



Wenxuan Shi

Education

- 09/2018–06/2022 **Southern University of Science and Technology**, *Shenzhen, Guangdong, China*, Bachelor in Computer Science and Engineering (CSE).
- GPA: 3.79/4, Average Score: 90/100, Rank: 23/154
 - Advisor: Prof. Fengwei Zhang
- 08/2021–12/2021 **National University of Singapore**, *Singapore*, Visiting student in School of Computing.
- Advisor: Prof. Zhenkai Liang

Research Interests

- **System Security**
In 2019, I was accepted to Fengwei Zhang's COMPuter And System Security Lab (COMPASS) as a year 2 undergraduate student. Since then I work together with the PhD students, focusing on system security.

Research Experiences

- 08/2021–06/2022 **Hardware-assisted Binary Analysis**, National University of Singapore, Curiosity Research Group, under supervision of Zhenkai Liang.
- 02/2021–08/2021 **Using Hardware Features for Failure Diagnosis on Arm**, Southern University of Science and Technology, COMPASS Research Group, under supervision of Fengwei Zhang.
- Using hardware components to collect execution information of ARM processors, then diagnosing the root cause of bugs in a concurrency system with binary analysis. As one of the authors, our paper was submitted to ACM Conference on Computer and Communications Security 2021.
- 09/2020–12/2020 **Transparent Tracing and Debugging on Arm**, Southern University of Science and Technology, COMPASS Research Group, under supervision of Fengwei Zhang.
- Combining Arm TrustZone and some hardware components to provide a transparent tracing and debugging environment for security analysers.

Course Projects

- **MALLOC: Memory Allocation Leakage Live Observer and Capturer**
“CS302 Operating System” Monitoring the memory allocation and usage of arbitrary processes and threads in Linux by runtime interpositioning, dynamic code instrumentation, and memory permission trapping.
- **Reliable Data Transport**
“CS305 Computer Networking” Implement a self-defined protocol based on UDP providing reliable and secure data transport. The project focus on data integrity, congestion control, and error tolerance.
- **Docker Escape**
“CS315 Computer Security” Escape from the preset limitations of containerisation like limitations between containers and limitations between container and host; resource limitations like CPU cores, memory usage, and the number of derived process numbers.

Teaching Experiences

- 02/2021–06/2021 **Teaching Assistant**, Southern University of Science and Technology.
- Assisted in teaching the course *Introduction to Computer Programming A*.

Honors & Awards

- 2019 ICPC Asia Yinchuan Regional Contest Silver Medal
- 2019 ICPC Asia Nanjing Regional Contest Bronze Medal
- 2019 ASC Student Supercomputer Challenge Second Class Prize
- 2020 Mathematical Contest in Modeling Honorable Mention
- 2018,2019,2020 Outstanding Student Scholarship (SUSTech)

Standard Tests

- **TOEFL iBT Test:** 99
(Reading:30, Listening:24, Speaking:24, Writing:21)