Yashodhan Kanoria

Employment

Assistant Professor, Decision, Risk and Operations Division, Since July 2013
Graduate School of Business, Columbia University, New York, NY.

Schramm postdoctoral fellow Aug 2012 - June 2013
Microsoft Research New England, Cambridge, MA.

Contact

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Education

Stanford University, Stanford, CA (GPA 4.14) Sep 2007 - Aug 2012
PhD in Electrical Engineering
Adviser: Andrea Montanari
Thesis title: Learning in social and economic networks

Indian Institute of Technology Bombay, India (CPI 10.00/10.00) Jul 2003 - May 2007
Bachelor of Technology in Electrical Engineering

Research Interests

Matching markets and market design
Graphical models/networks, message passing algorithms, probability and game theory

Distinctions

Student Paper Award at IEEE Intl. Symposium on Information Theory 2010

Numerical Technologies Founders' Prize for top score on the EE PhD Qualifying Examination at Stanford 2008

President of India Gold Medal at IIT Bombay for standing first in the institute 2007
Graduated with a perfect Cumulative Point Index (CPI) of 10.00

Gold Medal and second overall at the International Physics Olympiad (IPhO) 2003

Gold Medal and second overall at the International Chemistry Olympiad (IChO) 2003

Ranked 2nd at the All India IIT Joint Entrance Examination 2003

Journal Papers

I. Ashlagi, Y. Kanoria and J. Leshno, "Unbalanced random matching markets: the stark effect of competition," submitted.

M. Bayati, C. Borgs, J. Chayes, Y. Kanoria, and A. Montanari, "Bargaining dynamics in exchange networks," to appear in *Journal of Economic Theory*.

Y. Kanoria and O. Tamuz, "Tractable Bayesian Social Learning," *IEEE Journal on Selected Areas in Communication*, vol.31, no.4, pp.756-765, April 2013.

Y. Kanoria and A. Montanari, "Optimal coding for the deletion channel with small deletion probability," *IEEE Transactions on Information Theory*, vol.59, no.10, pp.6192-6219, Oct. 2013.

M. Ibrahimi, Y. Kanoria, M. Kraning and A. Montanari, "The Set of Solutions of Random XORSAT Formulae," submitted to *Annals of Applied Probability*.

Y. Kanoria and A. Montanari, "Majority dynamics on trees and the dynamic cavity method," *Annals of Applied Probability*, Vol. 21, No. 5, Oct 2011.

Working papers

R. Anderson, I. Ashlagi, Y. Kanoria and D. Gamarnik, "A dynamic model of barter exchange."

N. Arnosti, R. Johari and Y. Kanoria, "Managing search in decentralized matching markets."

Y. Kanoria and H. Nazerzadeh, "Dynamic Reserves For Repeated Second-Price Auctions."

Conference Papers

I. Ashlagi, Y. Kanoria and J. D. Leshno, "Unbalanced random matching markets," *ACM Conference on Economics and Computation (EC)*, 2013.

Y. Kanoria and O. Tamuz, "Tractable Bayesian Social Learning on Trees," *IEEE Intl. Symposium on Information Theory (ISIT)*, 2012.

M. Ibrahimi, Y. Kanoria, M. Kraning and A. Montanari, "The Set of Solutions of Random XORSAT Formulae," *ACM-SIAM Symp. on Discrete Algorithms (SODA)*, 2012.

M. Ibrahimi, A. Javanmard, Y. Kanoria and A. Montanari, "Robust max-product belief propagation," *Asilomar Conference on Signals, Systems and Computers*, 2011 (Invited).

Y. Kanoria, A. Montanari, D. Tse and B. Zhang, "Distributed Storage for Intermittent Energy Sources: Control Design and Performance Limits," *Annual Allerton Conf. on Communication, Control and Computing*, 2011.

Y. Kanoria and A. Montanari, "Subexponential convergence for information aggregation on regular trees," *IEEE Conf. on Decision and Control and European Control Conf. (CDC-ECC)*, 2011.

Y. Kanoria, "A FPTAS for Bargaining Networks with Unequal Bargaining Powers," *Workshop on Internet and Network Economics (WINE)*, 2010.

Y. Kanoria, M. Bayati, C. Borgs, J. Chayes and A. Montanari, "Fast Convergence of Natural Bargaining Dynamics in Exchange Networks," *ACM-SIAM Symp. on Discrete Algorithms (SODA)*, 2011.

Y. Kanoria and A. Montanari, "On the deletion channel with small deletion probability," *IEEE Intl. Symposium on Information Theory (ISIT)*, 2010, **Student Paper Award**.

