

WEIJIA HE

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RESEARCH INTERESTS

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

EMPLOYMENT

Dartmouth College

Postdoctoral Researcher

Advisor: David Kotz

2022 – 2024

Hanover, NH, USA

Data Science Institute Summer Lab

Lab Coordinator

Duties for this position include giving workshops and mentoring research for high-school students.

Summer 2022

University of Chicago

EDUCATION

University of Chicago

Ph.D. in Computer Science

Advisor: Blase Ur

2017 – 2022

Chicago, IL, USA

Shanghai Jiao Tong University

B. Eng. in Cybersecurity

2013 – 2017

Shanghai, China

HONORS & AWARDS

- 2022 Siebel Scholar (\$35,000)
- Finalist for the 2020 Norton LifeLock 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

Well-intended but half-hearted: Hosts' consideration of guests' privacy using smart devices on rental properties

Sunyup Park, **Weijia He**, Elmira Deldari, Pardis Emami-Naeini, Danny Yuxing Huan, Jessica Vitak, Yaxing Yao, Michael Zimmer

In Proceedings of the 20th Symposium on Usable Privacy and Security (SOUPS). 2024.

Can Allowlists Capture the Variability of Home IoT Device Network Behavior?

Weijia He, Kevin Bryson, Ricardo Calderon, Vijay Prakash, Nick Feamster, Danny Yuxing Huang, Blase Ur

In Proceedings of the 9th IEEE European Symposium on Security and Privacy (EuroS&P). 2024.

Contextualizing Interpersonal Data Sharing in Smart Homes

Weijia He, Nathan Reitering, Atheer Almogbil, Yi-Shyuan Chiang, Timothy Pierson, David Kotz

In Proceedings on Privacy Enhancing Technologies (PETS). 2024.

SoK: Context Sensing for Access Control in the Adversarial Home IoT

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

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

Trace2TAP: Synthesizing Trigger-Action Programs From Traces of Behavior

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 (IMWUT/Ubicomp). 2020.

AutoTap: Synthesizing and Repairing Trigger-Action Programs Using LTL Properties

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

In Proceedings of the 41st International Conference on Software Engineering (ICSE). 2019.

How Users Interpret Bugs in Trigger-Action Programming

Will Brackenburg, 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). 2019.

Rethinking Authentication and Access Control for the Home Internet of Things (IoT)

Weijia He, Maximilian Golla, Roshni Padhi, Jordan Ofek, Markus Dürmuth, Earlene Fernandes, Blase Ur

In Proceedings of the 27th USENIX Security Symposium (USENIX Security). 2018.

WORKSHOP PUBLICATIONS

Device Discovery in the Smart Home Environment

Mounib Khanafer, Logan Kostick, Chixiang Wang, Wondimu Zegeye, **Weijia He**, Berkay Kaplan, Nurzaman Ahmed, David Kotz, Timothy J. Pierson

In Proceedings of the IEEE Workshop on the Internet of Safe Things (SafeThings). 2024.

Challenges and Opportunities in Onboarding Smart-Home Devices

Chixiang Wang, Liam Cassidy, **Weijia He**, Timothy Pierson, David Kotz

In International Workshop on Mobile Computing Systems and Applications (HotMobile). 2024.

The HandyTech's Coming Between 1 and 4: Privacy Opportunities and Challenges for the IoT Handyperson

Denise Anthony, Carl A. Gunter, **Weijia He**, Mounib Khanafer, Susan Landau, Ravindra Mangar, Nathan Reitingner

In Workshop on Privacy in the Electronic Society (WPES). 2023.

When Smart Devices Are Stupid: Negative Experiences Using Home Smart Devices

Weijia He, Jesse Martinez, Roshni Padhi, Lefan Zhang, Blase Ur

In Proceedings of the IEEE Workshop on the Internet of Safe Things (SafeThings). 2019.

Clap On, Clap Off: Usability of Authentication Methods in the Smart Home

Weijia He, Juliette Hainline, Roshni Padhi, Blase Ur

In Proceedings of the Interactive Workshop on the Human Aspect of Smarthome Security and Privacy (WSSP). 2018.

SERVICE

[Oakland] IEEE Symposium on Security and Privacy <i>PC member</i>	2025
[CCS] Conference on Computer and Communications Security <i>PC member</i>	2024
[PETS] Privacy Enhancing Technologies Symposium <i>PC member</i>	2025, 2024, 2023
[PETS] Privacy Enhancing Technologies Symposium <i>Publication chair</i>	2023, 2022
[USEC] Symposium on Usable Security <i>PC member</i>	2024, 2023
[SDIoTSec] NDSS Workshop on Security and Privacy in Standardized IoT <i>PC member</i>	2024
[EuroUSEC] European Workshop on Usable Security <i>PC member</i>	2020, 2019
Workshop on Ubiquitous Privacy: Research and Design for Mobile and IoT Platforms <i>PC member</i>	2019
[SOUPS] Symposium on Usable Privacy and Security <i>Poster Jury</i>	2023, 2022, 2021
[USENIX Security] USENIX Security Symposium <i>Artifact Evaluation Committee Member</i>	2022, 2021
[Oakland] IEEE Symposium on Security and Privacy <i>Shadow PC member</i>	2020
External reviewers at CSCW(2024), CHI (2024,2023,2022), TOCHI(2024), IMWUT(2022), TOSP(2023), IJHCS (2022, 2020), TIOT (2021)	

TEACHING EXPERIENCE

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.

Machine Learning for Cybersecurity

Spring 2021

Teaching Assistant

University of Chicago Graham School

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

Ethics, Fairness, Responsibility, and Privacy in Data Science (CMSC 25900)

Spring 2020

Teaching Assistant

University of Chicago

Duties for this primarily undergraduate course included grading assignments and holding office hours.

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.

COMMUNITY OUTREACH

superpowHer: compileHer Tech Capstone 2019

Apr. 2019

Instructor

University of Chicago

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