

# Weijia He

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## RESEARCH INTERESTS

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IoT Security & Privacy; Ubiquitous Computing; Computer Security; Privacy; Human-Computer Interaction (HCI)

## EDUCATION

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**University of Chicago, Chicago, IL**

**Sep. 2017 – Aug. 2022**

*Ph.D in Computer Science (expected August 2022)*

*Advisor: Blase Ur*

**Shanghai Jiao Tong University, Shanghai, China**

**Sep. 2013 - Jul. 2017**

*Bachelor of Engineering in Information Security*

## Employment

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**Dartmouth College, Hanover, NH**

**Sep. 2022 – Present**

*Postdoctoral Researcher*

*Advisor: David Kotz*

## HONORS & AWARDS

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- 2022 Siebel Scholar (\$35,000)
- Finalist for the 2020 NortonLifeLock Graduate Fellowship
- Student Travel Grant for the 2019 IEEE Symposium on Security and Privacy (\$1,250)
- USENIX Security 2018 Student Grant (\$745)
- SOUPS 2018 Student Grant (\$770)

## CONFERENCE PUBLICATIONS

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### **Making Interactions with Home IoT Devices More Secure, Private, and Usable**

**Weijia He**

*Ph.D. Thesis. 2022.*

### **SoK: Context Sensing for Access Control in the Adversarial Home IoT** [\[pdf\]](#)

**Weijia He**, Valerie Zhao, Olivia Morkved, Sabeeka Siddiqui, Earlene Fernandes, Josiah Hester, Blase Ur

*In Proceedings of the 6th IEEE European Symposium on Security and Privacy (EuroS&P). Online, September 2021.*

### **Trace2TAP: Synthesizing Trigger-Action Programs From Traces of Behavior** [\[pdf\]](#)

Lefan Zhang, **Weijia He**, Olivia Morkved, Valerie Zhao, Michael L. Littman, Shan Lu, Blase Ur.

*In Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies 4, 3, Article 104 (IMWUT / UbiComp). Online, September 2020.*

### **AutoTap: Synthesizing and Repairing Trigger-Action Programs Using LTL Properties** [\[pdf\]](#)

Lefan Zhang, **Weijia He**, Jesse Martinez, Noah Brackenbury, Shan Lu, Blase Ur.

*In Proceedings of the 41st International Conference on Software Engineering (ICSE). Montreal, QC, Canada, 2019.*

### **How Users Interpret Bugs in Trigger-Action Programming [\[pdf\]](#)**

Will Brackenbury, Abhimanyu Deora, Jillian Ritchey, Jason Vallee, **Weijia He**, Guan Wang, Michael L. Littman, Blase Ur  
In *Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)*. Glasgow, UK, 2019.

### **Rethinking Authentication and Access Control for the Home Internet of Things (IoT) [\[pdf\]](#)**

**Weijia He**, Maximilian Golla, Roshni Padhi, Jordan Ofek, Markus Dürmuth, Earlene Fernandes, Blase Ur  
In *Proceedings of the 27th USENIX Security Symposium (USENIX Security)*, Baltimore, MD, 2018.

## **WORKSHOP PUBLICATIONS**

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### **When Smart Devices Are Stupid: Negative Experiences Using Home Smart Devices [\[pdf\]](#)**

**Weijia He**, Jesse Martinez, Roshni Padhi, Lefan Zhang, Blase Ur.  
In *Proceedings of the IEEE Workshop on the Internet of Safe Things*. San Francisco, CA, 2019.

### **Clap On, Clap Off: Usability of Authentication Methods in the Smart Home [\[pdf\]](#)**

**Weijia He**, Juliette Hainline, Roshni Padhi, Blase Ur  
*Proceedings of the Interactive Workshop on the Human Aspect of Smarthome Security and Privacy (WSSP)*. Baltimore, MD, 2018.

## **SERVICE**

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- **PC Member**, The 23rd Privacy Enhancing Technologies Symposium (PETS), 2024 and 2023
- **Publication Chair**, The 22nd Privacy Enhancing Technologies Symposium (PETS), 2023 and 2022
- **Poster Jury**, Symposium on Usable Privacy and Security (SOUPS), 2023, 2022 and 2021
- **Artifact Evaluation Committee Member**, USENIX Security Symposium, 2022 and 2021
- **Shadow PC member**, The 41st IEEE Symposium on Security and Privacy, 2020
- **PC Member**, The European Workshop on Usable Security, 2020, 2019
- **PC Member**, CSCW 2019 Workshop on Ubiquitous Privacy: Research and Design for Mobile and IoT Platforms

## **TEACHING EXPERIENCE**

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### **Introduction to Computer Science (CMSC 15100)**

Summer 2021

*Instructor, University of Chicago*

- Duties as the lead instructor for this undergraduate course included giving all lectures for the course; leading labs; holding office hours; and designing labs, homework, and exams. This course is the first programming course in the sequence for prospective computer science majors, and I was the instructor of record for the summer offering.

### **Introduction to Computer Security (CMSC 23200 / CMSC 33200)**

Winter 2022, 2021

*Teaching Assistant, University of Chicago*

- Duties for this primarily undergraduate course included giving one guest lecture per year, grading assignments, and holding office hours.

### **Ethics, Fairness, Responsibility, and Privacy in Data Science (CMSC 25910/25900)**

Spring 2022, 2020

*Teaching Assistant, University of Chicago*

- Duties for this undergraduate course included designing problem sets, grading assignments, and holding office hours.

### **Machine Learning for Cybersecurity**

Spring 2021

*Teaching Assistant, University of Chicago Graham School for Continuing Liberal and Professional Studies*

- Duties for this four-meeting continuing education class for working professionals included preparing homework assignments, holding office hours, and taking notes.

### **superpowHer: compileHer Tech Capstone 2019**

April 2019

*Instructor, University of Chicago*

- Duties for this outreach activity to middle school girls included giving workshops.

### **Usable Security and Privacy (CMSC 23210 / CMSC 33210)**

Spring 2019, 2018

*Teaching Assistant, University of Chicago*

- Duties for this undergraduate course included giving one guest lecture per year and grading assignments.

### **Computer Science with Applications 1 (CMSC 12100)**

Fall 2017

*Teaching Assistant, University of Chicago*

- Duties for this undergraduate course, intended for students not planning to major in computer science, included leading lab sessions, grading problem sets, and holding office hours.

## **SKILLS**

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**Programming Languages:** Python, JavaScript, Java, C++, C#, R, Shell Scripting, LaTeX

**Hardware:** Raspberry Pi, Jetson Nano

**Languages:** Mandarin Chinese (native), English (fluent)