Shenyu Qin

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Education

Shanghai Jiao Tong University *Sept. 2022 – Present*
Undergraduate in Computer Science

- GPA: 3.78/4.3 (89.03/100)
- Member of John Hopcroft Honors Class, a CS program at Zhiyuan College for the top 10% of students, with a focus on Theoretical Computer Science
- Relevant Coursework: Mathematical Analysis II (93), Combinatorial Mathematics (91), Probability Theory (91), Computational Complexity (98), Online Algorithms (95), Statistical Learning Theory (97)

Experience

Some Variant of Pandora's box Problem *John Hopcroft Center, SJTU*
Advised by Prof. Yuhao Zhang *Jan. 2026 – Present*

- Ongoing

Existence of α-winning and α-dominating committees in an Impartial Culture *DIMACS, Rutgers University*
Aug. 2025 – Dec. 2025
Advised by Prof. Kangning Wang and Prof. Lirong Xia

- Studied the existence of α-winning and α-dominating committees of size k in an impartial culture when the number of candidates m is much larger than the number of voters n
- Established two sharp thresholds for α: an α-winning committee exists w.h.p. iff $\alpha < \frac{k-1}{k}$, and an α-dominating committee exists w.h.p. iff $\alpha < \frac{k-1}{2k}$, when m is sufficiently larger than n and $n = \omega(1)$.
- Wrote a manuscript based on the results

Online Load and Graph Balancing for Random Order Inputs *John Hopcroft Center, SJTU*
Advised by Prof. Yuhao Zhang *Jul. 2024 – Mar. 2025*

- Studied the online load balancing problem for random order inputs, aiming to close the gap between the $\Omega(\sqrt{\log m})$ lower bound and the $O(\log m / \log\log m)$ upper bound by designing an $O(\sqrt{\log m})$-competitive algorithm, where m is the number of machines.
- Investigated the online graph balancing problem, which is a special case of the original problem, trying to analyze the competitive ratio of a newly-designed algorithm in this case
- Participated in TCS Reading Group every week

Preprints

Winning in the Limit: Average-Case Committee Selection with Many Candidates arXiv
with Yifan Lin, Kangning Wang and Lirong Xia

Honors and Awards

Zhiyuan Honors Scholarship (Top 10%), SJTU *2022, 2023, 2024, 2025*

Skills

Programming Languages: C++, C, Python, Rust

Software: LaTeX, MATLAB, Coq

Languages: Mandarin (Native), English (TOEFL: 104)