

Yixin Zou

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Research interests

My research interests lie at the intersection of human-computer interaction, privacy, and security. I work on developing approaches that help consumers better adopt protective behaviors in the face of privacy and security threats, as well as understanding the unique barriers faced by marginalized/vulnerable populations in protecting themselves.

Employments

- Since 2023 **Tenure-Track Faculty Member**
Max Planck Institute for Security and Privacy | Bochum, Germany
- 2022 **Postdoctoral Fellow**
University of Michigan, School of Information | Ann Arbor, MI, United States
- 2017 - 2022 **Graduate Student Research Assistant**
University of Michigan, School of Information | Ann Arbor, MI, United States
- 2020 **UX Research Intern, Privacy & Data Use**
Meta (formerly known as Facebook) | Remote
- 2019 **Research Intern, NortonLifeLock Research Group**
NortonLifeLock (formerly known as Symantec) | Culver City, CA
- 2019 **UX Research Intern, Firefox Monitor**
Mozilla | Remote

Education

- 2022 **Ph.D. in Information**, University of Michigan
Dissertation: *Understanding and Improving Consumers' Adoption of Online Privacy-Protective Behaviors*
Committee: Florian Schaub (chair), Tawanna Dillahunt, Denise Anthony, Alessandro Acquisti (Carnegie Mellon University), Adam Aviv (The George Washington University)
- 2017 **B.Sc. in Advertising**, University of Illinois at Urbana-Champaign
Graduated with the Highest Honor (top 5% in the College of Media)

Honors & Awards

- 2022 **John Karat Usable Privacy and Security Student Research Award**
Awarded annually to the top graduate student in usable security and privacy.
- 2021 **Privacy Papers for Policymakers: Student Paper Honorable Mention**
Awarded by the Future of Privacy Forum. For *"It's a scavenger hunt": Usability of Websites' Opt-Out and Data Deletion Choices*.
- 2020 **CHI Best Paper Honorable Mention**
For *Examining the Adoption and Abandonment of Security, Privacy, and Identity Theft Protection Practices*.

- 2019 **CHI Best Paper Honorable Mention**
For Putting Your Warning Where Your Link Is: Improving and Evaluating Email Phishing Warnings.
- 2018 **SOUPS Distinguished Paper Award**
For “I’ve Got Nothing to Lose”: Consumers’ Risk Perceptions and Protective Actions after the Equifax Data Breach.

Funding

Grants

- 2023 **Predictors of Privacy Preferences in Social Virtual Reality**
 Meta Research Award, Co-PI with Anupam Das (PI, North Carolina State University) and Yaxing Yao (Co-PI, University of Maryland-Baltimore County). \$100,000.

Fellowships

- 2021 **Finalist, Facebook Fellowship**
 Among the top 3.5% of about 2,100 applicants worldwide.
- 2020 **Finalist, Facebook Fellowship**
 Among the top 4% of about 1,800 applicants worldwide.
- 2019 **NortonLifeLock Fellowship**
 One of the three recipients selected worldwide. \$20,000.

Publications

Conferences are the top-tier academic publishing venues in computer science and information science (CS/IS). Thus, the majority of my research is published in CS/IS conference proceedings.

** after author names indicates co-first authorship.*

Peer-reviewed Conference Proceedings (13)

- [C13] **Aunties, Strangers, and the FBI: Online Privacy Concerns and Experiences of Muslim-American Women**
 Tanisha Afnan, Yixin Zou, Maryam Mustafa, Mustafa Naseem, and Florian Schaub.
 Symposium on Usable Privacy and Security (SOUPS), 2022.
<https://www.usenix.org/system/files/soups2022-afnan.pdf>
- [C12] **Trauma-Informed Computing: Towards Safer Technology Experiences for All**
 Janet Chen*, Allison McDonald*, Yixin Zou*, Emily Tseng, Kevin Roundy, Acar Tamersoy, Florian Schaub, Thomas Ristenpart, and Nicola Dell.
 ACM Conference on Human Factors in Computing Systems (CHI), 2022.
<https://doi.org/10.1145/3491102.3517475>
- [C11] **The Role of Computer Security Customer Support in Helping Survivors of Intimate Partner Violence**
Yixin Zou, Allison McDonald, Julia Narakornpichit, Nicola Dell, Thomas Ristenpart, Kevin Roundy, Florian Schaub, and Acar Tamersoy.
 USENIX Security Symposium, 2021.
<https://www.usenix.org/system/files/sec21-zou.pdf>

