Xiaokuan Zhang

Education

Ph.D. in Computer Science and Engineering	**The Ohio State University**
Advisor: Prof. Yinqian Zhang	Aug. 2015 - Dec. 2021
B.S. in Computer Science and Technology	**Shanghai Jiao Tong University**
Advisor: Prof. Haojin Zhu	Sep. 2011 - Jun. 2015

Work Experience

Assistant Professor	**George Mason University**
Fairfax, VA	Aug. 2022 - present
Postdoctoral Researcher	**Georgia Institute of Technology**
Atlanta, GA	Nov. 2021 - Aug. 2022
Research Intern	**Microsoft Research**
Redmond, WA	May 2019 - Aug. 2019
Software Engineering Intern	**Google Inc.**
Mountain View, CA	May 2018 - Aug. 2018

Honors & Awards

- **NortonLifeLock (Symantec) Graduate Fellowship** — 2020
- **Graduate Research Award, CSE Department, Ohio State University** — 2020
- **Nomination for Google Research Fellowship, CSE Department, Ohio State University** — 2019
- **Top 10 Finalists of CSAW Applied Security Research Competition** — 2016, 2018
- **Outstanding Graduate, Shanghai Jiao Tong University** — 2015
- **Academic Excellence Scholarship, Shanghai Jiao Tong University** — 2012, 2014
- **Outstanding Student Cadre, Shanghai Jiao Tong University** — 2013
- **National Olympiad in Informatics in Provinces (NOIP), First Prize in Fujian Province** — 2010

Publications

1. **[CCS'22]** Jianyu Niu, Wei Peng, **Xiaokuan Zhang**, Yinqian Zhang. *"Narrator: Secure and Practical State Continuity for Trusted Execution on Cloud"*. In Proceedings of the 29th ACM Conference on Computer and Communication Security, Los Angeles, CA, USA, Nov. 2022.

2. **[ATC'22]** Fan Sang, Ming-Wei Shih, Sangho Lee, **Xiaokuan Zhang**, Michael Steiner, Mona Vij, Taesoo Kim. *"PRIDWEN: Universally Hardening SGX Programs via Load-Time Synthesis"*. In Proceedings of the 2022 USENIX Annual Technical Conference, Carlsbad, CA, USA, Jul. 2022. (*Acceptance rate: 16.3%*)

3. **[IJIS'22] Xiaokuan Zhang**, Jihun Hamm, Michael K. Reiter, Yinqian Zhang. *"Defeating traffic analysis via differential privacy: a case study on streaming traffic"*. International Journal of Information Security. (*journal paper*)

4. **[CCS'21]** Suibin Sun, Le Yu, **Xiaokuan Zhang**, Minhui Xue, Ren Zhou, Haojin Zhu, Shuang Hao, Xiaodong Lin. *"Understanding and Detecting Mobile Ad Fraud Through the Lens of Invalid Traffic"*. In Proceedings of the 28th ACM Conference on Computer and Communication Security, Virtual Event, Nov. 2021. (*Acceptance rate: 22.3%*)

5. **[CCS'21]** Tong Zhu, Yan Meng, Haotian Hu, **Xiaokuan Zhang**, Minhui Xue, Haojin Zhu. *"Dissecting Click Fraud Autonomy in the Wild"*. In Proceedings of the 28th ACM Conference on Computer and Communication Security, Virtual Event, Nov. 2021. (*Acceptance rate: 22.3%*)

6. **[UIST'20]** Frederik Brudy, David Ledo, Michel Pahud, Nathalie Henry Riche, Christian Holz, Anand Waghmare, Hemant Surale, Marcus Peinado, **Xiaokuan Zhang**, Shannon Joyner, Badrish Chandramouli, Umar Farooq Minhas, Jonathan Goldstein, Bill Buxton, Ken Hinckley. *"SurfaceFleet: Exploring Distributed Interactions Unbounded from Device, Application, User, and Time"*. In Proceedings of the 33rd Annual Symposium on User Interface Software and Technology, Virtual Event, Oct. 2020. *(Acceptance rate: 21.5%)*

7. **[Security'20]** Mengya Zhang*, **Xiaokuan Zhang***, Yinqian Zhang, Zhiqiang Lin. *"TXSPECTOR: Uncovering Attacks in Ethereum from Transactions"*. In Proceedings of the 29th USENIX Security Symposium, Virtual Event, Aug. 2020. (*Acceptance rate: 16.1%*) (*equal contribution)

8. **[NDSS'19] Xiaokuan Zhang**, Jihun Hamm, Michael K. Reiter, Yinqian Zhang. *"Statistical Privacy for Streaming Traffic"*. In Proceedings of the 26th Network and Distributed System Security Symposium, San Diego, CA, USA, Feb. 2019. (*Acceptance rate: 17.1%*)

9. **[ACSAC'18]** Bo Lu*, **Xiaokuan Zhang***, Ziman Ling, Yinqian Zhang, Zhiqiang Lin. *"A Measurement Study of Authentication Rate-Limiting Mechanisms of Modern Websites"*. In Proceedings of the 34th Annual Computer Security Applications Conference, San Juan, Puerto Rico, USA, Dec. 2018. (*Acceptance rate: 20.1%*) (*equal contribution)

