

# Gang Wang

Assistant Professor of Computer Science  
Virginia Tech

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## EDUCATION

**University of California, Santa Barbara**, Santa Barbara, CA. 2010 – 2016  
Ph.D. in Computer Science  
Advisors: Ben Y. Zhao, and Heather Zheng

**Tsinghua University**, Beijing, China. 2006 – 2010  
Bachelor of Engineering, Electronic Engineering

## APPOINTMENTS

**Virginia Tech**, Blacksburg, VA. Aug. 2016 – Present  
Assistant Professor of Computer Science

**Microsoft Research**, Redmond, WA. Jun. 2014 – Sep. 2014  
Research Intern; with Jay Stokes, Weidong Cui, and Helen Wang

**LinkedIn**, Mountain View, CA. Jun. 2012 – Sep. 2012  
Data Scientist Intern; with Vicente Silveira, and Karthik Ramasamy

**Microsoft Research**, Redmond, WA. Jun. 2011 – Sep. 2011  
Research Intern; with Cormac Herley, and Jay Stokes

## RESEARCH INTERESTS

Security and Privacy; Data Mining; Internet Measurement; Human Computer Interaction; Mobile Networks;  
Online Social Networks

## AWARDS

CCS Outstanding Paper Award, *ACM CCS* (2018)  
NSF CAREER Award, *NSF* (2018)  
Google Faculty Research Award, *Google* (2017-2018)  
Assistant Professor Mentoring Award, *Virginia Tech* (2016)  
Outstanding Dissertation Award, *UC Santa Barbara* (2016)  
Graduate Division Dissertation Fellowship, *UC Santa Barbara* (2015-2016)  
SIGMETRICS Best Practical Paper Award, *ACM SIGMETRICS* (2013)  
Scholarship for Academic Excellence, *Tsinghua University* (2007-2009)

## PUBLICATIONS

### Refereed Conference Proceedings

1. **[IEEE SP'19]** Hang Hu, Peng Peng, and **Gang Wang**. "Characterizing Pixel Tracking through the Lens of Disposable Email Services." In Proceedings of *The 40th IEEE Symposium on Security and Privacy (IEEE SP)*, San Francisco, CA, May 2019.
2. **[AAAI'19]** Steve T.K. Jan, Joseph Messou, Yen-Chen Lin, Jia-Bin Huang, and **Gang Wang**. "Connecting the Digital and Physical World: Improving the Robustness of Adversarial Attacks." In Proceedings of *The Thirty-Third AAAI Conference on Artificial Intelligence (AAAI)*, Honolulu, HI, January 2019 (**Spotlight**).

