Tianle Jiang

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🌐 relyt871.github.io

Research Interests

- Algorithmic Game Theory
- Online Algorithms
- Combinatorial Optimization
- Computational Social Choice
- Approximation Algorithms

Education

2021 – Present **B.S. in Computer Science, ACM Honors Class, Zhiyuan College**, *Shanghai Jiao Tong University*, Shanghai
Selected course grades:
Advanced Algorithms (100/100), Graph Theory and Combinatorics (97/100), Computational Complexity (97/100), Probability (95/100).

Publications

2024 **Edge Arrival Online Matching: the Power of Free Disposal on Acyclic Graphs**
(α-β) **Tianle Jiang**, Yuhao Zhang
The 20th Conference on Web and Internet Economics (WINE), 2024

Research Experience

2024.7 – Present **Brown University**, *Providence, RI*
Visiting student, hosted by Prof. Yu Cheng

- **Communication complexity of graph problems**
  - Studied the two-party communication of graph problems, where edges are arbitrarily partitioned between two players.
  - Proposed efficient communication algorithms for cycle detection, shortest paths, minimum spanning tree and global min-cut.
- **Private signaling in routing games**
  - Studied information design in selfish routing games, worked on the complexity of computing the optimal private signaling scheme under incentive compatibility constraints.

2023.9 – Present **Shanghai Jiao Tong University**, *Shanghai*
Advised by Prof. Yuhao Zhang

- **Online matching with free disposal**
  - Explored the possibility of improving the competitive ratio of edge-arrival online matching if free disposal is allowed.
  - Proposed a lossless rounding framework for acyclic graphs, and designed simple improved algorithms for both unweighted and weighted matching.

- ○ **Fractional fully online matching**
  - ○ Studied fully online matching, which is a variant of online matching where vertices may arrive and leave.
  - ○ Examined alternative methods beyond the state-of-the-art water-filling-based algorithms.

Honors and Awards

2024.4 **Finalist**, *ICPC World Finals 2022*

2024.1 **Gold Medal**, *ICPC Asia-East Continent Final Contest*
Ranked 11th out of 319 teams.

2023.10 **Gold Medal**, *ICPC Asia Xi'an Regional Contest*
Ranked 4th out of 379 teams.

2023.3 **Gold Medal**, *Asia-East Continent Final Contest*
Ranked 11th out of 281 teams.

2023.1 **Champion**, *ICPC Asia Hong Kong Regional Contest*
Ranked 1st out of 115 teams.

2022.12 **Gold Medal**, *ICPC Asia Hangzhou Regional Contest*
Ranked 4th out of 544 teams.

2022.7 **Gold Medal**, *ICPC Asia-East Continent Final Contest*
Ranked 28th out of 356 teams.

2021.12 **Gold Medal**, *ICPC Asia Nanjing Regional Contest*
Ranked 7th out of 638 teams.

2021.11 **Gold Medal**, *ICPC Asia Shenyang Regional Contest*
Ranked 5th out of 575 teams.

2024 **Foresight-HongShan Scholarship**
70 winners in SJTU each year.

2022, 2023 **Zhiyuan Honorary Scholarship**
5% among CS students each year.

Skills

TOEFL, 110 (Speaking 24, Writing 27)