

# Kaiwen Sun

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## Research interests

My research addresses critical challenges at the intersection of Human-Computer Interaction (HCI), Usable Security and Privacy (S&P), and Human-Centered AI. I focus on identifying the privacy, security, and safety concerns of diverse sensitive populations—including children, older adults, and students—and developing solutions in three key areas: 1) supporting digital literacy, 2) designing family-centered smart home solutions, and 3) enhancing human-AI interactions that inform educational practices, design interventions, and policy changes.

## Education

- 2019 – Present **University of Michigan** | Ann Arbor, MI  
Ph.D. in Information  
Advisors: Florian Schaub, Chris Brooks
- 2018 **University of Michigan** | Ann Arbor, MI  
M.S. in Information - Human Computer Interaction
- 2013 **University of Minnesota** | Minneapolis, MN  
B.S. in Marketing

## Affiliations

- 2021 – Present **Center for Ethics, Society, and Computing (ESC)** | Ann Arbor, MI  
ESC Researcher

## Honors & Awards

- 2024 **CHI Best Paper Honorable Mention** 🏆  
For “*I want it to talk like Darth Vader*”: *Helping Children Construct Creative Self-Efficacy with Generative AI*.
- 2022 – 2024 **2022 Meta PhD Research Fellowship**  
Meta  
Meta awards PhD candidates conducting cutting-edge research in emerging topics across computer science and engineering. I am one of the 37 recipients selected from 2,300 applications worldwide.
- 2018 **SOUPS Student Grant**  
Symposium on Usable Privacy and Security Baltimore, MD, USA.
- 2016 – 2018 **Merit Scholarship**  
University of Michigan School of Information.

## Publications

Journal Articles and Conference Proceedings (12)

- CSCW'24 **Unfulfilled Promises of Child Safety and Privacy: Portrayals and Use of Children in Smart Home Marketing**  
Kaiwen Sun, Jingjie Li, Yixin Zou, Jenny Radesky, Christopher Brooks, Florian Schaub  
*Proceedings of the ACM on Human-Computer Interaction*, 8 (CSCW1).  
<https://doi.org/10.1145/3637422>  
*Also presented at the Commission Nationale de l'Informatique et des Libertés (CNIL) Privacy Research Day 2024 in Paris*
- IDC'24a **“Why is Everything in the Cloud?”: Co-Designing Visual Cues Representing Data Processes with Children**  
Kaiwen Sun, Ritesh Kanchi, Frances Marie Tabio Ello, Li-Neishin Co, Mandy Wu, Susan Gelman, Jenny Radesky, Florian Schaub, Jason Yip.  
*In ACM Interaction Design and Children (IDC 2024)*, June 2024  
<https://doi.org/10.1145/3628516.3655819>
- IDC'24b **Making a metaphor sandwich: Analyzing children’s use of metaphor during tabletop telepresence robot supported participatory design**  
Casey Lee Hunt, Kaiwen Sun, Kaitlyn Tseng, Priyanka Balasubramaniam, Allison Druin, Amanda Huynh, Daniel Leithinger, Jason Yip.  
*In ACM Interaction Design and Children (IDC 2024)*, June 2024  
<https://doi.org/10.1145/3628516.3656272>
- CHI'24 **“I want it to talk like Darth Vader”: Helping Children Construct Creative Self-Efficacy with Generative AI** 🏆  
Michele Newman, Kaiwen Sun, Ilena B Dalla Gasperina, Grace Y. Shin, Matthew Pedraja, Matthew Kyle Pedraja, Ritesh Kanchi, Maia B. Song, Rannie Li, Jin Ha Lee, Jason Yip.  
*CHI'24: ACM Conference on Human Factors in Computing Systems*, May 2024  
*CHI Best Paper Honorable Mention Award.*  
<https://doi.org/10.1145/3613904.3642492>
- PoPETs'24 **Cross-Contextual Examination of Older Adults’ Privacy Concerns, Behaviors, and Vulnerabilities**  
Yixin Zou, Kaiwen Sun, Tanisha Afnan, Ruba Abu-Salma, Robin Brewer, Florian Schaub  
*Proceedings on Privacy Enhancing Technologies*, 2024 (1), 133-150. 2024  
<https://doi.org/10.56553/popets-2024-0009>
- IDC'23 **Designing together, miles apart: A longitudinal tabletop telepresence adventure in online co-design with children.**  
Casey Lee Hunt, Kaiwen Sun, Fumi Tsukiyama, Iva Matkovic, Zachary Schwemler, Anastasia Wolf, Zihao Zhang, Allison Druin, Amanda Huynh, Daniel Leithinger, Jason Yip  
*In ACM Interaction Design and Children (IDC 2023)*, June 2023  
<https://doi.org/10.1145/3585088.3589359>

