

Kamalika Chaudhuri

CONTACT INFORMATION

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RESEARCH INTERESTS

Machine Learning – clustering, online learning, and privacy-preserving machine learning.

EDUCATION

University of California, Berkeley

Ph.D, Computer Science, Fall 2002 - Summer 2007
Advisors: Satish Rao and Christos Papadimitriou
GPA: 3.9 /4.0

Indian Institute of Technology, Kanpur, India

Bachelor of Technology, Computer Science, May 2002
GPA: 9.9/10

EXPERIENCE

Postdoctoral Researcher:

Information Theory and Applications Center,
University of California, San Diego. October 2007 - present.

Teaching Assistant:

UC Berkeley, Spring 2005, CS 170, Efficient Algorithms and Intractible Problems. Instructor:
Christos Papadimitriou and Luca Trevisan.

UC Berkeley, Spring 2004, CS 270, Combinatorial Algorithms and Data Structures. Instructor:
Satish Rao.

Research Intern:

Microsoft Research, Silicon Valley Center, Summer 2006.
Research on Privacy preserving algorithms.

IBM Labs, Almaden, Summer 2005.
Research on Embedding Edit Distances into Hamming Space.

Hewlett Packard Labs, Palo Alto, Summer 2004.
Research on Scheduling Requests for Animation Rendering.

INRIA Sophia-Antipolis, Sophia-Antipolis, France, Summer 2001.
Research on Local Surface Approximations and their Application to Surface Reconstruction.

PUBLICATIONS

K. Chaudhuri, Y. Freund and D. Hsu, “*A new parameter-free hedging algorithm*”, In Proceedings of the 23rd Annual Conference on Neural Information Processing Systems (NIPS), 2009

K. Chaudhuri, C. Daskalakis, R. Kleinberg, and H. Lin, “*Online Bipartite Matching with Augmentations*”, In Proceedings of the 28th IEEE Conference on Computer Communications (INFOCOM), 2009

- K. Chaudhuri, S. Kakade, K. Livescu and K. Sridharan, “*Multiview Clustering via Canonical Correlation Analysis*”, In International Conference on Machine Learning (ICML), 2009
- K. Chaudhuri and C. Monteleoni, “*Privacy-preserving Logistic Regression*”, In Proceedings of the 22nd Annual Conference on Neural Information Processing Systems (NIPS), 2008
- K. Chaudhuri, F. Chung and M. Jamall, “*A Network Coloring Game*”, In Proceedings of the Workshop on Internet and Networks Economics (WINE), 2008
- K. Chaudhuri and A. McGregor, “*Finding Metric Structure in Information-Theoretic Clustering*”, In Proceedings of the 21st Annual Conference on Learning Theory (COLT), 2008
- K. Chaudhuri and S. Rao, “*Learning Mixtures of Product Distributions using Correlations and Independence*”, In Proceedings of the 21st Annual Conference on Learning Theory (COLT), 2008
- K. Chaudhuri and S. Rao, “*Beyond Gaussians: Spectral Methods for Learning Mixtures of Heavy-Tailed Distributions*”, In Proceedings of the 21st Annual Conference on Learning Theory (COLT), 2008
- K. Chaudhuri, E. Halperin, S. Rao and S. Zhou, “*A Rigorous Analysis of Population Stratification with Limited Data*”, In Proceedings of the 18th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2007
- B. Barak, K. Chaudhuri, C. Dwork, S. Kale, F. Mcsherry and K. Talwar, “*Privacy, Accuracy, and Consistency Too: A Holistic Solution to Contingency Table Release*”, In Proceedings of Principles of Database Systems (PODS), 2007
- K. Chaudhuri and N. Mishra, “*When does Random Sampling preserve Privacy?*”, In Proceedings of the 26th Annual International Cryptology Conference (CRYPTO), 2006
- K. Chaudhuri, K. Chen, R. Mihaescu and S. Rao, “*On the tandem duplication-random loss model of genome rearrangement*”, In Proceedings of the 17th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2006
- K. Chaudhuri, S. Riesenfeld, S. Rao and K. Talwar, “*Push Relabel and an Improved Approximation Algorithm for the Bounded-degree MST Problem*”, In Proceedings of the 33rd International Colloquium on Automata, Languages and Programming (ICALP), 2006. Invited to special issue of Theoretical Computer Science.
- K. Chaudhuri, S. Riesenfeld, S. Rao and K. Talwar, “*What would Edmonds do? Augmenting Paths, Witnesses and Improved Approximations for Bounded-degree MSTs*”, In Proceedings of the 8th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX), 2005. Invited to special issue of Algorithmica.
- E. Anderson, D. Beyer, K. Chaudhuri, T. Kelly, N. Salazar, C. Santos, R. Swaminathan, R. Tarjan, J. Wiener and Y. Zhou, “*Value-Maximizing Deadline Scheduling and its Application to Animation Rendering*”, In Proceedings of the 17th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), 2005
- K. Chaudhuri, A. Kothari, R. Pendavingh, R. Swaminathan, R. Tarjan and Y. Zhou, “*Server Allocation Algorithms for Tiered Systems*”, In Proceedings of 11th Annual International Computing and Combinatorics Conference, 2005
- B.G. Chun, K. Chaudhuri, H. Wee, M. Barreno, C. Papadimitriou and J. Kubiawicz, “*Selfish*

