

LI ZIHAO

cszhli@comp.polyu.edu.hk

The Hong Kong Polytechnic University, Hong Kong

EDUCATION

Doctor of Philosophy <i>Department of Computing</i> The Hong Kong Polytechnic University	2021 – 2025
Master Degree <i>Cyberspace Security</i> University of Electronic Science and Technology of China	2017 – 2020
Bachelor Degree <i>Information Security</i> University of Electronic Science and Technology of China	2013 – 2017

WORK EXPERIENCE

Postdoctoral Fellowship <i>The Hong Kong Polytechnic University</i> , Jul. 2025 – Now
Part-time Research Associate <i>The Hong Kong Polytechnic University</i> , Feb. 2025 – May. 2025
Part-time Research Associate <i>The Hong Kong Polytechnic University</i> , Sep. 2024 – Dec. 2024
Research Assistant <i>The Hong Kong Polytechnic University</i> , Aug. 2018 – Jan. 2019

RESEARCH INTERESTS

Blockchain System Security, including Blockchain Infrastructure, Decentralized Applications, and Smart Contracts

AWARDS AND GRANTS

Best Practical Paper Award, awarded by Cybersecurity, 2025.

Distinguished Paper Awards, awarded by ACM Conference on Computer and Communications Security (CCS), 2024.

Best DeFi Papers Awards 2023, awarded by ACM CCS Workshop on Decentralized Finance and Security, 2024.

Ethereum Foundation Academic Grant, awarded by Ethereum Foundation on blockchain security research, 2023.

Best Paper Nominee, awarded by International Symposium on Empirical Software Engineering and Measurement (ESEM), 2019.

Best Paper Awards, awarded by IEEE International Conference on Computer Communications (INFOCOM), 2018.

Best Paper on Blockchain, awarded by China Computer Federation (CCF) Technical Committee on Block Chain, 2018.

Best Paper Awards, awarded by International Conference on Information Security Practice and Experience (ISPEC), 2017.

Outstanding Graduates, awarded by University of Electronic Science and Technology of China, 2020.

National Scholarship, awarded by Ministry of Education, 2019.

The 1st Prize Scholarship, awarded by University of Electronic Science and Technology of China, 2019.

National Scholarship, awarded by Ministry of Education, 2018.

The 1st Prize Scholarship, awarded by University of Electronic Science and Technology of China, 2018.

National 2nd Prize, awarded by The 9th National College Student Information Security Contest, 2016.

SERVICES

Conference Program Committee: BlockSys 2023 and 2024, SecureComm 2023, DeFi 2024 and 2025, and KDD 2024.

Artifact Evaluation Committee: USENIX Security 2024, ACSAC 2022.

Journal Reviewer: IEEE Transactions on Dependable and Secure Computing (TDSC), IEEE Transactions on Software Engineering, and IEEE Transactions on Services Computing.

TEACHING

Blockchain and Smart Contract Security (COMP5566): Teaching Assistant

Cyber and Internet Security (COMP5355): Teaching Assistant

Object-Oriented Programming (COMP2021): Teaching Assistant

Human Computer Interaction (COMP5517): Teaching Assistant

PUBLICATIONS

1. J. Chen, Y. Shen, J. Zhang, **Z. Li**, J. Grundy, Z. Shao, Y. Wang, J. Wang, T. Chen, Z. Zheng, **FORGE: An LLM-driven Framework for Large-Scale Smart Contract Vulnerability Dataset Construction**, IEEE/ACM International Conference on Software Engineering (ICSE), 2026.
2. K. Zhao, **Z. Li**, W. Chen, X. Luo, T. Chen, G. Meng, Y. Zhou, **Recasting Type Hints from WebAssembly Contracts**, ACM International Conference on the Foundations of Software Engineering (FSE), 2025.
3. Z. He, **Z. Li**, A. Qiao, J. Li, F. Luo, S. Yang, G. Deing, S. Song, X. Zhang, T. Chen, X. Luo, **Maat: Analyzing and Optimizing Overcharge on Blockchain Storage**, USENIX Conference on File and Storage Technologies (FAST), 2025.
4. Z. He, **Z. Li**, J. Luo, F. Luo, J. Duan, J. Li, S. Song, X. Luo, T. Chen, X. Zhang, **Auspex: Unveiling Inconsistency Bugs of Transaction Fee Mechanism in Blockchain**, USENIX Security, 2025.
5. X. Peng, Z. Sun, K. Zhao, Z. Ma, **Z. Li**, J. Jiang, X. Luo, Y. Zhang, **Automated Soundness and Completeness Vetting of Polygon zkEVM**, USENIX Security, 2025.
6. J. Jiang, **Z. Li**, H. Qin, M. Jiang, X. Luo, X. Wu, H. Wang, Y. Tang, C. Qian, T. Chen, **Unearthing Gas-Wasting Code Smells in Smart Contracts with Large Language Models**, IEEE Transactions on Software Engineering, 2024. (CCF A)
7. **Z. Li**, X. Peng, H. Zhe, X. Luo, T. Chen, **fAmulet: Finding Finalization Failure Bugs in Polygon zkRollup**, ACM Conference on Computer and Communications Security (CCS), 2024. (CCF A)
8. Z. Sun, **Z. Li**, X. Peng, X. Luo, M. Jiang, H. Zhou, Y. Zhang, **DoubleUp Roll: Double-spending in Arbitrum by Rolling It Back**, ACM Conference on Computer and Communications Security (CCS), 2024. (CCF A)
9. F. Luo, H. Lin, **Z. Li**, X. Luo, R. Luo, Z. He, S. Song, T. Chen, X. Luo, **Towards Automatic Discovery of Denial of Service Weaknesses in Blockchain Resource Models**, ACM Conference on Computer and Communications Security (CCS), 2024. (CCF A)

