

Ashish Sangwan

- CONTACT INFORMATION** KACB 2116 511, Calhoun St NW Apt No 2
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- RESEARCH INTERESTS** Algorithmic Game Theory, Network Algorithms, and Combinatorics.
- EDUCATION** **Georgia Institute of Technology**, Atlanta.
Ph.D. in Algorithms, Combinatorics and Optimization (joint CS, MATHS, ISyE program) 2007 onwards. *Advisor*: Professor Vijay Vazirani.
Relevant course work: Abstract Algebra, Spectral Algorithms, Graduate Algorithms, Real Analysis, Game Theory.
Indian Institute of Technology, New Delhi, India.
B.Tech. in Computer Science And Engineering, May 2007.
Relevant course work: Data Structures, Probability, Design of Algorithms, Real Analysis, Linear Algebra, Linear Programming, Convex Optimization, Operating Systems, Computer Architecture, Programming Languages, Computer Networks, Theory of Computation, Numerical Computation, Signals & Systems.
- WORK EXPERIENCE** **Summer Intern**, General Motors R&D, Bangalore, India. (May 2006 - Jul 2006)
Designed and simulated new multihop broadcasting algorithms for inter-vehicular communication.
Intern, IBM India Research Lab and CS Dept, IIT Delhi. (Jan 2006 - May 2006)
Designed and simulated channel assignment algorithms in multi-radio wireless ad-hoc networks.
Summer Intern, Genie networks and CS Dept, IIT Delhi. (May 2005 - Jul 2005)
Performance Analysis of *IEEE 802.16a*.
- PUBLICATIONS AND MANUSCRIPTS** *Wardrop Equilibrium and Potential Games in wireless ad-hoc networks*. B.Tech Thesis, 2007.
Advisor: Professor Arzad Kherani, Computer Science, IIT Delhi.
Secure V2V communication with certificate revocations. 2007 Mobile Networking for Vehicular Environments. With A. Rao, A.A. Kherani, A. Varghese, B. Bellur, R. Shorey.
Reliable Multihop Broadcast Protocols for Inter-Vehicular Communication in a Fading Channel. IEEE/ICST COMSWARE, 2007. With Venkatesh Ramaiyan and Rajeev Shorey.
Throughput Enhancement through Efficient Channel Assignment in Multi-radio Ad Hoc Networks. 12th International Telecommunications Network Strategy and Planning Symposium, 2006. With Ghanshyam Dass, Pradipta De and Huzur Saran.
Approximating the stochastic multiple knapsack problem. Independent study, 2005.
Advisor: Professor Amit Kumar, Computer Science, IIT Delhi.
Performance Analysis of IEEE 802.16a standard. Proceedings of Indian National Conference on Communications, January 2006. With Shashwat Sehgal and Huzur Saran.
- KEY COURSE PROJECTS**
- Studied applications of spectral techniques to combinatorial problems like max-cut, graph coloring. Subsequently proposed a recursive algorithm for graph coloring.
 - Proposed a new sliding window protocol which adapts to the available bandwidth-delay product. Simulations done in NS-2 for performance evaluation.
 - Made a search engine based on the technique of Latent Semantic Analysis(LSA), using lower rank approximated SVD to generate final term-document matrix.
 - Implemented our own bootable mini Operating System as a class project.
- SCHOLASTIC ACHIEVEMENTS & HONORS**
- Algorithms, Combinatorics and Optimization fellowship at Georgia Tech.
 - Secured an All India Rank of 17 in JEE-2003 out of approximately 172000 students.
 - Receptient of the Summer Undergraduate Research Award, IIT Delhi, 2005.
 - Senior school merit certificate in mathematics for being in top 0.1% students in India, 2003.
- TECHNICAL SKILLS**
- Programming Languages: C, C++, JAVA, Pascal, Perl, SQL, MIPS, 8051 Assembly, and Matlab.
- REFERENCES** Available on request.