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University of Michigan, Ann Arbor School of Information & Department of Computer Science and Engineering

#### **Research Interests**

I design and build social computing systems (e.g., social media, workplace software) that are grounded in affirmative consent, an idea that a person or a system must ask for, and earn, enthusiastic approval before interacting with an individual. Existing social platforms enable or exacerbate two classes of problems that negatively impact society: 1) interpersonal harm people cause one another, such as online harassment, and 2) institutional exploitation of users, such as companies' invasive data tracking of users. Both are closely related to people's consent (e.g., "Do I decide to interact with this user?", "Do I opt into tracking for targeted ads?"). Thus, consent is an important concept to define when it comes to software design. In particular, it is critical to define it in a way so that the consent boundaries of even the most marginalized groups are protected. My research provides theoretical ideas about defining affirmative consent and encoding it into social software by drawing from feminist literature. Based on the ideas, I build socio-technical systems to enable consentful interactions—especially in high-risk contexts, such as when abuse of power exists in organizations. Furthermore, because there is a huge power imbalance between companies and users, I design privacy interfaces to give users more agency. I am also interested in investigating how users perceive social media's business models—which are a basis for companies' power over users.

#### Education

## University of Michigan, Ann Arbor, MI

Sept. 2018 - present

Ph.D. in Information & Computer Science and Engineering (enrolled in both via U-M's SIDP)

Thesis: Social Computing Systems Grounded in Consent (passed proposal)

Advisor: Kentaro Toyama

Committee: Kentaro Toyama (Chair), Emily Mower Provost, Mark S. Ackerman, Amy J. Ko

#### Korea University, Seoul, Republic of Korea

Mar. 2013 - Aug. 2018

B.B.A. in Business Administration

B.S. in Computer Science and Engineering

## **Industry Employment**

Meta, Menlo Park, CA (remote)

Jun. 2021 - Aug. 2021

May 2020 - Aug. 2020

User Experience Research Intern for Facebook with Scarlett Sheng

#### Sassafras Tech Collective, Ann Arbor, MI (remote)

Software Development & Research Intern with Jill Dimond

Airbnb, San Francisco, CA

Research Intern Recipient 2020; deferred due to COVID

## Awards and Recognitions

## **EECS Rising Stars**

2023

Organized by Georgia Tech. 101 were selected to attend out of 290 applicants.

#### Meta PhD Research Fellowship

2023 - 2025

21 fellows were selected out of 3,200 applications. Receives a full coverage of tuition and university fees for two academic years, as well as a \$42,000 stipend. (Selected on my fourth try—I started applying from my second year.)

#### Finalist for CSE Graduate Student Honors Competition

2022

Recognizes "top research done by PhD students" at CSE. One of the five finalists of the last round. Awarded \$600.

## **Barbour Scholarship**

2022 - 2023

Among the oldest and most prestigious awards granted by the University of Michigan, offering one year of funding to female students from Asia and the Middle East since 1917. Covers stipend of \$36,084 and tuition.

Finalist for Meta PhD Research Fellowship	2022
ACM CHI Best Paper Honorable Mention Award	2021
ACM WebSci Best Paper Runner Up Award	2020
SK Telecom Big Data Analytics Competition 3rd Prize	2015
Korea University Honor Scholarships	Spring & Fall 2014, Fall 2015

#### **Publications**

Select Conference Proceedings, Journals, and Semi-Archival Posters

[p1] Jane Im, Kentaro Toyama. Understanding How to Design a Social Computing System that Helps PhD Students Collectively Navigate Mistreatment or Abuse in Advising Relationships. *Extended Abstracts of ACM Conference on Human Factors in Computing Systems (CHI EA 2024). Forthcoming.* 

[c1] Jane Im, Ruiyi Wang, Weikun Lyu, Nick Cook, Hana Habib, Lorrie Cranor, Nikola Banovic, Florian Schaub. Less is Not More: Improving Findability and Actionability of Privacy Controls for Online Behavioral Advertising. *ACM Conference on Human Factors in Computing Systems (CHI 2023)*. Coverage: The Wall Street Journal [link]

