

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 **Sidorenko Hypergraphs and Random Turán Numbers. (With S. Spiro)**
Submitted. [arxiv](#).

Random Turán and counting results for general position sets over finite fields. (with Y. Chen, X. Liu, and J. Zeng)
Submitted. [arxiv](#).

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 P. Frankl)**
To appear on the Moscow Journal of Combinatorics and Number Theory. [arxiv](#).

On asymptotic packing of convex geometric and ordered graphs. (with E. Surya, and J. Zeng)
Journal of Graph Theory (2023), 1–15. [arxiv](#).

Odd Covers of Graphs. (with C. Buchanan, A. Clifton, E. Culver, J. O’Neill, P. Rombach, and M. Yin)

Journal of Graph Theory (2023), 104: 420–439. [arxiv](#).

On Turán numbers for disconnected hypergraphs. (with R. Mulas)

Acta Mathematica Hungarica 170, 168–182 (2023). [arxiv](#).

On Asymptotic Packing of Geometric Graphs. (with D. Cranston, J. Verstraëte, and A. Wesolek)

Discrete Applied Mathematics 322 (2022): 142–152. [arxiv](#).

Maximal independent sets in clique-free graphs. (with X. He, and S. Spiro)

European Journal of Combinatorics 106 (2022): 103575. [arxiv](#).

Ramsey Numbers for Non-trivial Berge Cycles. (with J. Verstraëte)

SIAM Journal on Discrete Mathematics 36.1 (2022): 103–113. [arxiv](#).

Triangle-free Subgraphs of Hypergraphs. (with S. Spiro, and J. Verstraëte)

Graphs and Combinatorics 37 (2021): 2555–2570. [arxiv](#).

Randomized greedy algorithm for independent sets in regular uniform hypergraphs with large girth. (with J. Verstraëte)

Random Structures & Algorithms 59.1 (2021): 79–95. [arxiv](#).

Talks

Discrete Math Seminar, Shanghai University	Sep. 2023
Discrete Math Seminar, Yokohama National University	Sep. 2023
Discrete Math Seminar, ShanghaiTech University	June 2023
RS&A 2023, Carnegie Mellon University	June 2023
Discrete Math Seminar, Taiyuan University of Technology	May 2023
Tianyuan Math Ramsey-Turán Seminar, Fuzhou University	March 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

As Instructor in Fudan University

Graph Theory Fall 2023

As Instructor in UCSD

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

As Teaching Assistant in UCSD

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, Journal of Graph Theory, European Journal of combinatorics, Australasian Journal of Combinatorics, Journal of Combinatorial Optimization, Discrete Mathematics.