- [C10] **“Now I’m a bit angry:” Individuals’ Awareness, Perception, and Responses to Data Breaches that Affected Them**
 Peter Mayer*, Yixin Zou*, Florian Schaub, and Adam J. Aviv.
 USENIX Security Symposium, 2021.
<https://www.usenix.org/system/files/sec21-mayer.pdf>
Also presented at FTC PrivacyCon 2021.
- [C9] **Toggles, Dollar Signs, And Triangles: How to (In)Effectively Convey Privacy Choices with Icons and Link Texts**
 Hana Habib*, Yixin Zou*, Yaxing Yao, Alessandro Acquisti, Lorrie Faith Cranor, Joel Reidenberg, Norman Sadeh, and Florian Schaub.
 ACM Conference on Human Factors in Computing Systems (CHI), 2021.
<https://doi.org/10.1145/3411764.3445387>
Icon recommendation adopted into the California Consumer Privacy Act (CCPA) regulations.
- [C8] **Examining the Adoption and Abandonment of Security, Privacy, and Identity Theft Protection Practices** 🏆
Yixin Zou, Kevin Roundy, Acar Tamersoy, Saurabh Shintre, Johann Roturier, and Florian Schaub.
 ACM Conference on Human Factors in Computing Systems (CHI), 2020.
<https://doi.org/10.1145/3313831.3376570>
CHI Best Paper Honorable Mention Award. Also presented at FTC PrivacyCon 2020.
- [C7] **“It’s a scavenger hunt”: Usability of Websites’ Opt-Out and Data Deletion Choices** 🏆
 Hana Habib, Sarah Pearman, Jiamin Wang, Yixin Zou, Alessandro Acquisti, Lorrie Faith Cranor, Norman Sadeh, and Florian Schaub.
 ACM Conference on Human Factors in Computing Systems (CHI), 2020.
<https://doi.org/10.1145/3313831.3376511>
FPF 2020 Privacy Papers for Policy Makers Student Honorable Mention. Also presented at FTC PrivacyCon 2020.
- [C6] **“We Can’t Live Without Them!” App Developers’ Adoption of Ad Networks and Their Considerations of Consumer Risks**
 Abraham H. Mhaidli, Yixin Zou, and Florian Schaub.
 Symposium on Usable Privacy and Security (SOUPS), 2019.
<https://www.usenix.org/conference/soups2019/presentation/mhaidli>
- [C5] **An Empirical Analysis of Data Deletion and Opt-Out Choices on 150 Websites**
 Hana Habib, Yixin Zou, Aditi Jannu, Neha Sridhar, Chelse Swoopes, Alessandro Acquisti, Lorrie Faith Cranor, Norman Sadeh, and Florian Schaub.
 Symposium on Usable Privacy and Security (SOUPS), 2019.
<https://www.usenix.org/conference/soups2019/presentation/habib>
Also presented at FTC PrivacyCon 2020.
- [C4] **You ‘Might’ Be Affected: An Empirical Analysis of Usability Issues in Data Breach Notifications**
Yixin Zou, Shawn Danino, Kaiwen Sun, and Florian Schaub.
 ACM Conference on Human Factors in Computing Systems (CHI), 2019.
<https://doi.org/10.1145/3290605.3300424>
Also presented at FTC PrivacyCon 2019.

