



# Wenxuan Shi

## Education

- 09/2018–06/2022 **Southern University of Science and Technology, Shenzhen, China.**
- Bachelor in Computer Science and Engineering (CSE)  
GPA: 3.79/4, Average Score: 91/100, Rank: 23/156
  - Advisor: Prof. Fengwei Zhang
- 08/2021–12/2021 **National University of Singapore, Singapore.**
- Visiting student in School of Computing, NGNE Research Program
  - Advisor: Prof. Zhenkai Liang

## Research Experiences

- 02/2021–08/2021 **A Practical Failure Diagnosis Framework via Arm Hardware Features.**
- COMPASS Research Group  
Under supervision of Fengwei Zhang and Zhenyu Ning
  - Leveraging the hardware tracing component ETM with a lightweight event capturer to collect runtime information with low overhead, which is then be used to identify and analyse the control and data flow related to the cause of a failure.  
*As a co-author, our paper is in submission to USENIX Security '22 Fall.*
- 08/2021–06/2022 **Hardware-assisted Concurrent Bugs Detection.**
- Curiosity Research Group  
Under supervision of Zhenkai Liang and Fengwei Zhang
- 09/2020–12/2020 **Transparent Tracing and Debugging on Arm.**
- COMPASS Research Group  
Under supervision of Fengwei Zhang and Zhenyu Ning
  - Combining Arm TrustZone and some hardware components to provide a transparent tracing and debugging environment for security analysers.

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## 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.

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## Teaching Experiences

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

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## 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
- 2018,2019,2020,2021 Outstanding Student Scholarship (SUSTech)

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## Standard Tests

- **TOEFL iBT Test:** 99  
Reading:30, Listening:24, Speaking:24, Writing:21
- **GRE General Test:** 321  
Verbal:152, Quantitative:169