

Amna Batool(She/Hers)

- Ph.D Candidate @ School of Information, University of Michigan (UMSI)
- Former Student Researcher @ Google, Responsible AI (RAI) Team
- Profile @ [Google Scholar](#) | [UMSI](#) | abatool@umich.edu

Research Interests

Human-Computer Interaction (HCI), Information and Communication Technologies for Development (ICTD), Social Media Privacy, Non-consensual Disclosure, Maternal and Child Health, South Asian Communities.

Education

- Ph.D. in Information** Sept. 2019 - Present
School of Information, University of Michigan (UMSI), Ann Arbor, MI
Advisors: [Kentaro Toyama](#), [Mustafa Naseem](#)
GPA: 3.9/4
- Masters in Computer Science** Sept. 2012 - Aug. 2014
Information Technology University (ITU), Punjab, Pakistan
Advisors: Samia Ibtisam (in-house), Kentaro Toyama (external)
GPA: 3.89/4
- Undergrad in Electrical Engineering** Sept. 2006 - Aug. 2010
Government College University (GCU), Lahore, Pakistan
GPA: 3.51/4

Employment

- University of Michigan, Ann Arbor, MI, USA** Sept. 2019 - Present
Graduate Student Research Assistant and Instructor
- Google, NYC, USA** May 2022 - Jan. 2023
Student Researcher, Responsible AI (RAI) team, advised by [Tesh Goyal](#)
- Innovation for Poverty Alleviation Lab (IPAL), Pakistan** Sept. 2017 - Aug. 2019
Research Director
- Information Technology University (ITU), Pakistan** Sept. 2013 - Aug. 2019

Teaching Fellow (Lecturer), Research Assistant, Teaching Assistant

Publications

Conference Proceedings: Full Papers

[C1] Schoenebeck, Sarita, **Amna Batool**, Giang Do, Sylvia Darling, Gabriel Grill, Daricia Wilkinson, Mehtab Khan, Kentaro Toyama, Louisa Ashwell. "Online Harassment in Majority Contexts: Examining Harms and Remedies across Regions"

[C2] Jane Im, Sarita Schoenebeck, Marilyn Iriarte, Gabriel Grill, Daricia Wilkinson, **Amna Batool**, Rahaf Alharbi, Audrey N. Funwie, Tergel Gankhuu, Eric Gilbert, Mustafa Naseem. Beyond Borders: Women's Perspectives on Harm and Justice after Online Harassment. Under the major revision, CSCW 2021

[C3] **Amna Batool**, Kentaro Toyama, Tiffany Veinot, Beenish Fatima, and Mustafa Naseem. "Detecting Data Falsification by Front-line Development Workers: A Case Study of Vaccination in Pakistan." In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, pp. 1-14. 2021.

[C4] Mustafa, Maryam, Kimia Tuz Zaman, Tallal Ahmad, **Amna Batool**, Masitah Ghazali, and Nova Ahmed. "Religion and Women's Intimate Health: Towards an Inclusive Approach to Healthcare." In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, pp. 1-13. 2021.

[C5] Mustafa, Maryam, **Amna Batool**, Beenish Fatima, Fareeda Nawaz, Kentaro Toyama, and Agha Ali Raza. "Patriarchy, maternal health and spiritual healing: Designing maternal health interventions in Pakistan." In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems, pp. 1-13. 2020.

[C6] Sambasivan, Nithya, **Amna Batool**, Nova Ahmed, Tara Matthews, Kurt Thomas, Laura Sanely Gaytán-Lugo, David Nemer, Elie Bursztein, Elizabeth Churchill, and Sunny Consolvo. "" They Don't Leave Us Alone Anywhere We Go" Gender and Digital Abuse in South Asia." In proceedings of the 2019 CHI Conference on Human Factors in Computing Systems, pp. 1-14. 2019. **[Best Paper Award]**

[C7] Sambasivan, Nithya, Garen Checkley, **Amna Batool**, Nova Ahmed, David Nemer, Laura Sanely Gaytán-Lugo, Tara Matthews, Sunny Consolvo, and Elizabeth Churchill. "" Privacy is not for me, it's for those rich women": Performative Privacy Practices on Mobile Phones by Women

in South Asia." In Fourteenth Symposium on Usable Privacy and Security ({SOUPS} 2018), pp. 127-142. 2018. **[Best Paper Award]**

[C8] **Batool, Amna**, Samia Razaq, Maham Javaid, Beenish Fatima, and Kentaro Toyama. "Maternal complications: Nuances in mobile interventions for maternal health in urban Pakistan." In Proceedings of the Ninth International Conference on Information and Communication Technologies and Development, pp. 1-12. 2017.

