Jiahao LIU

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Education

National University of Singapore (NUS), Singapore   08/2020 – Present
- Ph.D. Candidate in Computer Science
- Adviosr: Zhenkai Liang   GPA: 4.43/5.00

Zhejiang University (ZJU), Zhejiang, China   09/2016 – 06/2020
- Member of Mixed-Class in Chu Kochen Honors College of Zhejiang University
- Major in Computer Science and Technology & Minor in Finance
- Advisor: Yajin Zhou   GPA: 3.82/4.00

Research Interests

My research interests lie in the interactions of software security, code analysis, and AI for security. Currently, I am focusing on AI-based Android analysis and code analysis, while also exploring the potential of large language models for security applications, such as vulnerability detection.

Publications and Preprints

[7] **VulZoo: A Comprehensive Vulnerability Intelligence Dataset**
Bonan Ruan, Jiahao Liu, Weibo Zhao, Zhenkai Liang
Preprint `https://arxiv.org/pdf/2406.16347v1`

[6] **Unraveling the Key of Machine Learning Solutions for Android Malware Detection**
Jiahao Liu, Jun Zeng, Fabio Pierazzi, Lorenzo Cavallaro, Zhenkai Liang
Preprint `https://arxiv.org/pdf/2402.02953.pdf`

[5] **KernJC: Automated Vulnerable Environment Generation for Linux Kernel Vulnerabilities**
Bonan Ruan, Jiahao Liu, Chuqi Zhang, Zhenkai Liang
In Proceedings of the 27th International Symposium on Research in Attacks, Intrusions and Defenses (RAID), 2024

[4] **Detecting Logic Bugs in Graph Database Management Systems via Injective and Surjective Graph Pattern Transformation**
Yuancheng Jiang, Jiahao Liu, Jinsheng Ba, Roland YAP Hock Chuan, Zhenkai Liang, and Manuel Rigger
In Proceedings of the 46th IEEE/ACM International Conference on Software Engineering (ICSE), 2024

[3] **Learning Graph-based Code Representations for Source-level Functional Similarity Detection**
Jiahao Liu, Jun Zeng*, Xiang Wang, and Zhenkai Liang   (* equal contribution)*
In Proceedings of the 45th IEEE/ACM International Conference on Software Engineering (ICSE), 2023

[2] **ShadeWatcher: Recommendation-guided Cyber Threat Analysis using System Audit Records**
Jun Zeng, Xiang Wang, Jiahao Liu, Yinfang Chen, Zhenkai Liang, Tat-Seng Chua, and Zheng Leong Chua
In Proceedings of the 43rd IEEE Symposium on Security and Privacy (Oakland), 2022

[1] **Tell: Log Level Suggestions via Modeling Multi-level Code Block Information**
Jiahao Liu, Jun Zeng, Xiang Wang, Kaihang Ji, and Zhenkai Liang
In Proceedings of the 31st ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA), 2022

Experience

National University of Singapore (Intern), Singapore   07/2019 – 10/2019
- Project: Malware analysis with genetic programming
- Advisor: Zhenkai Liang

Zhejiang University (Intern), Zhejiang, China 04/2018 – 04/2019
- Project: News-based financial strategy formulation
- Advisor: Shijian Li

HONORS AND AWARDS

Research Achievement Award	2023
NUS Research Scholarship	2020
Second-Class Scholarship for Outstanding Merits	2019
Shu Ping Prize Scholarship	2018
	2017
Second-Class Scholarship for Outstanding Students	2017

TEACHING ASSISTANCE

Computer Security (CS3235)	06/2021 – 12/2021
Web Security (TIC4304)	12/2020 – 05/2021
Web Security (CS5331)	12/2020 – 05/2021
Computer Security Practice (CS4238)	07/2020 – 12/2020

INVITED TALKS

[2] Learning Graph-based Code Representations for Source-level Functional Similarity Detection

Melbourne, Australia, 05/2023

[1] TELL: Log Level Suggestions via Modeling Multi-level Code Block Information   Virtually, 07/2022