10. **[CCS'18]** Wei Zhang, Yan Meng, Yugeng Liu, **Xiaokuan Zhang**, Yinqian Zhang, Haojin Zhu. *"HoMonit: Monitoring Smart Home Apps from Encrypted Traffic"*. In Proceedings of the 25th ACM Conference on Computer and Communication Security, Toronto, Canada, Oct. 2018. (*Acceptance rate: 16.6%*)

11. **[NDSS'18] Xiaokuan Zhang**, Xueqiang Wang, Xiaolong Bai, Yinqian Zhang, XiaoFeng Wang. *"OS-level Side Channels without Procfs: Exploring Cross-App Information Leakage on iOS"*. In Proceedings of the 25th Network and Distributed System Security Symposium, San Diego, CA, USA, Feb. 2018. (*Acceptance rate: 21.5%*) **(Top 10 Finalists of CSAW'18 Applied Security Research Competition)**

12. **[AsiaCCS'17]** Sanchuan Chen, **Xiaokuan Zhang**, Michael K. Reiter, Yinqian Zhang. *"Detecting Privileged Side-Channel Attacks in Shielded Execution with DEJA VU"*. In Proceedings of the 12th ACM Asia Conference on Computer and Communications Security, Abu Dhabi, UAE, Apr. 2017. (*Acceptance rate: 20.3%*)

13. **[CCS'16] Xiaokuan Zhang**, Yuan Xiao, Yinqian Zhang. *"Return-Oriented Flush-Reload Side Channels on ARM and Their Implications for Android Devices"*. In Proceedings of the 23rd ACM Conference on Computer and Communication Security, Vienna, Austria, Oct. 2016. (*Acceptance rate: 16.5%*)

14. **[Security'16]** Yuan Xiao, **Xiaokuan Zhang**, Yinqian Zhang, Mircea-Radu Teodorescu. *"One Bit Flips, One Cloud Flops: Cross-VM Row Hammer Attacks and Privilege Escalation"*. In Proceedings of the 25th USENIX Security Symposium, Austin, TX, USA, Aug. 2016. (*Acceptance rate: 15.6%)* **(Top 10 Finalists of CSAW'16 Applied Security Research Competition)**

15. **[ICCC'15]** Bett Ben Chirchir, **Xiaokuan Zhang**, Mengyuan Li, Qiyang Qian, Na Ruan, Haojin Zhu. *"SmartSec: Secret Sharing-based Location-aware Privacy Enhancement in Smart Devices"*. In Proceedings of the 4th IEEE/CIC International Conference on Communications in China, Senzhen, China, Nov. 2015.

16. **[GLOBECOM'14] Xiaokuan Zhang**, Haizhong Zheng, Xiaolong Li, Suguo Du, and Haojin Zhu. *"You are Where You Have Been: Sybil Detection via Geo-location Analysis in OSNs"*. In Proceedings of the 33rd Global Communications Conference, Austin, TX, USA, Dec. 2014.

Teaching Experience

Graduate Teaching Assistant   **The Ohio State University**
  ○ CSE 3341: Principles of Programming Languages   Jan. 2016 - May 2016
  ○ CSE 3461: Computer Networking and Internet Technologies   Aug. 2015 - Dec. 2015

Undergraduate Teaching Assistant   **Shanghai Jiao Tong University**
  ○ EI 209: Computer Architecture and Design   Sep. 2014 - Jan. 2015

Service

Program Committee
  ○ International Conf. on Applied Cryptography and Network Security (ACNS)   2023
  ○ EAI International Conf. on Security and Privacy in Comm. Net. (SecureComm)   2022
  ○ International Conf. on Knowledge Science, Engineering and Management (KSEM)   2022
  ○ ACM Cloud Computing Security Workshop (CCSW)   2020, 2021, 2022
  ○ NYU CSAW Cyber Security Applied Research Paper Competition   2020, 2021
  ○ IEEE International Conf. on Cloud Computing Technology and Science (CloudCom)   2020

Journal Reviewer
  ○ IEEE Transactions on Mobile Computing (TMC)   2021, 2022
  ○ IEEE Transactions on Dependable and Secure Computing (TDSC)   2019, 2022

External Reviewer
  ○ IEEE Symposium on Security and Privacy (Oakland)   2016 - 2018, 2020, 2022
  ○ ACM Conference on Computer and Communications Security (CCS)   2016 - 2020
  ○ USENIX Security Symposium (Security)   2017, 2022
  ○ ISOC Network and Distributed System Security Symposium (NDSS)   2018, 2020
  ○ ACM Asia Conference on Computer and Communications Security (AsiaCCS)   2018, 2020

Presentations & Talks

- Statistical Privacy for Streaming Traffic
  NDSS'19, San Diego, CA, USA   Feb. 2019

- A Measurement Study of Authentication Rate-Limiting Mechanisms of Modern Websites
  ACSAC'18, San Juan, PR, USA   Dec. 2018

- OS-level Side Channels without Procfs: Exploring Cross-App Information Leakage on iOS
  CSAW'18 Applied Security Research Competition, New York City, NY, USA   Nov. 2018
  NDSS'18, San Diego, CA, USA   Feb. 2018

- Return-Oriented Flush-Reload Side Channels on ARM and Their Implications for Android Devices
  CCS'16, Vienna, Austria   Oct. 2016

- You are Where You Have Been: Sybil Detection via Geo-location Analysis in OSNs
  GLOBECOM'14, Austin, TX, USA   Dec. 2014

References

Yinqian Zhang, Professor
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Michael K. Reiter, Professor
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