3. **[HICSS'19]** Shiliang Tang, Ziming Wu, Xinyi Zhang, **Gang Wang**, Xiaojuan Ma, Haitao Zheng, and Ben Y. Zhao. "Towards Understanding the Adoption and Social Experience of Digital Wallet Systems." In Proceedings of *Hawaii International Conference on System Sciences (HICSS)*, Maui HI, January 2019.
4. **[IMC'18]** Ke Tian, Steve T.K. Jan, Hang Hu, Danfeng Yao, and **Gang Wang**. "Needle in a Haystack: Tracking Down Elite Phishing Domains in the Wild." In Proceedings of *ACM Internet Measurement Conference (IMC)*, Boston, MA, October 2018.
5. **[CCS'18]** Wenbo Guo, Dongliang Mu, Jun Xu, Purui Su, **Gang Wang**, and Xinyu Xing. "LEMNA: Explaining Deep Learning based Security Applications." In Proceedings of *The 25th ACM Conference on Computer and Communications Security (CCS)*, Toronto, Canada, October 2018 (**Outstanding Paper Award**).
6. **[UbiComp'18]** Zhen Tu, Runtong Li, Yong Li, **Gang Wang**, Di Wu, Pan Hui, Li Su, and Depeng Jin. "Your Apps Give You Away: Distinguishing Mobile Users by Their App Usage Fingerprints." In Proceedings of *The ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT/UbiComp)*, Singapore, October 2018.
7. **[SecDev'18]** Hang Hu, Peng Peng, and **Gang Wang**. "Towards Understanding the Adoption of Anti-Spoofing Protocols in Email Systems." In Proceedings of *The IEEE Cybersecurity Development Conference (SecDev)*, Cambridge, MA, October 2018.
8. **[USENIX Security'18]** Hang Hu, and **Gang Wang**. "End-to-End Measurements of Email Spoofing Attacks." In Proceedings of *The 27th USENIX Security Symposium (USENIX Security)*, Baltimore, MD, August 2018.
9. **[USENIX Security'18]** Dongliang Mu, Alejandro Cuevas, Limin Yang, Hang Hu, Bing Mao, Xinyu Xing, and **Gang Wang**. "Understanding the Reproducibility of Crowd-reported Security Vulnerabilities." In Proceedings of *The 27th USENIX Security Symposium (USENIX Security)*, Baltimore, MD, August 2018.
10. **[USENIX Security'18]** Kexiong (Curtis) Zeng, Shinan Liu, Yuanchao Shu, Dong Wang, Haoyu Li, Yanzhi Dou, **Gang Wang**, and Yaling Yang. "All Your GPS Are Belong to Us: Towards Stealthy Manipulation of Road Navigation Systems." In Proceedings of *The 27th USENIX Security Symposium (USENIX Security)*, Baltimore, MD, August 2018.
11. **[AsiaCCS'18]** Xiangwen Wang, Peng Peng, Chun Wang, and **Gang Wang**. "You Are Your Photographs: Detecting Multiple Identities of Vendors in the Darknet Marketplaces." In Proceedings of *The ACM Asia Conference on Computer and Communications Security (AsiaCCS)*, Songdo, Incheon, Korea, June 2018.
12. **[SDM'18]** Huandong Wang, Yong Li, **Gang Wang**, and Depeng Jin. "You Are How You Move: Linking Multiple User Identities from Massive Mobility Traces." In Proceedings of *The SIAM International Conference on Data Mining (SDM)*, San Diego, CA, May 2018.
13. **[CODASPY'18]** Chun Wang, Steve T.K. Jan, Hang Hu, Douglas Bossart, and **Gang Wang**. "The Next Domino to Fall: Empirical Analysis of User Passwords across Online Services." In Proceedings of *The ACM Conference on Data and Applications Security and Privacy (CODASPY)*, Tempe, AZ, March 2018 (short paper).
14. **[NDSS'18]** Huandong Wang, Chen Gao, Yong Li, **Gang Wang**, Depeng Jin, and Jingbo Sun. "De-anonymization of Mobility Trajectories: Dissecting the Gaps between Theory and Practice." In Proceedings of *The 25th Annual Network & Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2018.
15. **[GROUP'18]** Steve T.K. Jan, Chun Wang, Qing Zhang, and **Gang Wang**. "Pay-per-Question: Towards Targeted Q&A with Payments." In Proceedings of *The ACM International Conference on Supporting Group Work (GROUP)*, Sanibel Island, FL, January 2018.
16. **[CIKM'17]** Rupinder Paul Khandpur, Taoran Ji, Steve T.K. Jan, **Gang Wang**, Chang-Tien Lu, and Naren Ramakrishnan. "Crowdsourcing Cybersecurity: Cyber Attack Detection using Social Media." In Proceedings of *The 26th ACM International Conference on Information and Knowledge Management (CIKM)*, Singapore, November 2017.
17. **[CIKM'17]** Huan Yan, Tzu-Heng Lin, **Gang Wang**, Yong Li, Haitao Zheng, Depeng Jin, and Ben Y. Zhao. "On Migratory Behavior in Video Consumption." In Proceedings of *The 26th ACM International Conference on Information and Knowledge Management (CIKM)*, Singapore, November 2017.
18. **[USENIX Security'17]** Fang Liu, Chun Wang, Andres Pico, Danfeng Yao, and **Gang Wang**. "Measuring the Insecurity of Mobile Deep Links of Android." In Proceedings of *The 26th USENIX Security Symposium (USENIX Security)*, Vancouver, Canada, August 2017.

