Tao Zixu He

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Research Interest

Algorithm, Computational Complexity Theory, and Computational Social Choice.

Education

2025 – present **Ph.D., University of Massachusetts Amherst** in Computer Science.

2021 – 2025 **B.Sc. (Hons.), University of New South Wales** in Computer Science.

Work Experience

2024 – 2025 **Research Assistant.** University of New South Wales.

2023 **Software Engineer.** h2x engineering.

Selected Awards

2025 **Engineering 2024 Dean's Honours List(Highly Commended)**, University of New South Wales.

2024 **Engineering 2023 Dean's Honours List**, University of New South Wales.

2023 **6th Place worldwide and 1st in Australia**, IEEEXtreme Programming Competition.

First Place (Gold Medal), 2024 ICPC South Pacific Regional Contest.

First Place (Gold Medal), 2023 ICPC South Pacific Regional Contest.

2022 **5th Place worldwide and 1st in Australia**, IEEEXtreme Programming Competition.

Publications

1. H. Aziz, Z. He, X. Lu, and K. Zhou, "Fair allocation of divisible goods under non-linear valuations," in *Proc. of the 24th International Conference on Autonomous Agents and Multiagent Systems*, 2025, pp. 170–178.
2. K. Clinch, S. Gaspers, Z. He, A. Saffidine, and T. Zhang, "A piecewise approach for the analysis of exact algorithms," in *International Conference and Workshops on Algorithms and Computation*, Springer, 2025, pp. 79–93.
3. S. Gaspers, T. Z. He, and S. Mackenzie, "Np-hardness and eth-based inapproximability of communication complexity via relaxed interlacing," *arXiv preprint arXiv:2508.05597*, 2025.
4. Z. He, S. Botan, J. Lang, A. Saffidine, F. Sikora, and S. Workman, "Fair railway network design," *arXiv preprint arXiv:2409.02152*, 2024.

Skills

Languages Chinese (native), English (fluent).

Programming C, C++, Python, JavaScript, Java, Answer Set Programming, AMPL (A Mathematical Programming Language)