Xiaoyu (Sherry) Chen (陈晓雨)

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EDUCATION

Peking University, Turing Class 2021 – 2025

B.S. in Computer Science, summa cum laude

PUBLICATIONS

- Yecheng Xue*, **Xiaoyu Chen***, Tongyang Li, and Shaofeng H.-C. Jiang. 2023. Near-optimal quantum coreset construction algorithms for clustering. In Proceedings of the 40th International Conference on Machine Learning (ICML'23).

  ** Equal contribution*

- **Xiaoyu Chen**, Shaofeng H.-C. Jiang, and Robert Krauthgamer. 2023. Streaming Euclidean Max-Cut: Dimension vs Data Reduction. In Proceedings of the 55th Annual ACM Symposium on Theory of Computing (STOC'23).

  - Alphabetical order

EXPERIENCES

Quantitative Research Intern at Sixie Capital Summer 2025

- Deep learning modeling for financial data

Research Intern at TTIC Summer 2024

Advised by: Zhiyuan Li

- Worked on theoretical understanding of modern adaptive optimizers
- Attended Modern Paradigms in Generalization workshop at Simons Institute, UC Berkeley

Deep Reinforcement Learning for generals.io Spring 2024

- Trained an AI agent for the RTS game using imitation policy pretraining and end-to-end reinforcement learning

Lower Bounds for Streaming Algorithms in High Dimensions Sep 2023 - Feb 2024

Advised by: Shaofeng Jiang, Steven Heilman

- Reduced the lower bounds for high-dimensional streaming algorithms to a group-valued isoperimetric inequality problem
- Some unpublished new upper bounds

Security of Practical Ciphers Summer 2023

Advised by: Tianren Liu

- Applied algebraic geometry tools to prove independence of MiMC.

Quantum Algorithms for Clustering Dec 2022 - Feb 2023

Advised by: Tongyang Li, Shaofeng Jiang

- Proved lower bounds for quantum clustering algorithms

Streaming Algorithms for Euclidean Max-Cut Jun 2022 - Oct 2022
Advised by: Shaofeng Jiang, Robert Krauthgamer

- Re-invented the proof of a constant-dimensional Johnson-Lindenstrauss lemma for Max-Cut
- Developed a streaming algorithm solving Max-Cut in the high-dimensional setting

Lower Bounds of Quantum Algorithms for Submodular Function Minimization Spring 2022
Advised by: Tongyang Li

- Proved a conditional lower bound of quantum query complexity $\Omega(n)$.

TEACHING EXPERIENCE

Teaching Assistant, Peking University Fall 2023
for *Discrete Mathematics and Structures* (Instructor: Prof. Tianren Liu)

- An honors course covering advanced topics in broad areas of set theory & mathematical logic, abstract algebra, combinatorics, and stochastic processes.
- Contributed to syllabus and course content design, created exam and homework problems, held office hours, and graded assignments

HONORS AND AWARDS

- SenseTime Scholarship (25 recipients nationwide, 20000 RMB), 2024
- John Hopcroft Scholarship, 2024
- Huatai Securities Scholarship (about top 5% in the department, 10000 RMB), 2023
- Lingjun Investment Scholarship (about top 5% in the department, 10000 RMB), 2022
- Gold Medal (4th place), ICPC Asia Regional Contest (Kunming), 2022
- Gold Medal (12th place), CCPC Harbin Site, 2021
- Gold Medal (top 50 nationwide), Chinese National Olympiad in Informatics, 2019

MISCELLANEOUS

- I'm a Go player with a rank of 5 dan on FoxGo. AlphaGo was one of my inspirations to study AI.
- I serve as the administrator of UOJ (uoj.ac) in the academic year 2020-2021.