

# Chenglong Fu

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## EDUCATION

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### Temple University

*Ph.D. in Computer and Information Sciences*

Philadelphia, PA

*Aug. 2016 – May. 2022*

- Supervised by [Prof. Xiaojiang Du](#)
- Dissertation Title: Semantics-aware Effective Security Solutions for Home Automation System
- Dissertation Defense Passed on December 16, 2021
- GPA: 3.82/4.0

### University of Science and Technology of China

*Bachelor of Engineering in Information Security*

Hefei, China

*Aug. 2011 – June. 2015*

- GPA: 3.4/4.3

## RESEARCH & WORK EXPERIENCES

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### Assistant Professor

*University of North Carolina at Charlotte*

Aug 2022 – Present

*Charlotte, NC*

### Research Assistant

*Temple University*

Sep. 2016 – Dec. 2021

*Philadelphia, PA*

- Supervised by [Prof. Xiaojiang Du](#)
- Working on vulnerability discovery and anomaly detection of smart home automation systems

## PUBLICATIONS

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- [1] **Chenglong Fu**, Qiang Zeng, Xiaojiang Du, Siva Likitha Valluru. “Demystifying and Exploiting IoT Timeout Behaviors in Smart Homes.”, IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), June 2022. (Acceptance rate: 18.7%)
- [2] Haotian Chi, **Chenglong Fu** (Co-first author), Qiang Zeng, Xiaojiang Du. “Delay Wreaks Havoc on Your Smart Home”, Accepted by IEEE Symposium on Security and Privacy (IEEE S&P), May 2022. (Acceptance rate: 15.2%)
- [3] Xuanyu Liu, Qiang Zeng, Xiaojiang Du, Siva Likitha Valluru, **Chenglong Fu**, Xiao Fu, Bin Luo “SniffMislead: Non-Intrusive Privacy Protection Against Wireless Packet Sniffers in Smart Homes.” In the International Symposium on Research in Attacks, Intrusions and Defenses (RAID), October 2021. (Acceptance rate: 23.9%)
- [4] **Chenglong Fu**, Qiang Zeng, Xiaojiang Du. “HAWatcher: Semantics-Aware Anomaly Detection for Apified Smart Homes. ” In the proceeding of 30th USENIX Security Symposium (USENIX Security), August 2021. (Acceptance rate: 18.8%)
- [5] Michael Wang, **Chenglong Fu**, Xiaojiang Du. “Decision-Tree Based Root Cause Localization for Anomalies in Smart IoT Systems.” In the IEEE International Conference on Communications (ICC), June 2021
- [6] Heena Rathore, **Chenglong Fu**, Amr Mohamed, Abdulla Al-Ali, Xiaojiang Du, Mohsen Guizani, and Zhengtao Yu. “Multi-layer security scheme for implantable medical devices.” *Neural Computing and Applications* 32, no. 9 (2020): 4347-4360.
- [7] Xuening Xu, **Chenglong Fu**, Xiaojiang Du, and E. Paul Ratazzi. “Effective UAV and Ground Sensor Authentication.” In IEEE Global Communications Conference (GLOBECOM), December 2019.
- [8] **Chenglong Fu**, Xiaojiang Du, Longfei Wu, Qiang Zeng, Amr Mohamed, and Mohsen Guizani. “POKs-based secure and energy-efficient access control for implantable medical devices.” In International Conference on Security and Privacy in Communication Systems (SecureComm), October 2019. (Acceptance rate: 25.5%)

- [9] Qiang Zeng, Jianhai Su, **Chenglong Fu**, Golam Kayas, Lannan Luo, Xiaojiang Du, Chiu C. Tan, and Jie Wu. “A multiversion programming inspired approach to detecting audio adversarial examples.” In 49th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), June 2019. (Acceptance rate: 21%)
- [10] **Chenglong Fu**, Qiang Zeng, and Xiaojiang Du. “Towards Efficient Integration of Blockchain for IoT Security: The Case Study of IoT Remote Access.” arXiv preprint, 2019.
- [11] **Chenglong Fu**, Tassadit Kezmane, Xiaojiang Du, Yat Fu, and Colin Morrisseau. “An location-aware authentication scheme for cross-domain internet of thing systems.” In International Conference on Computing, Networking and Communications (ICNC), March 2018.

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## TEACHING EXPERIENCES

- Lab Instructor of CIS-2107(Low-level Programming)** Jan 2017 – May 2017
- Introducing lab assignments, answering students’ questions, and grading students’ submissions
  - Lab Contents: C basic programming, Assembly programming introduction
- Lab Instructor of CIS-3207(Operating System)** Sep 2017 – May 2020
- Introducing lab contents, helping students on code debugging, and grading assignment submissions
  - Lab Projects: Process Scheduling Simulation, Simple Linux Shell, Multithread TCP Server, Simple File System
  - Got the rating of *Ultra* in 4 semesters

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## DEVELOPMENT SKILLS

**Languages:** C/C++, Python, Nodejs, Golang  
**Tools:** Pandas, Numpy, Tensorflow, Flask, Docker  
**Platforms:** SmartThings, Amazon Alexa, Apple HomeKit, AWS

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## AWARDS AND HONORS

- Scott Hibbs Future of Computing Award* *April 2021*
- Each year, only one student is selected from all the graduate and undergraduate students (over 1,000 students) in the CIS Department at Temple University
- Outstanding Undergraduate Scholarship* *Sep 2014*
- 10% among all undergraduates, granted by University of Science & Technology of China
- Seagate Scholarship* *Dec 2013*
- 5% among all undergraduates, Granted by Seagate Technology co., LTD
- Outstanding College graduates in Provincial Scale* *June 2015*
- 1 among all undergraduates in the department of Information Security, Granted by Department of Education of Anhui Province