

XiaoFeng Wang

Curriculum Vitae

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EDUCATION

2004	Carnegie Mellon University Ph.D. Electrical and Computer Engineering	Pittsburgh, USA
1996	Shanghai Jiao Tong University M.S. Computer Science	Shanghai, PRC
1993	Nanjing University of Aeronautics and Astronautics B.S. Computer Science	Nanjing, PRC

PROFESSIONAL EXPERIENCE

1/2020 —	Security Program Director, School of Informatics, Computing Engineering	
11/2017 —	Director, Center for System Security and Data Privacy	
1/2010 —	Co-Director, Center for Security Informatics	
1/2010 — 12/2010	Program Director, Security Informatics	
11/2017—	Rudy Professor of Computer Science, Engineering and Informatics	
7/2015 —	Professor	
7/2010 — 6/2015	Associate Professor	
8/2004 — 6/2010	Assistant Professor School of Informatics, Computing and Engineering Indiana University at Bloomington	
1/1997 — 8/1997	IT Specialist Hewlett-Packard Computer Products (Shanghai) Co.Ltd	
3/1996 — 1/1997	Software Engineer Shanghai Venus Software co., LTD	

PROFESSIONAL SERVICE

- Vice Chair, ACM Special Interest Group on Security, Audit and Control (SIGSAC)
- Program Co-Chair, the ACM Conference on Computer and Communications Security (CCS'18 and CCS'19)
- Member, ACM SIGSAC Executive Committee
- Founding organizer (with my colleagues at IU and UCSD): iDASH Genome Privacy Challenges (www.humangenomeprivacy.org)
- Program Co-Chair, the 11th ACM Asia Conference on Computer and Communications Security (ACM AsiaCCS'16)
- Program Chair, the 11th International Conference on Security and Privacy in Communication Networks (SecureComm'15)
- Workshop Co-Chair, the 22nd ACM Conference on Computer and Communication Security (CCS'15)
- General Chair, the 13th Privacy Enhancing Technologies Symposium (PETS'13)
- Program Chair, the 7th International Workshop on Genome Privacy and Security (GenoPri'20)
- Steering committee member, International Workshop on Genome Privacy and Security (GenoPri)
- Member, PoPETs/PETS Advisory Board
- Associate Editor, IEEE Transactions on Dependable and Secure Computing (TDSC), since December, 2014
- Area PC Chair, the IEEE Conference on Communications and Network Security (CNS'19)
- Panel Chair, the IEEE Conference on Communications and Network Security (CNS'18)
- Program committee member, the IEEE Symposium on Security and Privacy (S&P'10, 11, 12, 13, 14, 18, 19, 20)
- Panelist, the IEEE Conference on Communications and Network Security (CNS'17)
- Program committee member, the USENIX Security Symposium (Security' 17)
- Invited panelist, Security and Privacy Challenges in Health Informatics, the NSF SaTC PI meeting 2015.
- Program committee member, the 17th International Symposium on Research in Attacks, Intrusions and Defenses (RAID'15)
- Program committee member, the Annual Network and Distributed System Security Symposium (NDSS' 13, 14, 15, 16, 17, 21)

- Program committee member, the International World Wide Web Conference, Security and Privacy Track (WWW'09, 12, 14, 15)
- Program committee member, the ACM Symposium on Information, Computer and Communications Security (ASIACCS'12)
- Member, PET Award 2012 committee
- Program committee member, the International Conference on Distributed Computing Systems (ICDCS'10, 11)
- Chair, Local arrangement committee, CCS'11
Member, Patron and Industry Outreach, CCS'10
Chair, Regional arrangement committee, CCS'09
- Program committee member, the Workshop on Security and Privacy in Medical and Home-Care Systems 2009
- Program committee member, the International Conference on Security and Privacy in Communication Networks (SecureComm'08, 09)
- Program committee member, the ACM Conference on Computer and Communication Security (CCS'08, 10, 15, 16, 17, 20)
- Co-Chair, the I3P Workshop on Insider Threats in the Networked World (2008)
- Local arrangement, the 5th Midwest Security Workshop (Spring, 2008), Program chair, the Second MSW (Fall, 2006) and PC members, MSW (2006 – 2008)
- Program committee member, the Fourth International Conference on Information Systems Security (ICISS 2008)
- Program committee member, the Third International Conference on Internet Monitoring and Protection (ICIMP'08)
- Steering committee member, NSF Biomedical Informatics Workshop (2007)
- Program committee member, the Workshop on Privacy in the Electronic Society (WPES'06-08, 12)
- Program committee member, the IEEE International Symposium on Dependable Autonomic and Secure Computing (DASC'06 and '07)
- Program committee member, the 8th International Conference on Information and Communications Security (ICICS '06)
- Program committee member, the 5th International Conference on Cryptology and Network Security (CANS '06)
- Program committee member, the International Workshop on Incentive Based Computing (IBC'05 and '06)
- Program committee member, the 4th International Conference on Applied Cryptography and Network Security (ACNS'06)

