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Education

Ph.D Candidate in Computer Science
University of Chicago, Chicago, USA
M.S in Computer Science, University of Chicago, February 2006
M.Tech in Communications and Signal Processing, August 2003
B.Tech in Electrical Engineering, August 2002
IIT Bombay

Experience

Summer Camps at ISI Calcutta in the years 98-02. Courses on Commutative Algebra, Differential Geometry, Topology, Probability Theory and Stochastic Processes

Publications

- Minimizing Average Latency in Oblivious Routing.
  P. Harsha and T. Hayes and H. Narayanan and H. Racke and J. Radhakrishnan
  ACM-SIAM Symposium on Discrete Algorithms (SODA), January 2008
- Geographic Gossip on Geometric Random Graphs via Affine Combinations.
  H. Narayanan
  ACM Symposium on Principles of Distributed Computing (PODC), August 2007
- Geometric Complexity Theory V: On deciding nonvanishing of a generalized Littlewood Richardson Coefficient.
  K. Mulmuley and H. Narayanan
  Technical Report TR-2007-05, Computer Science Department, University of Chicago, April 2007
- On the relation between Low Density Separation, Spectral Clustering and Graph Cuts.
  H. Narayanan, M. Belkin and P. Niyogi
  20th Annual Conference on Neural Information Processing Systems (NIPS'06)
- Heat Flow and a faster algorithm to Compute the Surface Area of a Convex Body .
  M. Belkin, H. Narayanan and P. Niyogi
  47th Annual IEEE Symposium on Foundations of Computer Science (FOCS'06)
- On the complexity of computing Kostka numbers and Littlewood-Richardson coefficients.
  H. Narayanan
  18th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC'06)
  Journal of Algebraic Combinatorics.

Preprints

- Damped random walks and the characteristic polynomial of the weighted graph Laplacian.
  M.Desai and H. Narayanan
  http://arxiv.org/abs/math.PR/0506460
- Random Trees in Electrical Networks.
  http://arxiv.org/abs/math.PR/0607011

Talks

- Damped Random walks and the spectrum of the Graph Laplacian.
  Jun 2004, Tata Institute of Fundamental Research (TIFR), Bombay
- The computation of Kostka numbers and Littlewood-Richardson coefficients is #P-complete.
  Nov 2004, Toyota Technological Institute, Chicago
  Jun 2006, FPSAC'06, San Diego
- A Randomized polynomial-time algorithm for computing the surface volume of a smooth convex body.
  Nov 2005, Toyota Technological Institute, Chicago
  Feb 2006, Ohio State University
- Heat Flow and a Faster Algorithm to Compute the Surface Area of a Convex Body.
  Aug 2006, Georgia Tech Theory Seminar
  Oct 2006, Toyota Technological Institute, Chicago
  Oct 2006, FOCS'06, Berkeley

Awards and Honors

- First nationwide in the Indian National Mathematical Olympiad with a score of 100/100 in 1997.
- Silver Medal in the 39th International Mathematical Olympiad held in 1998 at Taipei.
- Won (with 3 other students) the Hardcore Hardware electronics competition hosted during Tech-Fest 2002, the IIT Bombay technological festival for a Bluetooth-enabled Neonatal Monitor.
- Awarded Institute Colours for the years 2001 and 2002 for performance in technical competitions.
- Recipient of the KVPY Engineering fellowship (instituted by the Govt. of India) during 2000-2003, which was awarded to 10 students nationwide for this period.
- Recipient, William Eckhardt Graduate Fellowship, Department of Computer Science, University of Chicago, 2006-2007.