- [C3] **Put Your Warning Where Your Link Is: Improving and Evaluating Email Phishing Warnings** 🏆
Justin Petelka, Yixin Zou, and Florian Schaub.
ACM Conference on Human Factors in Computing Systems (CHI), 2019.
<https://doi.org/10.1145/3290605.3300748>
CHI Best Paper Honorable Mention Award.
- [C2] **“I’ve Got Nothing to Lose”: Consumers’ Risk Perceptions and Protective Actions after the Equifax Data Breach** 🏆
Yixin Zou, Abraham H. Mhaidli, Austin McCall, and Florian Schaub.
Symposium on Usable Privacy and Security (SOUPS), 2018.
<https://www.usenix.org/conference/soups2018/presentation/zou>
SOUPS Distinguished Paper Award.
- [C1] **Users’ Attitudes towards the “Going Dark” Debate**
Aseel Addawood, Yixin Zou, and Masooda Bashir.
International Conference on Applied Human Factors and Ergonomics, 2017.
https://doi.org/10.1007/978-3-319-60585-2_28
- Journal & Magazine Articles (4)
- [J4] **Awareness, Intention, (In)Action: Individuals’ Reactions to Data Breaches**
Peter Mayer, Yixin Zou, Byron Lowens, Hunter Dyer, Khue Le, Florian Schaub, and Adam J. Aviv.
To appear in ACM Transactions on Computer-Human Interaction (TOCHI).
<https://doi.org/10.1145/3589958>
Extended version of [C10].
- [J3] **Child Safety in the Smart Home: Parents’ Perceptions, Needs, and Mitigation Strategies**
Kaiwen Sun, Yixin Zou, Jenny Radesky, Christopher Brooks, and Florian Schaub.
Proceedings of the ACM on Human-Computer Interaction, 5(CSCW2), 471:1–471:41. 2021.
<https://doi.org/10.1145/3479858>
Also presented at FTC PrivacyCon 2022.
- [J2] **Listen Only When Spoken To: Interpersonal Communication Cues as Smart Speaker Privacy Controls**
Abraham H. Mhaidli, Manikandan K. Venkatesh, Yixin Zou, and Florian Schaub.
Proceedings on Privacy Enhancing Technologies (PoPETs), 2020(2), 251-270. 2020.
<https://doi.org/10.2478/popets-2020-0026>
- [J1] **Beyond Mandatory: Making Data Breach Notifications Useful for Consumers**
Yixin Zou and Florian Schaub.
IEEE Security & Privacy, 17(2), 67-72. 2019.
<https://doi.org/10.1109/MSEC.2019.2897834>
Also presented at FTC PrivacyCon 2019.

Workshop Proceedings and Posters (8)

- [W8] **The Portrayal of Children in Smart Home Marketing**
Kaiwen Sun, Jingjie Li, Yixin Zou, Florian Schaub, and Chris Brooks.
SOUPS Workshop on Kids' Online Privacy and Safety, 2022.
- [W7] **"Now I'm a bit angry:" Individuals' Awareness, Perception, and Responses to Data Breaches that Affected Them**
Peter Mayer*, Yixin Zou*, Florian Schaub, and Adam J. Aviv.
Symposium on Usable Privacy and Security (SOUPS) Poster Session, 2022.
- [W6] **An Empirical Analysis of Online Consent and Opt-Out Experience**
Hana Habib, Yixin Zou, Chelse Swoopes, Aditi Jannu, Lorrie Faith Cranor, and Florian Schaub.
Privacy Law Scholars Conference (PLSC), 2018.
- [W5] **An Empirical Analysis of Website Data Deletion and Opt-Out Choices**
Hana Habib, Yixin Zou, Aditi Jannu, Chelse Swoopes, Alessandro Acquisti, Lorrie Faith Cranor, Norman Sadeh, and Florian Schaub.
CHI Workshop on General Data Protection Regulation, 2018.
- [W4] **Concern But No Action: Consumers' Reactions to the Equifax Data Breach**
Yixin Zou and Florian Schaub.
ACM Conference on Human Factors in Computing Systems (CHI) Late-Breaking Work, 2018.
- [W3] **Concern But No Action: Consumers' Reactions to the Equifax Data Breach**
Yixin Zou and Florian Schaub
Midwest Security Workshop, 2018.
- [W2] **Really Being There?: Telepresence in Virtual Reality Branded Content.**
Jie Shen, M. Stenger, J. Lechowicz, Chen Chen, Rachel Yang, Aparna Sivasankaran, Yanyun Wang, Ji Zhang, Yixin Zou, H. Katz, and Michelle R. Nelson.
Annual Conference of the Association for Education in Journalism and Mass Communication (AEJMC), 2017.
- [W1] **The Impacts of Privacy Hypocrisy, Victim Characterization, Gender, and Context on Bystanders' Guilt Attribution in a Cyberbullying Suicide**
Mike Zhengyu Yao, Yixin Zou, Daniel Linz, and P. Jaoude.
Annual Conference of International Communication Association (ICA), 2017.