Caching in Distributed Systems: A Game Theoretic Analysis", In Proceedings of the 23rd Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC), 2004

K. Chaudhuri, B. Godfrey, S. Rao and K. Talwar, "*Paths, Trees and Minimum Latency Tours*", In Proceedings of 44th Annual IEEE Symposium on Foundations of Computer Science (FOCS), 2003

MANUSCRIPTS

K. Chaudhuri, S. Dasgupta and A. Vattani, "*A Probabilistic Analysis of k-means on Gaussian mixtures*", Manuscript, 2009

A. Sarwate, K. Chaudhuri and C. Monteleoni, "*Towards Practical Privacy-preserving Machine Learning: Support Vector Machines* ", Manuscript, 2009

K. Chaudhuri, Y. Freund and D. Hsu, "*An explanation-based algorithm for tracking*", Manuscript, 2009

K. Chaudhuri, E. Maneva and S. Riesenfeld, "*WEBRC Receiver Coordination*", Manuscript 2003

SELECTED INVITED
TALKS

Privacy Preserving Classification
Columbia University, August 2009.
Yahoo Research, August 2009.

Multiview Clustering via Canonical Correlation Analysis
Cognitive Science Department, UC San Diego, May 2009.

Clustering using Spectral Algorithms
Toyota Technological Institute, Chicago, October 2008.
Information Theory and Applications Workshop, San Diego, February 2008.
Georgia Institute of Technology, March 2007.
University of California, San Diego, May 2007.

Improved Approximation Algorithms for Bounded-degree MSTs
IBM Research, Almaden, March 2005.

PROFESSIONAL
ACTIVITIES

Program Committee Member: ECML/PKDD 2008, ICML 2009, AISec 2009.
Reviewer: NIPS 2009, AISTATS 2010.
Refereed submissions for Algorithmica, APPROX, LATIN, ICALP, FOCS, SODA, Math O.R, Networks, STOC, NIPS, COLT, IEEE-TAC, TODS, CDC, IPL, ALT.

HONORS AND
AWARDS

Berkeley Fellowship for Graduate Studies, 2002-2005.
Dr. V. Rajaraman Scholarship for highest GPA at the end of 3 years of B.Tech. study, IIT Kanpur, December 2001.
Notional Award for academic excellence at the end of academic years 1998-99, 1999-2000, and 2000-01, IIT Kanpur.

REFERENCES

Provided on request.