- Program committee member, the 16th Annual International Symposium on Algorithms and Computation (ISAAC'05)
- Program committee member, ACM Workshop on Wireless Security 2005 (WiSe'05).
- Program committee member, the International Joint Conference on Autonomous Agents and Multi Agents Systems (AAMAS'04 and 05).
- Panelist: Attacks on and Security Measures for Ad Hoc Wireless Networks, American Association for the Advancement of Science annual Conference 2005.
- Program committee member of IEEE/ACM First International Workshop on Broadband Wireless Services and Applications (BroadWISE 2004)
- Paper reviewer for the IEEE/ACM Transactions on Networking, the ACM Transactions on Information and System Security, the IEEE Transactions on Dependable and Secure Computing, the IEEE Transactions on Parallel and Distributed Systems, International Journal of Knowledge and Information Systems, the IEEE transactions on Knowledge and Data Engineering, Electronic Commerce Research Journal, ACM Conference on Computer and Communication Security, RSA CT, IEEE INFOCOM, IEEE GLOBECOM, ACM International Conference on Information Security, Workshop on Privacy Enhancing Technologies, Conference on Security and Cryptography for Networks, The IEEE International Conference on Communications, Pacific Rim International Workshop on Multiagent Systems, Pacific Rim International Conference on Artificial Intelligence and IFIP World Computer Congress.

TEACHING EXPERIENCE

Fall 2005-	I430/520 and B649 "Security for Networked Systems" (An upper-level undergraduate and graduate course) Indiana University at Bloomington
Spring 2007-	I521 "Malware: Threat and Defense" (A graduate course) Indiana University at Bloomington
Spring 2006- 2009	I231 "Mathematic Foundations for Cybersecurity" (A second-year undergraduate course) Indiana University at Bloomington
Spring 2005	I400 "Introduction to Information Security" (A third and fourth year undergraduate course) Indiana University at Bloomington
Spring 2002	Teaching assistant for 18440 "Internet Security" (An upper-level undergraduate and graduate course) Carnegie Mellon University

INTERNAL SERVICE

1. Facility Committee, Informatics (Fall 2004 – Spring 2006)
 2. Faculty Hiring Committee, Informatics (Fall 2004 – Spring 2005, Fall 2008 – Spring 2009, Fall 2011)
 3. Admission and Awards Committee, Computer Science (Fall 2004 –)
 4. Graduate Admissions and Financial Aid Committee, Informatics (Fall 2006 – Spring 2008, Fall 2014)
 5. Graduate Education Committee, Computer Science (Fall, 2010 – 2012, 2014 –)
 6. Security Contact for Health Informatics Program (Spring, 2011 –)
 7. Chair, Faculty Hiring Committee (security track) (Fall 2013 – Spring 2014)
 8. Chair, Admission and Awards Committee, Computer Science (Fall 2014 – 2018)
 9. Program Director, Security Informatics Program (2010)
 10. Director, Center for Security Informatics (2010 –)
 11. Program Director, Secure Computing Program at IU (2020)
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IMPACTS OF MY RESEARCH

My research frequently receives the attention from the mainstream media, including CNN, MSNBC, PC World, Slashdotted, CNet News, etc. Here are the links to incomplete lists of media coverage.

