# Yixin Zou

| **Address** | 105 S State St | **Mobile Phone** | +1 (773)818-7109 |
| | Ann Arbor, MI 48109, USA | **Email** | yixinz@umich.edu |

## Research Interest

My research interests span privacy, security, and human-computer interaction. My dissertation focuses on understanding and improving people's adoption of protective behaviors in the face of privacy and security threats, e.g., in reacting to data breaches or exercising privacy choices on websites. I am also interested in understanding the privacy risks and needs of exposure-sensitive populations, such as survivors of intimate partner violence and older adults. I am a mixed-method researcher, with the most experience in survey, experiment, interview and focus group.

## Education

| **2022 (expected)** | **Ph.D. in Information** <br> Thesis title: Understanding and Improving People's Adoption of Privacy Protective Behaviors <br> Committee members: Florian Schaub (chair), Alessandro Acquisti, Denise Anthony, Tawanna Dillahunt | **University of Michigan** <br> Ann Arbor, MI, USA |
| --- | --- | --- |
| **2017** | **B.S. in Advertising** <br> Graduated with the Highest Honor (top 5% in College of Media) | **University of Illinois at Urbana-Champaign** <br> Urbana, IL, USA |

## Honors and Awards

[H9] **Finalist, Facebook Fellowship | Facebook**
Among the top 3.5% of about 2,100 applicants worldwide. 2021.

[H8] **Privacy Papers for Policymakers Award, Student Paper Honorable Mention | Future of Privacy Forum**
*"It's a scavenger hunt": Usability of Websites' Opt-Out and Data Deletion Choices*, with H. Habib, S. Pearman, J. Wang, A. Acquisti, L. Cranor, N. Sadeh and F. Schaub. 2021.

[H7] **Best Paper Honorable Mention | CHI '20: ACM Conference on Human Factors in Computing Systems**
*Examining the Adoption and Abandonment of Security, Privacy, and Identity Theft Protection Practices*, with K. Roundy, A. Tamersoy, S. Shintre, J. Roturier and F. Schaub. 2020.

[H6] **Finalist, Facebook Fellowship | Facebook**
Among the top 4% of about 1,800 applicants worldwide. 2020.

[H5] **Field Prelim Milestone Distinction | University of Michigan School of Information**
Awarded for my prelim paper *Human Perception and Behavior In the Face of Privacy Risks*. The award is given to top 10% of students in this endeavor. 2019.

[H4] **NortonLifeLock Research Group Graduate Fellowship | NortonLifeLock**
Awarded $20,000 for the academic year 2019-2020. One of the three recipients selected worldwide.

[H3] **Best Paper Honorable Mention | CHI '19: ACM Conference on Human Factors in Computing Systems**
*Putting Your Warning Where Your Link Is: Improving and Evaluating Email Phishing Warnings*, with J. Petelka and F. Schaub. 2019.

[H2] **Distinguished Paper Award | SOUPS '18: Symposium on Usable Privacy and Security**
*"I've Got Nothing to Lose": Consumers' Risk Perceptions and Protective Actions after the Equifax Data Breach*, with A. H. Mhaidli, A. McCall, and F. Schaub. 2018.

[H1] **Pre-candidacy Milestone Distinction | University of Michigan School of Information**
Awarded for my prelim paper *"I've Got Nothing to Lose": Consumers' Risk Perceptions and Protective Actions after the Equifax Data Breach*. The award is given to top 10% of students in this endeavor. 2018.

## Grants

[G4] **SIGCHI Student Travel Grant**, ACM SIGCHI, $1,800, 2019.

[G3] **SOUPS Student Grant**, USENIX, $695, 2018.

[G2] **UMSI PhD Travel Grant**, University of Michigan School of Information, $1,000, 2018-2019.

[G1] **Rackham Conference Travel Grant**, University of Michigan Rackham Graduate School, $1,000, 2018.

## Publications

(* indicates these authors contributed equally to the paper.)

### Journal & Magazine Publications

[J2] **Listen Only When Spoken To: Interpersonal Communication Cues as Smart Speaker Privacy Controls**
Mhaidli, A. H., Venkatesh, M., Zou, Y., & Schaub, F. 2020. *Proceedings on Privacy Enhancing Technologies (PoPETs)*, 2020(2), 251–270.
Acceptance rate: 26.8%.

[J1] **Beyond Mandatory: Making Data Breach Notifications Useful for Consumers**
Zou, Y., & Schaub, F. 2019. *IEEE Security & Privacy*, 17(2), 67-72.
Invited paper.

