**Mark Sandler**

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## Education

2000-present Cornell University, Ithaca, NY;
Ph.D. Computer Science, May 2006 (projected);
M.S. Computer Science, Dec 2003;

1996-2000 St. Petersburg Institute of Fine Mechanics and Optics, Russia;
B.S. Applied Mathematics and Physics (with distinction), 2000

## Research Interests

Design and analysis of algorithms; combinatorial approaches to optimization and clustering; theoretical aspects of machine learning; spectral analysis and other dimensionality reduction techniques; theoretical foundations of privacy

## Publications

1. "Privacy via Pseudorandom Sketches.", to appear in Principles of Database Systems, (with N. Mishra)
2. "On Learning Mixtures of Heavy-Tailed Distributions", IEEE Symposium on Foundations of Computer Science 2005 (with A. Dasgupta, J. Hopcroft and J. Kleinberg)
3. "On the Use of Linear Programming for Unsupervised Text Classification", ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2005
4. "Using Mixture Models for Collaborative Filtering", ACM Symposium on Theory of Computing, 2004; to appear in a Special Issue of Journal of Computer and System Sciences (with J. Kleinberg)
5. "Network Failure Detection and Graph Connectivity", ACM-SIAM Symposium on Discrete Algorithms, 2004 (with J. Kleinberg and A. Slivkins)
6. "Convergent Algorithms for Collaborative Filtering", ACM Conference on Electronic Commerce 2003 (with J. Kleinberg)

## Industry and Research Experience

Summer 2005 HP labs, Palo Alto, CA; advisors: Nina Mishra & Jim Rowson.
Worked on collaborative filtering and privacy.
Bib. Info: Privacy via Pseudorandom Sketches, submitted

2001 - present CS Department, Cornell University; research assistant; advisor: Prof. Jon Kleinberg.
Ph.D. thesis: "Algorithms for Mixture Models"

1999-2000 Octet Inc (www.octet.com), St. Petersburg Office; software engineer.
Designed and implemented server-side Java applications for B2B e-commerce; created a statistical tool for automated document data extraction and analysis.

Summer 1997 Salyut Institute, Nizhny Novgorod, Russia, Research apprentice.
Developed and implemented an algorithm for optimizing hardware SAW (surface acoustic wave) filters.

**Teaching Experience**

Spring 2006 Teaching Assistant, Structure of Information Networks, Cornell University (projected);

Spring 2004 Teaching Assistant, Algorithmic Game Theory course, Cornell University;

Fall 1999 Teaching Assistant, Logic programming, Institute of Fine Mechanics and Optics (IFMO);

1998 - 2000 Coach of IFMO team for the ACM Collegiate Programming Contest (In 1999, supervised team placed 3rd out of more than 1000 teams, in the ACM ICPC World Finals)

1996 - 1998 St. Petersburg Palace for Youth Creativity. (Conducted a preparatory classes for high school students interested in participating in programming competitions.)

**Professional activities**

Refereeing: FOCS'05, IPL, SIGIR'05, SODA'06, PODS'06, ICALP'06

**Awards and Honors**

- 1999: Russian Federation Presidential Scholarship
- 1996-1998: Member of a 3-person IFMO programming team. Won 1st place in the North-Eastern European Regional of the ACM-ICPC contest and 13th in the World Finals of ACM ICPC (out of more than 1000 teams worldwide).
- 1996: Gold medal, 8th International Olympiad in Informatics, Hungary
- 1995: Gold medal, 7th International Olympiad in Informatics, Netherlands

**References**

Jon Kleinberg, Professor, Computer Science Department, Cornell University,
e-mail: kleinber -at- cs.cornell.edu, phone: (607) 255-3600

John Hopcroft, Professor, Computer Science Department, Cornell University,
e-mail: jeh - at- cs.cornell.edu, phone: (607) 255-1179

Nina Mishra, Senior Research Scientist, HP-Labs/University of Virginia
e-mail: nmishra -at- cs.virginia.edu, phone: (925) 785-3797

Eva Tardos, Professor, Computer Science Department, Cornell University,
e-mail: eva -at- cs.cornell.edu, phone: (607) 255-0984

**Other**

Visa status: F1; Spoken languages: English, Russian (native)