Jeremy Kun

Curriculum Vitae

✉ *jkun2 /at/ uic.edu*

▬ 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, 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.
2010	**Budapest Semesters in Mathematics**, Graduated with honors.

▬ Publications

2016	**A Confidence-Based Approach for Balancing Fairness and Accuracy**, *Benjamin Fish, Jeremy Kun, Adam Lelkes*, SIAM International Symposium on Data Mining.
2015	**On the Computational Complexity of MapReduce**, *Benjamin Fish, Jeremy Kun, Adam Lelkes, Lev Reyzin, Gyorgy Turan*, International Symposium on Distributed Computing.
2015	**Network Installation Under Convex Costs**, *Alexander Gutfraind, Jeremy Kun, Adam Lelkes, Lev Reyzin*, Journal of Complex Networks.
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

Interception in Distance-Vector 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 |
| 2015 | **Best Student Poster Award**, *For the poster 'Information Monitoring in Routing Networks'*, Granted by SIAM Network Science 15.
Monetary value of $100 |
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.

Service

2015	**Reviewer**, *ALT 2015*, Algorithmic Learning Theory.
2014	**Publicity Co-Chair**, *ISAIM 2014*, International Symposium on Artificial Intelligence and Mathematics.
2015	**Organizer**, *Graduate Student Colloquium*, University of Illinois at Chicago.
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

2015	**Resilience and new approaches to approximate graph coloring**, *Theory Seminar, North Carolina State University*, Research talk.
2015	**What Can Algorithms Tell Us About Life, Love, and Happiness?**, *Moraine Valley Community College STEM Talks*, General audience talk.
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	**A Gentle Introduction to Learning Theory**, *Graduate Student Colloquium, University of Illinois at Chicago*, Graduate student 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	**Eigenfaces: using linear algebra to recognize faces**, *Undergraduate Math Club, Wheaton College*, Undergraduate student talk.
2015	**How to Send Secret Messages (RSA)**, *'Math and Snacks,' University of Illinois at Chicago*, Undergraduate student talk.
2014	**Hybrid Images and Fourier Analysis**, *Undergraduate Math Club, University of Illinois at Chicago*, Undergraduate student 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*, Undergraduate student talk.
2012	**PageRank and the Billion-Dollar Eigenvector**, *Undergraduate Math Club, University of Illinois at Chicago*, Undergraduate student talk.
2011	**Eigenfaces: Linear Algebra for Facial Recognition**, *Undergraduate Math Club, University of Illinois at Chicago*, Undergraduate student talk.
2011 - Present	**Guest lectures to high school students**, *Various locations*, High school talk.

Posters

2015 **Information Monitoring in Routing Networks**, SIAM Workshop on Network Science.

Teaching

Calculus 1 **TA**, *University of Illinois at Chicago*, Fall 2011, Fall 2013, Fall 2015.
Led a discussion session twice weekly

Differential **TA**, *University of Illinois at Chicago*, Spring 2016.
Equations Led a discussion session once weekly

Introduction **TA**, *University of Illinois at Chicago*, Spring 2012, Fall 2012, Spring 2013.
to Mathe- Wrote a grading robot for all labs and projects
matical
Computer
Science

Other

Blog **Math Intersect Programming**, In-depth presentation of technical topics with full implementations in code. As of August 2015: 212 published posts, 2000 word average post length, over 2 million page views since June 2011.