Xianghang Mi

Email   Homepage   Google Scholar

Research Interests

Cybercrime, Online Abuse, Network Security, IoT & Cyber-Physical Systems Security.

Positions

09/2021 – Now: University of Science and Technology of China
   Pre-Tenure Professor
   School of Computer Science

01/2021 – 08/2021: University at Buffalo
   Tenure-Track Assistant Professor
   Department of Computer Science and Engineering

06/2019 – 01/2021: Facebook, Inc
   Research Scientist in Security Infrastructure
   Distributed and continuous fuzzing platform, abuse detection.

05/2018 – 08/2018: Facebook, Inc
   Software engineer intern in Community Integrity
   Netowrk entity reputation: understanding, prediction and application.

05/2017 – 07/2017: AT&T Research Lab
   Research intern
   Automatic onboarding of virtual network functions in cloud platforms
   Deploy OpenStack and VNFs, measure bottlenecks of VNF onboarding.

05/2014 – 05/2015: Baidu, Inc
   Senior Software Engineer.
   Developed the mobile website for Nuomi (Baidu's group-buying service).
   Engineered user account modules, improved robustness of the system.

Education

08/2015 – 06/2020: Indiana University, Bloomington IN
    Ph.D. Degree, Department of Computer Science
    Advisors: Professor XiaoFeng Wang, and Professor Feng Qian
    Research Areas: Network Security, Cybercrime, and IoT Security
    Thesis: Characterizing Emerging Cybersecurity Threats: An Ecosystem Approach.

09/2009 – 06/2013: Beijing Institute of Technology, Beijing, China
    B.S. Degree, Department of Software Engineering
    GPA: 85 / 100 (3.5 / 4.5)
    Thesis: An FTP server and client on Android platform.

Honors and Awards

2019 3rd Place (3 out of 80) in CSAW Applied Research Competition

2019 NDSS Distinguished Paper Award

Student Travel Grant: ACM CoNEXT 2016, CSAW'19.

2013 Excellent Undergraduate Thesis Award at Beijing Institute of Technology.

2010 National Motivational Scholarship at Beijing Institute of Technology.

Professional Service

Reviewer: IEEE Transaction on Mobile Computing 2018, ACM Transactions on Privacy and Security 2021/2022, IEEE Transactions on Dependable and Secure Computing 2021/2022, IEEE Security & Privacy 2021/2022.
External Reviewer: IEEE Security & Privacy 2020, ACM CHI 2020, ACM CCS 2019, IEEE INFOCOM 2019, NDSS 2022/2019/2018, IEEE ICDCS 2017, ACM AsiaCCS 2016, BIGCOM 2016.
Conference and Workshop Program Committee: GenoPri 2020/2021, SKM 2021.

Selected Publications

* denotes co-first authors, † stands for corresponding authors.

CCS'22 An Extensive Study of Residential Proxies in China
Mingshuo Yang*, Yunnan Yu*, ***Xianghang Mi**†, Shujun Tang, Shanqing Guo†, Yilin Li, Xiaofeng Zheng, Haixin Duan*
To appear in ACM CCS 2022.

CCS'22 Clues in Tweets: Twitter-Guided Discovery and Analysis of SMS Spam
*Siyuan Tang, **Xianghang Mi**†, Ying Li, Xiaofeng Wang, Kai Chen*
To appear in ACM CCS 2022.

NDSS'21 Your Mobile Phone is My Proxy: Understanding and Detecting Mobile Proxy Networks
***Xianghang Mi**†, Siyuan Tang, Zhengyi Li, Xiaojing Liao, Feng Qian, Xiaofeng Wang*
Network and Distributed System Security Symposium 2021.
Acceptance Rate: 15.2% = 87/573.

Oakland'19, Resident Evil: Understanding Residential IP Proxy as a Dark Service
***Xianghang Mi**, Xuan Feng, Xiaojing Liao, Baojun Liu, Xiaofeng Wang, Feng Qian, Zhou Li, Sumayah Alrwais, Limin Sun, Ying Liu*
IEEE Symposium on Security and Privacy 2019.
Acceptance Rate: 12% = 84/679.

