

YIYAO ZHANG

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EDUCATION

Nanjing University, Nanjing, China 2024.9 – Present

Ph.D. in Computer Science, Advisor: Prof. Yitong Yin

Field: Theoretical Computer Science

Nanjing University, Nanjing, China

2020.9 – 2024.6

B.S. in Computer Science

RESEARCH INTERESTS

- Sampling and Counting;
- Learning Theory;
- Probability Theory;

PUBLICATIONS

Authors are listed alphabetically unless otherwise stated.

Preprints

1. Weiming Feng, Heng Guo, **Yiyao Zhang**.
An $\tilde{O}(n^2)$ -Time Sampler for Zero-Field Ferromagnetic Ising Models.
arXiv: 2609.26197.
2. Heng Guo, Hongyang Liu, Xiongxin Yang, Yitong Yin, **Yiyao Zhang**.
Optimal Simulated Annealing for Partition Function Estimation.
arXiv: 2609.20337.
3. Weiming Feng, Yixiao Yu, **Yiyao Zhang**.
Learning CNF Formulas from Uniform Random Solutions: Near-Tight Sample Complexity for Valiant's Algorithm.
arXiv: 2609.15268.
4. Hongyang Liu, Chunyang Wang, Yitong Yin, **Yiyao Zhang**, Can Zhou.
A Counting and Sampling Lovász Local Lemma.
arXiv: 2608.08616.

Conference Papers

1. Weiming Feng, Xiongxin Yang, Yixiao Yu, **Yiyao Zhang**.
Learning AC^0 under Locally Sampleable Graphical Models.
In SODA 2027, To appear.
2. David G. Harris, Vladimir Kolmogorov, Hongyang Liu, Yitong Yin, **Yiyao Zhang**.
Near-Optimal Parallel Approximate Counting via Sampling.
In SPAA 2026, pp. 550–559.
3. Weiming Feng, Xiongxin Yang, Yixiao Yu, **Yiyao Zhang**.
Learning CNF Formulas from Uniform Random Solutions in the Local Lemma Regime.
In STOC 2026, pp. 478–488.
4. Ruijie Miao, **Yiyao Zhang**, Guanyu Qu, Kaicheng Yang, Tong Yang, Bin Cui.
Hyper-USS: Answering Subset Query over Multi-Attribute Data Stream.
In SIGKDD 2023, pp. 1698–1709. *Authors ordered by contribution.*

TALKS

1. Near-Optimal Parallel Approximate Counting via Sampling.
SPAA 2026, London, UK.
2. Learning CNF Formulas from Uniform Random Solutions in the Local Lemma Regime.
STOC 2026, Salt Lake City, USA.

VISITING AND INTERNSHIP

The University of Hong Kong, Hong Kong SAR, China 2025.12 – 2026.01
Hosted by Asst. Prof. Weiming Feng.

TEACHING ASSISTANTSHIPS

- Advanced Algorithms (Nanjing University) Fall 2026, Fall 2025, Fall 2024
Instructor: Yitong Yin, Shi Li, Jingcheng Liu.

AWARDS

Presidential Special Scholarship for Doctoral Students	2024.9
Outstanding Undergraduate Student of Nanjing University	2024.6
National Scholarship for Undergraduate Students	2023.9