### Conference Publications

[C11] **The Role of Computer Security Customer Support in Helping Survivors of Intimate Partner Violence**
Zou, Y., McDonald, A., Narakornpichit, J., Dell, N., Ristenpart, T., Roundy, K., Schaub, F. & Tamersoy, A. *USENIX Security Symposium*, USENIX Association, 2021.
Acceptance Rate: TBD.

[C10] **"Now I'm a bit angry:" Individuals' Awareness, Perception, and Responses to Data Breaches that Affected Them**
Mayer, P.*, Zou, Y.*, Schaub, F. & Aviv, A. *USENIX Security Symposium*, USENIX Association, 2021.
Acceptance Rate: TBD.

[C9] **Toggles, Dollar Signs, and Triangles: How to (In)Effectively Convey Privacy Choices with Icons and Link Texts**
Habib, H.\*, Zou, Y.\*, Yao, Y., Acquisti, A., Cranor, L. F., Reidenberg, J., Sadeh, N., & Schaub, F. *Conference on Human Factors in Computing Systems (CHI)*, ACM, 2021. **[Icon recommendation adopted by the CCPA amendments]**
Acceptance Rate: 26.3%.

[C8] **Examining the Adoption and Abandonment of Security, Privacy, and Identity Theft Protection Practices**
Zou, Y., Roundy, K., Tamersoy, A., Shintre, S., Roturier, J., & Schaub, F. *Conference on Human Factors in Computing Systems (CHI)*, ACM, 2020. **[CHI Best Paper Honorable Mention] [Also presented at FTC PrivacyCon 2020]**
Acceptance Rate: 24.3%.

[C7] **"It's a scavenger hunt": Usability of Websites' Opt-Out and Data Deletion Choices**
Habib, H., Pearman, S., Wang, J., Zou, Y., Acquisti, A., Cranor, L. F., Sadeh, N., & Schaub, F. *ACM Conference on Human Factors in Computing Systems (CHI)*, ACM, 2020. **[FPF Privacy Papers for Policymakers Award, Student Paper Honorable Mention] [Cited in the CCPA rulemaking]**
Acceptance Rate: 24.3%.

[C6] **An Empirical Analysis of Data Deletion and Opt-Out Choices on 150 Websites**
Habib, H., Zou, Y., Jannu, A., Sridhar, N., Swoopes, C., Acquisti, A., Cranor, L. F., Sadeh, N., & Schaub, F. *Symposium on Usable Privacy and Security (SOUPS)*, USENIX Association, 2019. **[Also presented at FTC PrivacyCon 2020] [Cited in the CCPA rulemaking]**
Acceptance Rate: 22.7%.

[C5] **"We Can't Live Without them!" App Developers' Adoption of Ad Networks and Their Considerations of Consumer Risks**
Mhaidli, A. H., Zou, Y., & Schaub, F. *Symposium on Usable Privacy and Security (SOUPS)*, USENIX Association, 2019.
Acceptance Rate: 22.7%.

[C4] **You 'Might' Be Affected: An Empirical Analysis of Readability and Usability Issues in Data Breach Notifications**
Zou, Y., Danino, S., Sun, K., & Schaub, F. *Conference on Human Factors in Computing Systems (CHI)*, ACM, 2019. **[Also presented at FTC PrivacyCon 2019]**
Acceptance Rate: 23.8%.

[C3] **Put Your Warning Where Your Link Is: Improving and Evaluating Email Phishing Warnings**
Petelka, J., Zou, Y., & Schaub, F. *Conference on Human Factors in Computing Systems (CHI)*, ACM, 2019. **[CHI Best Paper Honorable Mention]**
Acceptance Rate: 23.8%.

[C2] **"I've Got Nothing to Lose": Consumers' Risk Perceptions and Protective Actions after the Equifax Data Breach**
Zou, Y., Mhaidli, A. H., McCall, A., & Schaub, F. *Symposium on Usable Privacy and Security (SOUPS)*, USENIX Association, 2018. **[SOUPS Distinguished Paper Award]**
Acceptance Rate: 22.8%.

[C1] **Users' Attitudes towards the "Going Dark" Debate**
Addawood, A., Zou, Y., & Bashir, M. 2017. *Proceedings of the International Conference on Applied Human Factors and Ergonomics (AHFE)*.
Acceptance rate: n/a.

## Highly-Reviewed Workshop and Non-Proceedings Conference Publications

[W5] **An Empirical Analysis of Online Consent and Opt-Out Experiences**

Habib, H., Zou, Y., Jannu, A., Swoopes, C., Cranor, L. F., & Schaub, F. *Privacy Law Scholars Conference (PLSC)*, 2018.

[W4] **Concern But No Action: Consumers' Reactions to the Equifax Data Breach**

Zou, Y. & Schaub, F. *Conference on Human Factors in Computing Systems (CHI) Late Breaking Work*, ACM, 2018.