19. **[ICWSM'17]** Xinyi Zhang, Shiliang Tang, Yun Zhao, **Gang Wang**, Haitao Zheng, and Ben Y. Zhao. "Cold Hard E-Cash: Friends and Vendors in the Venmo Digital Payments System." In Proceedings of *International AAAI Conference on Web and Social Media (ICWSM)*, Montreal, Canada, May 2017.
20. **[ICWSM'17]** Huan Yan, Tzu-Heng Lin, **Gang Wang**, Yong Li, Haitao Zheng, Depeng Jin, and Ben Y. Zhao. "A First Look at User Switching Behaviors Over Multiple Video Content Providers." In Proceedings of *International AAAI Conference on Web and Social Media (ICWSM)*, Montreal, Canada, May 2017 (short paper).
21. **[AsiaCCS'17]** Amiangshu Bosu, Fang Liu, Danfeng Yao, and **Gang Wang**. "Collusive Data Leak and More: Large-scale Threat Analysis of Inter-app Communications." In Proceedings of *ACM Asia Conference on Computer and Communications Security (AsiaCCS)*, Abu Dhabi, UAE, April 2017.
22. **[IMC'16]** Bolun Wang, Xinyi Zhang, **Gang Wang**, Haitao Zheng, and Ben Y. Zhao. "Anatomy of a Personalized Livestreaming System." In Proceedings of *The 16th ACM SIGCOMM Internet Measurement Conference (IMC)*, Santa Monica, CA, November 2016.
23. **[MobiSys'16]** **Gang Wang**, Bolun Wang, Tianyi Wang, Ana Nika, Haitao Zheng, and Ben Y. Zhao. "Defending Against Sybil Devices in Crowdsourced Mapping Services." In Proceedings of *The 14th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys)*, Singapore, June 2016.
24. **[ICWSM'16]** **Gang Wang**, Sarita Schoenebeck, Haitao Zheng, and Ben Y. Zhao. "Will Check-in for Badges: Understanding Bias and Misbehavior on Location-based Social Networks." In Proceedings of *The 10th International AAAI Conference on Web and Social Media (ICWSM)*, Cologne, Germany, May 2016.
25. **[CHI'16]** **Gang Wang**, Xinyi Zhang, Shiliang Tang, Haitao Zheng, and Ben Y. Zhao. "Unsupervised Clickstream Clustering for User Behavior Analysis." In Proceedings of *SIGCHI Conference on Human Factors in Computing Systems (CHI)*, San Jose, CA, May 2016.
26. **[CSCW'15]** **Gang Wang**, Tianyi Wang, Bolun Wang, Divya Sambasivan, Zengbin Zhang, Haitao Zheng, and Ben Y. Zhao. "Crowds on Wall Street: Extracting Value from Collaborative Investing Platforms." In Proceedings of *The 18th ACM conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, Vancouver, BC, Canada, March 2015.
27. **[IMC'14]** **Gang Wang**, Bolun Wang, Tianyi Wang, Ana Nika, Haitao Zheng, and Ben Y. Zhao. "Whispers in the Dark: Analysis of an Anonymous Social Network." In Proceedings of *The 14th Internet Measurement Conference (IMC)*, Vancouver, BC, Canada, November 2014.
28. **[USENIX Security'14]** **Gang Wang**, Tianyi Wang, Haitao Zheng, and Ben Y. Zhao. "Man vs. Machine: Practical Adversarial Detection of Malicious Crowdsourcing Workers." In Proceedings of *The 23rd USENIX Security Symposium (USENIX Security)*, San Diego, CA, August 2014.
29. **[IMC'13]** Gianluca Stringhini, **Gang Wang**, Manuel Egele, Christopher Kruegel, Giovanni Vigna, Haitao Zheng, and Ben Y. Zhao. "Follow the Green: Growth and Dynamics in Twitter Follower Markets." In Proceedings of *The 13th Internet Measurement Conference (IMC)*, Barcelona, Spain, October 2013.
30. **[USENIX Security'13]** **Gang Wang**, Tristan Konolige, Christo Wilson, Xiao Wang, Haitao Zheng, and Ben Y. Zhao. "You are How You Click: Clickstream Analysis for Sybil Detection." In Proceedings of *The 22nd USENIX Security Symposium (USENIX Security)*, Washington, DC, August 2013.
31. **[DSN'13]** **Gang Wang**, Jack Stokes, Cormac Herley, and David Felstead. "Detecting Malicious Landing Pages in Malware Distribution Networks." In Proceedings of *The 43rd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN)*, Budapest, Hungary, June 2013.
32. **[SIGMETRICS'13]** Xia Zhou, Zengbin Zhang, **Gang Wang**, Xiaoxiao Yu, Ben Y. Zhao, and Haitao Zheng. "Practical Conflict Graphs for Dynamic Spectrum Distribution." In Proceedings of *ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS)*, Pittsburgh, PA, June 2013 (**Best Practical Paper Award**).
33. **[WWW'13]** **Gang Wang**, Konark Gill, Manish Mohanlal, Haitao Zheng, and Ben Y. Zhao. "Wisdom in the Social Crowd: An Analysis of Quora." In Proceedings of *The 22nd International World Wide Web Conference (WWW)*, Rio de Janeiro, Brazil, May 2013.
34. **[NDSS'13]** **Gang Wang**, Manish Mohanlal, Christo Wilson, Xiao Wang, Miriam Metzger, Haitao Zheng, and Ben Y. Zhao. "Social Turing Tests: Crowdsourcing Sybil Detection." In Proceedings of *The 20th Annual Network & Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2013.

