Zhaoqi Xiao

CONTACT INFORMATION

Department of Computer Science and Engineering
University of California, Riverside
Riverside, CA, USA

Voice: (1)(951-312-0287)
E-mail: zxiao033@ucr.edu

REASERCH INTERESTS

My research interests focus on computer security, especially in automatically malware testing including dynamic software analysis by either software or hardware based techniques to detect anomalies in software. Besides, I am also care about topics related to operating system, virtualization and compilers.

EDUCATION

`Southern University of Science and Technology, Shenzhen, China`

B.Eng. in Computer Science and Technology, June 2022

- Advisor: Yinqian Zhang

PROFESSIONAL EXPERIENCE

`Tencent Holdings Limited`

- Developer Intern **June 2021 to Aug 2021**

PROJECT EXPERIENCE

Dynamic Taint Flow Analysis

A hardware prototype is achieved in this project, which is based on PHMon, a programmable RISC-V CPU chip. This hardware traces the tainted information related to data in memory to detect anomalies about data usage.

Performance Analysis for WebAssembly

We evaluate performance on a novel bytecode platform, WebAssembly. Eight software written in Rust or C/C++ are compiled to WebAssembly. Their performance in Just-In-Time, Ahead-of-Time compilation and interpreting is tested and compared to native code. Support for standard libc libraries is also evaluated. We also compile a suit of test bench, parsec benchmark, to WebAssembly, and compare the performance to native code.

Dynamic Analysis for WebAssembly

We build a dynamic instrumentation tool based on PIN to analyze the virtual machine for WebAssembly. We can obtain the exactly WebAssembly instructions run inside virtual machine and use these information to detect behaviour for WebAssembly modules.