Technical Reports (3)

- [T3] **CCPA Opt-Out Icon Testing – Phase 2**
Lorrie Faith Cranor, Hana Habib, Yaxing Yao, Yixin Zou, Alessandro Acquisti, Joel R. Reidenberg, Norman Sadeh, Florian Schaub
Report submitted to the Office of the California Attorney General. 2020.
<https://www.oag.ca.gov/sites/all/files/agweb/pdfs/privacy/dns-icon-study-report-052822020.pdf>
- [T2] **User Testing of the Proposed CCPA Do-Not-Sell Icon**
Lorrie Faith Cranor, Hana Habib, Yixin Zou, Alessandro Acquisti, Joel R. Reidenberg, Norman Sadeh, Florian Schaub
Report submitted to the Office of the California Attorney General. 2020.
<http://cups.cs.cmu.edu/pubs/CCPA2020Feb24.pdf>

- [T1] **Design and Evaluation of a Usable Icon and Tagline to Signal an Opt-Out of the Sale of Personal Information as Required by CCPA**
 Lorrie Faith Cranor, Hana Habib, Yixin Zou, Alessandro Acquisti, Joel R. Reidenberg, Norman Sadeh, Florian Schaub
 Report submitted to the Office of the California Attorney General. 2020.
<https://oag.ca.gov/sites/all/files/agweb/pdfs/privacy/ccpa-cranor.pdf>

Invited External Talks

- 2023 **Learning from the People: A Human-Centered Approach to Security and Privacy Research**
 Women in Security and Cryptography Workshop, Ruhr University Bochum (Jun 27)
- 2023 **Cross-Contextual Examination of Older Adults' Privacy Concerns, Behaviors, and Vulnerabilities**
 Security and Human Behavior Workshop, Carnegie Mellon University (Jun 15)
- 2022 **Consumer Reactions to Data Breaches, Deficiencies of Breach Notifications, and Opportunities for Intervention**
 Max Planck Institute for Security and Privacy, Human and Societal Aspects in Computing Interdisciplinary Symposium (Oct 26)
- 2022 **Improving People's Security and Privacy Behaviors**
 Northeastern University, Khoury College of Computer Sciences (Apr 8)
 North Carolina State University, Department of Computer Science (Mar 31)
 Virginia Tech, Department of Computer Science (Mar 29)
 New York University Shanghai, Department of Computer Science (Mar 25)
 Arizona State University, School of Computing and Augmented Intelligence (Mar 21)
 Penn State University, College of Information Sciences and Technology (Mar 17)
 Georgia Tech, School of Interactive Computing (Mar 15)
 CISPA – The Helmholtz Center for Information Security (Mar 9)
 University of Tennessee, School of Information Sciences (Mar 7)
 Max Planck Institute for Security and Privacy (Mar 1)
 University College London, Department of Computer Science (Feb 24)
 Drexel University, College of Computing & Informatics (Feb 22)
 University of Texas at Austin, School of Information (Feb 17)
 Duke University, Department of Computer Science (Feb 14)
 National University of Singapore Singapore, Department of Info Systems & Analytics (Feb 8)
- 2021 **Consumer Reactions to Data Breaches and Opportunities for Interventions**
 Capital-Area Colloquium on Trustworthy and Usable Security/Privacy (CACTUS/P) (Dec 14)
- 2021 **Improving People's Adoption of Protective Behaviors Against Security & Privacy Risks**
 The George Washington University, Usable Security and Privacy Lab (Dec 13)
- 2021 **Consumer Reactions to Data Breaches, Deficiencies of Breach Notifications, and Opportunities for Public Policy**
 The US Federal Trade Commission, Internal Seminar (Nov 3) [w/ Florian Schaub]