Genome Privacy Competition:

<https://www.genomeweb.com/informatics/new-community-challenge-seeks-evaluate-methods-computing-encrypted-genomic-data>

<http://www.nature.com/news/extreme-cryptography-paves-way-to-personalized-medicine-1.17174>

MassVet: <http://sit.soic.indiana.edu/en/2015/09/06/massvet-usenix/>

XARA Threats to Mac OS X and iOS, and also Android Secure Upgrading:

<http://sit.soic.indiana.edu/en/2015/09/07/xara-ccs/>

<https://luyixing.weebly.com/media-coverage.html>

Privacy in Dissemination of Human Genomic Data:

[News Release by Ontario's Information and Privacy Commissioner](#) and [BioSpace](#)

Security Analysis of Cashier-as-a-Service Systems:

<http://www.informatics.indiana.edu/xw7/record/impacts/CaaS.htm>

Sound Malware for Android Phones

<http://www.informatics.indiana.edu/xw7/record/impacts/Soundcomber.htm>

Facebook Authorization Flaw

<http://www.informatics.indiana.edu/xw7/record/impacts/Facebook.htm>

Side-Channel Information Leaks in Web Applications

<http://www.informatics.indiana.edu/xw7/record/impacts/SideChannel.htm>

Puzzle Auction

<http://www.informatics.indiana.edu/xw7/record/impacts/PuzzleAuction.htm>

HONORS

2020 [AMiner AI 2000 Security and Privacy Most Influential Scholars](#) (20th in the past 10 years)

2019 CSAW'19 US-Canada Applied Research Competition Winner (3rd place): for the research on the security risks of voice-controlled third-party functions for virtual personal assistant systems (Google Assistant, Amazon Alexa, etc.)

2019 Distinguished Paper Award, the 26th Network and Distributed System Security Symposium (NDSS): for the research on cybercrime analysis

2019 Distinguished Paper Award, the 26th Network and Distributed System Security Symposium (NDSS): for the research on Genomic Privacy

2019 IEEE Fellow (Computer Society): for contributions to system security and genomic privacy

2018 CSAW'18 US-Canada Applied Research Finalist: for the research on iOS side-channel analysis (which led to the change of the iOS kernel)

2017 James H. Rudy Professorship, Indiana University

2016 Best Paper Award in Applied Cyber Security Research, 3rd Place, CSAW'16 (NYU-Poly Cyber Security Awareness Week): for the work on cyber threat intelligence gathering

2014 Best Paper Award in Applied Cyber Security Research, 3rd Place, CSAW'14 (NYU-Poly Cyber Security Awareness Week): for the work on security risks in Android customization

2014 [Third place in National Security Innovation Competition](#): for the work on Android secure upgrading

2013 [Finalist](#) for the Best Applied Security Paper Award, CSAW'13 (NYU-Poly Cyber Security Awareness Week): for the work on dedicated hosts on malicious web infrastructures

- 2011 Award for Outstanding Research in Privacy Enhancing Technologies ([the PET Award](#)): for my research on Genomic Privacy
- 2011 PET Award runner-up: for my research on side-channel information leaks in web applications
- 2011 Best Practical Paper Award, the 32nd IEEE Symposium on Security and Privacy: for my research on logic flaws in hybrid web applications
- 2006 Fast-track submission to the ACM Transactions on Information System Security as one of the best papers of the ACM Conference on Computer and Communications Security 2006: for my work on malware detection
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SELECTED INVITED TALKS

- 2019 Keynote for SIGSAC at ACM Turing Celebration Conference, China, 2019
- 2018 Keynote at the 3rd Singapore Cybersecurity R&D Conference (SG-CRC'18)
- 2018 Keynote at the 6th Midwest Security Workshop
- 2018 Keynote at the 1st Riverside Security and Privacy Workshop
- 2018 Keynote at the SRC Forum on Smart City
- 2018 Invited Talk at the 13th ACM Asia Conference on Computer and Communications Security (AsiaCCS'18)
- 2016 Keynote at the 10th Central Area networking and Security Workshop (CANSec'16).
- 2016 Invited seminar, Chinese University of Hong Kong
- 2016 Seminar talk, Northwestern University
- 2016 Seminar talk, University of Southern California
- 2015 Seminar, Northeastern University
- 2014 TRUST Security Seminar, University of California, Berkeley
- 2014 Invited talk. Narus Inc.
- 2014 Seminar talk. Purdue University
- 2013 Seminar talk. University of Maryland at College Park
- 2013 Seminar talk. University of Texas at Austin
- 2013 Invited talk. Chinese Academy of Sciences, China
- 2012 Invited talk. Microsoft Faculty Summit
- 2012 Invited talk. Computer Science Center, Shangdong Academy of Sciences, China
- 2012 Invited talk. Computer Science, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

