Feng **Xiao**

PhD. student In Computer Science

(+1) 814-777-7019 | f3ixiao@gmail.com | fxiao.me | xiaofen9 | f-xiao

Summary

Machine learning Researcher at Palo Alto Networks. I deisng AI/ML models to defend against cyberattacks and privacy leakages. 10+ research publications at top security conferences (BlackHat USA, IEEE S&P, USENIX SEC, etc). Interested in **systems programming** and **backend software development**.

Work Experience

Palo Alto Networks

CA, USA

Senior Staff Researcher

Jan. 2023 - Now

- Fine-tune domain-specific language models (DLM) to detect text-based malware (e.g., malicious scripts).
- Design statistical models (N-Gram) to understand customer network traffic data.
- **Techniques: Language Model Training, Gradient Boosting, N-Gram, Program Analysis**

Google

WA, USA

Software Engineer Intern

May. 2021 - Aug. 2021

- Designed and implemented the Tsunami Callback Service, which enables Google Cloud Vulnerability Scanner to detect log4j-like vulnerabilities. My work is now open-sourced and actively maintained by Google `https://github.com/google/tsunami-security-scanner-callback-server`
- Leveraged CI/CD techniques in Google to launch my project in production environments (early launch, exceeding expectation).
- Gave two tech talks at Google. I shared my previous research works on web vulnerability analysis.
- **Techniques: Java, Distributed Systems, Low-latency System Design, OWASP Vulnerability Assessment, Kubernetes.**

Google

WA, USA

Software Engineer Intern

May. 2020 - Aug. 2020

- Made fundamental changes to the Linux virtual memory management system to enable fast I/O for Confidential VMs at Google Cloud.
- Improved Confidential VM network throughput by 20%.
- Identified a potentially serious bug in our product and received a Google Peer Bonus Award.
- **Techniques: C&C++, Linux Memory Management, Linux I/O Internals, Cloud Virtualization, AMD SEV, Confidential Computing.**

Tencent

Shenzhen, China

Security Engineer Intern

Aug. 2017 - Sep. 2017

- Captured and mitigate one 0day attack (CVE 2017-9805) against servers of our company.
- Found 8 high-risk vulnerabilities from the products of Tencent.
- **Techniques: Python, Penetration Testing, Web Security.**

Publication

5 FIRST-AUTHOR WORKS IN TOP-TIER CONFERENCES

Evaluating LLM Safety with Adversarial Decision Making Test

In Submission

Zeqing He, Huiyu Xu, Zhibo Wang, **Feng Xiao**

FaceObfuscator: Defending Deep Learning-based Privacy Attacks with Gradient Descent-Resistant Features in Face Recognition.

USENIX SEC'24

Shuaifan Jin, He Wang, Zhibo Wang, **Feng Xiao**, Jiahui Hu, Yuan He, Wenwen Zhang, Zhongjie Ba, Weijie Fang, Shuhong Yuan, Kui Ren

JASMINE: Scale up JavaScript Static Security Analysis with Computation-based Semantic Explanation.

IEEE S&P'24

Feng Xiao, Zhongfu Su Guangliang Yang, and Wenke Lee

FaceObfuscator: Defending Deep Learning-based Privacy Attacks with Gradient Descent-Resistant Features in Face Recognition.

USENIX SEC'24

Shuaifan Jin, He Wang, Zhibo Wang, **Feng Xiao**, Jiahui Hu, Yuan He, Wenwen Zhang, Zhongjie Ba, Weijie Fang, Shuhong Yuan, Kui Ren

WEBRR: A Forensic System for Replaying and Investigating Web-Based Attacks in The Modern Web. *USENIX SEC'24*

Joey Allen, Zheng Yang, **Feng Xiao**, Matthew Landen, Roberto Perdisci, Wenke Lee

Understanding and Mitigating Remote Code Execution Vulnerabilities in Cross-Platform Ecosystem. *ACM CCS'22*

Feng Xiao, Ian Zheng, Joey Allen, Guangliang Yang, and Wenke Lee

Abusing Hidden Properties to Attack Node.js Ecosystem. *USENIX Security'21*

Feng Xiao, Jianwei Huang, Yichang Xiong, Guangliang Yang, Hong Hu, Guofei Gu, and Wenke Lee

Discovering Hidden Properties to Attack Node.js Ecosystem. *BlackHat'20*

Feng Xiao, Jianwei Huang, Yichang Xiong, Guangliang Yang, Hong Hu, Guofei Gu, and Wenke Lee

Unexpected Data Dependency Creation and Chaining: A New Attack to SDN. *IEEE S&P'20*

Feng Xiao, Jinquan Zhang, Jianwei Huang, Guofei Gu, Dinghao Wu, Peng Liu

PatternListener: Cracking Android Pattern Lock Using Acoustic Signals. *ACM CCS'18*

Man Zhou, Qian Wang, Jingxiao Yang, Qi Li, **Feng Xiao**, Zhibo Wang, Xiaofeng Chen.

Hacking the Brain: Customize Evil Protocol to Pwn an SDN Controller. *DEFCON'18*

Feng Xiao, Jianwei Huang, Peng Liu.

Enabling Secure Location Authentication in Drone (poster). *ACM MobiCom'17*

Feng Xiao, Man Zhou, Youcheng Liye, Jingxiao Yang, Qian Wang.

Education

Georgia Institute of Technology *Atlanta, USA*

Ph.D. in Computer Science *Jul. 2019 - Dec. 2023*

- Working on system security with Prof. Wenke Lee.
- GPA: 3.9/4

Wuhan University *Wuhan, China*

B.S. in Computer Science *Sept. 2014 - Jun. 2018*

- GPA: 3.87/4

Honors

2021	Most Innovative Research Runner-up	*Pwnie Award, USA*
2019	Chair Fellowship.	*Atlanta, USA*
2018	Rednor IST Fellowship.	*State College, USA*
2018	ACM CCS Student Travel Grant Award.	*Toronto, Canada*
2017	LeiJun Scholarship (Top 1 out of 310).	*Wuhan, China*
2016	National Scholarship (Awarded to top 0.2% undergrads nationwide)	*Wuhan, China*
2015	Yuanyi Scholarship.	*Wuhan, China*

Programming languages

Natively fluent: C, Java, Python, Node.js

Conversationally fluent: C++, PHP, Matlab