# Shenyu Qin

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## Education

**Shanghai Jiao Tong University** *Sept. 2022 – Present*
*Undergraduate in Computer Science (John Hopcroft Honors Class)*

- GPA: 3.78/4.3 (89.03/100)
- Relevant Coursework: Mathematical Analysis II (93), Combinatorial Mathematics (91), Probability Theory (91), Computational Complexity (98), Online Algorithms (95), Statistical Learning Theory (97)

## Experience

**Pandora's Box Problem with Deadlines** *John Hopcroft Center, SJTU*
*Advised by Prof. Yuhao Zhang* *Jan. 2026 – Present*

- Ongoing

**Existence of $\alpha$-winning and $\alpha$-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 $\alpha$-winning and $\alpha$-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 $\alpha$: an $\alpha$-winning committee exists w.h.p. iff $\alpha < \frac{k-1}{k}$, and an $\alpha$-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%), Shanghai Jiao Tong University *2022, 2023, 2024, 2025*

## Skills

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

**Software:** LaTeX, MATLAB, Coq

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