

# Jiayu Zhang

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## Research Interest

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Theoretical computer science and quantum information science: quantum computation, quantum information, quantum cryptography and so on.

## Education

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- **Boston University** 2017-Present
  - *Ph.D Candidate 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

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

## Honors and Achievements

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

## Papers and Thesis

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- **Succinct Blind Quantum Computation Using a Random Oracle** 2020
  - *By Jiayu Zhang*  
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 2018. 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)

## Internships and Projects

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- **High Concurrency Online Ticket Selling and Message Push System** Fall 2014
  - *Group work together with Leiyu Zhao, Yanzhe Yang, et. al*

The system was used by tens of thousands of people in Tsinghua. My work is to use nginx to implement high performance and high concurrency web load distribution module, which is a key part in the high concurrency server.

- **Content Based Image Classification Project** Spring 2014  
○ *Group work together with Chengpeng Wang, Yanzhe Yang*  
We implemented an image classification program based on neural network and feature extraction.

## Conference Talks

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- **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

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- 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

## Skills

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- **Computer Technologies & Programming Language:** Four year undergraduate training and many graduate courses for computer technologies
- **Languages:** Chinese(native), English

## Hobbies

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- **Chinese Chess(Xiangqi), Chess & Go**  
Chinese Chess World Federation Master  
World Xiangqi(Chinese chess) Federation Open Tournament - the 3rd Place(Group)  
2d level on eweiqi(an online Go platform)
- Table Tennis, Piano