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Department of Computer Science and Engineering Hong Kong University of Science and Technology

I am currently a PhD year 3 student at Department of Computer Science and Engineering, Hong Kong University of Science and Technology, supervised by Prof. Shuai Wang.

Before joining HKUST, I received my B.Eng. degree from Nankai University, Tianjin, China in 2019.

My research currently focuses on Reverse Engineering, my research interests include Computer Security and Software Engineering.

EDUCATION

Ph.D., Hong Kong University of Science and Technology

Bachelor of Engineering, Nankai University

09 2019 — now
09 2015 — 06 2019

ACADEMIC PROJECTS

DNN Executable Decompilation

01 2021 — now

• We try to decompile DNN executables compiled by DNN compilers using trace-based symbolic execution.

Lifter Benchmarking

 $04\,2020 - 04\,2021$

• We quantitatively evaluate performance of LLVM IR lifters on supporting downstream applications including pointer analysis, binary similarity analysis and decompilation.

Decompiler Testing

012019 - 032020

• We design a framework to automatically find errors and defects in modern decmopilers including commercial decompiler and open-source decompiler developed by NSA.

PUBLICATIONS

- 1. Liu, Z. & Wang, S. How Far We Have Come: Testing Decompilation Correctness of C Decompilers in Proceedings of the 29th ACM SIGSOFT International Symposium on Software Testing and Analysis (Association for Computing Machinery, Virtual Event, USA, 2020), 475–487. ISBN: 9781450380089. https://doi.org/10.1145/3395363.3397370.
- 2. Liu, Z., Yuan, y., Wang, S. & Bao, Y. SoK: Demystifying Binary Lifters Through the Lens of Downstream Applications in IEEE Symposium on Security and Privacy (2022).

AWARDS & HONORS

2019	China National Cyber Security Scholarship
2019	CISCN CTF Contest, group second class prize
2018	CISCN CTF Contest, group second class prize
2017	ACM/ICPC Asia Regional Urumqi Site Bronze Medal

PROFESSIONAL SERVICE

2022	External reviewer
2020	External reviewer
2020	External reviewer
2020	Artifact Evaluation track, external reviewer
2020	External reviewer
2019	External reviewer
2019	Artifact Evaluation track, external reviewer
	2020 2020 2020 2020 2020 2019

TECHNICAL SKILLS

Other Skills Reverse Engineering, Vulnerability Exploitation

Programming/Scripting Python, Java, C/C++, Assembly