[W3] **An Empirical Analysis of Website Data Deletion and Opt-Out Choices**

Habib, H., Zou, Y., Jannu, A., Swoopes, C., Acquisti, A., Cranor, L. F., Sadeh, N., & Schaub, F. *Conference on Human Factors in Computing Systems (CHI) Workshop: The General Data Protection Regulation, an opportunity for the HCI Community*, ACM, 2018.

[W2] **Really Being There?: Telepresence in Virtual Reality Branded Content**

Shen, J., Stenger, M., Lechowicz J., Chen C., Yang, R., Sivasankaran, A., Wang Y., Zhang, J., Zou, Y., Katz, H., & Nelson M. R. *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**

Yao, M., Zou, Y., Linz, D., & Jaoude, P. *Annual Conference of International Communication Association (ICA)*, 2017.

## Technical Reports

[TR3] **CCPA Opt-Out Icon Testing – Phase 2**

Cranor, L., Habib, H., Yao, Y., Zou, Y., Acquisti, A., Reidenberg, J., Sadeh, N., & Schaub, F. Report submitted to the California Office of the Attorney General to support the preliminary rulemaking of the California Consumer Privacy Act (CCPA), 2020.

[TR2] **User Testing of the Proposed CCPA Do-Not-Sell Icon**

Cranor, L., Habib, H., Zou, Y., Acquisti, A., Reidenberg, J., Sadeh, N., & Schaub, F. Report submitted to the California Office of the Attorney General to support the preliminary rulemaking of the California Consumer Privacy Act (CCPA), 2020.

[TR1] **Design and Evaluation of a Usable Icon and Tagline to Signal an Opt-Out of the Sale of Personal Information as Required by CCPA**

Cranor, L., Habib, H., Zou, Y., Acquisti, A., Reidenberg, J., Sadeh, N., & Schaub, F. Report submitted to the California Office of the Attorney General to support the preliminary rulemaking of the California Consumer Privacy Act (CCPA), 2020.

# Employment

**06/2020- Facebook Privacy & Data Use Team**, remote.
**08/2020** User Experience Researcher Intern.

- Conducted a content analysis of internal databases to surface the core privacy-related data practices at Facebook.

- Planned and led 1:1 qualitative interviews with Facebook users on the alignment and misalignment between company practices and user expectations.

- Worked closely with other researchers, product teams, and data scientists to define research questions and communicate insights.

| 05/2019- | **NortonLifeLock Research Group** (formerly Symantec Research Labs), Culver City, CA. |
| 08/2019 | Research Intern. |

- Conducted an online survey to examine the adoption and abandonment of recommended practices for security, privacy, and identity theft protection.

- Planned, organized, and ran focus groups to understand how customer support at security companies and spyware notifications could be improved to serve the need of intimate partner abuse victims.

| 01/2019- | **Mozilla Corporation**, remote. |
| 04/2019 | User Experience Researcher Intern. |

- Ran usability testings on wireframe prototypes for Firefox Monitor, a data breach notification service. Insights were integrated to the product's new site to refine risk communications and design. (More details in this blog post)

- Conducted an online experiment to investigate how content and format impact users' decision to react to data breach notifications.

# Invited Talks

[T11] **"Now I'm a bit angry:" Individuals' Awareness, Perception, and Responses to Data Breaches that Affected Them**
SECUSO Research Group, Karlsruhe Institute of Technology; online; May 2021.

[T10] **Toggles, Dollar Signs, and Triangles: How to (In)Effectively Convey Privacy Choices with Icons and Link Texts**
ACM Conference on Human Factors in Computing Systems (CHI); online; May 2021.

[T9] **"Now I'm a bit angry:" Individuals' Awareness, Perception, and Responses to Data Breaches that Affected Them**
Usable Security and Privacy Lab, the George Washington University; online; April 2021.

[T8] **Spyware and Digital Intimate Partner Abuse**
Sexual Assault Prevention and Awareness Center, University of Michigan; online; March 2021.

[T7] **Examining the Adoption and Abandonment of Security, Privacy, and Identity Theft Protection Practices**
The Federal Trade Commission's annual PrivacyCon; online; July 2020.

[T6] **Panelist: Social Implications of Data Privacy**
Tech for Social Good, University of Michigan; Ann Arbor, MI, USA; March 2020. [Cancelled due to COVID-19]

[T5] **An Empirical Analysis of Data Deletion and Opt-Out Choices on 150 Websites**
Symposium on Usable Privacy and Security (SOUPS); Santa Clara, CA, USA; August 2019.

[T4] **Lengthy, Vague, and Inactionable: Issues with Data Breach Notifications and Implications for Public Policy**
The Federal Trade Commission's annual PrivacyCon; Washington D.C., USA; June 2019.

