

Yi LIU

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RESEARCH INTERESTS

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

EDUCATION

The University of Hong Kong (HKU)

Sept. 2018 – Present

- Ph.D. candidate in Computer Science
- Joint Ph.D. Programme with SUSTech
- Supervisors: 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.

REFREED PUBLICATIONS

1. Towards Practical Homomorphic Time-Lock Puzzles: Applicability and Verifiability.
Yi Liu, Qi Wang, Siu-Ming Yiu.
To appear in The 27th European Symposium on Research in Computer Security (**ESORICS 2022**).
Online Version: <https://eprint.iacr.org/2022/585>
2. Making Private Function Evaluation Safer, Faster, and Simpler.
Yi Liu, Qi Wang, Siu-Ming Yiu.
The 25th IACR International Conference on Practice and Theory of Public Key Cryptography (**PKC 2022**).
Online Version: <https://eprint.iacr.org/2021/1682>
3. 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>
4. 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>
5. 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. An E-voting Protocol Based on Blockchain.
Yi Liu and Qi Wang.

Manuscript, 2017.

Online Version: <https://eprint.iacr.org/2017/1043>

TALKS

- Making Private Function Evaluation Safer, Faster, and Simpler.
The 25th IACR International Conference on Practice and Theory of Public Key Cryptography (**PKC 2022**).
Virtual. Mar. 2021.
- Improved Zero-Knowledge Argument of Encrypted Extended Permutation.
The 17th International Conference on Information Security and Cryptology (**Inscrypt 2021**).
Virtual. Aug. 2021.
- Blind Polynomial Evaluation and Data Trading.
The 19th International Conference on Applied Cryptography and Network Security (**ACNS 2021**).
Virtual. Jun. 2021.
- 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. 2020.

EXPERIENCE

- Teaching Assistant
 - COMP2119: Introduction to Data Structures and Algorithms (Fall 2021) HKU
 - CS403: Cryptography and Network Security (Fall 2019, Fall 2020) SUSTech
 - COMP7904: Information Security: Attacks and Defense (Spring 2019) HKU
 - CS304: Software Engineering (Spring 2017) SUSTech
 - CS201: Discrete Mathematics (Fall 2016) SUSTech
 - CS302: Operating System (Spring 2016) SUSTech
- Research Assistant at CoCrypto Lab, SUSTech Sept. 2016 – Aug. 2018
 - 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)

PROFESSIONAL ACTIVITIES

Membership IACR Student Member

External Reviewer IEEE BSC@QRS (2021, 2020)

SKILLS

Languages Chinese (Native), English (Fluent)

Programming C/C++, Python