

David Cui

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- EDUCATION** **University of Toronto Mississauga** 2017–Present
Honours Bachelor of Science, Mathematics Specialist
Anticipated graduation: Spring 2021
- RESEARCH** **Research Assistant, Institute for Quantum Computing** 2020–Present
Funded summer research on multipartite nonlocal games supervised by David Gosset and William Slofstra.
- Research Assistant, University of Toronto** 2019–2020
Funded undergraduate summer researcher under Henry Yuen. Research in self-testing and algebraic properties of nonlocal games.
- PUBLICATIONS** **A generalization of CHSH and the algebraic structure of optimal strategies**
David Cui, Arthur Mehta, Hamoon Mousavi, Seyed Sajjad Nezhadi, *Quantum* 4, 346 (2020).
Presented at Quantum Information Processing (QIP) 2020.
([arXiv:1911.01593](https://arxiv.org/abs/1911.01593))
- TEACHING** **Teaching Assistant, University of Toronto Mississauga** 2018–Present
MAT247 (Algebra II) Fall 2020
MAT224 (Linear Algebra II) Summer 2020
MAT240 (Algebra I) Winter 2020
MAT301 (Groups and Symmetries) Fall 2019
CSC363 (Computational Complexity and Computability) Winter 2019
CSC236 (Introduction to the Theory of Computation) Fall 2018
- TALKS** **University of Toronto Mississauga Math Club** 2019
“Quantum computing, games, and self-testing” November 13, 2019.
University of Toronto Mississauga, Mississauga, ON.
- Canadian Undergraduate Mathematics Conference** 2019
“The Mathematics of Binary Constraint System Games” July 24–28, 2019.
Queen’s University, Kingston, ON.
- University of Toronto Mississauga Math Club** 2019
“A topological proof of the De Bruijn–Erdős Theorem” March 26, 2019.
University of Toronto Mississauga, Mississauga, ON.
- Canadian Undergraduate Mathematics Conference** 2018
“Games on the Real Numbers” July 11–15, 2018.
University of Saskatchewan, Saskatoon, SK.
- AWARDS** Peter Fantham Memorial Scholarship in Mathematics 2020
Institute for Quantum Computing Undergraduate Research Award 2020
CRA Outstanding Undergraduate Research Award Honorable Mention 2019
Peng Cheng Laboratory Student Scholarship 2019
University of Toronto Scholars Program In-Course Scholarship 2018

Doris Geddes Scholarship in Mathematics 2018
University of Toronto Dean's List Scholar 2017–2019
Mathematical and Computational Sciences Honor Roll 2017–2019
University of Toronto Entrance Scholarship 2017

INVOLVEMENT **Math Union** 2018–2019
Served as an Academic Officer. Participated in the planning of fortnightly mathematics talks involving reaching out to professors and designing posters for advertisement.

Mathematical and Computational Sciences Society 2017–2019
Played major roles in the organization of two major overnight events (hosting around 100 students each) in 2018 and 2019. In 2018, I was the lead designer and marker for problems in mathematics, statistics, and computer science. In 2019, I was the leader of the graphical design and game design teams.

SKILLS L^AT_EX, C++, Python, Mathematica

ACTIVITIES AND HONORS University of Toronto Undergraduate Complexity Theory Seminar
HackHarvard 2017: Overall Best Project Award
University of Toronto: Computer Science Education Research Reading Group
Arcade Hackathon: First Prize
New Zealand Engineering Science Competition: Highly commended
Australian Invitational Informatics Olympiad: Bronze medalist
Australian Informatics Olympiad: Bronze medalist
New Zealand International Olympiad in Informatics Camp
New Zealand International Olympiad in Informatics Training Squad
NZSE Design Competition: Second place