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## Education

### Tsinghua University

Ph.D., Software Engineering

Field of Interest: Operating Systems Software Analysis and Testing

Beijing, China

Sept. 2021 - Jun. 2025

Advisor: Prof. Yu Jiang

### ShanghaiTech University

Master of Engineering in Computer Science

Field of Interest: Software Analysis and Testing

Shanghai, China

Sept. 2018 - Jun. 2021

Advisor: Prof. Hao Chen

### ShanghaiTech University

Bachelor of Engineering in Computer Science

Shanghai, China

Sept. 2014 - Jun. 2018

## Employment

### School of Computer Science and Technology, Shandong University

Associate Professor, Tenure Track

Qingdao, China

Jul. 2025 - Now

### ByteDance AI Lab

Student Intern: Developed software testing technologies for server-side software.

Beijing, China

Jul. 2018 - Feb. 2019

## Publications

1. Jianzhong Liu, Yuheng Shen, Yifei Chu, Qiang Zhang, Heyuan Shi, Wanli Chang, and Yu Jiang. Droidfuzz: Proprietary driver fuzzing for embedded android devices. In *Proceedings of the 62nd ACM/EDAC/IEEE Design Automation Conference, DAC '25*. IEEE Press, 2025 (*Just Accepted*)
2. Jianzhong Liu, Yuheng Shen, Yiru Xu, Hao Sun, and Yu Jiang. Snapcc: Effective file system consistency testing using systematic state exploration. *ACM Trans. Softw. Eng. Methodol.*, 2025 (*Just Accepted*)
3. Jianzhong Liu, Yuheng Shen, Yiru Xu, and Yu Jiang. Leveraging binary coverage for effective generation guidance in kernel fuzzing. In *Proceedings of the 2024 on ACM SIGSAC Conference on Computer and Communications Security, CCS '24*, page 3763–3777, New York, NY, USA, 2024. Association for Computing Machinery
4. Jianzhong Liu, Yuheng Shen, Yiru Xu, Hao Sun, Heyuan Shi, and Yu Jiang. Effectively sanitizing embedded operating systems. In *Proceedings of the 61st ACM/IEEE Design Automation Conference, DAC '24*, New York, NY, USA, 2024. Association for Computing Machinery
5. Jianzhong Liu, Yuheng Shen, Yiru Xu, Hao Sun, and Yu Jiang. Horus: Accelerating kernel fuzzing through efficient host-vm memory access procedures. *ACM Trans. Softw. Eng. Methodol.*, 33(1), nov 2023
6. Yuheng Shen, Jianzhong Liu, Yiru Xu, Hao Sun, Mingzhe Wang, Heyuan Shi, Nan Guan, and Yu Jiang. Enhancing ros system fuzzing through callback tracing. In *Proceedings of the 33rd ACM SIGSOFT International Symposium on Software Testing and Analysis*, New York, NY, USA, 2024. Association for Computing Machinery
7. Hao Sun, Yiru Xu, Jianzhong Liu, Yuheng Shen, Nan Guan, and Yu Jiang. Finding correctness bugs in ebpf verifier with structured and sanitized program. In *Proceedings of the Nineteenth European Conference on Computer Systems, EuroSys '24*, page 689–703, New York, NY, USA, 2024. Association for Computing Machinery

8. Yiru Xu, Hao Sun, Jianzhong Liu, Yuheng Shen, and Yu Jiang. Saturn: Host-gadget synergistic usb driver fuzzing. In *2023 IEEE Symposium on Security and Privacy (SP)*, 2024
9. Yuheng Shen, Shijun Chen, Jianzhong Liu, Yiru Xu, Qiang Zhang, Runzhe Wang, Heyuan Shi, and Yu Jiang. Brief industry paper: Directed kernel fuzz testing on real-time linux. In *2023 IEEE Real-Time Systems Symposium (RTSS)*, pages 495–499, 2023
10. Mingrui Zhang, Chijin Zhou, Jianzhong Liu, Mingzhe Wang, Jie Liang, Juan Zhu, and Yu Jiang. Daisy: Effective fuzz driver synthesis with object usage sequence analysis. In *2023 IEEE/ACM 45th International Conference on Software Engineering: Software Engineering in Practice (ICSE-SEIP)*, pages 87–98, 2023
11. Zhengxiong Luo, Junze Yu, Feilong Zuo, Jianzhong Liu, Yu Jiang, Ting Chen, Abhik Roychoudhury, and Jiaguang Sun. Bleem: packet sequence oriented fuzzing for protocol implementations. In *Proceedings of the 32nd USENIX Conference on Security Symposium, SEC '23, USA*, 2023. USENIX Association
12. Yuheng Shen, Yiru Xu, Hao Sun, Jianzhong Liu, Zichen Xu, Aiguo Cui, Heyuan Shi, and Yu Jiang. Tardis: Coverage-guided embedded operating system fuzzing. *Trans. Comp.-Aided Des. Integ. Cir. Sys.*, 41(11):4563–4574, nov 2022
13. Yiwen Xu, Zijing Yin, Yiwei Hou, Jianzhong Liu, and Yu Jiang. Midas: Safeguarding iot devices against malware via real-time behavior auditing. *Trans. Comp.-Aided Des. Integ. Cir. Sys.*, 41(11):4373–4384, nov 2022
14. Hao Sun, Yuheng Shen, Jianzhong Liu, Yiru Xu, and Yu Jiang. Ksg: Augmenting kernel fuzzing with system call specification generation. In *USENIX Annual Technical Conference*, 2022
15. Jie Liang, Mingzhe Wang, Chijin Zhou, Zhiyong Wu, Yu Jiang, Jianzhong Liu, Zhe Liu, and Jiaguang Sun. Pata: Fuzzing with path aware taint analysis. In *2022 IEEE Symposium on Security and Privacy (SP)*, pages 1–17, 2022
16. Hao Sun, Yuheng Shen, Cong Wang, Jianzhong Liu, Yu Jiang, Ting Chen, and Aiguo Cui. Healer: Relation learning guided kernel fuzzing. In *Proceedings of the ACM SIGOPS 28th Symposium on Operating Systems Principles, SOSP '21*, page 344–358, New York, NY, USA, 2021. Association for Computing Machinery
17. Mingrui Zhang, Jianzhong Liu, Fuchen Ma, Huafeng Zhang, and Yu Jiang. Intelligen: Automatic driver synthesis for fuzz testing. In *2021 IEEE/ACM 43rd International Conference on Software Engineering: Software Engineering in Practice (ICSE-SEIP)*, pages 318–327, 2021