Xifan Yu

Contact Information

Email: xifan.yu@yale.edu Tel: (773) 690-2203
Homepage: xifanyu.github.io
Address: 37 Trumbull St, Apt 5E, New Haven, CT, 06510

Research Interests

I am interested broadly in theoretical computer science. Recently I am interested in graph theory, average-case complexity, Sum-of-Squares algorithms, and high-dimensional statistics.

Education

Yale University *Sept 2021 - Present*
Ph.D. in Computer Science (expected June 2027)

University of Chicago *Sept 2017 - June 2021*
M.S. in Computer Science (June 2021)
B.S. in Computer Science (June 2021)
B.S. in Mathematics (June 2021)

Teaching Experience

Yale University, Department of Computer Science *Sept 2022 - May 2023*
Teaching Fellow *New Haven, CT*

- CPSC 365 Algorithms, Dr. Dylan McKay, Spring 2023
- CPSC 202 Mathematical Tools for CS, Dr. Dylan McKay, Fall 2022

University of Chicago, Department of Computer Science *Oct 2020 - Mar 2021*
Teaching Assistant *Chicago, IL*

- CMSC 27230 Honors Theory of Algorithms, Prof. László Babai, Winter 2021
- CMSC 37115 Intro to Mathematical Reasoning, Prof. László Babai, Autumn 2020

University of Chicago, Department of Computer Science *April 2019 - June 2020*
Grader *Chicago, IL*

- CMSC 27500 Graph Theory, Prof. Ketan Mulmuley, Spring 2020
- CMSC 37000 Algorithms, Prof. Yury Makarychev, Winter 2020
- CMSC 27530 Honors Graph Theory, Prof. László Babai, Spring 2019

Industry Experience

Horizon Robotics Inc. *June 2019 - Sept 2019*
Software Engineer *Cupertino, CA*

Papers

Computational hardness of detecting graph lifts and certifying lift-monotone properties of random regular graphs. Dmitriy Kunisky, Xifan Yu. *Symposium on Foundations of Computer Science (FOCS)*, 2024

Counting stars is constant-degree optimal for detecting any planted subgraph. Xifan Yu, Ilias Zadik, Peiyuan Zhang. *Conference on Learning Theory (COLT)*, 2024

A degree 4 sum-of-squares lower bound for the clique number of the Paley graph. Dmitriy Kunisky, Xifan Yu. *Computational Complexity Conference (CCC)*, 2023

Honors and Awards

- **Phi Beta Kappa, Inducted** *June 2020*
  University of Chicago
- **Student Marshall** *June 2020*
  University of Chicago
- **Dean's List** *2017-2018, 2018-2019, 2019-2020*
  University of Chicago

Programming Competition Awards

- **Top 1000 in Round 2** *May 2020*
  Google Code Jam 2020
- **North America Finalist** *Feb 2020*
  International Collegiate Programming Contest's inaugural North America Championship
- **Top 500 in Round 2** *July 2019*
  Facebook Hacker Cup 2019
- **World Finalist** *April 2019*
  43rd Annual World Finals of the International Collegiate Programming Contest

References

Dan A. Spielman
Sterling Professor of Computer Science
a Professor Statistics and Data Science and of Mathematics

Yale University
daniel.spielman@yale.edu
(203) 436-1264