## Service

2017 **Program Committee** *EC, ICML, FAT/ML, NetEcon, WWW.*

2017 **External Reviewer** *STOC, NIPS, TEAC, SODA.*

2016 **Program Committee** *EC, ICML.*

2016 **External Reviewer** *SWAT, AdAuctions, STOC, SODA, NIPS, TEAC.*

2015 **External Reviewer** *STOC, FOCS, SODA, ESA, WINE.*

2014 **External Reviewer** *STOC, FOCS, EC, WINE, SODA, SICOMP.*

2013 **External Reviewer** *WINE, SODA.*

2012-2014 **Doctoral Review Committee Member**
*Carnegie Mellon University*,
A panel of graduate students and faculty tasked with overseeing the PhD program.

2011-2012 **Coordinator of the Admitted Students Open House**
*Carnegie Mellon University.*

2011-2013 **PhD Admissions Committee**
*Carnegie Mellon University.*

2011-Present **Speaker's Club**
*Carnegie Mellon University*,
Reviewing and critiquing presentations made as part of the PhD program.

2010-2012 **SCS Little Sisters Mentor**
*Carnegie Mellon University*,
Mentored undergraduate women thinking about majoring in computer science.

## Employment

Summer 2010 **Software Development Internship** *Google Pittsburgh*, w. Tom Murphy VII.

## References

**References available upon request**.