10. S. Wu, Z. Li, H. Zhou, X. Luo, J. Li, H. Wang, **Following the "Thread": Toward Finding Manipulatable Bottlenecks In Blockchain Clients**, ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA), 2024. (CCF A)
11. Z. He, Z. Li(Co-first Author), A. Qiao, X. Luo, X. Zhang, T. Chen, S. Song, D. Liu, W. Niu, **"NURGLe: Exacerbating Resource Consumption in Blockchain State Storage via MPT Manipulation"**, IEEE Symposium on Security and Privacy (S&P), 2024. (CCF A)
12. S. Wu, Z. Li, L. Yan, W. Chen, M. Jiang, C. Wang, X. Luo, H. Zhou, **"Are We There Yet? Unraveling the State-of-the-Art Smart Contract Fuzzers"**, IEEE/ACM International Conference on Software Engineering (ICSE), 2024. (CCF A)
13. Z. Li, J. Li, Z. He, X. Luo, T. Wang, X. Ni, W. Yang, X. Chen, and T. Chen, **"Demystifying DeFi MEV Activities in Flashbots Bundle"**, ACM Conference on Computer and Communications Security (CCS), 2023. (CCF A)
14. K. Zhao, Z. Li, J. Li, H. Ye, X. Luo, and T. Chen, **"DeepInfer: Deep Type Inference from Smart Contract Bytecode"**, ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), 2023. (CCF A)
15. S. Li, J. Li, Y. Tang, X. Luo, Z. He, Z. Li, X. Chen, Y. Bai, T. Chen, Y. Tang, Z. Liu, and X. Zhang, **"BlockExplorer: Exploring Blockchain Big Data via Parallel Processing"**, IEEE Transactions on Computers (TC), 2023. (CCF A)
16. Z. He, Z. Liao, F. Luo, D. Liu, T. Chen, and Z. Li, **"TokenCat: Detect Flaw of Authentication on ERC20 Tokens"**, IEEE International Conference on Communications (ICC), 2022. (CCF C)
17. Y. Tang, Z. Li, and Y. Bai, **"Rethinking of Reentrancy on the Ethereum"**, DASC/PiCom/CBDCOM/CyberSciTech, 2021. (CCF C)
18. T. Chen, Z. Li, X. Luo, X. Wang, T. Wang, Z. He, K. Fang, Y. Zhang, H. Zhu, H. Li, Y. Cheng, and X. Zhang, **"SigRec: Automatic Recovery of Function Signatures in Smart Contracts"**.
 - IEEE Transactions on Software Engineering (TSE), 2021. (CCF A)
 - Journal First Session of the IEEE/ACM International Conference on Automated Software Engineering (ASE), 2021. (CCF A)
 - Demo and Poster Session of the IEEE International Conference on Distributed Computing Systems (ICDCS), 2023. (CCF B)
19. T. Chen, Z. Li, Y. Zhu, J. Chen, X. Luo, J. Lui, X. Lin, and X. Zhang, **"Understanding Ethereum via Graph Analysis"**, ACM Transactions on Internet Technology (TOIT), 2020. (CCF B)
20. T. Chen, Y. Feng, Z. Li, H. Zhou, X. Luo, X. Li, X. Xiao, J. Chen and X. Zhang, **"GasChecker: Scalable Analysis for Discovering Gas-Inefficient Smart Contracts"**, IEEE Transactions on Emerging Topics in Computing (TETC), 2020. (CCF B)
21. T. Chen, Y. Zhang, Z. Li, X. Luo, T. Wang, R. Cao, X. Xiao, and X. Zhang, **"TokenScope: Automatically Detecting Inconsistent Behaviors of Cryptocurrency Tokens in Ethereum"**, ACM Conference on Computer and Communications Security (CCS), 2019. (CCF A)
22. T. Chen, Z. Li, Y. Zhang, X. Luo, T. Wang, T. Hu, X. Xiao, D. Wang, J. Huang, and X. Zhang, **"A Large-Scale Empirical Study on Control Flow Identification of Smart Contracts"**, International Symposium on Empirical Software Engineering and Measurement (ESEM), 2019. (CCF B)
23. T. Chen, Z. Li, Y. Zhang, X. Luo, A. Chen, K. Yang, B. Hu, T. Zhu, S. Deng, T. Hu, J. Chen, and X. Zhang, **"DataEther: Data Exploration Framework For Ethereum"**, IEEE International Conference on Distributed Computing Systems (ICDCS), 2019. (CCF B)

24. T. Chen, Z. Li, H. Zhou, J. Chen, X. Luo, X. Li, and X. Zhang, "**Towards Saving Money in Using Smart Contracts**", IEEE International Conference on Software Engineering (ICSE-NIER), 2018. (CCF A)
25. T. Chen, Y. Zhu, Z. Li, J. Chen, X. Li, X. Luo, X. Lin, and X. Zhang, "**Understanding Ethereum via Graph Analysis**", IEEE International Conference on Computer Communications (INFOCOM), 2018. (CCF A)
26. T. Chen, X. Li, Y. Wang, J. Chen, Z. Li, X. Luo, M. Au, and X. Zhang, "**An Adaptive Gas Cost Mechanism for Ethereum to Defend Against Under-Priced DoS Attacks**", International Conference on Information Security Practice and Experience (ISPEC), 2017. (CCF B)

MISCELLANEOUS

- **Homepage:** <https://zzzihao-li.github.io/>
- **My google scholar page:** <https://github.com/zzzihao-li>
- **Rank 987th on the Systems Circus worldwide in security area (not normalized by academic age):**
https://nebelwelt.net/pubstats/top-authors-sys_sec.html