

Longcheng Li

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Research Interest

I am broadly interested in theoretical computer science and quantum computation, with a focus on understanding the quantum advantages in cryptography and distributed 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

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: 3.92/4.0 Rank 2/104

Publications

*Authors are listed in alphabetical order unless specified otherwise.

1. **Quantum Byzantine Agreement Against Full-Information Adversary** [📺] [🔗]

L. Li, Xiaoming Sun, Jiadong Zhu

International Symposium on Distributed Computing (DISC), 2024

2. **How (not) to Build Quantum PKE in Minicrypt** [🔗]

L. Li, Qian Li, Xingjian Li, Qipeng Liu

Annual International Cryptology Conference (CRYPTO), 2024

3. **Fast exact synthesis of two-qubit unitaries using a near-minimum number of T gates** [🔗]

L. Li (first author), Cheng Guo, Qian Li, Xiaoming Sun

Physical Review A, 107 (4), 042424

Teaching

Teaching Assistant of *Combinatorics* UCAS, Fall 2023

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

Visiting

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

National Scholarship Nov 2024

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

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

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