2012 Seminar talk. Computer Science, University of Illinois at Urbana-Champaign
2011 Invited talk. IBM T. J. Watson Research Center
2011 Seminar talk. CyLab, Carnegie Mellon University
2011 Seminar talk. Computer Science Department, North Carolina State University
2010 CERIAS seminar talk, Purdue University.
2010 IPAM Workshop on Statistical and Learning- Theoretic Challenges in Data Privacy
2009 Invited talk. Microsoft Research Asia.
2009 CERIAS seminar, Purdue University.
2008 Seminar talk. Computer Science Department, North Carolina State University.
2008 Seminar talk. Computer Science Department, Indiana University and Purdue University at Indianapolis.
2005 Panel: Attacks on and Security Measures for Ad Hoc Wireless Networks, American Association for the Advancement of Science annual Conference.
2002 Invited talk. Workshop on Multi-Agent Learning: Theory and Practice.

CURRENT AND PAST GRANTS

Total: \$12.9 million; PI: \$11.6 million; Share: around \$6.3 million

- ARO-IARPA TrojAI: “Statistical Methods for Backdoor Detection in Deep Neural Networks”, part of the Project Illiad of Perspecta Labs
Role: PI (with Haixu Tang)
Amount: \$614,996 (IU share)
Time: From 7/30/20 – 7/15/22
- NIH R01 (R01HG010798): “Secure and Privacy-preserving Genome-wide and Phenome-wide Association Studies via Intel Software Guard Extensions (SGX)”
Role: Leading PI
Amount: \$1,493,069
Time: From 08/09/2019 to 05/31/2023
(Subcontract to CMU: \$327,610)
- NSF-CNS-1801432: “SaTC: CORE: Medium: Collaborative: Understanding and Discovering Illicit Online Business Through Automatic Analysis of Online Text Traces”
Role: Leading PI
Amount: \$1,200,000 (IU share: \$900,000)
Time: From 9/01/2018 to 8/31/2022

- NSF-CNS-1838083: “BIGDATA: IA: Enabling Large-Scale, Privacy-Preserving Genomic Computing with a Hardware-Assisted Secure Big-Data Analytics Framework”
 Role: Leading PI
 Amount: \$1,000,000
 Time: From 1/01/2019 to 12/31/2021
- NIH U01 (1U01EB023685): “Encryption Methods and Software for Privacy-Preserving Analysis of Biomedical Data”
 Role: MPI (one of the two PIs on the project)
 Amount: \$1,395,515
 Time: From 9/30/2016 to 6/30/2020
 (Subcontract to UCSD: \$453,137)
- NSF-CNS-1618493: “TWC: Small: Safeguarding Mobile Cloud Services: New Challenges and Solutions”
 Role: Sole PI
 Amount: \$499,968
 Time: From 9/01/2016 to 8/31/2019
- Army Research Office: “How to Compose Security Protection for Third-Party Applications”
 Role: PI
 Amount: \$550,000
 Time: From 3/01/2016 to 2/28/2019
 (Subcontract to Purdue: \$252,999)
- Gift Grant from Samsung Research
 Role: Sole PI
 Amount: \$50,000
- NSF-CNS-1527141: “TWC: Small: Understanding and Mitigating the Security Hazards of Mobile Fragmentation”
 Role: Sole PI
 Amount: \$498,897
 Time: From 10/01/2015 to 9/30/2018
- NSF-CNS-1408874: “TWC: Medium: Collaborative: Broker Leads for Privacy-Preserving Discovery in Health Information Exchange”
 Role: IU PI (the project is led by UIUC)
 Amount: \$360,000 (total \$1.05 million)
 Time: From 9/01/2014 to 8/31/2018
- NIH R01 (1R01HG007078-01): “Privacy Preserving Technologies for Human Genome Data Analysis and Dissemination”
 Role: Contact PI (Project Leader)

Amount: \$900,000
Time: From 9/23/2013 to 6/30/2016
(Subcontract to UCSD: \$272,025)

