

Jeremy Kun

Curriculum Vitae

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Personal

Name Jeremy Kun
Thesis Lev Reyzin
advisor
Research I am a theoretical computer scientist with broad interests, in-
summary cluding 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 - **University of Illinois at Chicago**, Ph.D in Mathematics.,
Present Expected 2016.
2007 - 2011 **California Polytechnic State University**, B.S. in Math-
ematics, 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, Symposium on Algorithmic Game Theory.

Preprints

[Network installation and recovery: approximation lower bounds and fast](#)

Alexander Gutfraind, Jeremy Kun, Adam Lelkes, Lev Reyzin.

In review

[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 - **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 **Ph.D Student Intern**, *MIT Lincoln Labs*.
2013 Research on machine learning in large graphs
- Summer **Ph.D Student Intern**, *Lawrence Livermore National Laboratory*.
2012 Data mining research in wind energy and plasma physics
- Summer **Software Developer Intern**, *Amazon.com*.
2009 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.