- 2021 **‘Now I’m a bit angry:’ Individuals’ Awareness, Perception, and Responses to Data Breaches that Affected Them**
Karlsruhe Institute of Technology, SECUSO Research Group (May 12) [w/ *Peter Mayer*]
- 2021 **Spyware and Digital Intimate Partner Abuse**
University of Michigan, Sexual Assault Prevention and Awareness Center (Mar 24) [w/ *Allison McDonald*]
- 2020 **Examining the Adoption and Abandonment of Security, Privacy, and Identity Theft Protection Practices**
The US Federal Trade Commission, PrivacyCon (Jul 21)
- 2019 **Lengthy, Vague, and Inactionable: Issues with Data Breach Notifications and Implications for Public Policy**
The US Federal Trade Commission, PrivacyCon (Jun 27)
- 2018 **Designing Effective and Actionable Data Breach Notices: Implications for Firefox Monitor**
Mozilla, Firefox Monitor team (Nov 6) [w/ *Florian Schaub*]

Teaching Experience

Graduate Student Instructor

- Fall 2019 **SI 501: Contextual Inquiry** | University of Michigan
Led two weekly discussion sections, held office hours, and graded assignments. Oversaw ten consulting projects with local clients led by master’s students.
4.8 (of 5.0) median rating (37 of 48 students).
- Fall 2018 **SI 110: Introduction to Information** | University of Michigan
Led two weekly discussion sections, held office hours, and graded assignments. Also gave a guest lecture on net neutrality and privacy.
4.5 (of 5.0) median rating (20 of 48 students).

Guest Lectures

- 2023 The Cornell, Maryland, Max Planck Pre-doctoral Research School | Saarbrücken, Germany
Human-Centered Security and Privacy (2 lectures)
- 2023 SE 17-702: Current Topics in Privacy Seminar | Carnegie Mellon University
“Do Notice and Choice Work? A Close Look at Data Breaches” (1 lecture)
- 2023 COMP 3/4732: Human-Centered Data Security and Privacy | University of Denver
“Security and Privacy of Marginalized Populations” (1 lecture)
- 2021 Law 741-004/SI 605-004: Identity Theft Causes & Countermeasures | University of Michigan
“Why most consumers do not take countermeasures against identity theft” (1 lecture)
- 2019 SI 110: Introduction to Information | University of Michigan
“Information and regulation: Net neutrality and privacy” (2 lectures)

Community-Facing Teaching and Outreach

2022 **Phone Classes with Older Adults**

Collaborated with [Clear Computing LLC](#) to deliver classes about smartphone use at the Glacier Hills Senior Living Community. Example topics include navigating accessibility settings, downloading apps and health portals, and using voice commands.

2021 **Online Self-Defense Workshops with Older Adults**

Organized and led a three-week workshop series in partnership with Ann Arbor Senior Center, Chelsea Senior Center, and Saline Senior Center to teach older adults common risks in technology use as well as tools and resources they can use to protect themselves.

Academic Advising & Mentoring

Ph.D. Students

Since 2023 Gabriel Camilo Lima

Research Interns / Visiting Scholars

2023 Princessa Cintagia (undergraduate, University of Indonesia)

2023 Johanna Gunawan (Ph.D. student, Northeastern University)

2023 Jackie Hu* (undergraduate, Brigham Young University)

2023 Smirity Kaushik (Ph.D. student, University of Illinois at Urbana-Champaign)

2023 Collins Munyendo* (Ph.D. student, George Washington University)

2023 Xinru Tang (Master's student, University of California Irvine)

* co-advised with Elissa Redmiles

Other Mentoring Activities

Since 2021 Symposium on Usable Privacy and Security (SOUPS) Mentoring Program

2023-2024 Women's Mentoring Program, University of Passau

As a Ph.D. Student/Postdoc at University of Michigan

2022 Annie Chen (undergraduate, University of Michigan)

2022 J.R. Robert Real (Master's student, University of Michigan)

2022 Sean Scarnecchia (undergraduate, University of Michigan)

2021-2022 Tanisha Afnan (Ph.D. student, University of Michigan) [C13]

2021-2022 Janet Chen (Ph.D. student, Cornell University) [C12]

2021-2022 Khue (Shay) Le (undergraduate, University of Michigan) [J4]

2018-2022 Kaiwen Sun (Master's → Ph.D. student, University of Michigan) [C4, J3, W8]

