

# Yizhuo Zhai

Last updated: August, 2024  
Computer Science and Engineering  
University of California, Riverside  
[Google Scholar](#) [DBLP](#)

Email: [yizhuo dot zhai at email dot ucr dot edu](mailto:yizhuo dot zhai at email dot ucr dot edu)  
Website: <https://yizhuozhai.github.io>

## RESEARCH OBJECTIVE

System Security	• Linux Kernel Security
Program Analysis	• Static Analysis, Symbolic Execution

## EDUCATION

09/2016 – 09/2023	<b>Ph.D.</b> in Computer Science, University of California, Riverside, USA Advisor: Zhiyun Qian & Srikanth V. Krishnamurthy
09/2015 – 06/2016	<b>Study Abroad</b> in Software Engineering, University of Limerick, Ireland
09/2012 – 06/2016	<b>Bachelor</b> in Software Engineering, Xidian University, China GPA : 3.82/4.0, 91/100 (ranked 1st)
09/2009 – 06/2012	The Affiliated High School Of Shanxi University, Shanxi Province, China

## ACADEMIC EXPERIENCE

11/2023 – present	<b>Postdoctoral Fellow</b> School of Cybersecurity and Privacy (SCP) Supervisor: Taesoo Kim Georgia Institute of Technology, Atlanta, USA
09/2016 – 09/2023	<b>Graduate Student Researcher</b> Center for Research and Education in Cyber Security and Privacy (CRESP) University of California, Riverside, USA
06/2021 – 09/2021	<b>Research Intern</b> Samsung Research America, USA
06/2020 – 09/2020	<b>Research Intern</b> Baidu X-Lab, USA

## PUBLICATIONS

### CONFERENCE

[C6] <b>USENIX Security 24</b>	SymBisect: Accurate Bisection for Fuzzer-Exposed Vulnerabilities Zheng Zhang, Yu Hao, Weiteng Chen, Xiaochen Zou, Xingyu Li, Haonan Li, <b>Yizhuo Zhai</b> , Zhiyun Qian, Billy Lau <i>33rd USENIX Security Symposium, USENIX Security 24.</i>   Tool
[C5] <b>USENIX Security 24</b>	Don't Waste My Efforts: Pruning Redundant Sanitizer Checks by Developer-Implemented Type Checks <b>Yizhuo Zhai</b> , Zhiyun Qian, Chengyu Song, Manu Sridharan, Trent Jaeger, Paul Yu and Srikanth V. Krishnamurthy <i>33rd USENIX Security Symposium, USENIX Security 24.</i>   Tool
[C4] <b>OOPSLA 24</b>	Enhancing Static Analysis for Practical Bug Detection: An LLM-Integrated Approach Haonan Li, Yu Hao, <b>Yizhuo Zhai</b> , Zhiyun Qian <i>ACM on Programming Languages, OOPSLA 24.</i>   Tool  Static Analysis, Bug Detection, Large Language Model  Blog: <a href="#">[Demo, Prompt and Case Studies]</a>

- [C3] NDSS 22 Progressive Scrutiny: Incremental Detection of UBI bugs in the Linux Kernel  
**Yizhuo Zhai**, Yu Hao, Zheng Zhang, Weiteng Chen, Guoren Li, Zhiyun Qian, Chengyu Song, Manu Sridharan, Srikanth V. Krishnamurthy, Trent Jaeger, Paul Yu  
*Network and Distributed System Security Symposium, NDSS 2022.*   Tool  Recording  
 ◆ Linux Kernel Security, Static Analysis, Symbolic Execution  
 ● Selected Patches for Linux kernel: [\[Patch1\]](#) [\[Patch2\]](#) [\[Patch3\]](#)
- [C2] CCS 21 Statically Discovering High-Order Taint Style Vulnerabilities in OS Kernels  
 Hang Zhang, Weiteng Chen, Yu Hao, Guoren Li, **Yizhuo Zhai**, Xiaochen Zou, Zhiyun Qian  
*ACM SIGSAC Conference on Computer and Communications Security, CCS 2021.*   Tool  
 ◆ Linux Kernel Security, Static Analysis
- [C1] ESEC/FSE 20 UBITect: A Precise and Scalable Method to Detect Use-before-Initialization Bugs in Linux Kernel  
**Yizhuo Zhai**, Yu Hao, Hang Zhang, Daimeng Wang, Chengyu Song, Zhiyun Qian, Mohsen Lesani, Srikanth V. Krishnamurthy, Paul Yu  
*ACM SIGSOFT International Symposium on Foundations of Software Engineering, FSE 2020.*  
  Tool  Recording  
 ◆ Linux Kernel Security, Static Analysis, Symbolic Execution  
 ● Selected Patches for Linux kernel: [\[Patch1\]](#) [\[Patch2\]](#) [\[Patch3\]](#)

## POSTER

- [Poster1] Poster: Assisting Static Analysis with Large Language Models: A ChatGPT Experiment  
 Haonan Li, Yu Hao, **Yizhuo Zhai**, Zhiyun Qian  
 2023 IEEE Symposium on Security and Privacy (S&P 2023)

## AWARDS & HONORS

- |      |  |
|------|--|
| 2024 | USENIX Security Diversity Travel Grant   |
| 2022 | CCS Student Travel Grant   |
| 2019 | S&P Student Travel Grant   |
| 2016 | Dean's Distinguished Fellowship Award at University of California, Riverside<br>Presidents Volunteer Award (Bronze) at University of Limerick, Ireland |
| 2015 | First Prize Department Scholarship at Xidian University  |
| 2014 | National Scholarship (top1%) at Xidian University<br>Special Scholarship at Xidian University  |
| 2013 | First Prize Department Scholarship at Xidian University<br>Special Scholarship at Xidian University  |
| 2011 | First Prize at China High School Biology Olympiad (Shanxi Province, rank 33)<br>Second Prize at China High School Biology Olympiad (National)          |
| 2009 | First Prize at Junior High School Biology Competition (Shanxi Province)  |

## REFERENCES

- Zhiyun Qian** *Everett and Imogene Ross Professor*  
 Computer Science and Engineering department, University of California, Riverside, USA  
 Contact: zhiyunq at cs.ucr.edu
- Srikanth V. Krishnamurthy** *Professor, IEEE Fellow*  
 Computer Science and Engineering department, University of California, Riverside, USA  
 Contact: krish at cs.ucr.edu
- Chengyu Song** *Associate Professor*  
 Computer Science and Engineering department, University of California, Riverside, USA  
 Contact: csong at cs.ucr.edu

**Teasoo Kim** *Professor*

School of Cybersecurity and Privacy (SCP), Georgia Institute of Technology, Atlanta, USA

Contact: taesoo at gatech.edu