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RESEARCH INTERESTS I am motivated to develop Algorithmic solutions for real-world problems that can deliver impacts. In general, my interests broadly span areas of approximation algorithms, parallel computing, algorithms for large-scale machine learning and data mining, theory of communication networks.

EDUCATION **Carnegie Mellon University**, Pittsburgh, PA USA
Ph.D. Candidate, Computer Science Department.
(started August 2006)
Advisors: Professor Guy E. Blelloch and Professor Anupam Gupta.

Carnegie Mellon University, Pittsburgh, PA USA
Bachelor of Science in Computer Science (Cumulative GPA: 4.0/4.0)
with an additional major in Mathematical Science, May 2006

AWARDS Carnegie Mellon University SCS Graduate Fellowship, 2006 – present.
Allen Newell Award for Excellence in Undergraduate Research, 2006.
Graduated CMU with University and College Honors, 2006.
Computing Research Association Outstanding Undergraduate Award (Runner-Up)¹, 2006.
Inducted into Phi Kappa Phi, 2006.
Inducted into Phi Beta Kappa, 2005.
Bronze Medalist, the International Olympiad in Informatics, 2000 and 2001.

PUBLICATIONS

For more information, click on paper titles or here!

1. *An Experimental Analysis of Self-Adjusting Computation* (ACM Transactions on Programming Languages and Systems (TOPLAS), 2009, to appear)
With Umut A. Acar, Guy E. Blelloch, Matthias Blume, and Robert Harper.
2. *Simpler Analyses of Local Search Algorithms for Facility Location* (arXiv:0809.2554v1)
With Anupam Gupta.
3. *All-Norms and All- L_p -Norms Approximation Algorithms* (FSTTCS 2008)
With Daniel Golovin, Anupam Gupta, and Amit Kumar.
4. *Robust Kinetic Convex Hulls in 3D* (ESA 2008)
With Umut A. Acar, Guy E. Blelloch, and Duru Türkoğlu.
5. *Kinetic 3D Convex Hulls via Self-Adjusting Computation* (SoCG 2007)
With Umut A. Acar, and Guy E. Blelloch.
6. *Kinetic Algorithms via Self-Adjusting Computation* (ESA 2006)
With Umut A. Acar, and Guy E. Blelloch
7. *An experimental analysis of self-adjusting computation* (PLDI 2006)
With Umut A. Acar, Guy E. Blelloch, and Matthias Blume.
8. *A Library for Self-Adjusting Computation* (ACM SIGPLAN ML 2005)
With Umut A. Acar, Guy E. Blelloch, Matthias Blume, and Robert Harper.

TEACHING	<p><i>Teaching Assistant</i>, 15-750: Graduate Algorithms (Spring 2009). Instructor: Professor Gary Miller.</p> <p><i>Teaching Assistant</i>, 15-492: Parallel Algorithms (Fall 2007). Instructor: Professor Guy Blelloch.</p> <p><i>Teaching Assistant</i>, 15-251: Great Theoretical Ideas in Computer Science (Fall 2005). Instructors: Professors Anupam Gupta and John Lafferty.</p>
SELECTED CLASS PROJECTS	<p>Dynamic Downloads in Similarity-Enhanced Transfer (Instructor: David Andersen) Class project for Advanced and Distributed Operating Systems. We proposed a new algorithm, called DSET, that estimates the similarity between pairs of files and chooses an appropriate chunk size at which Similarity-Enhanced Transfer (SET) should download.</p> <p>Computing the Eigenvalues of Large Graphs (Instructor: Christos Faloutsos) Class project for Multimedia Databases and Data Mining. We developed algorithms for computing the singular values/eigenvalues of large graphs by using graph compression techniques to create locality.</p>
RELEVANT COURSE EXPERIENCE	<p><i>Theory:</i> Advanced Approximation Algorithms (Gupta/O'Donnell), Complexity Theory (Rudich), Spectral Graph Theory and Scientific Computing (Miller), Special Topics in Theory: Mathematical Game Theory (Frieze/Sleator), Graduate Discrete Mathematics (Smyth), Information Networks (Frieze).</p> <p><i>Related:</i> Multimedia Databases and Data Mining (Faloutsos), Machine Learning (Guestrin), Advanced and Distributed Operating Systems (Andersen), Internet Services (O'Hallaron), Performance Modeling and Design of Computer Systems (Harchol-Balter).</p>
REFERENCES	Available on request.

¹The award recognizes undergraduate students studying in North America who demonstrate outstanding research potential in an area of computing research.