

---

# HAMID NAZERZADEH

Email: [hamidnz@stanford.edu](mailto:hamidnz@stanford.edu)

Web: <http://www.stanford.edu/~hamidnz>

---

## RESEARCH INTERESTS

- Algorithmic Game Theory, Online Auctions, Online Markets
- Optimization, Approximation Algorithms
- Internet Algorithms and Models, Social Networks
- Data Mining

## EDUCATION

- 2005-Present, Ph.D. in Operations Research, Advisor: Amin Saberi, Co-Advisor: Ashish Goel. Management Science and Engineering Department, Stanford University, CA.  
Relevant Courses (GPA 4/4): Linear and Nonlinear Optimization, Stochastic Systems, Dynamic Programming and Stochastic Control, Information Networks, Competition and Cooperation in Communication Networks, Network Algorithms, Randomized Algorithms, Microeconomics, Algorithmic Game Theory, Foundations of Sponsored Search, Dynamics and Learning in Games.
- 2001-2005, B.Sc. in Computer Engineering, Sharif University of Technology, Tehran, Iran.

## HONORS AND AWARDS

- Yahoo! Ph.D. Student Fellowship Award, 2007-present.
- Stanford School of Engineering Fellowship, 2005-2006.
- Gold Medal, in the 10th Iranian National Olympiad in Informatics, 2000.

## PROFESSIONAL EXPERIENCES

- Research Intern, Microsoft Research, New England, Oct. 2008.  
Research on social networks and network formation games.  
Mentor: Jennifer Chayes
- Research Intern, Yahoo! Research, Santa Clara, CA, Summer 2007 & Summer 2008.  
Research on finding optimal allocation of advertisement space and economic aspects of ad auctions.  
Mentor: David Pennock
- Research Assistant, MS&E Department, Stanford University, 2005-present.  
Works include study of equilibria and auctions (with Amin Saberi) and fair resource allocation and applications in networking (with Ashish Goel).
- Parallel Processing Lab, Sharif University of Technology, Spring 2004.  
Worked on parallel data mining and knowledge discovery with Mohammad Ghodsi.
- Teaching Assistant, *Introduction to Optimization*, Stanford University, Spring 2007.
- Referee: Math of OR, Journal of Operations Research, STOC(06,07), SODA(07,08), EC(06,07), FOCS(08).
- Invited Talks on Online Advertising: INFORMS (06, 07, 08), Microsoft Research, Mountain View, 2008.

## WORKING PAPERS

1. Online Optimization with Uncertain Information, with M. Mahdian and A. Saberi
2. Uncertainty in Click-Through Rate Estimations in Sponsored Search, with M. Mahdian and D. Pennock
3. PASS Approximation: A Framework for Designing and Analyzing Heuristics, with U. Feige, N. Immorlica, and V. Mirrokni.

## PUBLICATIONS

1. Online Story Scheduling for Web Advertising, with A. Dasgupta, A. Ghosh, and P. Raghavan.  
To appear in the proceedings of the 20th ACM-SIAM Symposium on Discrete Algorithms (SODA), 2009.
2. Stochastic Submodular Maximization, with A. Asadpour and A. Saberi.  
To appear in the proceedings of the 4th Workshop on Internet and Network Economics (WINE), 2008.
3. Dynamic Cost-Per-Action Mechanisms and Applications to Online Advertising, with A. Saberi, and R. Vohra.  
Proceedings of the 17th International World Wide Web Conference (WWW), 179-188, 2008.  
The extended version is submitted to the special issue of Operations Research on computational economics.
4. A Combinatorial Allocation Mechanism with Penalties for Banner Advertising, with U. Feige, N. Immorlica, and V. S. Mirrokni.  
Proceedings of the 17th International World Wide Web Conference (WWW), 2169-178, 2008.
5. Price Based Protocols For Fair Resource Allocation: Convergence Time Analysis and Extension to Leontief Utilities, with A. Goel.  
Proceedings of the 19th ACM-SIAM Symposium on Discrete Algorithms (SODA), 1145-1153, 2008.
6. Advertisement Allocation for Generalized Second Pricing Scheme, with A. Goel, M. Mahdian, and A. Saberi.  
Fourth Workshop on Ad Auctions, 2008.
7. Allocating Online Advertisement Space with Unreliable Estimates, with M. Mahdian and A. Saberi.  
Proceedings of the 8th ACM Conference on Electronic Commerce (EC), 288-294, 2007.
8. Approximating Nash Equilibria Using Small-Support Strategies, with T. Feder and A. Saberi.  
Proceedings of the 8th ACM Conference on Electronic Commerce (EC), 352-354, 2007.
9. Computing Optimal Bundles for Sponsored Search, with A. Ghosh and M. Sundararajan.  
Proceedings of the 3rd Workshop on Internet and Network Economics (WINE), 576-583, 2007.
10. Deterministic Decentralized Search in Random Graphs, with E. Arcaute, N. Chen, R. Kumar, D. Liben-Nowell, M. Mahdian, and Y. Xu.  
Proceedings of the 5th Workshop on Algorithms and Models for the Web-Graph (WAW), 2007.  
Accepted to a special issue of Internet Mathematics.
11. RAQ: A Range-Queryable Distributed Data Structure, with M. Ghodsi.  
Proceedings of the 31st Conference on Current Trends of Informatics (SOFSEM), 269-277, 2005.
12. Parallel Subspace Clustering, with M. Ghodsi and S. Sadjadian.  
Proceedings of the 11th Computer Conference of the Computer Society of Iran (CSICC), 2005.

## PATENTS

1. System and Method for Optimizing Online Keyword Auctions Subject to Budget and Estimated Query Volume Constraints, with M. Mahdian, U.S. patent filed, 2008.
  2. Algorithms for Storyboarding in Advertising, with A. Dasgupta, and A. Ghosh, U.S. patent filed, 2008.
  3. Bundling of Query-Related Context for Sponsored Search, with A. Ghosh, U.S. patent filed, 2008.
-