35. **[WWW'12] Gang Wang**, Christo Wilson, Xiaohan Zhao, Yibo Zhu, Manish Mohanlal, Haitao Zheng, and Ben Y. Zhao. "Serf and Turf: Crowdturfing for Fun and Profit." In Proceedings of *The 21st International World Wide Web Conference (WWW)*, Lyon, France, April 2012.
36. **[MobiCom'11]** Zengbin Zhang, Xia Zhou, Weile Zhang, Yuanyang Zhang, **Gang Wang**, Ben Y. Zhao, and Haitao Zheng. "I am the Antenna: Accurate Outdoor AP Location using Smartphones." In Proceedings of *The 17th Annual International Conference on Mobile Computing and Networking (MobiCom)*, Las Vegas, NV, September 2011.

## Journal Articles

37. **[TON'18] Gang Wang**, Bolun Wang, Tianyi Wang, Ana Nika, Haitao Zheng, and Ben Y. Zhao. "Ghost Riders: Sybil Attacks on Crowdsourced Mobile Mapping Services." In *ACM/IEEE Transactions on Networking (TON)*, 2018.
38. **[TSC'18]** Steve T.K. Jan, Chun Wang, Qing Zhang, and **Gang Wang**. "Analyzing Payment-driven Targeted Q&A Systems." In *ACM Transactions on Social Computing (TSC)*, 2018.
39. **[TWEB'17] Gang Wang**, Xinyi Zhang, Shiliang Tang, Christo Wilson, Haitao Zheng, and Ben Y. Zhao. "Clickstream User Behavior Models." In *ACM Transactions on the Web (TWEB)*, 2017.
40. **[TWEB'17]** Tianyi Wang, **Gang Wang**, Bolun Wang, Divya Sambasivan, Zengbin Zhang, Xing Li, Haitao Zheng, and Ben Y. Zhao. "Value and Misinformation in Collaborative Investing Platforms." In *ACM Transactions on the Web (TWEB)*, 2017.
41. **[FCS'15]** Tianyi Wang, Yang Chen, Yi Wang, Bolun Wang, **Gang Wang**, Xing Li, Haitao Zheng, and Ben Y. Zhao. "The Power of Comments: Fostering Social Interactions in Microblog Networks." In *Springer Frontiers of Computer Science (FCS)*, 2015.
42. **[TON'14]** Xia Zhou, Zengbin Zhang, **Gang Wang**, Xiaoxiao Yu, Ben Y. Zhao, and Haitao Zheng. "Practical Conflict Graphs in the Wild." In *ACM Transactions on Networking (TON)*, 2014.