2021 Cami Goray (Ph.D. student, University of Michigan)

2021 Julia Narakornpichit (Master's student, Cornell Tech) [C11]

2021 Carlo Sugatan (Master's student, University of Michigan)

2019-2020 Michael Ni (undergraduate, University of Michigan)

2019-2020 Jamie Lai (undergraduate, University of Michigan)

2018 Aditi Jannu (Master's student, Carnegie Mellon University) [C5]

2018 Chelse Swoopes (Master's student, Carnegie Mellon University) [C5]

2018 Shawn Danino (Master's student, University of Michigan) [C4]

2018 Austin McCall (undergraduate, University of Michigan) [C4]

Service

Program Committee Chair

2023 Workshop on Usable Security and Privacy (USEC): Co-Chair with Jacob Abbott

Program Committee Member / Associate Chair / Editorial Board Member

2024 ACM Conference on Human Factors in Computing Systems (CHI): Privacy & Security Track
2023, 2024 USENIX Security Symposium
2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT)
2023 ACM Conference on Computer and Communications Security (CCS)
2023 Proceedings on Privacy Enhancing Technologies (PoPETs)
2022 International Symposium on Research in Attacks, Intrusions and Defenses (RAID)
2021 European Symposium on Usable Security (EuroUSEC)
2021 ACM CSCW: Posters
2020, 2021 ACM CHI Late Breaking Work
2020 IEEE PerCom Workshop on Context Systems Design, Evaluation and Optimization

Other Conference Organizing and Volunteering

2023 Privacy Enhancing Technologies Symposium (PETS): Session Chair; BoFs Co-Chair
2022, 2023 Symposium on Usable Privacy and Security (SOUPS): Publicity Co-Chair
2021 Symposium on Usable Privacy and Security (SOUPS): Posters Junior Co-Chair

External Reviewer

ACM Conference on Human Factors in Computing Systems (CHI)
ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)
ACM Conference on Designing Interactive Systems (DIS)
ACM Transactions on Computer-Human Interaction (TOCHI)
Behaviour & Information Technology
IEEE Transactions on Dependable and Secure Computing
International Journal of Human-Computer Interaction (IJHCI)
International Journal of Human-Computer Studies (IJHCS)
Journal of Cybersecurity
Journal of the Association for Information Science and Technology (JASIST)
Proceedings on Privacy Enhancing Technologies (PoPETs)

Internal Service

2023 CS@Max Planck Doctoral Program: Admission Committee
2023 Maryland Max Planck Ph.D. Program in Computer Science: Admission Committee
2023 CS@Max Planck Internship Program: Selection Committee Core Member
2020, 2022 Privacy@Michigan Privacy Day Symposium: Co-organizer & Volunteer
2021 Michigan Interactive and Social Computing Speaker Series: Student Coordinator
2019, 2020 University of Michigan Undergraduate Research Opportunity Program: Mentor

Media Coverage

- 2021 **Quoted by WXYZ**
TV interview with WXYZ (Detroit ABC affiliate) on the dangers of data breaches and findings from our USENIX Security 2021 paper. Jul 2021.
- 2021 **California Attorney General adopts Privacy Options icon into CCPA**
The Privacy Options icon we designed in a CHI 2021 paper has been adopted into the official CCPA regulations through [an amendment](#). Reported on by [IAPP](#) and [JD Supra](#). Mar 2021.
- 2020 **Article on data breach notification research**
Chicago Policy Review reported on our research in “[Data Breach Notifications Are Too Complex](#).” Sep 2020.
- 2020 **Quoted by CIO Dive**
Quoted on potential changes of online safety practices during the COVID-19 pandemic in CIO Dive article “[The Remote Playbook](#).” Apr 2020.
- 2018 **The Equifax data breach study and implications for credit freezes**
[New York Times](#) and [Detroit Free Press](#) quoted our SOUPS 2018 paper in discussing the importance of credit freezes. The Detroit Free Press article was picked up by the Associated Press and subsequently appeared in over 80 regional and local media outlets. Sep 2018.

Op-Eds

- 2021 **An open letter to the U-M community**
Co-wrote an op-ed on [Michigan Daily](#) (w/ Heeryung Choi, Jane Im, and Cindy Lin) on anti-Asian racism in the United States and in academia. Apr 2021.