Jeremy Kun

Curriculum Vitae

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Personal

Name	Jeremy Kun
Thesis advisor	Lev Reyzin
Research summary	I am a theoretical computer scientist with broad interests, including complexity theory, graph theory and network science, learning theory, cryptography, combinatorics, and geometry. My research to date focuses on theoretical and applied graph theory.
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Education

2011 - Present	**University of Illinois at Chicago**, Ph.D in Mathematics., Expected 2016.
2007 - 2011	**California Polytechnic State University**, B.S. in Mathematics, Minor in Computer Science., Magna Cum Laude.
2011	**Budapest Semesters in Mathematics**, Graduated with honors.

Publications

2015 **Fair Boosting: a Case Study**, *Benjamin Fish, Jeremy Kun, Adam Lelkes*, International Conference on Machine Learning Workshop on Fairness, Accountability, and Transparency in Machine Learning.

2015 **Open Problem: Learning Quantum Circuits with Queries**, *Jeremy Kun, Lev Reyzin*, Conference on Learning Theory.

2014 **A Boosting Approach to Learning Graph Representations**, *Rajmonda Caceres, Kevin Carter, Jeremy Kun*, SIAM International Conference on Data Mining Workshop on Mining Networks and Graphs.

2014 **On Coloring Resilient Graphs**, *Jeremy Kun, Lev Reyzin*, Mathematical Foundations of Computer Science.

2013 **Anti-Coordination Games and Stable Graph Colorings**, *Jeremy Kun, Brian Powers, Lev Reyzin*, Syposium on Algorithmic Game Theory.

Preprints

A Confidence-Based Approach for Balancing Fairness and Accuracy, Benjamin Fish, Jeremy Kun, Adam Lelkes.
In review

Network Installation Under Convex Costs, Alexander Gutfraind, Jeremy Kun, Adam Lelkes, Lev Reyzin.
To appear in Journal of Complex Networks

On the Computational Complexity of MapReduce, Benjamin Fish, Jeremy Kun, Adam Lelkes, Lev Reyzin, Gyorgy Turan.
In review

Information Monitoring in Routing Networks, David Burstein, Franklin Kenter, Jeremy Kun, Feng Shi.
In review

Locally Boosted Graph Aggregation for Community Detection, Rajmonda Caceres, Kevin Carter, Jeremy Kun.
In review

Awards

2014 **Dean's Scholar Award**, *To provide the most distinguished, advanced-level graduate students with a period of time dedicated solely to the completion of their programs*, Granted by University of Illinois at Chicago.
Monetary value of $25,000

2011 **Charles J. Hanks Excellence in Mathematics Award**, *Demonstrated excellence and outstanding ability*, Granted by California Polytechnic State University.

2010 **Robert P. Balles Mathematics Award**, *Highest GPA in mathematics coursework after three years*, Granted by California Polytechnic State University.

2007 **Eagle Scout Award**, *Troop 234 of Moraga, CA*, Granted by Boy Scouts of America.

2009 **3rd Place in a Collegiate Regional Programming Contest**, *Three-person team programming tasks*, Granted by Association for Computing Machinery.

Service

2014 **Publicity Co-Chair**, *ISAIM 2014*, International Symposium on Artificial Intelligence and Mathematics.

2013 - Present **Organizer**, *Graduate Student Theoretical Computer Science Seminar*, University of Illinois at Chicago.

2013 **Instructor**, *Website Workshop*, Association for Women in Mathematics, University of Illinois at Chicago.

Professional Programs

June 2014 **Network Science Week**, *American Mathematical Society Mathematics Research Community*.
Received mentoring, engaged in research to attack open problems, and developed new collaborations

Summer 2013 **Ph.D Student Intern**, *MIT Lincoln Labs*.
Research on machine learning in large graphs

Summer 2012 **Ph.D Student Intern**, *Lawrence Livermore National Laboratory*.
Data mining research in wind energy and plasma physics

Summer 2009 **Software Developer Intern**, *Amazon.com*.
Worked on the message-passing framework in a million-line service-oriented C++ architecture which regulated inventory in all of Amazon's warehouses

Talks

2014 **On Resiliently Colorable Graphs**, *Computer Science Seminar, University of Illinois at Chicago*, Research talk.

2014 **Resilient Coloring and Other Combinatorial Problems**, *Midwest Theory Day. Purdue University*, Research talk.

2013 **Anti-Coordination Games and Stable Graph Colorings**, *Computer Science Seminar, University of Illinois at Chicago*, Research talk.

2015 **Information Monitoring in Routing Networks**, *Chicago Area SIAM Student Conference, Illinois Institute of Technology*, Graduate student talk.

2014 **How to Combine Graphs**, *Chicago Area SIAM Student Conference, Northwestern University*, Graduate student talk.

2013 **Stable Graph Colorings, and Why You Should Care about NP**, *Graduate Student Colloquium, University of Illinois at Chicago*, Graduate student talk.

2013 **A Brief Overview of Persistent Homology and its Applications**, *Chicago Area SIAM Student Conference, University of Illinois at Chicago*, Graduate student talk.

2015 **How to Send Secret Messages (RSA)**, *'Math and Snacks,' University of Illinois at Chicago*, Undergrad talk.

2014 **Hybrid Images and Fourier Analysis**, *Undergraduate Math Club, University of Illinois at Chicago*, Undergrad talk.

2014 **Elliptic Curves, Projective Geometry, and Python**, *Stanford Pre-Collegiate Studies*, High school talk.

2013 **Classic Nintendo Games are NP-Hard**, *Undergraduate Math Club, University of Illinois at Chicago*, Undergrad talk.

2012 **PageRank and the Billion-Dollar Eigenvector**, *Undergraduate Math Club, University of Illinois at Chicago*, Undergrad talk.

2011 **Eigenfaces: Linear Algebra for Facial Recognition**, *Undergraduate Math Club, University of Illinois at Chicago*, Undergrad talk.

2011 - Present **Guest lectures to high school students**, *Various locations*, High school talk.

Teaching

Intro Comp Sci **TA**, *University of Illinois at Chicago*, Spring 2012, Fall 2012, Spring 2013.
Wrote a grading robot for all labs and projects

Calculus 1 **TA**, *University of Illinois at Chicago*, Fall 2011, Fall 2013.
Led a discussion session twice weekly

Other

Blog **Math Intersect Programming**, In-depth presentation of technical topics, with full implementations in code. As of February 2015: 202 published posts, 2000 word average post length, 2 million page views since June 2011.