Jiayu Zhang

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Research Interest

Theory of quantum computation, with focus on quantum cryptography and related problems.

Work Experience

- **California Institute and Techonology** 2021-now
  Institute for Quantum Information and Matter

Education

- **Boston University** 2017-2021 (by defense date)
  Ph.D in Computer Science, advised by Prof. Adam Smith
- **Pennsylvania State University** 2016-2017
  Ph.D Candidate in Computer Science and Engineering, advised by Prof. Adam Smith
  (Transferred out with my advisor)
- **Tsinghua University** 2012-2016
  Bachelor's degree in Software Engineering

Research Experience

- **California Institute and Techonology** Oct 2021-Present
  Postdoctoral Scholar
  Research field: quantum cryptography
- **Pennsylvania State University & Boston University** Sep 2016-Sep 2021
  PhD Candidate & Research Assistant, advised by Prof. Adam Smith
  Research field: quantum computation and quantum cryptography
- **Tsinghua University** Nov 2014-Jun 2016
  Undergraduate Research Assistant, advised by Prof. Mingsheng Ying
  Research field: quantum computing theory related to quantum programming

Honors and Achievements

- **QCrypt best student paper award** 2020
- Tsinghua Comprehensive Engineering Capabilities Contest, First Prize (Group, Captain) 2015
- Academic Excellence Award 2013 & 2014

Papers and Thesis

- **Classical Verification of Quantum Computations in Linear Time** 2022
  By Jiayu Zhang
  ArXiv:2202.13997
- **Delegation of Quantum Computation Using a Random Oracle** 2021
  By Jiayu Zhang, advised by Adam Smith
  (Ph.D Thesis)
- **Quantum Meets Minimum Circuit Size Problem** 2021
  By Nai-hui Chia, Chi-Ning Chou, Jiayu Zhang, Ruizhe Zhang
  Accepted by ITCS 2022
  ArXiv:2108.03171

- **Succinct Blind Quantum Computation Using a Random Oracle** 2020
  By Jiayu Zhang
  Accepted by STOC 2021 & QIP 2022
  QCrypt 2020 best student paper
  ArXiv:2004.12621
- **Delegating Quantum Computation in the Quantum Random Oracle Model** 2018
  By Jiayu Zhang
  Accepted by TCC 2019.
  Poster at QIP 2019. ArXiv:1810.05234.
  (Previous title: Delegating Quantum Computation using Only Hash Functions)
- **A Study on the Periodicity of Quantum Markov Chains** 2016
  By Jiayu Zhang, advised by Mingsheng Ying and Guiming Luo
  (Undergraduate Thesis)

Conference Talks

- **STOC 2021** 2021
  Succinct Blind Quantum Computation Using a Random Oracle
- **QCrypt 2020** 2020
  Succinct Blind Quantum Computation Using a Random Oracle
- **TCC 2019** 2019
  Delegating Quantum Computation in the Quantum Random Oracle Model
- **BARC 2019** 2019
  Delegating Quantum Computation using Only Hash Functions
  (Invited talk, not through submission)

Work Experience

- Teaching Fellow for Theory of Computation Spring 2019
- Teaching Fellow for Introduction to Computer Science Spring 2018
- Teaching Assistant for Data Structure and Algorithm Fall 2016