## Refereed Workshop Proceedings

43. **[SafeConfig'17]** Alexander Kedrowski, Danfeng Yao, **Gang Wang**, and Kirk Cameron. "A First Look: Using Linux Containers for Deceptive Honeypots." In Proceedings of *Applying the Scientific Method to Active Cyber Defense Research (SafeConfig)*, in conjunction with the ACM Conference on Computer and Communications Security (CCS), Dallas, USA, October 2017.
44. **[MoST'17]** Fang Liu, Haipeng Cai, **Gang Wang**, Danfeng Yao, Karim O. Elish, and Barbara G. Ryder. "MR-Droid: A Scalable and Prioritized Analysis of Inter-App Communication Risks." In Proceedings of *Mobile Security Technologies (MoST)*, in conjunction with IEEE Symposium on Security and Privacy (SP), San Jose, CA, May 2017.
45. **[HotNets'13]** Zengbin Zhang, Lin Zhou, Xiaohan Zhao, **Gang Wang**, Yu Su, Miriam Metzger, Haitao Zheng, and Ben Y. Zhao. "On the Validity of Geosocial Mobility Traces." In Proceedings of *ACM Workshop on Hot Topics in Networks (HotNets)*, College Park, MD, November 2013.
46. **[HotMobile'11]** Christo Wilson, Troy Steinbauer, **Gang Wang**, Alessandra Sala, Haitao Zheng, and Ben Y. Zhao. "Privacy, Availability and Economics in the Polaris Mobile Social Network." In Proceedings of *The 12th ACM Workshop on Mobile Computing Systems and Applications (HotMobile)*, Phoenix, AZ, March 2011.
47. **[P2PNet'09] Gang Wang**, Shining Wu, Guodong Wang, Beixing Deng, and Xing Li. "Experimental Study on Neighbor Selection Policy for Phoenix Network Coordinate System." In Proceedings of *IEEE International Workshop on Peer-To-Peer Networking (P2PNet)*, St. Petersburg, Russia, 2009.

## Patents

48. **Gang Wang**, Jack Stokes, Cormac Herley, and David Felstead. "Identifying Web Pages In Malware Distribution Networks." Filed by Microsoft Corporation, published on 07/03/2014. Pattern #: US 2014/0189864 A1.

## PROFESSIONAL ACTIVITIES

### Technical Program Committee

- **[USENIX Security]** USENIX Security Symposium: 2018

- [WWW] The Web Conference or TheWebConf (Security and Privacy Track): 2017, 2019
- [ACSAC] Annual Computer Security Applications Conference: 2018
- [CNS] IEEE Conference on Communications and Network Security: 2019
- [ICWSM] AAAI International Conference on Web and Social Media: 2016, 2017, 2018, 2019
- [eCrime] APWG Annual Symposium on Electronic Crime Research: 2018
- [AISec] ACM Workshop on Artificial Intelligence and Security: 2016, 2017, 2018
- [CSCW] ACM Conference on Computer-Supported Cooperative Work and Social Computing: 2018
- [Oakland] IEEE Symposium on Security and Privacy (Student PC): 2016