- S&P'23 **“It’s up to the Consumer to be Smart”**: Understanding the Security and Privacy Attitudes of Smart Home Users on Reddit  
Jingjie Li, Kaiwen Sun, Brittany Huff, Anna Bierley, Younghyun Kim, Florian Schaub, Kassem Fawaz.  
*IEEE Symposium on Security and Privacy*, May 2023  
<https://doi.org/10.1109/SP46215.2023.10179344>
- CSCW'21 **Child Safety in the Smart Home: Parents’ Perceptions, Needs, and Mitigation Strategies**  
Kaiwen Sun, Yixin Zou, Jenny Radesky, Christopher Brooks, Florian Schaub  
*Proceedings of the ACM on Human-Computer Interaction*, 5 (CSCW2), 471:1–471:41.  
<https://doi.org/10.1145/3479858>  
Also presented at *FTC PrivacyCon 2022*
- IJAIE **Disparities in Students’ Propensity to Consent to Learning Analytics**  
Warren Li, Kaiwen Sun, Florian Schaub, Chris Brooks.  
*The International Journal of Artificial Intelligence in Education Special Issue*, June 2021  
<https://doi.org/10.1007/s40593-021-00254-2>
- CHI'21 **“They See You’re a Girl if You Pick a Pink Robot with a Skirt”**: A Qualitative Study of How Children Conceptualize Data Processing and Digital Privacy Risks  
Kaiwen Sun, Carlo Sugatan, Tanisha Afnan, Hailey Simon, Susan A Gelman, Jenny Radesky, Florian Schaub.  
*CHI'21: Conference on Human Factors in Computing Systems*, ACM, May 2021 (Acceptance rate: 26.3%)  
<https://doi.org/10.1145/3411764.3445333>
- CHI'19a **It’s My Data! Tensions Among Stakeholders of a Learning Analytics Dashboard**  
Kaiwen Sun, Abraham Mhaidli, Sonakshi Watel, Chris Brooks, Florian Schaub  
*CHI'19: Conference on Human Factors in Computing Systems*, ACM, May 2019 (Acceptance rate: 23.8%)  
<https://doi.org/10.1145/3290605.3300824>
- CHI'19b **You ‘Might’ Be Affected: An Empirical Analysis of Usability Issues in Data Breach Notifications**  
Yixin Zou, Shawn Danino, Kaiwen Sun, Florian Schaub  
*CHI'19: Conference on Human Factors in Computing Systems*, ACM, May 2019 (Acceptance rate: 23.8%)  
<https://doi.org/10.1145/3290605.3300424>

Workshop Proceedings and Posters (7)

- 2024 **Methods for Family-Centered Design: Bridging the Gap between Research and Practice**  
 Bengisu Cagiltay, Hui-Ru Ho, [Kaiwen Sun](#), Zhaoyuan Su, Yuxing Wu, Olivia K. Richards, Qiao Jin, Junnan Yu, Jerry Fails, Jason Yip, Jodi Forlizzi.  
*CHI'24: ACM Conference on Human Factors in Computing Systems Extended Abstracts*, May 2024  
<https://doi.org/10.1145/3613905.3636290>
- 2023 **A Smart Home for 'Us': Understanding and Designing a Parent-Child Engagement Mechanism for Child Access and Participation in the Smart Home.**  
[Kaiwen Sun](#)  
*IDC'23: Proceedings of the 22nd Annual ACM Interaction Design and Children Conference Extended Abstracts*, June 2023  
<https://doi.org/10.1145/3585088.3593927>
- 2023 **Child-Centred AI Design: Definition, Operation, and Considerations**  
 Ge Wang, [Kaiwen Sun](#), Ayça Atabey, Kruakae Pothong, Grace C Lin, Jun Zhao, Jason Yip.  
*CHI'23: ACM Conference on Human Factors in Computing Systems Extended Abstract*, April 2023  
<https://doi.org/10.1145/3544549.3573821>
- 2022 **The Portrayal of Children in Smart Home Marketing**  
[Kaiwen Sun](#), Jingjie Li, Yixin Zou, Chris Brooks, Florian Schaub  
*Kids' Online Privacy and Safety (KOPS), Co-located with SOUPS* Aug 2022
- 2020 **It's Everyone's Home: Designing Smart Home Technologies with Children in Mind**  
[Kaiwen Sun](#), Chris Brooks, Florian Schaub  
*CHI '20 Workshop on Networked Privacy*. Apr 2020
- 2018 **Taking Student Data for Granted? A Multi-Stakeholder Analysis of a Learning Analytics System**  
[Kaiwen Sun](#), Abraham Mhaidli, Sonakshi Watel, Chris Brooks, Florian Schaub  
*EDM'18 Workshop on Policy and Educational Data Mining: Norms, Risks and Safeguards*. July 2018
- 2018 **Taking Student Data for Granted? A Multi-Stakeholder Analysis of a Learning Analytics System**  
[Kaiwen Sun](#), Abraham Mhaidli, Sonakshi Watel, Chris Brooks, Florian Schaub  
 Poster. *SOUPS'18: Symposium on Usable Privacy and Security*. USENIX, Aug 2018.