[C9] Razaq, Samia, **Amna Batool**, Umair Ali, Muhammad Salman Khalid, Umar Saif, and Mustafa Naseem. "Iterative Design of an Immunization Information System in Pakistan." In Proceedings of the 7th Annual Symposium on Computing for Development, pp. 1-10. 2016.

Paper in Progress

[C10]: **Amna Batool** and Tesh Goyal. "Model Interpretability in the Trenches: Integration Practices of ML Practitioners In Real Work Settings" , aiming for JRC.

[C11]: **Amna Batool**, Julie Hui, and Mustafa Naseem, "Adapting to the USA: Afghan Refugee's Changing Gender Roles and Cultural Values", aiming for CSCW

[C12]: **Amna Batool**, and Kentaro Toyama, "Exposing the Unseen: Non-Consensual Disclosures on Social Media and Violence against Women in South Asia"aiming for CHI'24

Workshop Papers

[W1] **Batool, Amna**. Understanding and Designing to Combat Collective Harm of Non-Consensual Disclosures (NCDs) on Social Media Platforms, CHI'23 Workshop on *Combating Toxicity, Harassment, and Abuse in Online Social Spaces*

[W2] Sarita Schoenebeck, Jane Im, **Amna Batool**, Daricia Wilkinson, Audrey Funwie, Rahaf Alharbi, Marilyn Iriarte, Gabriel Grill, Eric Gilbert, Mustafa Naseem. Repairing Online Harms: Assessing Punitive and Reparative Justice Approaches. First Annual Conference of The Platform Governance Research Network. March 2021.

Published Articles

[A1] Mustafa, Maryam, **Amna Batool**, and Agha Ali Raza. "Designing ICT interventions for women in Pakistan." Communications of the ACM 62, no. 11 (2019): 46-47.

[A2] Sambasivan, Nithya, Nova Ahmed, **Amna Batool**, Elie Bursztein, Elizabeth Churchill, Laura Sanely Gaytan-Lugo, Tara Matthews, David Nemar, Kurt Thomas, and Sunny Consolvo. "Toward Gender-Equitable Privacy and Security in South Asia." *IEEE Security & Privacy* 17, no. 4 (2019): 71-77.

[A3] Sambasivan, Nithya, Garen Checkley, Nova Ahmed, and **Amna Batool**. "Gender equity in technologies: considerations for design in the global south." *Interactions* 25, no. 1 (2017): 58-61.

Conference Proceedings: Notes (Short Papers)

[N1] Gilani, Syed Taha Bilal, Ahmed Shahzad, Shahzaib Ahmad Malik, Rana Abdul Haseeb, Beenish Fatima, and **Amna Batool**. "Improving financial condition of small scale farmers through mobile based crop suggestion services." In *Proceedings of the Tenth International Conference on Information and Communication Technologies and Development*, pp. 1-5. 2019.

[N2] Idrees, Fahad, Junaid Qadir, Hamid Mehmood, Saeed Ul Hassan, and **Amna Batool**. "Urdu language based information dissemination system for low-literate farmers." In *Proceedings of the Tenth International Conference on Information and Communication Technologies and Development*, pp. 1-5. 2019.

[N3] Naveed, Khushbakht, Zofishan Hameed, Aqsa Khalid, Adeena Hamid, Beenish Fatima, and **Amna Batool**. "Exploratory study on organ donation and organ transplantation in Pakistan." In *Proceedings of the Tenth International Conference on Information and Communication Technologies and Development*, pp. 1-4. 2019.

[N4] **Batool, Amna**, Naveed Ahmed, Waseem Rasool, Umar Saif, and Mustafa Naseem. "Money matters: exploring opportunities in digital donation to mosques in Pakistan." In *Proceedings of the Tenth International Conference on Information and Communication Technologies and Development*, pp. 1-4. 2019.

