ZHIHAN JIN

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RESEARCH INTEREST

My research interest lies broadly in Discrete Mathematics, including Ramsey theory, algebraic and probabilistic Methods in Combinatorics, extremal set theory and the applications in Theoretical Computer Science.

EDUCATION

ETH Zürich   *October 2022 -*
- PhD in Mathematics
- Supervised by *Prof. Benny Sudakov*

ETH Zürich   *September 2020 - August 2022*
- Master of Computer Science
- GPA: **5.89/6**

Shanghai Jiao Tong University   *September 2016 - June 2020*
- Bachelor of Engineering in Computer Science and Technology, **ACM Honors Class**, Zhiyuan College
- **ACM Honors Class** is an elite CS program for **top 5%** talented students in Shanghai Jiao Tong University.
- Advisor: **Yong Yu**
- GPA: **91.31/100** (**3.93/4.3**)   Rank: **$3^{rd}/37$**.

PUBLICATION LIST

Zhihan Jin, Matthew Kwan, Lisa Sauermann, Yiting Wang, Algebraic aspects of the polynomial Littlewood-Offord problem, submitted.

Barnabás Janzer, Zhihan Jin, Benny Sudakov, Kewen Wu, Sunflowers and Ramsey problems for restricted intersections, submitted.

Zhihan Jin, Matthew Kwan, Lyuben Lichev, Colouring random Hasse diagrams and box-Delaunay graphs, submitted.

Noga Alon, Zhihan Jin and Benny Sudakov, The Helly number of Hamming balls and related problems, submitted.

Lior Gishboliner, Zhihan Jin and Benny Sudakov, Difference-Isomorphic Graph Families, submitted.

Michael Anastos, Zhihan Jin, Matthew Kwan and Benny Sudakov, Extremal, enumerative and probabilistic results on ordered hypergraph matchings, *Forum of Mathematics*, Sigma 13 (2025), e55.

Recep Altar Çiçeksiz, Zhihan Jin, Eero Räty and István Tomon, Exponential Erdős-Szekeres theorem for matrices, *Proc. London Math. Soc.*, (2024), Vol. 129, (3): e12632.

Lior Gishboliner, Zhihan Jin and Benny Sudakov, Ramsey problems for monotone paths in graphs and hypergraphs, *Combinatorica*, (2024): 1-21.

Lior Gishboliner, Zhihan Jin and Benny Sudakov, The Minimum Degree Removal Lemma Thresholds, *J. Combinatorial Theory Ser. B,* 166 (2024), 203-221.

Zhihan Jin and István Tomon, Semi-algebraic and semi-linear Ramsey numbers, *J. of Combinatorial Theory Ser. B,* 163 (2023), 54-82.

Zhengfeng Ji, Zhihan Jin and Pinyan Lu, Approximating Permanent of a Random Matrix: Made Better and Simpler, *SODA* 2020.

Surbhi Goel, Aravind Gollakota, Zhihan Jin, Sushrut Karmalkar and Adam Klivans, Superpolynomial Lower Bounds for Learning One-Layer NeuralNetworks using Gradient Descent, *ICML* 2020.

TEACHING EXPERIENCE

Teaching Assistant of Graph Theory, ETH Zürich	*Spring 2025*
Teaching Assistant of Probabilistic Methods of Combinatorics, ETH Zürich	*Autumn 2024*
Teaching Assistant of Graph Theory, ETH Zürich	*Spring 2024*
Teaching Assistant of Algebraic Methods of Combinatorics, ETH Zürich	*Autumn 2023*
Teaching Assistant of Graph Theory, ETH Zürich	*Spring 2023*
Teaching Assistant of Probabilistic Methods of Combinatorics, ETH Zürich	*Autumn 2022*
Teaching Assistant of Mathematics for the Information Age, SJTU	*Summer 2019*
Student Coach of SJTU ACM-ICPC Teams, SJTU	*Spring 2019*
Student Coach of SJTU ACM-ICPC Teams, SJTU	*Autumn 2018*

TALKS

Conference and workshop talks

- Graph expansion and its applications, Princeton University, USA, April 2025.

- Qilu Youth Forum at Shandong University, Shandong University (online), October 2024.

- Summit 280, Eötvös University, Hungary, July 2024.

- European Conference on Combinatorics, Charles University, Czech Republic, August 2023.

- Random Structures and Algorithms, CMU, USA, June 2023.

- ACM-SIAM Symposium on Discrete Algorithms, online, January 2021.

Seminar and colloquium talks

- Mingshu Seminar, Taiyuan University of Technology, May 2025.

- Discrete Mathematics Seminar, Princeton University, April 2025.

- Discrete Math Seminar, IBS Korea, September 2024.

- Mittagsseminar, IST Austria, May 2024.

- Mittagsseminar, ETH Zürich, November 2023.

- Discrete Mathematics Seminar, Umeå University, May 2023.

- Mittagsseminar, ETH Zürich, March 2023.

- Mittagsseminar, ETH Zürich, August 2022.