

Gagan Goel

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- RESEARCH INTERESTS · **Theoretical Computer Science** broadly, and in particular:
- Computational aspects of Economics and Game Theory, Algorithmic Mechanism Design, Auction Theory.
 - Algorithm Design, Approximation and Online Algorithms for Combinatorial Optimization Problems.
- EDUCATION · **Georgia Institute of Technology**, Atlanta.
- Ph.D. in Algorithms, Combinatorics and Optimization– a joint CS, Math, and ISyE program. GPA: 4.0/4.0. (Aug '04 - Aug '09)
Advisor: Prof. Vijay V. Vazirani.
- Minor topic: Pricing of financial instruments.
- **Indian Institute of Technology**, New Delhi, India.
B.Tech. in Computer Science and Engineering. (Aug '00 - May '04)
- WORK EXPERIENCE · **PostDoc**, Georgia Tech, Atlanta, US. (Sept '09 - Current)
- **Intern**, Google Research, Mountain View, US. (May '08 - Aug '08)
 - **Intern**, Yahoo! Inc., Santa Clara, US. (May '07 - Aug '07)
 - **Intern**, Amazon.com, Seattle, US. (May '06 - Aug '06)
 - **Part-time Intern**, Air2Web Inc., Atlanta, US. (Nov '04 - June '05)
 - **Intern**, Fraunhofer IPSI, darmstadt, Germany. (May '03 - July '03)
 - **Intern**, CS Department, NUS, Singapore. (May '02 - July '02)
- PUBLICATIONS · G. Goel, C. Karande, P. Tripathi, and L. Wang. Approximability of Combinatorial Problems with Multi-agent Submodular Cost Functions.
To appear in 50th IEEE Symposium on Foundations of Computer Science 2009 (FOCS '09).
- G. Aggarwal, G. Goel, and A. Mehta. Efficiency of Revenue-Optimal Mechanisms.
To appear in 10th ACM Conference on Electronic Commerce (EC '09).
 - D. Chakrabarti and G. Goel. On the Approximability of Budgeted Allocations and Improved Lower Bounds for Submodular Welfare Maximization and GAP.
49th IEEE Symposium on Foundations of Computer Science 2008 (FOCS '08). To appear in SICOMP.
 - G. Goel and A. Mehta. Online Budgeted Matching in Random Input Models with applications to Adwords.
19th ACM-SIAM Symposium on Discrete Algorithms 2008 (SODA '08).

- D. Chakrabarty, G. Goel, V. Vazirani, L. Wang, and C. Yu. Efficiency, Fairness, and Competitiveness in Nash Bargaining Games. *4th International Workshop On Internet And Network Economics (WINE '08)*.
- G.Goel and A. Mehta. Adwords Auctions with Decreasing Valuation Bids. *3rd International Workshop On Internet And Network Economics (WINE '07)*.
- C. Gkantsidis, G. Goel, A. Saberi, and M. Mihail. Towards Topology Aware Networks. *26th IEEE International Conference on Computer Communications (INFOCOM '07)*

WORKING
PAPERS AND
MANUSCRIPTS

- G. Goel and L. Wang. Truthful Mechanisms v.s. Approximation Algorithms: An Irreconcilable Conflict. *Submitted, 09.*
- G. Goel, S. Gullapudi and K. Munagala. Bayesian Multi-item Auctions with Budgets. *Submitted, 09.*
- D. Chakrabarty, G. Goel, V. Vazirani, L. Wang, and C. Yu. Some Computational and Game-Theoretic Issues in Nash and Nonsymmetric Bargaining Games. *Submitted, 09.*
- G. Goel, T. Moscibroda, and A. Sangwan. Robust Leader Election protocols for Wireless Networks. *In preparation.*
- Minimizing Flow Time on Related Machines. *B.Tech. Thesis, 2004.* (under the supervision of Prof. Naveen Garg and Prof. Amit Kumar)

INVITED
TALKS

- “Efficiency of Revenue-Optimal Mechanisms”. ISMP, Chicago, August 09.
- “Budgeted Allocations: Optimization in the presence of budget constraints.”. Google Research, Mountain View, July 09.
- “Efficiency of Revenue-Optimal Mechanisms”. Bellairs Workshop on Algorithmic Game Theory, Barbados, March 09.
- “A key primitive for Internet ad auctions: Budgeted Allocation”. Approximation algorithm workshop at TTI-C, Chicago, Feb 09.
- “A key primitive for Internet ad auctions: Budgeted Allocation”. Georgia Tech ACO student seminar, Atlanta, Nov 08.
- “Negotiations vs Auctions: Efficiency tradeoffs”. NY Computer Science and Economics Day rump session, NY, Oct 08.

HONORS
AND
AWARDS

- Best B.Tech. thesis award, Dept. of Computer Science, IIT-Delhi, 2004.
- Best all-around award among all graduating students of Computer Science and Electrical Engineering, IIT-Delhi, 2004.
- Awarded first prize in software programming contest at Tryst (All India Tech Fest), 2003.
- Ranked 34th (out of around 130,000 examinees) in the IIT Joint Entrance Exam 2000.
- Recipient of NTSE scholarship 1998, one of the most prestigious awards at high school level in India.

Gagan Goel

RESEARCH SUPPORT · Georgia Tech ARC fellowship for Spring '09.
· Georgia Tech ACO fellowship for Spring '07 and '08.
· Research Assistantship with Prof. Vijay Vazirani in various other semesters.

TEACHING EXPERIENCE I have been Teaching Assistant for the following undergraduate courses:
- CS1050 Constructing Proofs
- CS3510 Design and Analysis of Algorithms
- CS3251 Computer Networks
- CS4210 Advanced Operating System

PROFESSIONAL SERVICE Reviewed papers for several conferences and workshops including STOC, FOCS, SODA, EC, WINE, APPROX, SAGT, LATIN.

PROGRAMMING SKILLS Java, C, C++, Perl, SQL, Matlab.

CITIZENSHIP US Permanent Resident.