刘 逸

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研究兴趣

密码学与网络安全，特别是安全两方/多方计算（2PC/MPC）、零知识证明（Zero-Knowledge Proofs），定时密码学（Timed Cryptography），以及区块链相关应用（Blockchain-Related Applications）。

职业经历

- 暨南大学   2023.4 至今
  讲师，网络空间安全学院

教育背景

- 香港大学   2018.9 – 2023.2
  计算机科学博士（香港大学-南方科技大学联合培养博士项目）
  导师：姚兆明 *Siu-Ming Yiu*（香港大学），王琦（南方科技大学）
  毕业论文：Private Function Evaluation: Improvements and Applications

- 南方科技大学   2014.9 – 2018.7
  工学学士（计算机科学与技术）
  导师：王琦
  毕业论文：An Evaluation System Based on Blockchain and Linkable Ring Signature
  ⋆ 南方科技大学计算机科学与工程系最佳论文奖

研究项目

- 新型安全模型中的安全多方计算协议设计   2024 – 2026
  - 项目负责人
  - 国家自然科学基金青年科学基金项目（No. 62302194）

已发表论文

- Enabling Privacy-Preserving and Publicly Auditable Federated Learning
  Huang Zeng, Anjia Yang, Jian Weng, Minrong Chen, Fengjun Xiao, <u>Yi Liu</u>, Ye Yao
  IEEE International Conference on Communications (ICC 2024)

- MTDCAP: Moving Target Defense-Based CAN Authentication Protocol
  Heng Sun, Huibiao Su, Jian Weng, Zhiquan Liu, Ming Li, <u>Yi Liu</u>, Yucheng Zhong, Wenzhen Sun
  IEEE Transactions on Intelligent Transportation Systems

- Robust Publicly Verifiable Covert Security: Limited Information Leakage and Guaranteed Correctness with Low Overhead
  <u>Yi Liu</u>, Junzuo Lai, Qi Wang, Xianrui Qin, Anjia Yang, Jian Weng

The 29th International Conference on the Theory and Application of Cryptology and Information Security (**ASIACRYPT 2023**)
ePrint 2023/1392

- Towards Practical Homomorphic Time-Lock Puzzles: Applicability and Verifiability
Yi Liu, Qi Wang, and Siu-Ming Yiu
The 27th European Symposium on Research in Computer Security (**ESORICS 2022**)
ePrint 2022/585

- Making Private Function Evaluation Safer, Faster, and Simpler
Yi Liu, Qi Wang, and Siu-Ming Yiu
The 25th IACR International Conference on Practice and Theory of Public Key Cryptography (**PKC 2022**)
ePrint 2021/1682

- Improved Zero-Knowledge Argument of Encrypted Extended Permutation
Yi Liu, Qi Wang, and Siu-Ming Yiu
The 17th International Conference on Information Security and Cryptology (**Inscrypt 2021**)
ePrint 2021/1430

- Blind Polynomial Evaluation and Data Trading
Yi Liu, Qi Wang, and Siu-Ming Yiu
The 19th International Conference on Applied Cryptography and Network Security (**ACNS 2021**)
ePrint 2021/413

- An Improvement of Multi-Exponentiation with Encrypted Bases Argument: Smaller and Faster
Yi Liu, Qi Wang, and Siu-Ming Yiu
The 16th International Conference on Information Security and Cryptology (**Inscrypt 2020**)
ePrint 2020/567

其他论文

- An E-voting Protocol Based on Blockchain
Yi Liu and Qi Wang
ePrint 2017/1043

学术报告

- Robust Publicly Verifiable Covert Security: Limited Information Leakage and Guaranteed Correctness with Low Overhead.
The 29th International Conference on the Theory and Application of Cryptology and Information Security (**ASIACRYPT 2023**).
Guangzhou, China. Dec. 2023.

- Towards Practical Homomorphic Time-Lock Puzzles: Applicability and Verifiability.
The 27th European Symposium on Research in Computer Security (**ESORICS 2022**).
Copenhagen, Denmark. Sept. 2022.

- 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. 2022.

- 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.

教学

- `C++` 程序设计（2024 年秋季，2023 年秋季）	暨南大学
- 高级密码学（2024 年秋季，2023 年秋季）	暨南大学

学术活动

- **期刊审稿**

  IEEE Transactions on Dependable and Secure Computing，IEEE Transactions on Industrial Informatics，International Journal of Information Security，Web Intelligence

- **会议审稿**

  IEEE BSC@QRS (2022, 2021, 2020)

- **会员资格**

  IACR 会员（2023），中国密码学会（2024，2023），IACR 学生会员 (2022, 2021, 2020, 2019)

其他经历

- 助教

– COMP 2119：数据结构与算法（2021 年秋季）	香港大学
– CS403：密码学与网络安全（2019 年秋季, 2020 年秋季）	南方科技大学
– COMP7904：信息安全：攻击与防御（2019 年春季）	香港大学
– CS304：软件工程（2017 年春季）	南方科技大学
– CS201：离散数学（2016 年秋季）	南方科技大学
– CS302：操作系统（2016 年春季）	南方科技大学