[c2] Jane Im, Jill Dimond, Melody Berton, Una Lee, Katherine Mustelier, Mark Ackerman, Eric Gilbert. Yes: Affirmative Consent as a Theoretical Framework for Understanding and Imagining Social Platforms. *ACM Conference on Human Factors in Computing Systems* (CHI 2021). Best Paper Honorable Mention Award [link] [project website]

#### Other Conference Proceedings and Journals

[c3] Sumit Asthana, Jane Im, Zhe Chen, Nikola Banovic. "I know even if you don't tell me": Understanding Users' Privacy Preferences Regarding AI-based Inferences of Sensitive Information for Personalization. ACM Conference on Human Factors in Computing Systems (CHI 2024). Forthcoming.

[c4] Shubham Atreja, Jane Im, Paul Resnick, Libby Hemphill. AppealMod: Shifting Effort from Moderators to Users Making Appeals. ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2024). Forthcoming.

[c5] Paul Resnick, Aljohara Alfayez, Jane Im, Eric Gilbert. Searching For or Reviewing Evidence Improves Crowdworkers' Misinformation Judgments and Reduces Partisan Bias. ACM Collective Intelligence (CI 2023). [link]

[c6] Lia Bozarth, Jane Im, Christopher Quarles, Ceren Budak. Wisdom of Two Crowds: Current Practices of Misinformation Moderation on Reddit and How to Improve this Process—A Case Study of COVID-19. ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2023). [link]

[c7] Jane Im, Sarita Schoenebeck, Marilyn Iriarte, Gabriel Grill, Daricia Wilkinson, Amna Batool, Rahaf Alharbi, Audrey N. Funwie, Tergel Gankhuu, Eric Gilbert, Mustafa Naseem. Women's Perspectives on Harm and Justice after Online Harassment. ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2022). [link]

[c8] Hariharan Subramonyam, Jane Im, Colleen Seifert, Eytan Adar. Solving Separation-of-Concerns Problems in Collaborative Design of Human-AI Systems through Leaky Abstractions. ACM Conference on Human Factors in Computing Systems (CHI 2022). [link]

[c9] Jane Im, Eshwar Chandrasekharan, Jackson Sargent, Paige Lighthammer, Taylor Denby, Ankit Bhargava, Libby Hemphill, David Jurgens, Eric Gilbert. Still Out There: Modeling and Identifying Russian Troll Accounts on Twitter. ACM Conference on Web Science (WebSci 2020). Best Paper Runner Up Award [link]

[c10] Jane Im, Sonali Tandon, Eshwar Chandrasekharan, Taylor Denby, Eric Gilbert. Synthesized Social Signals: Computationally-Derived Social Signals from Account Histories. ACM Conference on Human Factors in Computing Systems (CHI 2020). [link]

[c11] Jane Im, Amy X. Zhang, Christopher J. Schlling, David Karger. Deliberation and Resolution on Wikipedia: A Case Study of Request for Comments. *ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2018)*. [link]

[c12] Jane Im, Paul Medlock-Walton, Mike Tissenbaum. App Inventor VR Editor for Computational Thinking. Computational Thinking in Education Conference (CTE 2017). [link]

#### **Organized Panels**

[01] Jane Im, Himanshu Zade, Steve Oney, Pamela Wisniewski, Kentaro Toyama. Improving Advising Relationships Between PhD Students and Faculty in Human-Computer Interaction. *Extended Abstracts of ACM Conference on Human Factors in Computing Systems (CHI EA 2024)*. Honolulu, HI. May 2024.

[02] Douglas Zytko, Jane Im, Jonathan Zong. Consent: A Research and Design Lens for Human-Computer Interaction. *Computer Supported Cooperative Work and Social Computing (CSCW'22 Companion)*. Virtual. November 2022.