### Journal Reviewer

- [TDSC] IEEE Transactions on Dependable and Secure Computing: 2016, 2017, 2018
- [TWEB] ACM Transactions on the Web: 2017, 2018
- [TIFS] Transactions on Information Forensics & Security: 2018
- [SP] IEEE Security & Privacy: 2018, 2019
- [Frontiers] Frontiers in ICT: 2018
- [TMC] Transactions on Mobile Computing: 2017
- [IEEE Communications] IEEE Communications Magazine: 2017
- [TOIT] ACM Transactions on Internet Technology: 2017
- [LOS ONE] Public Library of Science Open Access Journal: 2017
- [Science Advances] AAAS Open Access Journal: 2017
- [JASIST] Journal of the Association for Information Science and Technology: 2016
- [TIST] ACM Transactions on Intelligent Systems and Technology: 2015
- [TWireless] IEEE Transactions on Wireless Communications: 2015
- [COMNET] Journal on Computer Networks, special issue on P2P Network Measurement: 2011

### Journal Guest Editor

- [WWWJ] World Wide Web, Special issue on “Social computing and big data applications”: 2018, 2017

### Other Services

- [NSF] National Science Foundation (NSF) Review Panel (×3): 2018
- [UNIPD] University of Padova Internal Proposal Review Panel: 2018

## GRANTS

CAREER: Machine Learning Assisted Crowdsourcing for Phishing Defense.

- Role: Sole PI;
- Total: \$538,522; Personal Share: \$538,522 (100%);
- National Science Foundation (NSF);
- 06/01/2018 to 05/31/2023.

SaTC: CORE: Small: Securing Web-to-Mobile Interface Through Characterization and Detection of Malicious Deep Links.

- Role: PI; with Danfeng Yao as Co-PI;
- Total: \$500,000; Personal Share: \$400,000 (80%);
- National Science Foundation (NSF);
- 08/01/2017 to 07/31/2020.

Augmenting User-level Defense Against Email Spoofing Attacks.

- Role: Sole PI;
- Total: \$54,735; Personal Share: \$54,735 (100%);
- Google Faculty Award;
- 03/15/2018 to 03/14/2019.

## SELECTED PRESS

My work has been covered by 230+ press articles / media interviews in the recent 8 years.

