

LU HONGYI

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Education

HKUST
Ph.D. Computer Science

2022 – Present

SUSTech
B.Sc. Mathematics

2017 – 2021

Working Experience

COMPASS Lab. *Research Assistant*
↔ Prof. Zhang Fengwei

Nov. 2021 – 2022

Southern University of Science and Technology

- Conducted research in computer systems.

Publications

- [1] Lijian Huang*, **Hongyi Lu***, Shuai Wang, and Fengwei Zhang. Towards Secure BPF Kernel Extension with Hardware-enhanced Memory Isolation. In *Major Revision with TDSC*, 2026.
- [2] **Hongyi Lu**, Fengwei Zhang, Zhenkai Zhang, Shuai Wang, and Yanan Guo. CuSAFE: Capturing Memory Corruption on NVIDIA GPUs. In *Submission*, 2026.
- [3] **Hongyi Lu***, Yunjie Deng*, Sukarno Mertoguno, Shuai Wang, and Fengwei Zhang. MOLE: Breaking GPU TEE with GPU-Embedded MCU. In *the Proceedings of the 2025 ACM SIGSAC Conference on Computer and Communications Security (CCS, CCF-A)*, 2025.
- [4] **Hongyi Lu**, Zhibo Liu, Shuai Wang, and Fengwei Zhang. DTD: Comprehensive and Scalable Testing for Debuggers. In *the Proceedings of the ACM on Software Engineering (FSE, CCF-A)*, 2024.
- [5] **Hongyi Lu**, Shuai Wang, Yechang Wu, Wanning He, and Fengwei Zhang. MOAT: Towards Safe BPF Kernel Extension. In *33rd USENIX Security Symposium (USENIX Security, CCF-A)*, 2024.
- [6] Wanning He*, **Hongyi Lu***, Fengwei Zhang, and Shuai Wang. RingGuard: Guard io_uring with eBPF. In *the Proceedings of the 1st Workshop on eBPF and Kernel Extensions (eBPF)*, pages 56–62, 2023.
- [7] Haonan Li, Weijie Huang, Mingde Ren, **Hongyi Lu**, Zhenyu Ning, Heming Cui, and Fengwei Zhang. A Novel Memory Management for RISC-V Enclaves. In *the Proceedings of the 10th International Workshop on Hardware and Architectural Support for Security and Privacy (HASP)*, 2022.
- [8] **Hongyi Lu** and Fengwei Zhang. Raven: a Novel Kernel Debugging Tool on RISC-V. In *the Proceedings of the 59th ACM/IEEE Design Automation Conference (DAC, CCF-A)*, pages 1039–1044, 2022.
- [9] **Hongyi Lu**, Yechang Wu, Shuqing Li, You Lin, Chaozu Zhang, and Fengwei Zhang. BadUSB-C: Revisiting BadUSB with Type-C. In *2021 IEEE Security and Privacy Workshops (WOOT)*, pages 327–338, 2021.

In total, I have published **four CCF-A papers** as first/co-first author (marked with *), **two in Security Big4 conferences**.

Academic Service

Official Reviewer TIFS, TDSC

Ext. Reviewer USENIX Security 2023, S&P 2023, PoPET 2023, CCS 2023, CCS 2022

Projects & Extracurriculars

LLVM github.com/llvm

Submitted a patch to the LLVM project, fixing a bug of its debugger.

2023

Patent ZL 2022 1 0436969.8

Kernel Space Debug Method, Device and Storage Medium

2022

Video2Ascii github.com/jwnhy/video2ascii

Built a program that transforms your video into text animation.

2022

Translation of Software Foundation coq-zh.github.io/SF-zh

Helped translate the Software Foundation, a famous textbook about formal verification.

2022

Summer Camp, National University of Singapore sws.comp.nus.edu.sg

Conducted a simulation project about highway traffic and mobile phone signal.

2019