#### Other Posters

[p2] Annie Chen, Sean Scarnecchia, **Jane Im**, Tanisha Afnan, Byron M. Lowens, Florian Schaub. FB Privacy Helper: A Browser Extension That Simplifies Facebook Ad Privacy Settings. *Symposium on Usable Privacy and Security*. Anaheim, CA. August 2023.

[p3] Jane Im, Nikola Banovic, Florian Schaub. Designing and Building Social Platforms Grounded in Consent. *Trust & Safety Research Conference*. Stanford, CA. September 2022.

#### Select Workshop Papers

[w1] Jane Im, Jeeyoon Hyun, Jill Dimond, Melody Berton, Eric Gilbert. Building Social Platforms around Affirmative Consent. Moving Forward Together: Effective Activism For Change Workshop at ACM Conference on Human Factors in Computing Systems (CHI 2020). Honolulu, HI. April 2020.

[w2] Jane Im. Non-consensual Images & Videos and Consent in Social Media. Sensitive Research, Practice, and Design in HCI Workshop at ACM Conference on Human Factors in Computing Systems (CHI 2019). Glasgow, UK. May 2019.

## Media Publication

[m1] Heeryung Choi, Jane Im, Cindy Lin, Yixin Zou. An open letter to the U-M community. *The Michigan Daily*. [link]

## Select Research Experience

## University of Michigan

PhD Research

Sept. 2018 - present

- Currently designing and researching social computing systems that give users more agency and protect people's consent boundaries in user-to-system and user-to-user interactions [c1, p1].
- Using social science theories, system-building, interviews, and surveys, uncovered how lack of consent lead to a wide range of problems on social media, with users wanting fine-grained privacy and safety tools [c2, c10].

Meta (Facebook)

Jun. 2021 - Aug. 2021

User Experience Research Intern, advised by Scarlett Sheng, Rui Yang & Ayesha Zafar

• Impacted Meta's privacy strategy by doing foundational mixed-method research to understand users' perception of consent in the context of online behavioral advertising and App Tracking Transparency. Quantitatively analyzed existing survey data to understand Facebook advertisers' goals.

Sassafras Tech Collective May 2020 - Aug. 2020

• Built and conducted (remote) usability testing of a moderation system. Based on the usability testing results, designed mockups and further developed the moderation system.

## Haystack Group, MIT

Apr. 2017 - Apr. 2018

Undergraduate Research, advised by Amy X. Zhang and David Karger

• Investigated how various factors affect the outcome of Request for Comments (RfC), a deliberative discussion on Wikipedia, by using mixed methods: 1) interviewing Wikipedia editors and 2) creating and quantitatively analyzing an English RfC dataset [c11].

#### MIT App Inventor, MIT

Oct. 2016 - May 2017

Undergraduate Research, advised by Paul Medlock-Walton and Hal Abelson

• Enabled novice programmers to create modular code in the App Inventor, by developing customized blocks within the system that can execute any functions of an imported API. Implemented virtual reality (VR) blocks in the App Inventor to help novice users build VR apps [c12].

#### Soft Active Materials Lab, MIT

Sept. 2016 - Feb. 2017

Undergraduate Research, advised by Hyunwoo Yuk

• Developed 3D printing based soft robotic hands with stand-alone actuation and control system. Implemented the software interface for precise 3D printing for advanced soft materials.