Y. Kanoria, S. Mitra and A. Montanari, "Statistical Static Timing analysis using Markov chain Monte Carlo," *Design, Automation and Test in Europe (DATE)*, 2010.

C. Dutta, Y. Kanoria, D. Manjunath and J. Radhakrishnan, "A Tight Lower Bound for Parity in Noisy Communication Networks," *ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2008.

Y. Kanoria and D. Manjunath, "On Distributed Computation in Noisy Random Planar Networks," *IEEE Intl. Symp. on Information Theory (ISIT)*, 2007.

Industry Experience

Microsoft Research New England, Cambridge, MA — Summer 2010, 2011

Worked on bargaining in networks (2010)

Worked on social learning and social targeting of online advertisements (2011)

D.E. Shaw & Co, Cupertino, CA — Summer 2008

Worked with high speed trades group on P&L attribution

Goldman Sachs Group, Inc., Bangalore, India & New York, NY — Summer 2007

Worked on a model for limit order execution times

Professional Service

Meritorious Service Award, 2013, Operations Research journal.

Program Committee member for the World Wide Web conference (WWW), 2013.

Reviewer for Operations Research, Probability Theory and Related Fields, Random Structures and Algorithms, IEEE Trans. on Information Theory, ACM-SIAM Symp. on Discrete Algorithms, IEEE Intl. Symp. on Information Theory, Workshop on Internet and Network Economics, and Intl. Conf. on VLSI design

Teaching

Computing for Business Research, Fall 2013, Columbia Business School.

Invited Talks

Unbalanced random matching markets

NYC Market design workshop, Columbia University	Dec 2013
Google Algorithms seminar, Google, New York	Nov 2013
IIT Bombay, Mumbai, India	Aug 2013
Tata Institute of Fundamental Research, Mumbai, India	Jul 2013
Stochastics and Applications seminar, MIT	Apr 2013
Microsoft Research Theory Group Seminar, Redmond, WA	Mar 2013

A dynamic graph model of barter exchange

Columbia Statistics student seminar	Nov 2013
Probability seminar, University of Chicago	Nov 2013
INFORMS Annual Meeting	Oct 2013
Workshop on Asymptotics of Large Scale Networks, BIRS, Banff, Canada	Mar 2013

An internet experiment on bargaining

INFORMS Annual meeting, Phoenix, AZ	Oct 2012
Workshop on Computational & Applied Social Science, New York	Oct 2012
POMS Annual conference	April 2012

The set of solutions of random XORSAT formulae

Probability seminar, Brown University	Feb 2013
Stanford probability seminar	Oct 2012
MIT probability seminar	Sep 2012

Bargaining dynamics in exchange networks

ECE seminar, UCSD	March 2012
ECE seminar, Cornell	March 2012
EE seminar, UIUC	Feb 2012
ELE/Applied Math seminar, Princeton	Feb 2012
ORIE, Cornell	Feb 2012
DRO seminar, Columbia GSB	Jan 2012
MSR New England	Jan 2012
OR seminar, MIT Sloan	Jan 2012
NCD seminar, EECS, UC Berkeley	Jan 2012
Microsoft Research India	Jan 2012
Markets & Social Systems Engineering seminar, UPenn	Nov 2011
INFORMS Annual meeting, Charlotte, NC	Nov 2011
IEOR seminar, IIT Bombay, India	Jan 2011
Econ-CS seminar, UC Berkeley	Apr 2010
Algorithms and Complexity seminar, MIT	Mar 2010
CS Theory Lunch, Stanford	Jan 2010

Distributed storage for intermittent energy sources

INFORMS Annual meeting, Phoenix, AZ	Oct 2012
Information, Decisions and Algorithms meeting, Stanford	Oct 2011

Social learning and the dynamic cavity method

INFORMS Applied Probability Society meeting, Stockholm, Sweden	Jul 2011
Research on Algorithms for the Internet (RAIN) seminar, Stanford	Feb 2011
Workshop on Recent Trends in Social Networks, TIFR, Mumbai, India	Jan 2011
Theory lunch, Microsoft Research Redmond, Redmond, WA	Dec 2010
Microsoft Research New England Colloquium, Cambridge, MA	Nov 2010

Majority dynamics on trees and the dynamic cavity method

Dept. of Electrical Engineering, IIT Bombay, India	Jun 2009
Tata Institute of Fundamental Research, Mumbai, India	Jun 2008
Workshop on Message Passing, Phase Transitions and Hard Combinatorial Problems, BIRS, Banff, Canada	Jun 2008