

Hanqing Guo

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RESEARCH INTEREST

AI Security and Privacy, Cyber-Security, Mobile Networks/Systems

EDUCATION

2019 - present	PhD at Michigan State University	Advised by Li Xiao and Qiben Yan
2017 - 2019	Master at Ball State University	RA supported and Advised by Shaoen Wu
2011 - 2015	BSc at Chongqing University of Posts and Telecommunications	

SELECTED PUBLICATIONS

1. [**Mobicom 2023**] Hanqing Guo, Xun Chen, Junfeng Guo, Li Xiao, Qiben Yan. “MASTERKEY: Practical Backdoor Attack Against Speaker Verification Systems”. [Project Demo](#)
2. [**RAID 2023**] Hanqing Guo, Guangjing Wang, Yuanda Wang, Guangjing Wang, Bocheng Chen, Yuanda Wang, Qiben Yan, Li Xiao. “PhantomSound: Black-Box, Query-Efficient Audio Adversarial Attack via Split-Second Phoneme Injection”.
3. [**RAID 2023**] Bocheng Chen, Guangjing Wang, Hanqing Guo, Yuanda Wang, Qiben Yan. “Understanding Multi-Turn Toxic Behaviors in Open-Domain Chatbots”.
4. [**WiSec 2023**] Yuanda Wang, Hanqing Guo, Guangjing Wang, Bocheng Chen, Qiben Yan. “VSMask: Defending Against Voice Synthesis Attack via Real-Time Predictive Perturbation”.
5. [**ICLR 2023**] Junfeng Guo, Yiming Li, Xun Chen, Hanqing Guo, Lichao Sun, Cong Liu. “SCALE-UP: An Efficient Blackbox Input-level Backdoor Detection via Analyzing Scaled Prediction Consistency”. [Project Code](#)
6. [**ICDE 2023**] Guangjing Wang, Hanqing Guo, Anran Li, Xiaorui Liu, Qiben Yan. “Federated IoT Interaction Vulnerability Analysis”.
7. [**CCS 2022**] Hanqing Guo, Yuanda Wang, Nikolay Ivanov, Li Xiao, Qiben Yan. “SpecPatch: Human-In-The-Loop Adversarial Audio Spectrogram Patch Attack on Speech Recognition”. **Best Paper Honorable Mention**. [Project Demo](#)
8. [**Mobicom 2022**] Xiao Zhang, Hanqing Guo, James M Mariani, Li Xiao. “U-star: An underwater navigation system based on passive 3d optical identification tags”. Acceptance Rate: 16/91=17.5%.
9. [**DSN 2022**] Hanqing Guo*, Chenning Li*, Lingkun Li, Zhichao Cao, Qiben Yan, Li Xiao. “NEC: Speaker Selective Cancellation via Neural Enhanced Ultrasound Shadowing”. Acceptance Rate: 49/262=18.7%.¹ [Project Demo](#), Media coverage:[New Scientist](#) and [ACM TechNews](#)
10. [**AisaCCS 2022**] Hanqing Guo, Qiben Yan, Nikolay Ivanov, Ying Zhu, Li Xiao, Eric J. Hunter. “SuperVoice: Text-Independent Speaker Verification Using Ultrasound Energy in Human Speech”. Acceptance Rate: 54/294=18.3% [Project Demo](#)
11. [**NDSS 2022**] Yuanda Wang, Hanqing Guo, Qiben Yan. “GhostTalk: Interactive Attack on Smartphone Voice System Through Power Line”. [Project Demo](#)
12. [**SenSys 2021**] Chenning Li, Hanqing Guo, Shuai Tong, Xiao Zeng, Zhichao Cao, Mi Zhang, Qiben Yan, Li Xiao, Jiliang Wang, Yunhao Liu. “NELoRa: Towards Ultra-low SNR LoRa Communication with Neural-enhanced Demodulation”, ACM SenSys 2021. **Best Paper Award** [Project Code](#)

^{1*} denotes authors contributed equally

13. [NDSS 2021] Qiben Yan, Kehai Liu, Qin Zhou, Hanqing Guo, Ning Zhang. “Surfingattack: Interactive hidden attack on voice assistants using ultrasonic guided waves”, NDSS 2020. [Project Demo](#)
14. [ICC 2020] Hanqing Guo, Nan Zhang, Shaoen Wu, Qing Yang. “Deep Learning Driven Wireless Real-time Human Activity Recognition”.
15. [ICME 2019] Hanqing Guo, Nan Zhang, Wenjun Shi, S. AIQarni, Shaoen Wu. “HICFR: Real Time 3D Indoor Human Image Capturing Based on FMCW Radar”.
16. [GLOBECOM 2019] Hanqing Guo, Shaoen Wu, Honggang Wang, Mahmoud Daneshmand. “DSIC: Deep learning based self-interference cancellation for in-band full duplex wireless”. **Best Paper Award**

INDUSTRIAL EXPERIENCE

1. **Amazon:** Applied Scientist Intern - Account Integrity Team. Jun-Sep 2023
2. **Samsung Research America:** Research Intern - Knox AI/Mobile/Privacy Group. May-Dec 2022
3. **FiberHome Corporation:** Network Engineer - Oversea Group. Aug.2015-Jan.2017

AWARDS

1. **Best Paper Honorable Mention:** ACM CCS 2022 Nov. 2022
2. **Student Travel Grant:** ACM CCS 2022 Oct. 2022
3. **Student Travel Grant:** IEEE DSN 2022 Jun. 2022
4. **Best Paper Award:** ACM SenSys 2021 Sep. 2021
5. **Best Paper Award:** IEEE Globecom 2019 Dec. 2019

TALKS

1. **ACM CCS:** Human-In-The-Loop Adversarial Audio Spectrogram Patch Attack. Nov 2022
2. **Southeast University webinar:** Toward private, secure, and robust voice services. Dec 2022
3. **MSU graduate seminar:** SuperVoice: Speaker Verification Using Ultrasound. March 2022

TEACHING EXPERIENCE

1. **CSE 260:** Discrete Structures in Computer Science. Spring 2022
2. **CSE 410:** Operating System. Fall 2021
3. **CSE 232:** Introduction to Programming II. Fall 2019

PROFESSIONAL SERVICE

1. **Transactions on Information Forensics & Security 2022, 2023** Student Reviewer
2. **Transactions on Dependable and Secure Computing 2022, 2023** Student Reviewer
3. **Transactions on Sensor Networks 2021,2022** Student Reviewer
4. **IEEE INFOCOM 2019,2020,2021,2022,2023** Student Reviewer