#### **Invited Talks and Panels**

PrivacyCon 2024, Federal Trade Commission Less is Not More: Improving Findability and Actionability of Privacy Controls for Online Behavioral Advertising	Mar. 2024
Professor Hyejin Youn's group, Kellogg School of Management at Northwestern University Consent and Consensus on Social Computing Systems	Feb. 2024
Faculty Media Skills: Ask the Experts, University of Michigan School of Information <i>Invited to talk about my experience interacting with the media as a PhD student (panel discussion).</i>	Feb. 2024
Cornell Information Science PhD Seminar, Cornell University  Affirmative Consent and Power Dynamics as Lenses for Designing Social Computing Systems	Nov. 2023
Radical Futures for Social Media, Yale Law School's Social Media Governance Initiative Interface Designs and Business Models for Safer Social Platforms (panel presentation)	Mar. 2023
GermSyllabus talk series, Germ Network  Affirmative Consent in Platform Design	Nov. 2022
Expertise@Scale Lab, Carnegie Mellon University  Designing and Building Social Platforms Grounded in Consent	Mar. 2022
DUB Shorts Seminar, University of Washington Yes: Affirmative Consent as a Theoretical Framework for Understanding and Imagining Social Platforms	Aug. 2021
MetaGov Seminar, Metagovernance Project Reimagining and Building Social Platforms Grounded in Consent	Apr. 2021
HCI Seminar, Seoul National University Reimagining and Building Social Platforms Grounded in Consent	Jan. 2021
Wikimedia Showcase, Wikimedia Foundation Deliberation and Resolution on Wikipedia: A Case Study of Requests for Comments	Sept. 2018
IAR Seminar, University of Michigan School of Information Deliberation and Resolution on Wikipedia: A Case Study of Requests for Comments	Sept. 2018

## Select Workshop and Consortium Participation

Accelerating Independent Research on Prosocial Digital Interventions

Nov. 2023

Google Jigsaw and Prosocial Design Netowrk. Invited on behalf of Shubham Atreja, who could not make it.

**Human-Computer Interaction Consortium** 

Jun. 2023

Selected as one of the two funded students from University of Michigan to participate.

Preparing Future Faculty Seminar

May 2023

Rackham Graduate School & Center for Research on Learning and Teaching

Social Media Governance Initiative Spring 2023 Convening: Beyond Moderation *Yale Law School's Social Media Governance Initiative. Invited for a panel talk.* 

Mar. 2023

## **Invited Guest Lectures**

SE 17702 Current Topics in Privacy Seminar, Carnegie Mellon University

Less is Not More: Improving Findability and Actionability of Privacy Controls for Online Behavioral Advertising

Mar. 2023

CS 598 Antisocial Computing Guest Lecture, University of Illinois at Urbana-Champaign Building Social Platforms Grounded in Consent

Oct. 2020

EECS 598 Human-Computer Interaction Guest Presentation, University of Michigan Synthesized Social Signals: Computationally-Derived Social Signals from Account Histories

Apr. 2020

#### **Press**

(Quoted in) How to Make It Easier for Consumers to Control the Ads They See Online. The Wall Street Journal. Suman Bhattacharyya. Sept. 27, 2023. [link]

2022 CSE Graduate Student Honors Competition highlights outstanding research. University of Michigan CSE News. Nov 10, 2022. [link]

(Quoted in) Privacy by Design laws will kill your data pipelines. Protocol. Hirsh Chitkara. May 16, 2022. [link]

Predictive Model Identifies Wikipedia Arguments that Will Never Get Resolved. Campus Technology. Dian Schaffhauser. Nov. 27, 2018. [link]

A Third of Wikipedia Discussions Are Stuck in Forever Beefs. Vice Motherboard. Samantha Cole. Nov. 7, 2018. [link]

## **Teaching Experience**

## SI 539: Web Design, Development, and Accessibility, University of Michigan Graduate Student Instructor

Winter 2020

• A graduate course providing hands-on approach to learning responsive, accessible front-end programming for Web Design. Topics covered include HTML5, CSS3 (including Bootstrap framework), JavaScript, and the POUR design principles of accessible design. Led 2 discussion sections per week.

## SI 339: Web Design, Development, and Accessibility, University of Michigan

Fall 2019

Graduate Student Instructor

• An undergraduate version of the course above.

## **Academic Mentoring**

I listed the next positions of students for whom I helped faculty write a letter of recommendation (these students tend to have been interested in Masters/PhD programs; just noting this as other students have also been amazing). If you are a student who feels uncomfortable having your name included for whatever reason, please let me know. I will completely understand. Also, I have informally mentored some other students by consistently giving them high-level advice on research and career.

