



Tao Zixu He

Computer Science @ UNSW Sydney
tao.he@student.unsw.edu.au

RESEARCH INTEREST

Algorithm, Computational Complexity Theory, and Computational Social Choice.

EDUCATION

Bachelor (Honours) | Computer Science

University of New South Wales

- WAM: 90/100.

Sep 2021 – Aug 2025
Sydney, Australia

WORK EXPERIENCE

Research Assistant

University of New South Wales

Jan 2024 – Present
Sydney, Australia

Casual Academic

University of New South Wales

- Tutor for COMP3821 (Extended Algorithm Design and Analysis)

Feb 2024 – May 2024
Sydney, Australia

Software Engineer

h2x Engineering

- Developed a web application using **TypeScript**, **Vue** and **PostgreSQL**, as part of a part-time job.
- Gained hands-on experience in software engineering and teamwork development.

Mar 2023 – Dec 2023
Sydney, Australia

Software Engineer

MiaoWei Tech

- Completed over **300** software projects for small and medium-sized enterprises, utilizing AI, algorithms and technical skills such as **network**, **multi-threading**, **OpenCV**, and **OpenGL**.
- Gained extensive experience in outsourcing software development.

Nov 2020 – Mar 2022
Zhengzhou, China

PUBLICATIONS

A Faster FPT Algorithm for Vertex Cover on Subcubic Graphs: A Randomized Automated Approach

with Katie Clinch, Serge Gaspers, Simon Mackenzie, and Tiankuang Zhang

2024

Fair Railway Network Design

with Sirin Botan, Jérôme Lang, Abdallah Saffidine, Florian Sikora, and Silas Workman

2024
[\[arXiv\]](#)

A Piecewise Approach for the Analysis of Exact Algorithms

with Katie Clinch, Serge Gaspers, Abdallah Saffidine, and Tiankuang Zhang

2024
[\[arXiv\]](#)

SELECTED AWARDS

University of New South Wales Engineering 2023 Dean's Honours List

2023

6th Place worldwide and 1st in Australia in IEEEExtreme

24-hour Programming Competition hosted by IEEE

Oct 2023

1st Place in International Collegiate Programming Contest Regional Finals 2024 ICPC South Pacific region contest	Oct 2023
1st Place in International Collegiate Programming Contest Regional Finals 2023 ICPC South Pacific region contest	Dec 2022
5th Place worldwide and 1st in Australia in IEEEExtreme 24-hour Programming Competition hosted by IEEE	Oct 2022
Bronze Medal in Chinese National Olympiad in Informatics China's Top High School Algorithm Competition	Jul 2019
Bronze Medal in IOI China Team Selection Competition The competition in China to select outstanding competitors to participate in IOI	May 2019

SKILLS

Languages: Chinese (Native), English (Fluent)

Programming: C, C++, Python, JavaScript, Java, Answer Set Programming, AMPL

Document Creation: ~~LaTeX~~, Markdown, ChatGPT