Oakland'19, Dangerous Skills: Understanding and Mitigating Security Risks of Voice-Controlled Third-Party Functions on Virtual Personal Assistant Systems, 3rd Place (3 out of 80) of CSAW'19 Applied Research Competition
*Nan Zhang, **Xianghang Mi**, Xuan Feng, XiaoFeng Wang, Yuan Tian, Feng Qian.*
IEEE Symposium on Security and Privacy 2019.
Acceptance Rate: 12% = 84/679.

Security'19, Understanding iOS-based Crowdturfing through Hidden UI Analysis
Yeonjoon Lee, Xueqiang Wang*, Kwangwuk Lee, Xiaojing Liao, XiaoFeng Wang, Tongxin Li, **Xianghang Mi***
USENIX Security Symposium (Security), 2019.
Acceptance Rate: 16% = 113/697.

NDSS'19, Cracking the Wall of Confinement: Understanding and Analyzing Malicious Domain Take-downs, Distinguished Paper Award
Eihal Alowaisheq, Peng Wang, Sumayah A Alrwais, Xiaojing Liao, XiaoFeng Wang, Tas-

*neem Alowaisheq, **Xianghang Mi**, Siyuan Tang, Baojun Liu*
Network and Distributed System Security Symposium 2019, San Diego, CA.
Acceptance Rate: 17% = 89/521.

NDSS'18, **Game of Missuggestions: Semantic Analysis of Search-Autocomplete Manipulations**
*Peng Wang, **Xianghang Mi**, Xiaojing Liao, XiaoFeng Wang, Kan Yuan, Feng Qian, and Raheem Beyah*
Network and Distributed System Security Symposium 2018, San Diego, CA.
Acceptance Rate: 21.5% = 71/331.

Security'17, **Picking Up My Tab: Understanding and Mitigating Synchronized Token Lifting and Spending in Mobile Payment**
Xiaolong Bai, Zhe Zhou*, XiaoFeng Wang, Zhou Li, **Xianghang Mi**, Nan Zhang, Tongxin Li, S. Hu, Kehuan, Zhang*
USENIX Security Symposium 2017, VANCOUVER, BC, CANADA.
Acceptance Rate: 16.3% = 85/522.

Oakland'17, **Under the Shadow of Sunshine: Understanding and Detecting BulletProof Hosting on Legitimate Service Provider Networks**
*Sumayah Alrwais, Xiaojing Liao, **Xianghang Mi**, Peng Wang, XiaoFeng Wang, Feng Qian, Raheem Beyah, Damon McCoy*
IEEE Symposium on Security and Privacy 2017, San Jose, CA.
Acceptance Rate: 13% = 60/457.

arXiv'17, **Understanding IoT Security Through the Data Crystal Ball: Where We Are Now and Where We Are Going to Be**
*Nan Zhang, Soteris Demetriou, **Xianghang Mi**, Wenrui Diao, Kan Yuan, Peiyuan Zong, Feng Qian, XiaoFeng Wang, Kai Chen, Yuan Tian, Carl A Gunter, Kehuan Zhang, Patrick Tague, Yue-Hsun Lin*
arXiv preprint, 2017.

IMC'17, **An Empirical Characterization of IFTTT: Ecosystem, Usage, and Performance**
***Xianghang Mi**, Feng Qian, Ying Zhang, and Xiaofeng Wang*
ACM Internet Measurement Conference 2017, London, UK.
Acceptance Rate: 23.4% = 42/179.

CoNEXT'16, **SMig: Stream Migration Extension For HTTP/2**
***Xianghang Mi**, Feng Qian, and XiaoFeng Wang.*
International Conference on emerging Networking EXperiments and Technologies 2016, Irvine, CA.
Acceptance Rate: 17.6% = 35/199.

Teaching

2022 The Frontier of Cybersecurity Research, Fall 2022, USTC
2022 Introduction to Cybersecurity, Spring 2022, USTC
2021 CSE 489/589 Modern Networking Concepts, Spring 2021,UB
2016-2017 Guest Lectures: CSCI P438 (Computer Networks, IU, Fall 2016), CSCI P538 (Advanced Computer Networks, IU, Fall 2016/Fall 2017).

Funding Awards

2022 *Fostering Cyber Threat Detection through Federated Learning*, ¥200K, MSR Asia
2022 *The Innovation Fund for Young Investigators*, ¥90K, USTC