

# Tianle Jiang

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## Research Interests

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

## Education

2021 – **B.S. in Computer Science, ACM Honors Class, Zhiyuan College, Shanghai**  
Present *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**  
( $\alpha$ - $\beta$ ) **Tianle Jiang**, Yuhao Zhang  
The 20th Conference on Web and Internet Economics (WINE), 2024

## Research Experience

2024.7 – **Brown University, Providence, RI**

Present 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 – **Shanghai Jiao Tong University, Shanghai**

Present 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.

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## Honors and Rewards

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.

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

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## Skills

**TOEFL**, 110 (Speaking 24, Writing 27)