## Teaching Experience

Graduate Student Instructor

- Winter 2022 **SIADS 523: Communicating Data Science Results (University of Michigan)**  
 Oversee projects led by online data science program students and grade assignments.
- Winter 2022 **SIADS 601: Qualitative Inquiry for Data Scientists (University of Michigan)**  
 Oversee projects led by online data science program students and grade assignments.

- Fall 2021 **SI 582: Introduction to Interaction Design (University of Michigan)**  
led weekly in-class discussion sections, oversaw 45 projects led by master students, held office hours, and graded assignments.
- Winter 2021 **SI 658: Information Architecture (University of Michigan)**  
Facilitated weekly lecture, provided feedback to 96 individual presentations delivered by master students, and held office hours.
- 5.0 (of 5.0) median rating (class of 33 students).*
- Guest Lectures
- March 2024 **INFR11158/11230: Usable Security and Privacy | University of Edinburgh**  
“Understanding and Supporting Children in the Digital World” (1 lecture)

### Invited External Talks

- 2024 **Unfulfilled Promises of Child Safety and Privacy: Portrayals and Use of Children in Smart Home Marketing**  
Commission Nationale de l’Informatique et des Libertés, Privacy Research Day (June 4)
- 2023 **Child Safety in the Smart Home**  
University of Michigan, Privacy Day (Feb 8)
- 2022 **Child Safety in the Smart Home: Parents’ Perceptions, Needs, and Mitigation Strategies**  
The US Federal Trade Commission, PrivacyCon (Nov 1st)

### Employment

- 2017 – Present **Graduate Student Research Assistant**  
*University of Michigan | Ann Arbor, MI*
- Designing family-centered smart homes.
  - Designing and evaluating visual cues supporting children’s understanding of data processes.
  - Older adults’ privacy and security perceptions and experiences around different types of digital contexts.
  - The depiction of children’s experiences in smart home marketing.
  - The impact of privacy and security topics and discussions on consumers’ adoptions of smart home technologies from Reddit.
  - Parents’ perceptions and mitigation strategies of children’s smart home safety.
  - Children’s perceptions of data processing and digital privacy risks.
  - Measurement of students’ privacy expectations and sentiments toward the use of student data in learning analytics.
  - Disparities in students’ propensity to consent to learning analytics.
  - A multi-stakeholder perspective of privacy in learning analytics.
  - Empirical analysis of usability issues in data breach notifications.

2017 **User Experience Intern**

*Kohler. Co, Emerging Technology Design Studio | Kohler, WI*

- Contributed iterative concept development through exploratory UX research methods, mindmap, digital illustration, presentations, for use-case scenarios in bathroom and between connected IoT products.
- Created new product interface information architecture and interactions through ideation, design research and wireframes while collaborating with two business units.

2017 **UX Consultant**

*Harman | Novi, MI*

- Designed a survey to uncover users' attitudes, behaviors and characteristics, analyzed survey responses to improve infotainment system user experiences.
- Conducted usability tests to provide insights for client's design update.

## Services

### **External Reviewer**

- Information, Communication and Society
- International Journal of Human - Computer Studies
- New Media & Society Journal
- ACM International Journal of Child-Computer Interaction
- ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW 2023)
- ACM Conference on Interaction Design and Children (IDC 2024)
- ACM Conference on Human Factors in Computing Systems (CHI 2020, 2023, 2024, 2025)

### **Mentor, UROP (Undergraduate Research Opportunity Program)**

Serve as research mentor for four undergraduate students on two research projects. Guide students to learn about research process and practice research skills.