- NSF-CNS-1223495: “TWC: Small: Secure Data-Intensive Computing on Hybrid Clouds”
Role: PI
Amount: \$500,000
Time: From 9/01/2012 to 8/31/2015
- NSF-CNS-1223477: “TWC: Small: Knowing Your Enemy: Understanding and Counteracting Web Malvertising”
Role: Sole PI
Amount: \$478,160
Time: From 9/01/2012 to 8/31/2015
- NSF-CNS-1117106: "TC: Small: Plugging Logic Loopholes in Hybrid Web Applications to Secure Web Commerce"
Role: Sole PI
Amount: \$499,987
Time: From 9/01/2011 to 8/31/2014
- NSF-CNS-1017782: “TC: Small: Reining in Side-Channel Information Leaks in the Software-as-a-Service Era”
Role: Sole PI
Amount: \$494,110
Time: From 9/01/2010 to 8/31/2014
- Gift Grant from Microsoft Research
Role: Sole PI
Amount: \$10,000
- NSF-CNS-0716292: “CT-ISG: Automatic Generation of Vaccine Exploits to Protect Commodity Software”
Role: Sole PI
Amount: \$320,000
REU Supplemental Award: \$19,200
Time: From 9/01/2007 to 8/31/2011
- AFRL SBIR Phase III, Net-Centric Sensor Grids, FA8650-09-D-1639: “Advanced Cloud Computing Technology for Sensor Grids”
Role: Co-PI
Amount: \$726,000
Time: From 7/1/2009 to 6/30/2010

- CACR Internal Grant (Gift from the Lilly Endowment Inc.) “Evaluation and Mitigation of Privacy Risks in Human Genome Research”
Role: PI
Amount: \$49,901.40
Time: From 7/01/2009 to 6/30/2010
- I3P/DHS: “Mitigating Insider Threat with Incentives” (IU part of the project "Human Behavior, Insider Threat and Awareness")
Role: PI
Amount: \$370,233.63
Time: From 4/01/2007 to 7/31/2009
- NSF-IIS-064621: "NSF Frontiers in Health Information Delivery Workshop"
Role: Co-PI
Amount: \$99,920
Time: From 10/01/2006 to 10/31/2007
- NSF-IIS-0549313: "A Test-bed for Personalized, Privacy-preserving and High Quality Health Information Delivery"
Role: Co-PI
Amount: \$100,000
Time: From 09/15/2005 to 08/31/2007

PRESENTATIONS AT INDUSTRY CONFERENCES

- 2016 “Discovering and Exploiting Novel Security Vulnerabilities in Apple Zeroconf”.
Black Hat USA (Presented by L. Xing and X. Bai)
- 2016 “Dangerous Hare: Hanging Attribute References Hazards Due to Vendor Customization”. Black Hat USA (Presented by N. Zhang)

PATENTS

1. X. Wang, H. Tang, Y. Chen and B. Peng, “Secure and Scalable Mapping of Human Sequencing Reads on Hybrid Clouds”. US9276911
2. Y. Xie, F. Yu, Z. Li and X. Wang, “Determining Legitimate and Malicious Advertisements Using Advertising Delivery Sequences”. US20130339158 A1
3. L. Xing and X. Wang, “Detection of Pileup Vulnerabilities in Mobile Operating Systems”. US9386027 B2

RESEARCH INTERESTS

Confidential Computing, AI Security, Carrier Network Security, Cybercrimes, IoT and Mobile Security, Healthcare Security and Privacy, Cloud and Web Security, Game-Theoretic Incentive Engineering

PUBLICATIONS

I am considered to be a top author in system security during the past 20 years according to [system security circus](#) and [CSRankings](#)