[N5] Idrees, Fahad, **Amna Batool**, and Junaid Qadir. "Weather Forecast Information Dissemination Design For Low-Literate Farmers: An Exploratory Study." In *Proceedings of the Ninth International Conference on Information and Communication Technologies and Development*, pp. 1-5. 2017.

[N6] Ahmad, Tallal, **Amna Batool**, M. Salman Khalid, and Samia Ibtasam. "Scrolling, Navigation, and Selection: How New Smartphone Users Discover It." In *Proceedings of the Ninth International Conference on Information and Communication Technologies and Development*, pp. 1-5. 2017.

[N7] Javaid, Maham, Beenish Fatima, and **Amna Batool**. "Bridging the knowledge gaps in lady health visitors through video based learning tool." In Proceedings of the Ninth International Conference on Information and Communication Technologies and Development, pp. 1-4. 2017.

[N8] **Batool, Amna**, Ayesha Asghar, Tayeba Tariq, Mohsin Badar, Iqra Shahzad, Umair Anwar, and Mustafa Naseem. "Design Methods to Reduce Technology Fear and Solicit Feedback from Lady Health Workers (LHWs) in Pakistan." In Proceedings of the 7th Annual Symposium on Computing for Development, pp. 1-4. 2016.

[N9] **Batool, Amna**, Umair Ali, Samia Razaq, and Mustafa Naseem. "Child Immunization Health Card Redesign: an Iterative, User-Centered Approach." In Proceedings of the Eighth International Conference on Information and Communication Technologies and Development, pp. 1-4. 2016.

[N10] **Batool, Amna**, Samia Razaq, and Kentaro Toyama. "An Investigation into ICT-Addressable Causes of Maternal Mortality in Pakistan." In Proceedings of the 2015 Annual Symposium on Computing for Development, pp. 65-66. 2015.

Awards and Recognitions

Global Islamic Studies Center (GISC) Student Fellowship Earned GISC fellowship award to conduct summer research on social media privacy	2023
Fulbright Scholarship Secured Fulbright funding for Ph.D. 2019 cohort (Respectfully turned down and accepted direct admission at the University of Michigan)	2019
Best Paper Award ACM Conference on Human Factors in Computing Systems (CHI 2019)	2019
Best Paper Award Fourteenth Symposium on Usable Privacy and Security (SOUPS, 2018)	2018
STEM Role Model Nominee Nominated as a role model for women in STEM in Pakistan	2018
Australian Award Fellowship Technology Ecosystem Workshop in Melbourne, Australia	2017

United Nations Peace Technology Initiative Fellowship 2017
UN University, Macau

IDDS Fellowship 2015
One month fellowship on health design thinking in Chennai, India

Gold Medal 2015
Masters in Computer Science, ITU

Gold Medal and Roll of Honor 2011
BS Electrical Engineering, GCU

Research Experience

Non-Consensual Disclosures on Social Media (Dissertation Research) Sept. 2021 - Present
Advised by Kentaro Toyama, Sarita Schonebeck and Mustafa Naeem

- Conducting semi-structured interviews with government and non-government (non-profit) organization officials working in women's safety online to understand nuances of Non-Consensual Disclosures (NCDs) happening in Pakistan.
- Conducted participatory observation of sessions with investigation officers and victims of NCDs in organizations to understand victims' perspectives on NCDs

University of Michigan Sept. 2019 - Present
Graduate Student Research Assistant (GSRA)

- 1) Afghan Refugees' Adaptation Needs Jan. 2023 - Present
 - Conducting semi-structured interviews with Afghan Refugee couples to understand their resettlement current phase, needs, aspiration, and adaptation using access to government services as a case study.
- 2) Vaccination Project funded By Gates and Melinda Foundation Sept. 2019 - April 2022
 - Worked on designing and piloting a supervisory application for vaccination field supervisors to help them improve immunization coverage through supportive supervision in Pakistan (G&M-funded).
 - Worked on identifying supervisors' strategies to identify intentional data falsification done by the frontline health workforce (G&M-funded).

