

Email: jiaxi_nie@fudan.edu.cn

Research interests My research interests lie mainly in extremal combinatorics and probabilistic combinatorics, but I keep my brain open for any interesting math problems.

Positions **Postdoc**, Shanghai Center for Mathematical Science 2022 – present

Postdoc, Max Planck Institute for MiS 2022 Spring/Summer

Education **Ph.D. in Mathematics**, University of California, San Diego 2016 – 2022
Adviser: Prof. Jacques Verstraëte. GPA: 4.00/4.00

B.S. in Mathematics, Nankai University 2012 – 2016
GPA: 90.41/100

Exchange Semester, University of California, Berkeley 2014 Fall
GPA: 4.00/4.00

Preprints **Random Turán theorem for expansions of spanning subgraphs of tight trees** Submitted. [arxiv](#).

Turán theorems for even cycles in random hypergraph Submitted. [arxiv](#).

Publications **On asymptotic local Turán problems (with Peter Frankl)** To appear on the *Moscow Journal of Combinatorics and Number Theory*. [arxiv](#).

On asymptotic packing of convex geometric and ordered graphs (with Erlang Surya, and Ji Zeng) To appear on *Journal of Graph Theory*. [arxiv](#).

On Turán numbers for disconnected hypergraphs (with Raffaella Mulas) To appear on *Acta Mathematica Hungarica*. [arxiv](#).

Odd Covers of Graphs. (With Calum Buchanan, Alexander Clifton, Eric Culver, Jason O'Neill, Puck Rombach, and Mei Yin) *Journal of Graph Theory* (2023). [journal](#), [arxiv](#).

On Asymptotic Packing of Geometric Graphs. (With Daniel Cranston, Jacques Verstraëte, and Alexandra Wesolek) *Discrete Applied Mathematics* 322 (2022): 142-152. [journal](#), [arxiv](#).

Maximal independent sets in clique-free graphs. (With Xiaoyu He, and Sam Spiro) *European Journal of Combinatorics* 106 (2022): 103575. [journal](#), [arxiv](#).

Ramsey Numbers for Non-trivial Berge Cycles. (With Jacques Verstraëte)
SIAM Journal on Discrete Mathematics 36.1 (2022): 103-113. [journal](#), [arxiv](#).

Triangle-free Subgraphs of Hypergraphs. (With Sam Spiro, and Jacques Verstraëte) *Graphs and Combinatorics* 37 (2021): 2555-2570. [journal](#), [arxiv](#).

Randomized greedy algorithm for independent sets in regular uniform hypergraphs with large girth. (With Jacques Verstraëte) *Random Structures & Algorithms* 59.1 (2021): 79-95. [journal](#), [arxiv](#).

Talks

Discrete Math Seminar, ShanghaiTech University	June. 2023
RS&A 2023, Carnegie Mellon University	June. 2023
Discrete Math Seminar, Taiyuan University of Technology	May. 2023
Discrete Math Seminar, Shanghai Jiao Tong University	Nov. 2022
Discrete Math Seminar, University of Victoria	Nov. 2022
Czech-Slovak International Symposium on Graph Theory, Combinatorics, Algorithms and Applications	July 2022
Discrete Math Seminar, Shandong University	July 2022
Networks Seminar, MPI for Mathematics in the Sciences	May 2022
Joint Mathematics Meetings, online	April 2022
Graduate Student Combinatorics Conference, UCSD	March 2022
Discrete Math Seminar, Simon Fraser University	Jan. 2021
SCMC Combinatorics Seminar, Fudan University	Jan. 2021
Discrete Math Seminar, Iowa State University	Nov. 2021
AMS Fall Central Sectional Meeting, online	Oct. 2021
The Nankai University International Talent Forum	May 2021

Teaching

Instructor

MATH 20C - Calculus&Analyt Geom/Sci&Engnr	Summer I 2021
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Teaching Assistant

MATH 154 - Discrete Math & Graph Theory	Winter 2022
MATH 154 - Discrete Math & Graph Theory	Winter 2021
MATH 154 - Discrete Math & Graph Theory	Fall 2020
MATH 20E - Vector Calculus	Summer II 2020
MATH 154 - Discrete Math & Graph Theory	Spring 2020
MATH 154 - Discrete Math & Graph Theory	Winter 2020
MATH 170A - Intro Numerical Analys/Linear	Fall 2019
MATH 220C - Complex Analysis	Spring 2019
MATH 18 - Linear Algebra	Spring 2019
MATH 170B - Intro/Numerical Analy/Approxim	Winter 2019
MATH 170A - Intro Numerical Analys/Linear	Fall 2018
MATH 142A - Introduction to Analysis I	Summer I 2018
MATH 184A - Combinatorics	Spring 2018

MATH 184A - Combinatorics	Winter 2018
MATH 184A - Combinatorics	Fall 2017
MATH 20B - Calculus/Science & Engineering	Winter 2017
MATH 20A - Calculus/Science & Engineering	Fall 2016

Service

Served as referee for: Random Structures & Algorithms, SIAM Journal of Discrete Mathematics, The Australasian Journal of Combinatorics, Journal of Combinatorial Optimization, Discrete Mathematics.