[T3] **An Empirical Analysis of Readability and Usability Issues in Data Breach Notifications**
ACM Conference on Human Factors in Computing Systems (CHI); Glasgow, UK; May 2019.

[T2]   **Designing Effective and Actionable Data Breach Notices: Implications for Firefox Monitor**
Firefox Monitor team, Mozilla; online; November 2018.

[T1]   **"I've Got Nothing to Lose": Consumers' Risk Perceptions and Protective Actions after the Equifax Data Breach**
Symposium on Usable Privacy and Security (SOUPS); Baltimore, MD, USA; August 2018.


## Media Coverage and Op-eds

[P5]   **An open letter to the U-M community | April 2021**
Co-wrote an op-ed on Michigan Daily with Heeryung Choi, Jane Im, and Cindy Lin about anti-Asian racism in the United States and in academia.

[P4]   **Data Breach Notifications Are Too Complex | September 2020**
The Chicago Policy Review covered key findings from our CHI 2019 paper on issues with data breach notifications.

[P3]   **The Remote Playbook: Logged on at home, employees are an attacker's dream | April 2020**
Quoted by CIO Dive on potential changes in online safety practices for remote workers.

[P2]   **Freezing Credit Will Now Be Free. Here's Why You Should Go for It. | September 2018**
A New York Times article quoted our SOUPS 2018 paper as supporting evidence for why credit freezes should be free.

[P1]   **Credit freeze: A Misunderstood Freebie That You Actually Want | September 2018**
Interviewed by the Detroit Free Press on why consumers should take action to protect themselves after the Equifax data breach. The article was reprinted by over 80 regional and local media outlets.


## Undergraduate/Master Student Research Advising

| Year | Name | Placement |
| --- | --- | --- |
| 2019-2021 | Michael Ni (CSE Undergrad) | - |
| 2019-2020 | Jamie Lai (SI Undergrad) | UX Designer, IBM |
| 2018 | Kaiwen Sun (SI Master) | Ph.D. student, University of Michigan |
| 2018 | Shawn Danino (SI Master) | Policy Research Lead, Building Matters Ann Arbor |
| 2018 | Austin McCall (SI Undergrad) | Advisory Consultant, Deloitte |


## Teaching Experience

### Graduate Student Instructor

| **SI 501** | **Contextual Inquiry**, *University of Michigan* | **Fall 2019** |
| --- | --- | --- |
| | Graduate course in MS Information program | |
| | Primary instructor: Kentaro Toyama | |
| | 4.8 / 5.0 median rating (37 of 48 students) | |

| **SI 110** | **Introduction to Information**, *University of Michigan* | **Fall 2018** |
| --- | --- | --- |
| | Prerequisite course for BS Information program | |
| | Primary instructor: Chris Teplovs | |
| | 4.4 / 5.0 median rating (20 of 48 students) | |

# Service

## External

Program Committee:

- ACM Conference on Human Factors in Computing Systems (CHI) Late Breaking Works: 2020, 2021
- IEEE PerCom Workshop on Context Systems Design, Evaluation and Optimization (CoSDEO): 2020

Conference Organizing:

- Symposium on Usable Privacy and Security (SOUPS) *Poster Junior Co-Chair*: 2021

Invited External Reviewer:

- ACM Conference on Human Factors in Computing Systems (CHI): 2020, 2021
- ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW): 2020, 2021
- ACM Conference on Designing Interactive Systems (DIS): 2020
- International Journal of Human-Computer Interaction (IJHCI): 2020
- Journal of the Association for Information Science and Technology (JASIST): 2020
- Proceedings on Privacy Enhancing Technologies (PoPETs): 2020, 2021

## University and Department

Mentoring:

- Undergraduate Research Opportunity Program: 2019-2020
- UMSI Peer Mentorship Program: since 2018
- Invited speaker for UMSI student panels: 2020-2021 (example topics: finding summer internships, completing milestones, and navigating advisor relationships)

Organizing:

- Michigan Interactive and Social Computing (MISC) student coordinator: 2021
- University of Michigan Privacy Day: 2020
- University of Michigan Dissonance Event Series: since 2019

# Skills

| | |
|---|---|
| **Quantitative Methods** | Survey, Experiment, Log analysis |
| **Qualitative Methods** | Interview, Focus group, Participatory design, Usability testing, Content analysis |
| **Statistical Analysis** | R, SPSS, Microsoft Excel |
| **Survey Design** | Qualtrics, SurveyGizmo |
| **Qualitative Coding** | ATLAS.ti, NVivo |
| **Programming Languages** | Python, JavaScript, HTML, CSS |
| **Languages** | Mandarin (native), English (full proficiency) |