1. D. Tang, X. Wang, H. Tang and K. Zhang, 2021 “Demon in the Variant: Statistical Analysis of DNNs for Robust Backdoor Contamination Detection”, To appear in Proceedings of the 30th USENIX Security Symposium (Security)
2. L. Su, X. Shen, X. Du, X. Liao, X. Wang, L. Xing and B. Liu, 2021 “Evil Under the Sun: Understanding and Discovering Attacks on Ethereum Decentralized Applications”, To appear in Proceedings of the 30th USENIX Security Symposium (Security)
3. H. Lu, L. Xing, Y. Xiao, Y. Zhang, X. Liao, X. Wang and X. Wang, 2020 “Demystifying Resource Management Risks in Emerging Mobile App-in-App Ecosystems”, In Proceedings of the 24th ACM Conference on Computer and Communications Security (CCS)
4. E. Alowaisheq, S. Tang, Z. Wang, F. Alharbi, X. Liao and X. Wang, 2020 “Zombie Awakening: Stealthy Hijacking of Active Domains Through DNS Hosting Referral”, In Proceedings of the 27th ACM Conference on Computer and Communications Security (CCS)
5. T. Lv, R. Li, Y. Yang, K. Chen, X. Liao, X. Wang, P. Hu and L. Xing, 2020 “RTFM! Automatic Assumption Discovery and Verification Derivation from Library Document for API Misuse Detection”, In Proceedings of the 27th ACM Conference on Computer and Communications Security (CCS)
6. Y. Chen, X. Yuan, J. Zhang, Y. Zhao, S. Zhang, K. Chen and X. Wang, 2020 “Devil's Whisper: A General Approach for Physical Adversarial Attacks against Commercial Black-box Speech Recognition Devices”, In Proceedings of the 29th USENIX Security Symposium (Security)
7. B. Yuan, Y. Jia, L. Xing, D. Zhao, X. Wang, D. Zou, H. Jin and Y. Zhang, 2020 “Shattered Chain of Trust: Understanding Security Risks in Cross-Cloud IoT Access Delegation”, In Proceedings of the 29th USENIX Security Symposium (Security)
8. J. Zhu, R. Hou, X. Wang, W. Wang, J. Cao, B. Zhao, Z. Wang, Y. Zhang, J. Ying, L. Zhang and D. Meng, 2020 “Enabling Rack-scale Confidential Computing using Heterogeneous Trusted Execution Environment”, In Proceedings of the 41th IEEE Symposium on Security and Privacy (IEEE S&P)
9. Y. Jia, L. Xing, Y. Mao, D. Zhao, X. Wang, S. Zhao and Y. Zhang, 2020 “Burglars' IoT Paradise: Understanding and Mitigating Security Risks of General Messaging Protocols on IoT Clouds”, In Proceedings of the 41th IEEE Symposium on Security and Privacy (IEEE S&P)

10. P. Wang, X. Liao, Y. Qin and X. Wang, 2020 “Into the Deep Web: Understanding E-commerce Fraud from Autonomous Chat with Cybercriminals”, In Proceedings of the 27th Annual Network and Distributed System Security Symposium (NDSS)
11. Y. Lee, Y. Zhao, J.Zeng, K. Lee, N. Zhang, F. H. Zhezhan, Y. Tian, K. Chen and X. Wang, 2020 “Using Sonar for Liveness Detection to Protect Smart Speakers against Remote Attackers”, Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)
12. Z. Mi, H. Chen, Y. Zhang, S. Peng, X. Wang and M. Reiter, 2020 “CPU Elasticity to Mitigate Cross-VM Runtime Monitoring”, IEEE Transactions on Dependable and Secure Computing, 17(5): 1094-1108
13. Y. Chen, L. Xing, Y. Qin, X. Liao and X. Wang, 2019 “Devils in the Guidance: Predicting Logic Vulnerabilities in Payment Syndication Services through Automated Documentation Analysis”, In Proceedings of the 28th USENIX Security Symposium (Security)
14. Y. Lee, X. Wang, K. Lee, X. Liao and X. Wang, 2019 “Understanding iOS-based Crowdturfing Through Hidden UI Analysis”, In Proceedings of the 28th USENIX Security Symposium (Security)
15. X. Feng, X. Liao, X. Wang, H. Wang, Q. Li, K. Yang, H. Zhu and L. Sun, 2019 “Understanding and Securing Device Vulnerabilities through Automated Bug Report Analysis”, In Proceedings of the 28th USENIX Security Symposium (Security)
16. X. Wang, Y. Sun, S. Nanda and X. Wang, 2019 “Looking from the Mirror: Evaluating IoT Device Security through Mobile Companion Apps”, In Proceedings of the 28th USENIX Security Symposium (Security)
17. K. Yuan, D. Tang, X. Liao, X. Wang, X. Feng, Y. Chen, M. Sun, H. Lu, K. Zhang, 2019 “Stealthy Porn: Understanding Real-World Adversarial Images for Illicit Online Promotion”, In Proceedings of the 40th IEEE Symposium on Security and Privacy (IEEE S&P)
18. Y. Chen, M. Zhang, N. Zhang, D. Xu, Q. Zhao, X. Feng, K. Yuan, Y. Su, Y. Tian, K. Chen X. Wang and W. Zou, 2019 “Demystifying Hidden Privacy Settings in Mobile Apps”, In Proceedings of the 40th IEEE Symposium on Security and Privacy (IEEE S&P)
19. W. You, X. Wang, S. Ma, J. Huang, X. Zhang, X. Wang, B. Liang, 2019 “On-the-fly Input Type Probing for Better Zero-day Vulnerability Discovery”, In Proceedings of the 40th IEEE Symposium on Security and Privacy (IEEE S&P)
20. E. Alowaisheq, P. Wang, S. Alrwais, X. Liao, X. Wang, T. Alowaisheq, X. Mi, S. Tang, B. Liu, 2019 “Cracking Wall of Confinement: Understanding and Analyzing Malicious Domain Takedowns”, In Proceedings of the 26th Annual Network and Distributed System Security Symposium (NDSS)
21. I. Hagestedt, Y. Zhang, M. Humbert, P. Berrang, H. Tang, X. Wang, M. Backes, 2019 “MBeacon: Privacy-Preserving Beacons for DNA Methylation Data”. In Proceedings of the Annual Network and Distributed System Security Symposium (NDSS)
22. N. Zhang, X. Mi, X. Feng, X. Wang, Y. Tian and F. Qian, 2019 “Dangerous Skills: Understanding and Mitigating Security Risks of Voice-Controlled Third-Party Functions on Virtual Personal Assistant Systems”. In Proceedings of the 40th IEEE Symposium on Security and Privacy (IEEE S&P)
23. X. Mi, X. Feng, X. Liao, B. Liu, X. Wang, F. Qian, Z. Li, S. Alrwais, L. Sun, Y. Liu, 2019 “Residential Evil: Understanding Residential IP Proxy as a Dark Service”. In Proceedings of 40th IEEE Symposium on Security and Privacy (IEEE S&P)

