

ZHENPENG LIN

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EDUCATION

Northwestern University <i>Ph.D student</i> advised by Xinyu Xing	2022 – Present
Penn State University <i>Ph.D student</i> advised by Xinyu Xing	2019 – 2022
Wuhan University <i>Master student</i> advised by Guojun Peng	2018 – 2019
Xidian University <i>B.E. in Cyberspace Security</i>	2014 – 2018

RESEARCH INTERESTS

Binary Analysis, Reverse Engineering, and Vulnerability & Exploitation

PUBLICATIONS

DirtyCred: Escalating Privilege in Linux Kernel

Zhenpeng Lin, Yuhang Wu, Xinyu Xing
ACM CCS 2022

GREBE: Unveiling Exploitation Potential for Linux Kernel Bugs

Zhenpeng Lin, Yueqi Chen, Dongliang Mu, Chensheng Yu, Yuhang Wu, Xinyu Xing, Kang Li
IEEE S&P 2022

An In-depth Analysis of Duplicated Linux Kernel Bug Reports

Dongliang Mu, Yuhang Wu, Yueqi Chen, Zhenpeng Lin, Chensheng Yu, Xinyu Xing, Gang Wang
NDSS 2022

A Systematic Study of Elastic Objects in Kernel Exploitation

Yueqi Chen, Zhenpeng Lin, Xinyu Xing
ACM CCS 2020

OTHER PUBLICATIONS

HotBPF - An On-demand and On-the-fly Memory Protection for the Linux Kernel

Yueqi Chen, Zhenpeng Lin
Linux Security Summit Europe 2022

Cautious! A New Exploitation Method! No Pipe but as Nasty as Dirty Pipe

Zhenpeng Lin, Yuhang Wu, Xinyu Xing
Black Hat USA 2022

Your Trash Kernel Bug, My Precious 0-day

Zhenpeng Lin, Yueqi Chen, Xinyu Xing, Kang Li
Black Hat Europe 2021

Finding Multiple Bug Effects for More Precise Exploitability Estimation

Zhenpeng Lin, Yueqi Chen
Linux Security Summit North America 2021

A General Approach to Bypassing Many Kernel Protections and its Mitigation.

Yueqi Chen, Zhenpeng Lin, Xinyu Xing
Black Hat Asia 2021

Bypassing Many Kernel Protections Using Elastic Objects.

Yueqi Chen, Zhenpeng Lin

Linux Security Summit Europe 2020

HONORS AND AWARDS

Android VRP rewards for CVE-2022-20409	2022
KCTF rewards for CVE-2022-20409	2022
KCTF rewards for CVE-2022-29581	2022
7th at DEF CON Finals 2022	2022
Pwn2Own Winner	2022
KCTF rewards for CVE-2021-4154	2021
LSS North America, Student Travel Grant Award	2021
Black Hat USA, Student Scholarship	2021
7th at DEF CON Finals 2021	2021
Black Hat USA, Student Scholarship	2020
5th at DEF CON Qualifier 2019	2019
1st at Baidu AI CTF	2018
1st at WCTF Junior	2018
4th at OCTF/TCTF	2018
1st at BCTF	2017

EXPERIENCES

Grsecurity May. 2021 – July. 2021

Research Intern, worked with Brad Spengler & Pax Team

Worked on improving and evaluating a Linux kernel heap hardening.

Baidu X-Lab May. 2020 – July. 2020

Research Intern, worked with Kang Li

Worked on escalating the exploitability of Linux kernel vulnerabilities.

Arizona State University Apr. 2019 – July. 2019

Summer Intern, worked with Ruoyu (Fish) Wang

Focused on optimizing IR lifting to accelerate symbolic execution engine (e.g., angr).

Automatic Exploit Generation System July. 2017 - Sep. 2018

independent researcher

Won 3rd place in RHG 2017 and 1st place in Baidu AI CTF 2018.

COMMUNITY SERVICES

External reviewer

IEEE Security and Privacy 2023

ACM CCS 2022, IEEE Security and Privacy 2022

USENIX Security 2021, ACM CCS 2021, IEEE Security and Privacy 2021

USENIX Security 2020, ACM CCS 2020