

## EDUCATION

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### University of Technology Sydney

*Doctor of Philosophy in Mathematics and Computation Theory*

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

Sep. 2018<sup>1</sup> – 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 graph theory, computational group theory, and discrete mathematics.

## PREPRINTS AND PUBLICATIONS

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### 1. Blind signatures from cryptographic group actions

with Dung Hoang Duong, Xuan Thanh Khuc, Youming Qiao, and Willy Susilo

ePrint: 2025/397

Submitted.

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

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

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

Invited to the SIAM Journal on Computing Special Issue.

### 3. 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

### 4. 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

### 5. 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 allows students to pursue their bachelor's degree and master's degree simultaneously after three years of undergraduate study.

## ACADEMIC VISITS

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1. Department of Computer Sciences, University of Wisconsin-Madison, hosted by Prof. Sandeep Silwal, Oct. 31, 2024.
2. Department of Mathematics, University of Wisconsin-Madison, hosted by Prof. Tonghai Yang, Oct. 31, 2024.
3. School of Mathematics and Statistics, Wuhan University, hosted by Prof. Yinan Li, Jan. 12, 2024.
4. QuSoft, Centrum Wiskunde & Informatica, hosted by Dr. Jop Briët, Jan. 26-27, 2023.

## PRESENTATIONS<sup>2</sup>

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1. Invited talk at the Theory of Computing Seminar, University of Wisconsin-Madison, Madison, Nov. 1, 2024.
2. Invited talk at the joint Number Theory/Representation Theory and Applied Algebra Seminar, University of Wisconsin-Madison, Madison, Oct. 31, 2024.
3. Invited talk at the SIAM Student Chapter Seminar, University of Wisconsin-Madison, Madison, Oct. 31, 2024.
4. Contributed talk at the 65th IEEE Annual Symposium on Foundations of Computer Science (FOCS), Chicago, Oct. 29, 2024.
5. Contributed talk at the 19th Theory of Quantum Computation, Communication and Cryptography (TQC), Okinawa, Sep. 10, 2024.
6. Invited talk at the Groups Analysis Geometry Seminar, University of Technology Sydney, Sydney, Apr. 18, 2024.
7. Contributed talk at the 45th Australasian Combinatorics Conference, Perth, Dec. 13, 2023.
8. Contributed talk at the 67th Annual Meeting of the Australian Mathematical Society, Brisbane, Dec. 6, 2023.
9. Poster presentation at the 18th Theory of Quantum Computation, Communication and Cryptography (TQC), online, Jul. 28, 2023.
10. Poster presentation at the 1st Quantum Australia Conference, Sydney, Feb. 22, 2023.
11. Invited talk at QuSoft Seminar, Centrum Wiskunde & Informatica, Amsterdam, Jan. 27, 2023.
12. Contributed talk at the 34th ACM-SIAM Symposium on Discrete Algorithms (SODA), Florence, Jan. 24, 2023.
13. Contributed talk at the 44th Australasian Combinatorics Conference, online, Dec. 12, 2022.

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<sup>2</sup> Some of the conference talks were delivered by co-authors.

## HONORS AND AWARDS

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

## 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	Session 2, 2024
<b>Teaching Assistant</b> <i>Discrete Mathematics (37181)</i> School of Mathematical and Physical Sciences, University of Technology Sydney	Session 1, 2024
<b>Teaching Assistant</b> <i>Mathematics 1 (33130)</i> School of Mathematical and Physical Sciences, University of Technology Sydney	Session 1, 2024
<b>Teaching Assistant</b> <i>Theory of Computing Science (41080)</i> School of Computer Science, University of Technology Sydney	Session 2, 2023
<b>Teaching Assistant</b> <i>Theory of Computing Science (41080)</i> School of Computer Science, University of Technology Sydney	Session 2, 2022
<b>Homework Grader</b> <i>Methods of Applied Math II (Math 704)</i> Department of Mathematics, University of Wisconsin-Madison	Spring 2020
<b>Homework Grader</b> <i>Analysis I (Math 521)</i> Department of Mathematics, University of Wisconsin-Madison	Fall 2019

## **Conference Reviewer**

- ❑ The 35th ACM-SIAM Symposium on Discrete Algorithms (SODA 2024)
- ❑ The 44th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2024)
- ❑ The 30th Australasian Conference on Information Security and Privacy (ACISP 2025)