

Yi LIU

(+86) 130-1667-4179 · mail@imliuyi.com

<https://imliuyi.com>

RESEARCH INTERESTS

Cryptography and network security, in particular: secure two-party/multi-party computation, zero-knowledge proofs, timed cryptography, blockchain-related applications, etc.

EDUCATION

The University of Hong Kong (HKU)

Sept. 2018 – Present

- Ph.D. Candidate in Cryptography
- Joint Ph.D. Programme with SUSTech
- Supervisor: Siu-Ming Yiu (HKU) and Qi Wang (SUSTech)

Southern University of Science and Technology (SUSTech)

Sept. 2014 – July 2018

- B.Eng. in Computer Science and Technology
- GPA: 3.84/4.00 (Core); 3.70/4.00 (Overall)
- Thesis: An Evaluation System Based on Blockchain and Linkable Ring Signature.
 - Best Thesis Award in the CSE Department, SUSTech.
 - Slides: https://1drv.ms/p/s!At50T0g9p5_rry2tLI5LdG00A8XV?e=donaQc

PUBLICATIONS

1. Making Private Function Evaluation Safer, Faster, and Simpler.
Yi Liu, Qi Wang, Siu-Ming Yiu.
To appear in The 25th IACR International Conference on Practice and Theory of Public Key Cryptography (**PKC 2022**).
Online Version: <https://eprint.iacr.org/2021/1682>
2. Improved Zero-Knowledge Argument of Encrypted Extended Permutation.
Yi Liu, Qi Wang, Siu-Ming Yiu.
The 17th International Conference on Information Security and Cryptology (**Inscrypt 2021**).
Online Version: <https://eprint.iacr.org/2021/1430>
3. Blind Polynomial Evaluation and Data Trading.
Yi Liu, Qi Wang, Siu-Ming Yiu.
The 19th International Conference on Applied Cryptography and Network Security (**ACNS 2021**).
Online Version: <https://eprint.iacr.org/2021/413>
4. An Improvement of Multi-Exponentiation with Encrypted Bases Argument: Smaller and Faster.
Yi Liu, Qi Wang, Siu-Ming Yiu.
The 16th International Conference on Information Security and Cryptology (**Inscrypt 2020**).
Online Version: <https://eprint.iacr.org/2020/567>

MANUSCRIPTS

1. Towards Practical Homomorphic Time-Lock Puzzles: Usability and Verifiability.
Yi Liu, Qi Wang, Siu-Ming Yiu.
Manuscript, 2022.
2. An E-voting Protocol Based on Blockchain.
Yi Liu and Qi Wang.
Manuscript, 2017.
Online Version: <https://eprint.iacr.org/2017/1043>

TALKS

- Improved Zero-Knowledge Argument of Encrypted Extended Permutation.
The 17th International Conference on Information Security and Cryptology (**Inscrypt 2021**).
Virtual. Aug. 2021.
Slides: https://1drv.ms/p/s!At50T0g9p5_r4lFUZ0hVzNpJfVbV?e=MP4v6i
- Blind Polynomial Evaluation and Data Trading.
The 19th International Conference on Applied Cryptography and Network Security (**ACNS 2021**).
Virtual. June. 2021.
Slides: https://1drv.ms/p/s!At50T0g9p5_r3mbt0dabEcLzhFoH?e=R6uZuh
- An Improvement of Multi-Exponentiation with Encrypted Bases Argument: Smaller and Faster.
The 16th International Conference on Information Security and Cryptology (**Inscrypt 2020**).
Guangzhou, China. Dec. 2021.
Slides: https://1drv.ms/p/s!At50T0g9p5_r0A2vDcMbE_xz74Gy?e=NH91na

TEACHING EXPERIENCE

- Teaching Assistant HKU
 - COMP2119: Introduction to Data Structures and Algorithms
 - Fall 2021
 - Tasks: providing consultative supports, writing sample solutions, grading assignments and tests, invigilating exams, etc.
- Teaching Assistant SUSTech
 - CS403: Cryptography and Network Security
 - Fall 2019, Fall 2020
 - Tasks: providing consultative supports, grading assignments and tests, invigilating exams, etc.
- Teaching Assistant HKU
 - COMP7904: Information Security: Attacks and Defense
 - Spring 2019
 - Tasks: conducting laboratory session, providing consultative supports, writing sample solutions, grading assignments and tests, invigilating exams, etc.
- Student Teaching Assistant SUSTech
 - CS304: Software Engineering
 - Spring 2017
 - Tasks: assisting laboratory session, grading assignments and tests, etc.
- Student Teaching Assistant SUSTech
 - CS201: Discrete Mathematics
 - Fall 2016
 - Tasks: grading assignments and tests, etc.
- Student Teaching Assistant SUSTech
 - CS302: Operating System
 - Spring 2016
 - Tasks: assisting laboratory session, etc.

OTHER EXPERIENCE

- Research Assistant Sept. 2016 – Aug. 2018
 - CoCrypto Lab, SUSTech
 - Adviser: Qi Wang
 - Result 1: An E-voting Protocol Based on Blockchain (Manuscript)

- Result 2: An Evaluation System Based on Blockchain and Linkable Ring Signature (Undergraduate Thesis)
- Intern Sept. 2016 – Aug. 2018
 - SUSTech Innovation Center for Data Science
 - Adviser: Rusong Zheng
- Research Assistant Sept. 2016 – Aug. 2018
 - UAV and Sensor Network Lab
 - Adviser: Qi Hao