

# Longcheng Li

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## Research Interest

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I am broadly interested in theoretical computer science and quantum computation. My current research focuses on *quantum cryptography* and *distributed quantum computing*. Specifically, I am exploring the (im)possibility of quantum computation to enhance the security of cryptographic schemes, such as public-key encryption, and to accelerate distributed computing tasks, including Byzantine agreement.

## Education

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**University of Chinese Academy of Sciences**, Beijing, China Sep 2022 – Present

- MS in Computer Science GPA: 3.93/4.0 Advisor: Jialin Zhang

**University of Chinese Academy of Sciences**, Beijing, China Sep 2018 – Jun 2022

- BS in Computer Science GPA: 3.93/4.0 Rank 2/102

## Publications

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- Quantum Byzantine agreement against full-information adversary**  
L. Li, Xiaoming Sun, Jiadong Zhu  
*International Symposium on Distributed Computing (DISC)*, to appear, 2024
- How (not) to build QPKE in Minicrypt**  
L. Li, Qian Li, Xingjian Li, Qipeng Liu  
*Annual International Cryptology Conference (CRYPTO)*, 2024
- Fast exact synthesis of two-qubit unitaries using a near-minimum number of T gates**  
L. Li, Cheng Guo, Qian Li, Xiaoming Sun  
*Physical Review A*, 107 (4), 042424

## Teaching

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Teaching Assistant of *Combinatorics* UCAS, Fall 2023

Teaching Assistant of *Introduction to Computer Science* UCAS, Spring 2020

## Visiting

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**Southern University of Science and Technology**, Shenzhen, China Mar 2024 - Jun 2024

- Visiting Student on quantum error correction Advisor: Youpeng Zhong

**National University of Singapore**, Singapore Aug 2021 - Dec 2021

- Non-Graduating Programme (Coursework)

## Awards

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**Silver Medal**, 45th International Collegiate Programming Contest Asia East-Continent Final Apr 2021

**Gold Medal**, 45th International Collegiate Programming Contest Asia Jinan Regional Dec 2020

## Skills

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**Coding:** C/C++, Python, HTML/CSS/JS

**English:** TOEFL 106/120 (Reading 30, Listening 28, Speaking 23, Writing 25)