

Tian Xie

CONTACT INFORMATION Homepage: <https://xietian1.github.io/>
Email: tian.xie@usu.edu

RESEARCH INTERESTS Security and privacy, mobile/wireless networks and systems, Internet of things, secure cloud computing/services, blockchain technologies, data analysis

EMPLOYMENT **Assistant Professor**, Utah State University, UT Aug 2023 – present
Research Assistant, Michigan State University, MI Jan 2017 – May 2023
Software Engineering Intern, Apple, CA May 2022 – Aug 2022
Software Engineering Intern, Google, CA Sep 2021 – Dec 2021
Undergraduate Research Assistant, MSU, MI Jan 2016 – Dec 2016

EDUCATION **Ph.D.**, Computer Science and Engineering, Jan 2017 – May 2023
Michigan State University, East Lansing, Michigan
B.Sc with honor, Electrical and Computer Engineering Sep 2013 – Dec 2016
Michigan State University, East Lansing, Michigan

PUBLICATIONS [CNS'23] Jingwen Shi, **Tian Xie**, Guan-Hua Tu, Chunyi Peng, Chi-Yu Li, Andrew Hou, Sihan Wang and Yiwen Hu, Xinyu Lei, Min-Yue Chen, Li Xiao and Xiaoming Liu . ‘*When Good Turns Evil: Encrypted 5G/4G Voice Calls Can Leak Your Identities*’ Accepted to 2023 IEEE Conference on Communications and Network Security (CNS).

[GetMobile'23] Yiwen Hu, Min-Yue Chen, Guan-Hua Tu, Chi-Yu Li, Sihan Wang, Jingwen Shi, **Tian Xie**, Xiao Li, Chunyi Peng, Zhaowei Tan, Songwu Lu. ‘*Unveiling the Insecurity of Operational Cellular Emergency Services (911): Vulnerabilities, Attacks, and Countermeasures*’ **An invited paper** to ACM GetMobile: Mobile Computing and Communications, GetMobile **Research Highlights**.

[TMC'22] **Tian Xie**[†], Sihan Wang[†]([†]: co-primary), Xinyu Lie, Jingwen Shi, Guan-Hua Tu, Chi-Yu Li. ‘*MPKIX: Towards More Accountable and Secure Internet Application Services via Mobile Networked Systems*’ Accepted to IEEE Transactions on Mobile Computing.

[MobiCom'22] Yiwen Hu, Min-Yue Chen, Guan-Hua Tu, Chi-Yu Li, Sihan Wang, Jingwen Shi, **Tian Xie**, Xiao Li, Chunyi Peng, Zhaowei Tan, Songwu Lu. ‘*Uncovering Insecure Designs of Cellular Emergency Services (911)*’ Accepted to ACM MOBICOM'22, **Best Community Paper Award Runner-Up, AT&T Security Award**.

[ToN'22] Yu-Han Lu, Sandy Hsin-Yu Hsiao, Chi-Yu Li, Yi-Chen Hsieh, Po-Yi Chou, Yao-Yu Li, **Tian Xie**, Guan-Hua Tu. ‘*Insecurity of Operational IMS Call Systems: Vulnerabilities, Attacks, and Countermeasures*’ Accepted to IEEE Transactions on Mobile Computing.

[TMC'21] **Tian Xie**, Guan-Hua Tu, Chi-Yu Li, and Chunyi Peng. 'How Can IoT Services Pose New Security Threats In Operational Cellular Networks?' Accepted to IEEE Transactions on Mobile Computing.

[CODASPY'21] Xinyu Lei, Guan-Hua Tu, **Tian Xie**, and Sihan Wang. 'BFastPay: A Routing-free Protocol for Fast Payment in Bitcoin Network' Accepted to ACM CODASPY'21.

[CODASPY'21] Yiwen Hu, Sihan Wang, Guan-Hua Tu, Li Xiao, **Tian Xie**, Xinyu Lei, and Chi-Yu Li. 'Security Threats from Bitcoin Wallet Smartphone Applications: Vulnerabilities, Attacks, and Countermeasures' Accepted to ACM CODASPY'21.

[MobiCom'21] Sihan Wang, Guan-Hua Tu, Xinyu Lei, **Tian Xie**, Chi-Yu Li, Po-Yi Chou, Fucheng Hsieh, Yiwen Hu, Li Xiao, Chunyi Peng. 'Insecurity of Operational Cellular IoT Service: New Vulnerabilities, Attacks, and Countermeasures' Accepted to ACM MOBICOM'21.

[TMC'20] **Tian Xie**, Guan-Hua Tu, Bangjie Yin, Chi-Yu Li, Chunyi Peng, Mi Zhang, Hui Liu, and Xiaoming Liu. 'The Untold Secrets of WiFi-Calling Services: Vulnerabilities, Attacks, and Countermeasures' Accepted to IEEE Transactions on Mobile Computing.

