Rishi Gupta

rishig@cs.stanford.edu   (650) 930-6997

EDUCATION

Stanford University   *2011 – 2016*
PhD candidate in Computer Science, advised by Tim Roughgarden.

Massachusetts Institute of Technology   *2008 – 2011*
M.Eng. in Computer Science, advised by Piotr Indyk.
B.S. in Math and Computer Science.

Harvard University   *2005 – 2007*
Completed most of a degree in Theoretical Math.

AWARDS

Research and Teaching

    School of Engineering Centennial TA Award (Stanford)   *2015*
    CS Department Forsythe Teaching Award (Stanford)   *2015*
    CS Department Fellowship (Stanford)   *2011-12*
    Draper Labs Fellowship (for Masters research)   *2010-11*

Competitions

    William Lowell Putnam Math Competition, Honorable Mention   *2006-07, 2009*
    USA Math Olympiad, Winner (top 12)   *2005*
    Mathcounts Nationals, Fourth place   *2001*

Patents

    US Patent 9213916 on my Masters thesis (with other co-inventors).   *2011*
    Manuscript available at `http://web.mit.edu/rishig/papers/attitude.pdf`.

PUBLICATIONS

- *A PAC Approach to Application-Specific Algorithm Selection*, with T. Roughgarden.
  SIAM Journal on Computing (2017), Innovations in Theoretical Comp. Sci. (2016).
  Available at `http://arxiv.org/abs/1511.07147`.

- *On Mixtures of Markov Chains*, with R. Kumar and S. Vassilvitskii.
  Advances in Neural Information Processing Systems (2016).
  Available at `https://papers.nips.cc/paper/6078-on-mixtures-of-markov-chains.pdf`.

- *Decompositions of Triangle-Dense Graphs*, with T. Roughgarden and C. Seshadhri.
  SIAM Journal on Computing (2016), Innovations in Theoretical Comp. Sci. (2014).
  Available at `http://arxiv.org/abs/1309.7440`.

- *Compressive Sensing with Local Geometric Features*, with P. Indyk, E. Price, and Y. Rachlin.
  Int. J. of Computational Geometry & App. (2012), Symp. on Computational Geometry (2011).
  Available at `http://arxiv.org/abs/1208.2447`.

OTHER EXPERIENCE

Internships

Google Research New York, *Modeling, Algorithms, and Data*   *2015*
> Theory: Learning a Mixture of Markov Chains, as a model for unsupervised clustering of users or user experiences in an app (manuscript available on request).
> Non-theory: Clustering search queries, as a first step towards unsupervised learning of query intents.

Microsoft Research Bangalore, *Algorithms Group*   *2014*
> Tried to get a handle on the performance of a greedy algorithm for set cover in a beyond worst-case analysis framework.

oDesk, *Data Products*   *2013*
> ODesk matches job openings to freelancers in an on-line marketplace. Found features to improve the current recommendation system, and worked with a product team to make appropriate changes to the UI.

Quora, *Data Science*   *2012*
> Investigated effects of product changes on user behavior. Designed an answer ranking algorithm. Played with a topic recommendation system.

Dropbox, *Analytics*   *2011*
> Analyzed paying users to determine how they were using the product. Wrote a framework for making longitudinal queries on usage data.

Arcot Systems, *Engineering*   *2006*
> Worked with marketing to make web demos of Arcot products.

Leadership

Harvard-MIT Math Tournament, *Tournament Director and Problem Writer*   *2006-2010*
> Directed and wrote dozens of problems for the annual contest, which attracts 700 top high school students from around the world. Also co-founded a math tournament for 300 high school students in the greater Boston area, now in its eighth year.

East Campus "Bad Ideas" Engineering Competition, *Lead organizer*   *2009*
> A weekend of unusual and innovative mechanical and electronic projects. Helped guide over two dozen projects and events.

Residential Hall at MIT, *Elected chair*   *2008-2009*
> Organized events, helped socially integrate freshman, diffused conflicts between the hall and the administration.

Atomic Runners' Collective, *Co-founder*   *2006-2007*
> Restarted an adventure running club that ran races around the Boston area.

Service

Reviewer for RSA, SODA, COLT, STACS, and TSP.   *ongoing*

Helped start and organize an annual retreat for Stanford theory students.   *2013*