

# Seyed Sajjad Nezhadi

sajjad-nezhadi.github.io

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## EDUCATION

**University of Maryland**, College Park, Maryland.

- Doctor of Philosophy: Computer Science
- Advisor: Matthew Coudron

2020 –

**University of Toronto**, Toronto, Canada.

- Honours Bachelor of Science: Mathematics and Computer Science
- Advisor: Henry Yuen

2015 – 2019

## PUBLICATIONS

### **Local Hamiltonians with no low-energy stabilizer states.**

Nolan J. Coble, Matthew Coudron, Jon Nelson, and *Seyed Sajjad Nezhadi*.

- To appear in proceedings of *Theory of Quantum Computing (TQC)* 2023.
- arXiv:2110.4761692.

### **Nonlocal Games, Compression Theorems, and the Arithmetical Hierarchy.**

Hamoon Mousavi, *Seyed Sajjad Nezhadi*, and Henry Yuen.

- In proceedings of *Symposium on Theory of Computing (STOC)* 2022.
- Presented as a **Plenary talk** at *Quantum Information Processing (QIP)* 2022.
- Presented at the *Tsirelson Memorial Workshop* 2022.
- arXiv:2110.04651.

### **Synchronous Values of Games.**

J. William Helton, Hamoon Mousavi, *Seyed Sajjad Nezhadi*, Vern I. Paulsen, Travis B. Russell

- Presented at the *Tsirelson Memorial Workshop* 2022.
- In Submission.
- arXiv:2109.14741.

### **On the complexity of zero gap MIP\*.**

Hamoon Mousavi, *Seyed Sajjad Nezhadi*, and Henry Yuen.

- In proceedings of *International Colloquium on Automata, Languages, and Programming (ICALP)* 2020.
- Presented at *Theory of Quantum Computing (TQC)* 2020.
- arXiv:2002.10490

### **A generalization of CHSH and the algebraic structure of optimal strategies.**

David Cui, Arthur Mehta, Hamoon Mousavi, and *Seyed Sajjad Nezhadi*.

- In *Quantum* **4**, 346 (2020).
- Presented at *Quantum Information Processing (QIP)* 2020.
- arXiv:1911.01593

## TALKS

### ***Compression of nonlocal games.***

Workshop on Algebraic Complexity Theory (WACT), Mar 2023.

### ***Computability and compression of nonlocal games.***

Georgetown University, Oct 2022.

### ***Nonlocal Games, Compression Theorems, and the Arithmetical Hierarchy.***

*Symposium on Theory of Computing (STOC)*, Jun 2022.

### ***Nonlocal Games, Compression Theorems, and the Arithmetical Hierarchy.***

*Tsirelson Memorial Workshop*, Apr 2022.

### ***Synchronous Values of Games.***

*Tsirelson Memorial Workshop*, Apr 2022.

### ***Quantum computing for the gifted amateur.***

Kurius, Mar 2022.

### ***Generalization of CHSH.***

University of Copenhagen, Jan 2022.

***Computability and compression of nonlocal games.***

University of Ottawa, Oct 2021.

***Computability and compression of nonlocal games.***

IQC-QuICS Math and Computer Science seminar, Mar 2021.

***Quantum computing: why you should care!***

Isfahan University of Technology, Mar 2021.

***On the complexity of zero gap MIP\*.***

Theory of Quantum Computing (TQC), Jun 2020.

**WORKSHOPS**

***Workshop on Algebraic Complexity Theory (WACT).***

University of Warwick, Mar 2023.

***Quantum Error Correction Summer School.***

IBM, Jul 2022.

***Analysis on the hypercube with applications to quantum computing.***

American Institute of Mathematics, Jun 2022.

***Tsirelson Memorial Workshop.***

IQOQI - Vienna, Apr 2022.

***Non-local games in quantum information theory.***

American Institute of Mathematics, May 2021.

**WORK**

**EXPERIENCE**

**Xanadu**, Toronto, Canada.

- Quantum Research Resident

May 2021 – Aug 2021

**Agnostiq**, Toronto, Canada.

- Quantum Applications Intern

Apr 2020 – Jul 2020

**University of Toronto**, Toronto, Canada.

- Research Assistant
  - Under supervision of Henry Yuen.

May 2019 – Apr 2020

**Recycle Coach**, Toronto, Canada.

- Software Engineer Intern

May 2017 – Aug 2017

**Kik Interactive**, Toronto, Canada.

- Software Developer

May 2016 – Aug 2016

**TEACHING**

**University of Maryland**

- Teaching Assistant
  - CMSC456 - Cryptography

Fall 2021

**University of Waterloo, Centre for Extended Learning**

- Assistant Instructor
  - DS2 - Statistics for Data Science

Winter, Summer, Fall 2020

**University of Toronto**

- Teaching Assistant
  - CSC343 - Introduction to Databases

Winter 2019

**REVIEWING**

STOC 2023, QIP 2023, QIP 2022, QCrypt 2022

**ADVISING**

Kevin Yao (High School Student, Summer 2022)

**LANGUAGES**

English, Persian and French.

**SKILLS**

Python, Matlab, C++, SQL, Qiskit, Numpy, PyTorch, TensorFlow,  $\text{\LaTeX}$ .