

WEIJIA HE

✉ weijia.he@soton.ac.uk  <https://hewj.info>

RESEARCH INTERESTS

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

EMPLOYMENT

University of Southampton

Lecturer/Assistant Professor

2024 – Present

Southampton, UK

Dartmouth College

Postdoctoral Researcher

Advisor: Prof. David Kotz

2022 – 2024

Hanover, NH, USA

Data Science Institute Summer Lab

Lab Coordinator

Summer 2022

Chicago, IL, USA

EDUCATION

University of Chicago

M.Sc. & Ph.D. in Computer Science

Advisor: Prof. 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

Help Me Help You: Privacy Considerations for Third Party IoT Device Repair

Nathan Reitinger, **Weijia He**, Chelsea Bruno, Susan Landau, Carl A Gunter, Mounib Khanafer, Ravindra Mangar, Denise Anthony

In Proceedings on Privacy Enhancing Technologies (PETS). 2025.

How Humans Communicate Programming Tasks in Natural Language and Implications For End-User Programming with LLMs

Madison Pickering, Helena Williams, Alison Gan, **Weijia He**, Hyojae Park, Francisco Piedrahita Velez, Michael L. Littman, Blase Ur

In Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI). 2025.

Moat: Adaptive Inside/Outside Detection System for Smart Homes

Chixiang Wang, **Weijia He**, Timothy J Pierson, David Kotz

In Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT/UbiComp). 2024.

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

Sunyp 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, Earlene 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 Brackenbury, 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 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). 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

Exploring Multi-User Access Control Design in IoT-assisted In-Home Dementia Care

Patrick Jfremov-Kustov, **Weijia He**
In Proceedings on the 7th Joint Workshop on CPS & IoT Security and Privacy (CPSIoTSec). 2025.

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 Reitering
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

[CCS] Conference on Computer and Communications Security <i>PC member</i>	2026, 2025, 2024
[Oakland] IEEE Symposium on Security and Privacy <i>PC member</i>	2025
[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>	2025, 2024, 2023
[EuroUSEC] European Symposium on Usable Security <i>PC member</i>	2025
[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 CHI (2022–2025), CSCW(2024), TOCHI(2024), TIFS(2024), TOSP(2023), IMWUT(2022), IJHCS (2022, 2020), TIOT (2021)	

TEACHING EXPERIENCE

Usable Security and Privacy (COMP6262) <i>Module Leader</i>	Semester 1, 2025/26 <i>University of Southampton</i>
Web and Cloud Security (COMP3226) <i>Instructor</i>	Semester 1, 2025/26 <i>University of Southampton</i>
Principles of Cyber Security (COMP2216) <i>Instructor</i>	Semester 2, 2024/25 <i>University of Southampton</i>
Introduction to Computer Science (CMSC 15100) <i>Instructor</i>	Summer 2021 <i>University of Chicago</i>
Introduction to Computer Security (CMSC 23200 / CMSC 33200) <i>Teaching Assistant</i>	Winter 2022, 2021 <i>University of Chicago</i>
Machine Learning for Cybersecurity <i>Teaching Assistant</i>	Spring 2021 <i>University of Chicago Graham School</i>
Ethics, Fairness, Responsibility, and Privacy in Data Science (CMSC 25900) <i>Teaching Assistant</i>	Spring 2020 <i>University of Chicago</i>
Usable Security and Privacy (CMSC 23210 / CMSC 33210) <i>Teaching Assistant</i>	Spring 2019, 2018 <i>University of Chicago</i>
Computer Science with Applications 1 (CMSC 12100) <i>Teaching Assistant</i>	Fall 2017 <i>University of Chicago</i>

COMMUNITY OUTREACH

superpowHer: compileHer Tech Capstone 2019 <i>Instructor</i>	Apr. 2019 <i>University of Chicago</i>
Duties for this outreach activity to middle school girls included giving workshops.	