LU HONGYI

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Education

HKUST   **2022 – Present**
Ph.D. Computer Science

SUSTech   **2017 – 2021**
B.Sc. Mathematics

Working Experience

COMPASS Lab. *Research Assistant*   **Nov. 2021 – 2022**
↪ Prof. Zhang Fengwei   *Southern University of Science and Technology*

- Conducted research in computer systems.
- Published one CCF-A paper about RISC-V debugger.

Publications

[1] 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*, 2025.

[2] 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*, 2024.

[3] Hongyi Lu, Shuai Wang, Yechang Wu, Wanning He, and Fengwei Zhang. MOAT: Towards Safe BPF Kernel Extension. In *33nd USENIX Security Symposium*, 2024.

[4] 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*, pages 56–62, 2023.

[5] 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*, 2022.

[6] 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*, pages 1039–1044, 2022.

[7] 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 (SPW)*, pages 327–338, 2021.

Academic Service

Reviewer   TIFS

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**