

Di Yue

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EDUCATION

Peking University

Candidate for Bachelor of Science

School of Electronics Engineering And Computer Science

GPA: 3.828/4.0

Beijing, China

September 2021 - July 2025 (expected)

RESEARCH INTERESTS

Theoretical Computer Science, Approximation Algorithm, High-dimensional Computational Geometry, Metric Embeddings.

PUBLICATIONS (In theoretical computer science, authors are listed in alphabetical order.)

Near-Optimal Dimension Reduction for Facility Location

Lingxiao Huang, Shaofeng H.-C. Jiang, Robert Krauthgamer, **Di Yue**.

Accepted to *The 57th ACM Symposium on Theory of Computing (STOC 2025)*.

RESEARCH EXPERIENCE

Research Assistant in Shaofeng Jiang's Lab

Advisor: Shaofeng Jiang

April 2025 - Present

Peking University, China

- Studying dimension reduction for geometric problems.

Visiting Student at Weizmann Institute of Science.

Advisor: Robert Krauthgamer

August 2024 - September 2024

Weizmann Institute of Science, Israel

- Studied dimension reduction for MST and Steiner tree problems.
- Gave a new proof of dimension reduction for MST, using target dimension $m = O(\varepsilon^{-2} \text{ddim} \cdot \log \log \Delta)$.
- Gave a talk on our recent *uniform facility location (UFL)* work in the algorithm seminar.

Research Assistant in Shaofeng Jiang's Lab

Advisor: Shaofeng Jiang

July 2023 - March 2025

Peking University, China

- Studied dimension reduction for *uniform facility location (UFL)*. Proved that target dimension $m = \tilde{O}(\varepsilon^{-2} \text{ddim})$ suffices to $(1 + \varepsilon)$ -approximate the optimal value of UFL on high-dimensional inputs whose *doubling dimension* is bounded by ddim .
- Proposed the first PTAS for Euclidean UFL on doubling subsets, where the facilities are allowed to lie in the (high-dimensional) ambient space \mathbb{R}^d . Generalized our PTAS to doubling metrics without vector representations, improving previous results in [Cohen-Addad et al., JACM 2021].
- Wrote the technical sections of the paper, and helped with some parts in the introduction.

Research Rotation in Computer Science Department

Advisor: Shaofeng Jiang, Tianren Liu

January 2023 - June 2023

Peking University, China

- Algorithm: Studied dimension reduction for Euclidean diameter. Proved that target dimension $m = O(\varepsilon^{-2} \text{ddim})$ suffices to $(1 + \varepsilon)$ -approximate the diameter of a high-dimensional doubling subset whose *doubling dimension* is bounded by ddim .
- Cryptography: Studied *Private Information Retrieval (PIR)*. Wrote a survey on the upper and lower bounds for PIR.

TEACHING EXPERIENCE

Algorithm Design and Analysis, Teaching Assistant

Lecturer: Xiaolin Wang, Tingting Jiang

Spring 2025

Peking University

HONOURS AND AWARDS

Top 10 Undergraduate Thesis, EECS, Peking University	2025
Academic Excellence Award	2023
Second Class Scholarship of Peking University	2022
Merit Student	2022