24. X. Zhang, Y. Zhang, Q. Mo, H. Xia, Z. Yang, M. Yang, X. Wang, L. Lu, H. Duan, 2018 “An Empirical Study of Web Resource Manipulation in Real-World Mobile Applications”. In the Proceedings of the 27th USENIX Security Symposium (Security).
25. X. Yuan, Y. Chen, Y. Zhao, Y. Long, X. Liu, K. Chen, S. Zhang, H. Huang, X. Wang, C. Gunter, 2018 “CommanderSong: A Systematic Approach for Practical Adversarial Voice Recognition”. In Proceedings of the 27th USENIX Security Symposium (Security).
26. K. Yuan, X. Liao, X. Wang, 2018 “Reading Thieves’ Cant: Automatically Identifying and Understanding Dark Jargons from Cybercrime Marketplaces”. In Proceedings of the 27th USENIX Security Symposium (Security).
27. G. Chen, W. Wang, T. Chen, S. Chen, Y. Zhang, X. Wang, T. Lai, D. Lin, 2018 “Racing in Hyperspace: Closing Hyper-Threading Side Channels on SGX with Contrived Data Races”. In Proceedings of the 39th IEEE Symposium on Security and Privacy (IEEE S&P)
28. J. Chen, W. Diao, Q. Zhao, C. Zuo, Z. Lin, X. Wang, W. Lau, M. Sun, R. Yang, K. Zhang, 2018 “IoTfuzzer: Discovering Memory Corruptions in IoT Through App-based Fuzzing”. In Proceedings of the 25th Annual Network and Distributed System Security Symposium (NDSS)
29. X. Zhang, X. Wang, X. Bai, Y. Zhang, X. Wang, 2018 “OS-level Side Channels without Procs: Exploring Cross-App Information Leakage on iOS”. In Proceedings of the 25th Annual Network and Distributed System Security Symposium (NDSS)
30. Y. Nan, Z. Yang, X. Wang, Y. Zhang, D. Zhu, M. Yang, 2018 “Finding Clues for Your Secrets: Semantics-Driven, Learning-Based Privacy Discovery in Mobile Apps”. In Proceedings of the 25th Annual Network and Distributed System Security Symposium (NDSS)
31. Y. Duan, M. Zhang, A. Bhaskar, H. Yin, X. Pan, T. Li, X. Wang, X. Wang, 2018 “Things You May Not Know About Android (Un)Packers: A Systematic Study based on Whole-System Emulation”. In Proceedings of the 25th Annual Network and Distributed System Security Symposium (NDSS)
32. P. Wang, X. Mi, X. Liao, X. Wang, K. Yuan, F. Qian, R. Beyah, 2018 “Game of Missuggestions: Semantic Analysis of Search-Autocomplete Manipulations”. In Proceedings of the 25th Annual Network and Distributed System Security Symposium (NDSS)
33. J. Tang, A. Korolova, X. Bai, X. Wang, X. Wang, 2017 “Privacy Loss in Apple’s Implementation of Differential Privacy on macOS 10.12”. Preprint, arXiv: 1709.02753.
34. K. Chen, T. Li, B. Ma, P. Wang, X. Wang, P. Zong, 2017 “Filtering for Malice Through the Data Ocean: Large-Scale PHA Install Detection at the Communication Service Provider Level”. In Proceedings of the 20th International Symposium on Research in Attacks, Intrusions and Defenses (RAID).
35. Y. Chen, W. You, Y. Lee, K. Chen, X. Wang, W. Zou, 2017 “Mass Discovery of Android Traffic Imprints through Instantiated Partial Execution”. In Proceedings of the 24th ACM Conference on Computer and Communications Security (CCS)
36. T. Li, X. Wang, M. Zha, K. Chen, X. Wang, L. Xing, X. Bai, N. Zhang, X. Han, 2017 “Unleashing the Walking Dead: Understanding Cross-App Remote Infections on Mobile WebViews”. In Proceedings of the 24th ACM Conference on Computer and Communications Security (CCS)

