Samuel B. Hopkins

Ph.D Student
Cornell Computer Science

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http://samhopkins.net

Interests

Algorithms and Complexity – average case analysis, approximation algorithms, SDP hierarchies, combinatorial optimization, hardness of approximation

Education

Ph.D Student, Cornell University, 2013 –
Computer Science, Theory of Computing Group
Advisor: David Steurer

B.S., University of Washington, 2008 – 2013
Computer Science, Mathematics, Philosophy (minor)
Advisor: Paul Beame
Thesis: *Towards a Theory of Multiparty Information Complexity*

Previous Academic Positions

Research Intern, Microsoft Research New England, Summer 2015
Hosted by Boaz Barak.

Visiting Graduate Student, Simons Institute, Fall 2014

Visiting Researcher, DIMACS at Rutgers, Summer 2011
Hosted by Eric Allender.

Teaching Experience

TA, senior-level complexity theory, Cornell CS, Fall 2015
TA, senior-level compilers, Cornell CS, Fall 2013
Tutor, UW Philosophy Writing Center, Fall 2010 – Spring 2012
TA, sophomore/junior-level probability, UW CSE, Fall 2011
TA, University of Washington Robinson Center for Young Scholars ethics, Winter 2010, mathematics, Summer 2010

Other Employment

Engineering Intern, Google, Summer 2012

Honors and Awards

National Science Foundation Graduate Research Fellow, 2013
Cornell University Fellow, 2013
Outstanding Graduating Senior in Computer Science, UW CSE, 2013
Outstanding Graduating Comprehensive Senior, UW Mathematics, 2013
James A. Hewitt, Jr. Endowed Scholar, 2011

Outstanding Undergraduate Scholar, UW Philosophy, 2011
Phi Beta Kappa, 2011
Dean's List, 2008 – 2013
National Merit Finalist, 2008

Papers

Speeding up Sum-of-Squares for Tensor Decomposition and Planted Sparse Vectors
Samuel B. Hopkins, Tselil Schramm, Jonathan Shi, David Steurer
In Preparation

On the SoS Integrality Gap for Planted Clique
Samuel B. Hopkins, Pravesh Kothari, Aaron Potechin, Prasad Raghavendra, Tselil Schramm
SODA 2016

Tensor Principal Component Analysis via Sum-of-Squares Proofs
Samuel B. Hopins, Jonathan Shi, David Steurer
COLT 2015

Kolmogorov Complexity, Circuits, and the Strength of Formal Theories of Arithmetic
Eric Allender, George Davie, Luke Friedman, Samuel B. Hopkins, Iddo Tzameret
Chicago Journal of Theoretical Computer Science, 2013

On Objects as Events and the Ontology of Temporal Parts
Sam Hopkins
Res Cogitans, Summer 2010

Outreach

Instructor, Center for Talented Youth math day
Guest Instructor, Berkeley Math Circle
Instructor, Montlake Math Challenge math circle
Guest Lecturer, Lakeside School
High School Programming Contest Materials Development

Other Activities

Biking, skiing, running, swimming, eating, cooking