

WANG RUIJIE

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EDUCATION

The Hong Kong Polytechnic University Major in Computer Science, Minor in Applied Mathematics, 3.67/4.3	<i>August 2022 - Present</i> <i>Kowloon, Hong Kong</i>
Yali High School Track of Science for the National College Entrance Examination	<i>September 2019 - June 2022</i> <i>Changsha, China</i>

EXPERIENCES

Research Assistant, The Hong Kong Polytechnic University <i>Advised by Prof. Li Bo</i>	<i>September 2023 - Present</i> <i>Kowloon, Hong Kong</i>
· Focus on the fair allocation problem of indivisible items.	
Summer Research Intern, Simon Fraser University <i>Mentored by Prof. Wang Yuepeng</i>	<i>May 2025 - Present</i> <i>Burnaby, Canada</i>
· Design and implement a SQL program synthesizer for vector databases.	
Service Learning: Technology Beyond Borders <i>Cooperation with Da Nang University of Architecture</i>	<i>December 2023 - January 2024</i> <i>Da Nang, Viet Nam</i>
· Promote STEM education in Lý Công Uẩn Primary School with local college students.	
Exchange Student, Technical University of Denmark <i>Department of Applied Mathematics and Computer Science</i>	<i>May 2023 - August 2023</i> <i>Copenhagen, Denmark</i>
· Data analytics and Computational Imaging.	

RESEARCH INTERESTS

Economics and Computation	Fair division, Mechanism Design, Algorithmic Fairness, and Game Theory Reasoning in Machine Learning, Cryptocurrency, and Privacy.
Foundations of Machine Learning	Optimization, Generalization, Causality, and Interpretability.
Formal Methods and Verification	Program Synthesis and Automated Reasoning.

PAPERS

Fair Orientations: Beyond Envy-Freeness	Ankang Sun, Ruijie Wang, Bo Li. Under review.
We introduce the study of proportionality, equitability, and their relaxations for the fair orientation model on graphs. PROP1 + fPO orientations always exist and can be computed in polynomial time, while PROP, PROPX, EQ, EQX, and EQ1 orientations of goods and chores and EF1 orientations of chores may not exist and are NP-hard to decide.	

HONORS & AWARDS

Dean's Honours List 2024/2025	<i>September 2025</i>
Issued by the Faculty of Engineering, The Hong Kong Polytechnic University	
Mitacs Globalink Research Internship Award	<i>February 2025</i>
Issued by Mitacs, Canada, for the internship at Simon Fraser University with full funding.	
Dean's Honours List 2023/2024	<i>September 2024</i>
Issued by the Faculty of Engineering, The Hong Kong Polytechnic University	
HKSAR Government Scholarship Fund - Reaching Out Award 2022/23	<i>August 2023</i>
Issued by the Education Bureau, Hong Kong Special Administrative Region	