Dazhi FENG

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Education

Southern University of Science and Technology, Shenzhen, China — 2020 – Present
Undergraduate in Computer Science and Technology, instructed by Prof. Yinqian Zhang, expected June 2024

University of Notre Dame, Notre Dame, IN — (expected) Aug. 2023 – Dec. 2023
Exchange Student

University of California, Irvine, Irvine, CA — Mar. 2023 – June 2023
Individual Study, supervised by Prof. Joshua Garcia

National University of Singapore, Singapore — May 2022 – July 2022
Summer Workshop

Experience

Automatic Reproduction of AV System Bugs

Mar. 2023 – Present

Software Engineering Independent Research Project, instructed by Prof. Joshua Garcia

Numerous bug reports are submitted to Autonomous Vehicle (AV) system developers, but manually reproducing these bugs is time-consuming. In this project, we use deep learning techniques to automatically reconstruct the bug scenes to help reproducing the bugs.

Detecting Vulnerability in Cryptography Library Based on Semantic Similarity

Feb. 2023 – Present

Program Analysis Independent Research Project, instructed by Prof. Yinqian ZHANG

There are various implementations to a certain cryptography algorithm like SM2. Because they implement the same algorithm, it is likely that they have similar code, thus possibly sharing vulnerabilities. In this project, we explore different methods like symbolic execution, deep learning, and taint analysis to develop a method to automatically match the function that has a similar functionality with a given vulnerable function in different libraries to detect similar vulnerabilities.

Implementation of Network Service of Proxied TEE OS

Sept. 2022 – Jan. 2023

Operating System Architecture Group Project, instructed by Prof. Yinqian ZHANG

This project belongs to a larger project where a TEE Operating System (TEE OS) is implemented in Rust. Our TEE OS adopts a proxied architecture, resembling RISC-V Proxy Kernel, although with more comprehensive functionalities. This project designs and implements the network proxy module. We hope that there will be publications after the whole project is done.

- Design and implement the network proxy module.
- Design and analyze the state security of the module against possible Iago attacks.

Skills

- Cumulative GPA: 3.67
- TOEFL iBT: 111/120
- Programming Languages:
  - Skilled: C/C++, Rust, Python, Java
  - Familiar: JavaScript, Swift, HTML, SQL
- Adept at maintaining Linux systems, used to ran several personal websites.
- Interested in security and privacy.
- The former president of the Student Union of Southern University of Science and Technology

Honors and Awards

3rd Prize, Outstanding Student Scholarship — Dec. 2022
Best Test Mark, NUS School of Computing Summer Workshop — July, 2022
3rd Prize, Contemporary Undergraduate Mathematical Contest in Modeling — Dec. 2022
3rd Prize, Outstanding Student Scholarship — Dec. 2021

‡Last Updated: May 13, 2023