Jiayu Zhang

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Research Interests

Quantum Computation, Quantum Information, Quantum Cryptography and so on

Education Background

Boston University Aug. 2017 - present
Major in Computer Science, advised by **Prof. Adam Smith**

Pennsylvania State University – PhD Candidate Aug. 2016 – Jul. 2017
Major in Computer Science and Engineering, advised by **Prof. Adam Smith**

Tsinghua University – Bachelor's degree Aug. 2012 – Jul. 2016
Major in Software Engineering
Cumulative GPA: 88.3/100 Cumulative Rank: 15/57

Research Experiences

Pennsylvania State University & Boston University
PhD Candidate & Research Assistant, advised by Prof. Adam Smith Sep, 2016 – present
Research field: quantum cryptography

Designed randomized encoding scheme for quantum circuits, which might be useful in quantum two party computation
Study how to design an FHE for quantum circuits with fewer quantum resources on the client side

State Key Laboratory of Intelligent Technology and Systems, Tsinghua University Nov, 2014 – Jun. 2016
Research Assistant, advised by Prof. Mingsheng Ying
Research field: quantum computing theory

Solved the problem of the structure of quantum Markov chains and their limit behaviors. Invented several new techniques to study the structure of spaces and density operators under the operation of superoperators
These results are useful for understanding quantum computing under noise (the noise could be viewed as a quantum Markov chain) and in quantum programming language (Results are contained in my undergraduate dissertation)

Honors & Achievements

Academic Excellence Award 2013
Academic Excellence Award 2014
Tsinghua Comprehensive Engineering Capabilities Contest - First Prize(Group, Captain) 2015

Internship & Projects

University of California, San Diego, advised by **Prof. David Meyer** Summer 2015

Simulated and studied the evolution of quantum lattice gas automata

High concurrency online ticket selling and message push system(Software Project, group work) Fall 2014

The system was used by tens of thousands of people in Tsinghua.
My key 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.

Teaching Experience

Teaching Assistant Fall 2016
Course: Data Structures and Algorithms

Skills & Courses

Programming	• Assembly, C, C++, Java, C#, Python, JavaScript, Web, Android and many • Be able to learn a new programming language or framework in one day
Theory courses	• Took classes on quantum mechanics, abstract algebra, numerical analysis, randomized algorithms, approximation algorithms and many

Hobbies

Chinese chess & Go
Chinese Chess Competition for University Students in Beijing – the 1st Place
1d level on eweiqi(an online Go platform)