Paige Lighthammer, University of Michigan Nuclear Engineering (Undergraduate) [c9]	Sept. 2018 - Apr. 2019	
Jackson Sargent, University of Michigan CSE (Undergraduate) [c9]	Sept. 2018 - Apr. 2019	
Ankit Bhargava, University of Michigan CSE (Undergraduate) [c9]	Sept. 2018 - Apr. 2019	
Taylor Denby, University of Michigan Cognitive Science (Undergraduate) [c9, c10] Next: University of Michigan, Master of Science in Information	Sept. 2018 - Aug. 2019	
Sonali Tandon, University of Michigan School of Information (Masters) [c10]	Sept. 2018 - Apr. 2019	
Katherine Mustelier, University of Michigan School of Information (Undergraduate) [c2]	Mar. 2020 - May. 2020	
Jake Klaristenfeld, University of Michigan CSE (Undergraduate)	Oct. 2020 - Apr. 2021	
Eleanor Desmond, University of Michigan Electrical Engineering (Undergraduate)	Oct. 2020 - Jul. 2021	
Jolie Kaplan, University of Michigan CSE (Undergraduate)	Oct. 2020 - Jul. 2021	
Alice Li Wang, University of Michigan Stephen M. Ross School of Business & School of Information (Undergraduate)	Feb. 2021 - Apr. 2021	
Ruiyi Yang, University of Michigan CSE (Undergraduate) [c1] Next: Carnegie Mellon University, Master of Science in Intelligent Information Systems	Oct. 2021 - Aug. 2022	
Weikun Lyu, University of Michigan Math & CS (Undergraduate) [c1] Oct. 2020 - Apr. 2021; Jan. 2022 - May 2022 Awarded the Blue Ribbon Certificate for his presentation at the UROP symposium.  Next: Meta, Software engineer		
Nick Cook, University of Michigan Computer Science (Undergraduate) [c1]	Jul. 2022 - Aug. 2022	
Sean Scarnecchia, University of Michigan CSE (Undergraduate) [p2] Oct. 2021 - Apr. 2022; Oct. 2022 - Jan. 2023		
Annie Chen, University of Michigan CS (Undergraduate) [p2] Oct. 2020 - Apr. 2022; Sept. 2022 - Apr. 2023		

## **Select Academic Service**

Reviewing

Special Recognitions for Outstanding Review: UIST 2022, CHI 2023 (4 times), CSCW 2023 January cycle CHI (2021 - 2024), CSCW (2019 - 2021, 2023 - 2024), FAccT (2023), ICWSM (2022, 2024), UIST (2022), IEEE Pervasive Computing (2022), PLoS ONE (2021), IEE ICDM (2019) CHI LBW (2020, 2024), CSCW Poster (2020)

## Leadership and Outreach

UMSI Diversity, Equity, and Inclusion Committee, PhD student representative

Sumit Asthana, University of Michigan CSE (PhD student) [c3]

Fall 2022 - Spring 2023

Nov. 2022 - Sept. 2023

- PhD student representative for UMSI's DEI committee, which focuses on "school level efforts to promote an equitable and inclusive community across students, staff, and faculty."
- Contributed to shaping School of Information's DEI 2.0 Strategic Plan.

UMSI PhD Student Internship Information Session, Organizer

Fall 2021

• Organized a panel to give junior PhD students advice on finding and securing internships.

UMSI & CSE Student Initiated Doctoral Program (SIDP) Design, Assistant to faculty

Fall 2020

- Assisted faculty members in drafting a proposal for evaluating students that want to pursue a PhD in both SI and CSE. Led the effort as the only PhD student.
- I was told that I may be the first PhD student to be *formally evaluated* by SI and CSE PhD program committees and enrolled in the two programs via U-M's Student Initiated Doctoral Program (SIDP).

Michigan Interactive and Social Computing (MISC), Student Organizer

Fall 2020 - Winter 2021

• Co-organized speaker series on HCI and social computing.

Doctoral Executive Committee (DEC), Member

Fall 2019 - Winter 2020

• DEC is a group of PhD students that represents the voice of UMSI PhD students.

Last updated: March 1, 2024