- [The Cyberwire podcast] Driving GPS manipulation. 10/2018

- [The Wall Street Journal] How to Defend Against GPS Spoofing Attacks. 09/2018
- [Forbes] This GPS Spoofing Hack Can Really Mess Up Your Google Maps Trips. 07/2018
- [ACM TechNews] Researchers Mount Successful GPS Spoofing Attack Against Road Navigation Systems. 07/2018
- [The Register] Sad Nav: How a cheap GPS spoofer gizmo can tell drivers to get lost. 07/2018
- [Naked Security] How to spoof someone's GPS navigation to send them the wrong way. 07/2018
- [The Cyberwire podcast] Measuring the spear phishing threat. 07/2018
- [ACM TechNews] Meeting Updated Phishing Attacks Head On. 06/2018
- [Science Daily] Extra vigilance required to combat growing sophistication of phishing attacks. 06/2018
- [Daily Mail] Most popular passwords of 2017 are revealed, and they are incredibly easy to crack. 05/2018
- [Daily Express] Worst passwords revealed: If yours is on this list, you should change it right now. 05/2018
- [Dark Reading] More Than Half of Users Reuse Passwords. 05/2018
- [Yahoo! News] From "Superman" to "Liverpool" Have you got one of 2018's worst passwords. 05/2018
- [Security Magazine] Why People are "Password Walking". 05/2018
- [Mirror] The most common passwords of 2017 – and they're worryingly easy to guess. 05/2018
- [The Sun] Most common passwords revealed: are you guilty of using these hilariously terrible picks. 05/2018
- [New Scientist] Most people re-use old passwords (but you don't, right). 01/2018
- [The New York Times] Alexa, What Happened to My Car. 03/2018
- [CNN] Online holiday shopping scams to watch out for. 11/2017
- [WVTF Radio/NPR] Now You Really Wanna Cry. 05/2017
- [phys.org] Android apps can conspire to mine information from your smartphone. 04/2017
- [The Hill] Thousands of Android apps can "collude" to leak information, research shows. 04/2017
- [The Sun] Your smartphone apps are "secretly colluding" to spy on you in terrifying detail, researchers warn. 04/2017
- [Business Insider] Android apps can breach and share your personal data. 04/2017
- [New Scientist] Android apps share data between them without your permission. 04/2017
- [Independent] Android apps secretly steal users' data by colluding with each other, finds research. 04/2017
- [Daily Mail] Android apps are "secretly colluding" to spy on the private lives of millions of users. 04/2017
- [ACM TechNews] Android apps can conspire to mine information from your smartphone. 04/2017
- [live24News] Google Android Apps Swap Information Without Your Own Permission. 04/2017
- [WVTF Radio/NPR] Internet Scams, Hacks and Malware: A Cat & Mouse Game. 01/2017
- [Fusion] If You Use Waze, Hackers Can Stalk You. 04/2016
- [Channel 10 CBS News] Hackers can stalk you via Waze app. 04/2016
- [Recode/CNBC] Google's Waze says, Nope, hackers can't stalk you on. 04/2016
- [Fusion] Waze comes up with a fix for hack that let researchers track users' movements. 04/2016
- [Tech Times] Vulnerability In Popular Waze Navigation App Could Let Hackers Stalk You In Real Time. 04/2016
- [Tech Crunch] Waze downplays exploit that let researchers track users. 04/2016
- [Fortune] Here's How Google's Waze Can Reportedly Be Used to Stalk Drivers. 04/2016
- [i24 News] U.S. Researchers Expose "Waze" Security Lapse. 04/2016
- [NakedSecurity] How to prevent snoops from stalking you in Waze with "ghost" drivers. 04/2016
- [TechNewsToday] Waze Hackers Have You in Their Sights. 04/2016
- [Infosecurity Magazine] Waze App: The Road to Stalking Drivers. 04/2016
- [Android Headlines] Hackers Can Exploit Waze to Track Drivers in Real Time. 04/2016
- [LA Times] At Whisper's news-gathering operation, data collection comes under siege. 10/2014
- [MIT Technology Review] Fake Followers for Hire, and How to Spot Them. 10/2014
- [Boston Globe] A Dark Force, Unleashed Online. 01/2012
- [The Consumerist] Growing Number of Cyber Shills Invade Online Reviews. 12/2011
- [InfoWorld] Cyber Shill Business Is Booming. 12/2011
- [Slashdot] Million Dollar Crowdturfing Industry Dupes Social Networks. 12/2011
- [MIT Technology Review] Hidden Industry Dupes Social Media Users. 12/2011

## TALKS

- Exploitable Human Factors and Their Implications for Online Security.  
*Dartmouth College, Hanover, NH (05/04/2018)*
- Measuring the Insecurity of Mobile Deep Links of Android.  
*USENIX Security Symposium (USENIX Security), Vancouver, Canada (08/18/2017)*