[MobiCom'20] Yu-Han Lu, Chi-Yu Li, Yao-Yu Li, Sandy Hsin-Yu Hsiao, **Tian Xie**, Guan-Hua Tu, Wei-Xun Chen. 'Ghost Calls from Operational 4G Call Systems: IMS Vulnerability, Call DoS Attack, and Countermeasure' Accepted to ACM MOBICOM'20.

[MobiSys'20] Xinyu Lei, Guan-Hua Tu, Chi-Yu Li, **Tian Xie**, Mi Zhang. 'SecWIR: Securing Smart Home IoT Communications via Wi-Fi Routers with Embedded Intelligence' Accepted to ACM MOBISYS'20.

[ICDCS'20] Xinyu Lei, **Tian Xie**, Guan-Hua Tu and Alex X. Liu. 'An Inter-blockchain Escrow Approach For Fast Bitcoin Payment (Extended Abstract)' Accepted to IEEE ICDCS'20.

[CNS'20] Xinyu Lei, Guan-Hua Tu, Alex X. Liu, **Tian Xie**. 'Fast and Secure kNN Query Processing in Cloud Computing' Accepted to IEEE CNS'20.

[SSCI'19] **Tian Xie**, Sihan Wang, Guan-Hua Tu, Chi-Yu Li, Xinyu Lei. 'Exploring the Insecurity of Google Account Registration Protocol via Model Checking' Accepted to IEEE SSCI'19.

[CNS'18] **Tian Xie**, Guan-Hua Tu, Chi-Yu Li, Chunyi Peng, Jiawei Li, and Mi Zhang. 'The Dark Side of Operational Wi-Fi Calling Services.' Accepted to IEEE CNS'18, **Best Paper Award (2/181)**, **Google Security Reward**.

[CNS'18] Lei, Xinyu, Guan-Hua Tu, Alex X. Liu, Chi-Yu Li, and **Tian Xie**. 'The Insecurity of Home Digital Voice Assistants-Vulnerabilities, Attacks and Countermeasures.' Accepted to IEEE CNS'18.

[ICC'18] **Tian Xie**, Chi-Yu Li, Jiliang Tang, and Guan-Hua Tu. 'How Voice Service Threatens Cellular-Connected IoT Devices in the Operational 4G LTE Networks.' Accepted to IEEE ICC'18.

[NEMS'17] **Tian Xie**, Xiaopeng Bi, Rui Luo, Fan Bin, Zhe Wang, and Wen Li. 'Optical propagation of blue LED light in brain tissue and Parylene-C.' Accepted to IEEE NEMS'17.

[TBioCAS'17] Xiaopeng Bi, **Tian Xie**, Bin Fan, Wasif Khan, Yue Guo, and Wen Li. 'A flexible, micro-lens-coupled LED stimulator for optical neuromodulation.' Accepted to IEEE Transactions on Biomedical Circuits and Systems.

HONORS & AWARDS

- ACM MobiCom Best Community Paper Award Runner-Up 2022
- Dissertation Completion Fellowship 2022
- Google Android Security Reward 2019
- Graduate Office Fellowship 2019
- Kaggle Competition Gold Medal 2018
- Kaggle Competition Bronze Medal 2018
- IEEE CNS Travel Grant 2018
- IEEE CNS Best Paper Award 2018
- Graduate Office Fellowship 2018
- Graduate Office Fellowship 2017
- B.Sc Graduation with Honor 2016
- MSU Capstone Design Second Prize 2016
- Dean's List 2016
- Dean's List 2015
- Dean's List 2014
- Dean's List 2013

TEACHING EXPERIENCE

- Instructor: CS 5890/CS 6890 Computer Network and Security, Utah State University, Fall 2023
- Teaching Assistant: CSE 232 Introduction to Programming II, Michigan State University, Summer 2023
- Teaching Assistant: CSE 824 Advanced Computer Networks and Communications, Michigan State University, Fall 2022
- Teaching Assistant: CSE 320 Computer Organization and Architecture, Michigan State University, Summer 2020
- Teaching Assistant: CSE 476 Mobile App Development, Michigan State University, Fall 2019
- Teaching Assistant: CSE 425 Intro to Computer Security, Michigan State University, Fall 2018
- Teaching Assistant: CSE 425 Intro to Computer Security, Michigan State University, Spring 2018
- Teaching Assistant: CSE 476 Mobile App Development, Michigan State University, Fall 2017
- Teaching Assistant: CSE 422 Computer Network, Michigan State University, Spring 2017
- Undergraduate Assistant: ECE 313 Control Systems, Michigan State University, Spring 2016

ACADEMIC SERVICE

Technical Program Committee

- ACM Mobicom S3 2019

Conference Reviewer

- Infocom2023, BigData2023, Mobicom2022, CNS2022, Mobicom2021, IFIP2020, VNC2020, BigData2020, BigData2019, IFIP2019, ICDCS2019, Globalcom2019, VNC2018

Journal Reviewer

- IEEE Transactions on Information Forensics & Security (TIFS), IEEE Transactions on Mobile Computing (TMC), IEEE/ACM Transactions on Networking (ToN), Computer Networks, Computer & Security, ACM Transactions on Privacy and Security (TOPS/TISSEC), IEEE Transactions on Reliability