

## EDUCATION

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### University of Technology Sydney

*Doctor of Philosophy in Theoretical Computer Science*

Advisors: Prof. Youming Qiao, Prof. Mingsheng Ying and Prof. Troy Lee

Sydney, Australia

Nov. 2021 – Present

### University of Wisconsin-Madison

*Master of Arts in Mathematics*

Mentors: Prof. Sam Stechmann and Prof. Reed Ogrosky

Madison, United States

<sup>1</sup>Sep. 2018 – May. 2020

### Wuhan University

*Bachelor of Science in Mathematics and Applied Mathematics*

Thesis Advisor: Prof. Huijiang Zhao

Wuhan, China

Sep. 2015 – June. 2019

## RESEARCH INTERESTS

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Algebraic isomorphism problems and algorithms, multilinear algebra with implications for quantum information, tensor decomposition with applications in quantum machine learning, and group-based cryptography.

## PREPRINTS AND PUBLICATIONS

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### 1. Faster isomorphism testing of $p$ -Groups of Frattini class-2

with Gábor Ivanyos, Euan Mendoza, Youming Qiao, and Xiaorui Sun

Accepted to *The IEEE 65th Annual Symposium on Foundations of Computer Science (FOCS)*, 2024

### 2. On linear-algebraic notions of expansion

with Yinan Li, Youming Qiao, Avi Wigderson, and Yuval Wigderson

arXiv: 2212.13154

Accepted to *Theory of Computing*, 2024

### 3. On the complexity of isomorphism problems for tensors, groups, and polynomials III: actions by classical groups

with Zhili Chen, Joshua A. Grochow, Youming Qiao, and Gang Tang

arXiv: 2306.03135

Published in *The 15th Innovations in Theoretical Computer Science (ITCS)*, 2024

### 4. Connections between graphs and matrix spaces

with Yinan Li, Youming Qiao, Avi Wigderson, and Yuval Wigderson

arXiv: 2206.04815

Published in *Israel Journal of Mathematics*, 2023

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<sup>1</sup>I was admitted to a '3+2' accelerated program, which allowed students to pursue their bachelor's degree and master's degree simultaneously after the third year of undergraduate.

## ACADEMIC PRESENTATIONS

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1. Contributed talk at the 65th Annual Symposium on Foundations of Computer Science (FOCS), Chicago, October 2024.
2. Contributed talk at the 19th Theory of Quantum Computation, Communication and Cryptography (TQC), Okinawa, September 2024.
3. Seminar talk at UTS Groups Analysis Geometry Seminar, Sydney, April 2024.
4. Contributed talk at the 45th Australasian Combinatorics Conference, Perth, December 2023.
5. Contributed talk at the 67th Annual Meeting of the Australian Mathematical Society, Brisbane, December 2023.
6. Poster presentation at the 18th Theory of Quantum Computation, Communication and Cryptography (TQC), online, July 2023.
7. Poster presentation at the 1st Quantum Australia Conference, Sydney, February 2023.
8. Seminar talk at QuSoft, Centrum Wiskunde & Informatica, Amsterdam, January 2023.
9. Contributed talk at the 34th ACM-SIAM Symposium on Discrete Algorithms (SODA), Florence, January 2023.
10. Contributed talk at the 44th Australasian Combinatorics Conference, online, December 2022.

## HONOURS AND AWARDS

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<b>SQA Supplementary Scholarship</b>	2023 – 2025
Top-up scholarship supported by Sydney Quantum Academy	
<b>AMSI Scholarship</b>	2022
Tuition waiver for summer school supported by Australian Mathematical Sciences Institute	
<b>ARC Discovery Project Scholarship</b>	2021 – 2025
Tax-free stipend supported by Australian Research Council	
<b>International Research Scholarship</b>	2021 – 2025
Tuition waiver supported by University of Technology Sydney	
<b>Special Scholarship for Studying Abroad</b>	2018 & 2019
One-off scholarship supported by Wuhan University	
<b>3rd/2nd Academic Excellence Award</b>	2016 & 2017
Annual academic excellence award in Mathematics Base Class at Wuhan University	
<b>3rd/2nd Provincial Mathematical Olympiad Prize</b>	2014 & 2015
29th/30th Chinese Mathematical Olympiad in Senior (Jilin Division)	

# PROFESSIONAL SERVICES

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<b>Teaching Assistant</b> <i>Theory of Computing Science (41080)</i> School of Computer Science, University of Technology Sydney	<i>Session 2, 2024</i>
<b>Teaching Assistant</b> <i>Discrete Mathematics (37181)</i> School of Mathematical and Physical Sciences, University of Technology Sydney	<i>Session 1, 2024</i>
<b>Teaching Assistant</b> <i>Mathematics 1 (33130)</i> School of Mathematical and Physical Sciences, University of Technology Sydney	<i>Session 1, 2024</i>
<b>Teaching Assistant</b> <i>Theory of Computing Science (41080)</i> School of Computer Science, University of Technology Sydney	<i>Session 2, 2023</i>
<b>Teaching Assistant</b> <i>Theory of Computing Science (41080)</i> School of Computer Science, University of Technology Sydney	<i>Session 2, 2022</i>
<b>Homework Grader</b> <i>Methods of Applied Math II (Math 704)</i> Department of Mathematics, University of Wisconsin-Madison	<i>Spring 2020</i>
<b>Homework Grader</b> <i>Analysis I (Math 521)</i> Department of Mathematics, University of Wisconsin-Madison	<i>Fall 2019</i>
<b>Conference Reviewer</b> <input type="checkbox"/> ACM-SIAM Symposium on Discrete Algorithms (SODA23) <input type="checkbox"/> Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2024)	