- Identity Abuse in Mobile Social Networks and Email Systems.  
*Institute for Creativity, Arts, and Technology, Virginia Tech, Blacksburg, VA (03/17/2017)*
- Sybil Devices in Crowdsourced Mapping Services.  
*Workshop on Data and Algorithmic Transparency, New York City, NY (11/19/2016)*
- Human Factors in the Security of Online and Mobile Systems.  
*Virginia Tech CS Graduate Seminar, Blacksburg, VA (09/02/2016)*
- “Will Check-in for Badges”: Understanding Bias and Misbehavior on Location-based Social Networks.  
*International AAAI Conference on Web and Social Media, Cologne, Germany (05/18/2016)*
- Unsupervised Clickstream Clustering for User Behavior Analysis.  
*SIGCHI Conference on Human Factors in Computing Systems, San Jose, CA (05/09/2016)*
- Attacks and Defenses in Large Online Communities.  
*Uber Inc., San Francisco, CA (02/01/2016)*  
*LinkedIn Inc., Mountain View, CA (12/02/2015)*
- Whispers in the Dark: Analysis of an Anonymous Social Network.  
*The 14th Internet Measurement Conference, Vancouver, BC, Canada (11/05/2014)*
- Man vs. Machine: Practical Adversarial Detection of Malicious Crowdsourcing Workers.  
*Microsoft Membership PM R&D Team, Redmond, WA (09/02/2014)*  
*Microsoft Azure Data Science and Security Team, Redmond, WA (08/27/2014)*  
*The 23rd USENIX Security Symposium, San Diego, CA (08/20/2014)*  
*UW-MSR Summer Institute, Seattle, WA (07/30/2014)*
- Wisdom in the Social Crowd: An Analysis of Quora.  
*The 22nd International World Wide Web Conference, Rio de Janeiro, Brazil (05/16/2013)*
- You are How You Click: Clickstream Analysis for Sybil Detection.  
*The 22nd USENIX Security Symposium, Washington, DC, WA (08/15/2013)*  
*Security Team of Renren Inc., Beijing, China (03/15/2013)*
- Social Turing Tests: Crowdsourcing Sybil Detection.  
*The 20th Annual Network & Distributed System Security Symposium, San Diego, CA (02/16/2013)*
- Fighting Fire with Fire: Crowdsourcing Security Threats and Solutions on the Social Web.  
*AT&T Security Research Center, Middletown, NJ (01/31/2013)*
- Serf and Turf: Crowdturfing for Fun and Profit.  
*The 21st International World Wide Web Conference, Lyon, France (04/21/2012)*

## TEACHING

- CS4984: Web Applications Security, *Virginia Tech*, Instructor, 2018.
- CS4264: Principles of Computer Security, *Virginia Tech*, Instructor, 2018.
- CS6604: Applied Machine Learning in Security, *Virginia Tech*, Instructor, 2017.
- CS4264: Principles of Computer Security, *Virginia Tech*, Instructor, 2016.
- CS290F: Smartphone-centric Systems and Applications, *UCSB*, Guest Lecturer, 2016.
- CS276: Graduate Networking, *UCSB*, Teaching Assistant, 2011.
- CS176B: Network Computing, *UCSB*, Teaching Assistant, 2011.
- CS64: Computer Organization, *UCSB*, Teaching Assistant, 2011.
- CS40: Foundations of Computer Science, *UCSB*, Teaching Assistant, 2010.

## ADVISING

I am the primary advisor of the following students:

### Ph.D. Students

- Qingying Hao (2018)
- Limin Yang (2018)
- Chao Xu (2018)

- Peng Peng (2017)
- Hang Hu (2016)
- Steve T.K. Jan (2016)

### **Masters Students**

- Tianrui Hu (2018)
- Jiamin Wang (2018)
- Xiangwen Wang (2017)
- Chun Wang (2016)

### **Undergraduate Students**

- Luke Quinn (2018)
- Shihan Lin (2018)
- Douglas Bossart (2017)

### **High School Students**

- Megan McQueen (2015)
- Emily Pan (2015)

I have served on the thesis committee of the following students:

### **Thesis Committee**

Md Salman Ahmed (PhD); Kexiong Zeng (PhD); Stefan Nagy (PhD); Wenhai Sun (PhD); Thomas Lux (PhD); Long Cheng (PhD); Elaheh Raisi (PhD); Tianyi Li (PhD); Arnab Kumar Paul (PhD); Nai-Ching Wang (PhD); Divya Ramanujachari (MS); Alex Hsu (MS); Zachary Burch (MS); Da Pu (MS); Hannah Roth (MS); Alexander Kedrowitsch (MS); Archi Dasgupta (MS); Noah Luther (MS); Xinfeng Xu (MS).