Pravesh Kothari

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INTERESTS	Approximation Algorithms and Hardness, Pseudorandomness, Learning Theory.

EDUCATION

The University of Texas at Austin, Austin, TX, USA
Ph.D. in Computer Science   2011 - 2016
Adviser: Adam Klivans

Indian Institute of Technology, Kanpur, Kanpur, India
Bachelor of Technology in Electrical Engineering   2006– 2010
Adviser: Surender Baswana

EMPLOYMENT

The University of California Berkeley, CA, USA   Sep-Dec 2015 and June-Aug 2014

Visiting Student Researcher (Host: Prof. Prasad Raghavendra)

Microsoft Research New England, Cambridge, MA, USA   May-Aug 2015 and Sep-Dec 2014

Research Intern (Mentors: Boaz Barak and Madhu Sudan)

Microsoft Research, Bangalore, India   July-Sep 2013

Research Intern (Mentor:Prateek Jain)

IBM Almaden Research Center, San Jose, CA, USA   May-Aug 2012

Research Intern (Mentors: Jan Vondrák and Vitaly Feldman)

Microsoft Research Redmond, WA, USA   May-July 2009

Research Intern (Mentors: Madanlal Musuvathi and Sebastian Burckhardt)

PUBLICATIONS

1. *SoS and Planted Clique: Tight Analysis of MPW Moments for all Degrees and an Optimal Lower Bound at Degree 4*
with Samuel Hopkins and Aaron Potechin
SODA, 2016 (to appear).
Invited to the **ACM Transactions on Algorithms**, *Special Issue for SODA 2016*
(to be merged with *Tight Lower Bounds for Planted Clique in the Degree 4 SoS Program* by Prasad Raghavendra and Tselil Schramm).

2. *Communication With Contextual Uncertainty*
with Badih Ghazi, Ilan Komargodski and Madhu Sudan.
SODA, 2016 (to appear).

3. *Sum of Squares Lower Bounds from Pairwise Independence*
with Boaz Barak and Siu On Chan
STOC, 2015.

4. *Almost Optimal Pseudorandom Generators for Spherical Caps*
with Raghu Meka
STOC 2015.

5. *Agnostically Learning Disjunctions on Symmetric Distributions*
with Vitaly Feldman
To appear, **JMLR**, 2015.

6. *Provable Submodular Minimization Using Wolfe's Algorithm*
with Deeparnab Chakrabarti and Prateek Jain
NIPS (Oral Presentation), 2014.

7. *Nearly Tight Bounds on ℓ_1 Approximation of Self Bounding Functions*
with Vitaly Feldman and Jan Vondrǎk
Preprint, 2014.

8.*Embedding Hard Learning Problems into Gaussian Space*
with Adam Klivans
RANDOM, 2014.

9. *Learning Coverage Functions and Private Release of Marginals*
with Vitaly Feldman
COLT, 2014.

10. Testing Surface Area
with Amir Nayyeri, Ryan O'Donnell and Chenggang Wu
SODA, 2014.

11. *Constructing Hard Functions from Learning Algorithms*
with Adam Klivans and Igor Oliveira
CCC, 2013.

12. *Representation, Approximation and Learning of Submodular Functions using Low Rank Decision Trees*
with Vitaly Feldman and Jan Vondrák
COLT, 2013.

13. *An Explicit VC-Theorem for Low Degree Polynomials*
with Eshan Chattopadhyay and Adam Klivans
RANDOM, 2012.

14. *Submodular Functions are Noise Stable*
with Adam Klivans, Homin K. Lee, Mahdi Cheraghchi
SODA, 2012.

15. *Differentially Private Online Learning*
with Prateek Jain, Abhradeep G. Thakurta
COLT, 2012.

16. *A Randomized Scheduler with Probabilistic Guarantees of Finding Bugs*
with Madanlal Musuvathi, Sebastian Burckhardt and Santosh Nagarakatte
ASPLOS, 2010.

PATENT

Concurrency Software Testing with Probabilistic Bounds on Finding Bugs

with S. Nagarakatte, M. Musuvathi and S. Burckhardt
USPTO, Filing Date: December 1, 2009, Application number: 12/628,223.

HONORS

1. **Simons Award** for Graduate Students in Theoretical Computer Science 2015.

2. Invited speaker at the ***China Theory Week 2013*** (Center for Theory of Interactive Computation, Aarhus University, Denmark) and ***China Theory Week 2015*** (Shanghai Jiao Tong University, Shanghai, China).

3. ***O P Jindal (OPJEMS) Engineering Scholarship*** , for years 2008 and 2009.

4. **Academic Excellence Award**, IIT Kanpur for years 2006-2010.

SERVICE

Served as reviewer and subreviewer for journals (Journal of the ACM, ACM Transactions on Algorithms, Mathematics of Operations Research) and conferences (STOC, FOCS, CCC, SODA, COLT).

REFERENCES

Prof. Adam Klivans
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Prof. Boaz Barak
Professor of Computer Science
Harvard University
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Prof. Madhu Sudan
Professor of Computer Science
Harvard University
madhu-letters@g.harvard.edu

Prof. Raghu Meka
Assistant Professor of Computer Science
The University of California at Los Angeles
raghum@cs.ucla.edu