

Rishi Saket
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Research Interests

Theoretical Computer Science. Areas related to complexity theory, hardness of approximation, probabilistically checkable proofs, learning theory, metric embeddings and applications.

Education

- **Georgia Institute of Technology** Atlanta, GA
PhD, Computer Science (advisor: Dr Subhash Khot). 2004-present
- **Indian Institute of Technology, Delhi** New Delhi, India
B.Tech, Computer Science and Engineering. 2000-2004
- **Delhi Public School, Vasant Kunj** New Delhi, India
Senior Secondary Certificate, CBSE. 2000

Work Experience

Georgia Institute of Technology, Atlanta

- *Research Assistant* Summer 2005
Worked on problems related to PCPs, integrality gaps, hardness of approximation etc. -present
- *Visiting Student* Fall 2007
Courant Institute, NYU. - present
- *Teaching Assistant* Spring 2006
CS 6505: Graduate Theory.
- *Teaching Assistant* Spring 2005
CS 3510: Undergraduate Algorithms.
- *Teaching Assistant* Fall 2004
CS 1050: Constructing Proofs.

INRIA Research Lab, Nancy, France

- *Summer Internship* May-July 2003
Worked on algorithms for frame packing.

Publications

1. S. Khot and R. Saket, "Hardness of Minimizing and Learning DNF Expressions". In Proc. 49th Annual IEEE Symposium on Foundations of Computer Science (FOCS), Pgs 231-240, October 2008.

2. S. Khot and R. Saket, "On Hardness of Learning Intersection of Two Halfspaces". In Proc. 40th *ACM Symposium on Theory of Computing (STOC)*, Pgs 345-353, May 2008.
3. P. Gopalan, S. Khot and R. Saket, "Hardness of Reconstructing Multivariate Polynomials over Finite Fields". In Proc. 48th *Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, Pgs 349-359, October 2007. *Invited to SICOMP special issue for FOCS 2007.*
4. S. Khot and R. Saket, "Hardness of Embedding Metric Spaces of Equal Size". In Proc. 10th *Intl. Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX)*, Pgs 218-227, August 2007.
5. S. Khot and R. Saket, "A 3-Query Non-Adaptive PCP with Perfect Completeness". In Proc. *IEEE Conference on Computational Complexity*, Pgs 159-169, July 2006.
6. N. Devanur, S. Khot, R. Saket and N. Vishnoi, "Integrality Gaps for Sparsest Cut and Minimum Linear Arrangement Problems". In Proc. 38th *ACM Symposium on Theory of Computing (STOC)*, Pgs 537-546, May 2006.

Manuscripts and Technical Reports

1. S. Khot and R. Saket, "SDP Integrality Gaps with Local ℓ_1 -Embeddability". *Submitted*, 2009.
2. V. Gupta, R. Saket, "Algorithms for Computational Biology: Sequence Analysis". *B.Tech Final Project Report, IIT Delhi*, 2004. URL: <http://www.cc.gatech.edu/~saket/btp.pdf>.
3. N. Navet, R. Saket, "Frame Packing Algorithms for Automotive Applications". *INRIA Research Report, RR-4998*, 2003. URL: <http://www.inria.fr/rrrt/rr-4998.html>.

Invited Talks

- Theory Seminar, Carnegie Mellon University, March 2009.
- Toyota Technological Institute, Chicago, February 2009.
- China Theory Week, Beijing, September 2008.
- IBM T.J. Watson Research Center, October 2008.
- NYU/Courant Theory Seminar, March 2008.

Awards and Honors

- Awarded the Algorithms Combinatorics and Optimization Research Assistantship for Spring 2008 by the ACO Coordinating Committee, Georgia Tech.
- Awarded the Algorithms Combinatorics and Optimization Research Assistantship for Spring 2007 by the ACO Coordinating Committee, Georgia Tech.
- Ranked 62nd among 130,000 candidates in the IIT Joint Entrance Examination, 2000.

Professional Service

Reviewer for Transactions on Computation Theory, SIAM Discrete Math, FOCS 2009, APPROX-RANDOM 2009, STOC 2009, TCS 2008, STOC 2008, IEEE CCC 2007.

Relevant Courses

Lecture Courses: Graph Theory, Graph Algorithms, Approximation Algorithms, Randomized Algorithms, Complexity Theory, Algebra I (groups, rings, fields), Algebra II (modules, Galois theory), Algebraic Number Theory, Classical Probability, Optimization II, Advanced Graph Theory, Monte Carlo Markov Chains, Algorithmic Game Theory.

Seminar Courses: PCPs and Hardness of Approximation, Metric Embeddings, Analysis of Boolean Functions.

Citizenship

Indian citizen. F-1 student visa.