37. W. You, P. Zong, K. Chen, X. Wang, X. Liao, P. Bian, B. Liang, 2017 “SemFuzz: Semantics-based Automatic Generation of Proof-of-Concept Exploits”. In Proceedings of the 24th ACM Conference on Computer and Communications Security (CCS)
38. W. Wang, G. Chen, X. Pan, Y. Zhang, X. Wang, V. Bindshaedler, H. Tang, C. Gunter, 2017 “Leaky Cauldron on the Dark Land: Understanding Memory Side-Channel Hazards in SGX”. In Proceedings of the 24th ACM Conference on Computer and Communications Security (CCS)
39. X. Mi, F. Qian, Y. Zhang, X. Wang, 2017 “An Empirical Characterization of IFTTT: Ecosystem, Usage and Performance”. In Proceedings of the 17th ACM Internet Measurement Conference (IMC).
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MENTORING

Since 2004, I have graduated 13 PhD students. Also, I am unofficially advising a group of students from other institutions, including UIUC, Georgia Tech, Tsinghua University, Peking University, Chinese Academy of Science and others. Here is the information for those who finished their programs or PostDoc studies

PHD Students Graduated from IU:

- Debin Liu (co-advised with Jean Camp): graduated in 2011, first job at PayPal, now founder of a Chinese Startup
- Rui Wang: graduated in 2013, first job at Microsoft Research, now with Google
- Kehuan Zhang: graduated in 2012, first job at Chinese University at Hong Kong and now tenured associate professor there
- Zhou Li: graduated in 2013, first job at EMC RSA Lab, now assistant professor at UC Irvine
- Xiaoyong Zhou: graduated in 2014, first job at Samsung Research America, now with Google
- Yangyi Chen: graduated in 2015, first job at Google
- Yongan Zhao (co-advised with Haixu Tang): graduated at 2016, first job at Seven Bridge Genomics
- Luyi Xing: graduated in 2017, first job at Amazon, now assistant professor at IU
- Sumayah Alrwais: graduated in 2017, first job at King Saudi University (assistant professor)
- Nan Zhang: graduated in 2018, first job at Facebook
- Kan Yuan: graduated in 2018, first job at Facebook
- Peter Yeonjoon Lee: graduated in 2019, first job at Hanyang University, South Korea (Assistant Professor)
- Xianghang Mi: graduated in 2020, first job at Facebook, now assistant professor at the University at Buffalo

Unofficially Advised PHD Students Graduated from Other Schools:

- Muhammad Naveed (UIUC, advised by Carl Gunter): graduated in 2016, first job at University of Southern California (assistant professor)

- Xiaojing Liao (Georgia Tech, advised by Raheem Beyah): graduated in 2017, first job at William and Mary College (assistant professor), now assistant professor at IU
- Xiaolong Bai (Tsinghua University): graduated in 2017, first job at Alibaba
- Tongxin Li (Peking University): graduated in 2018, first job at Baidu USA

To a lesser extent, I have also advised the following students:

- Vincent Bindschaedler (UIUC, advised by Carl Gunter): graduated in 2018, first job at the University of Florida (assistant professor)
- Soteris Demetriou (UIUC, advised by Carl Gunter): graduated in 2018, first job at Imperial College London (assistant professor)

PAST POSTDOC Fellows:

- Wenhao Wang: 2016 to 2018, now Associate Professor at Chinese Academy of Sciences
- Kai Chen: from 2014 to 2015, now Full Professor at Chinese Academy of Science
- Zhuowei Li: from 2005 to 2008, now Principal Software Engineering Manager at Microsoft