

Antares Chen

Graduate Student at the University of Chicago

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Education

Ph.D. in Computer Science Expected May 2026
University of Chicago
Advised by: Prof. Lorenzo Orecchia

B.A. in Computer Science and Mathematics May 2020
University of California Berkeley

Academic Experience

Research Assistant 2019 – 2019
Bocconi University
Advised by Prof. Luca Trevisan

- Study spectral sparsification lower bounds, cut sparsifier constructions for dense graphs, and tools from statistical physics to analyze cuts of random graphs.

Research Assistant 2016 – 2019
University of California Berkeley
Advised by Aaron Schild

- Study electrical flows, graph sparsification, and applications towards constructing fast Laplacian solvers.
- Develop algorithms for efficiently simulating the abelian sandpile model on undirected graphs.

Advised by Prof. Satish Rao

- Studied experts, bandits, and online local learning.
- Studied using online optimization frameworks to recover planted structure.

Research Assistant 2015 – 2016
Berkeley Institute of Design
Advised by Prof. Armando Fox

- Studied methods for clustering student code.
- Developed AutoStyle, an application that provides students automated coding style feedback.
- Deployed AutoStyle to classroom settings with +1500 students.

Research Assistant 2014 – 2014
Stanford University Computational Geometry Group
Advised by Jonathan Huang

- Studied methods for clustering Fitch style proofs.

Research Assistant 2013 – 2015
University of Maryland College Park
Advised by Prof. Aravind Srinivasan and David G. Harris

- Studied the probabilistic method and the algorithmic Lovász Local Lemma.
- Developed dependent rounding algorithms for solving covering integer linear programs.

Industry Experience

Student Researcher	Google Member of the Data Commons project (link). - Help curate an open source knowledge graph of public data sets. - Implemented the Python API (Github) for querying the knowledge graph. - Lead the DataCommons pilot in UC Berkeley's DS100 (blog post).	2018 – 2019
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Writing

Preprints

1. "Cut sparsification of the clique beyond the ramanujan bound." Antares Chen, Jonathan Shi, Luca Trevisan in *arXiv:2008.05648*

Conference Proceedings

1. "Teaching students to recognize and implement good coding style." Eliane S. Wiese, Michael Yen, Antares Chen, Lucas A. Santos, Armando Fox in *Proceedings of the ACM Conference on Learning at Scale 2017*, pp. 41-50.
2. "Partial resampling to approximate covering integer programs." Antares Chen, David G. Harris and Aravind Srinivasan in *Proceedings of the ACM-SIAM Symposium on Discrete Algorithms 2016*, pp. 1984-2003.

Invited Talks and Abstracts

1. "Preliminary evidence for learning good coding style with Autostyle." Antares Chen, Eliane S. Wiese, Hezheng Yin, Armando Fox presented at *Learning with MOOCs 2016*

Teaching Experience

Sp2019	<i>CS170 Efficient Algorithms and Intractable Problems</i> Undergraduate Student Instructor	University of California Berkeley
Su2017	<i>CS375 Teaching Techniques for Computer Science</i> Undergraduate Student Instructor	University of California Berkeley
Su2016 – Sp2018	<i>CS61B(L) Data Structures and Programming</i> (Head) Undergraduate Student Instructor	University of California Berkeley

Honors & Awards

2014	<i>Best Technical Presentation</i> Doolittle Institute's Mini-Urban Challenge
2014	<i>Governor's Citation for Promoting STEM Inclusiveness Through FIRST Robotics</i> Office of Governor Martin O'Malley
2013	<i>Honorable Mention for Paper "Utilizing CNTFETs for Computer Design"</i> Toshiba NSTA ExploraVision Essay Writing Contest

Community Activities

Founder Undergraduate Theoretical Computer Science @ Berkeley (link) 2018 – 2019
- Organized reading groups: *Convex Optimization and Maximum Flows*, *A Theorist's Toolkit*, *Approximation Algorithms*, and *Algorithmic Analysis Beyond the Worst-Case*

Skills

Programming Python, Java, C, C++, Matlab, Mathematica, HTML/CSS, L^AT_EX