Google, NYC, USA

May 2022 - January 2023

Student Researcher in Responsible AI (RAI) Team, advised by Tesh Goyal

- Conducted qualitative research with 20 ML engineers and 10 toolkit designers to understand their tools' integration practices, challenges, and workarounds
- Impacted in-house interpretability tool by providing recommendations to improve tool's integration with ML engineers' workflow

Innovation for Poverty Alleviation Lab (IPAL)

Sept. 2017 - August 2019

Director, Research

- Worked on understanding culture and religion-related sexual health concerns of women and their family members (NAKFI-funded)
- Worked on understanding gender equity in technology regarding the device and social media privacy concerns of women from South Asia (Google-funded)

Information Technology University (ITU)

Sept. 2013- August 2016

Research Assistant

- Worked on designing an NFC-enabled mobile application for front-line health workers to digitize child-level immunization records in order to improve immunization coverage in Punjab, Pakistan (DFID-funded)
- Worked with frontline health workers to understand their technology concerns and to design technologies to improve their knowledge
- Designed and implemented a mobile voice and text-based information system for expecting mothers at a government hospital in Lahore, Pakistan.

Teaching Experience

University of Michigan

Sept. 2020 - April 2021

Graduate Student Instructor (GSI)

- *Course 1: SI 501: Contextual Inquiry:* A 3-credit grad-level course that provides hands-on industry experience to work with real clients to understand their needs and provide recommendations by applying qualitative research methods
- *Course 2: SI 422: Needs Assessment and Usability Evaluation:* A 3-credit undergrad course that provides a hands-on experience to learn different research methods relevant to conduct user needs assessment and usability studies on existing technology related products and services.

Information Technology University (ITU)

Sept. 2017- August 2019

Teaching Fellow (Lecturer)

- *Course 1: Information and Communication Technologies for Development (ICTD):* A 3-credit graduate course that provides hands-on experience to learn the design cycle while designing technological solutions for local problems.
- *Course 2: Introduction to Computer Science:* A 3-credit undergrad course that provides an introduction to different streams of computer science to freshmen.

Teaching Assistant (TA)

Sept. 2014 - August 2016

- *Course 1: Data Structures:* A 3-credit undergrad course that provides hands-on experience to explore different types of data Structures along with their needs and complexities.
- *Course 2: Design and Development Lab:* A 3-credit graduate course that provides hands-on experience to learn the design cycle while designing technological solutions to local problems.

Talks and Panels

Panelist for “Preparing for International Fieldwork”

March 2023

School for Environment & Sustainability

Guest Speaker: Gender Equity in Technologies

Sept. 2021

Cornell GSGIC (Grads for Gender Inclusion in Computing)

Guest Speaker: Social Media Privacy Concerns of South Asian Women

March 2021

School of Information, University of Michigan (UMSI), Ann Arbor, MI (Course SI 430)

[Presented all my published work in corresponding conferences and fellowships]

Academic Mentoring

Supervised 10 masters’ theses

Sept. 2016 - Apr. 2018

Supervised 15 undergraduate final year projects

Sept. 2016 - Apr. 2018

Service

Reviewer for ACM CHI, DIS, CSCW

2023, 2022, 2018

Served as a Local Chair for International conference ICTD held in Pakistan.

2017

Served twice as a Design Facilitator for Design workshops in Pakistan 2016
Served as a regional worker for Akhuwat Cloth Bank, Pakistan 2015 - 2018

Skills

Research Methods: Semi-structured Interviews, Focus group discussions, field observations, Participatory Observations, Contextual Inquiry, Prototyping, Lab-testing, Field Testing, Survey designing, Heuristic evaluation, Thematic analysis, Randomized control trials.

Technical: Python language, Android development, SMS-based applications, Freeswitch and Asterisk for call-based systems

Coursework

Ph.D. courses: Qualitative and Quantitative Research Methods, Research Methods for Special Populations, Feminist Theories, Reproductive Health, Mobile Health Interventions, Doctoral Foundations Seminar, Human-Computer Interaction, Qualitative Research Methods, Intro to Statistics

Computer Science (grad) & Electrical Engineering (undergrad) courses: Programming Language, Data Structure, Algorithms, Computer Architecture, Calculus Computer Programming, Introduction to Linear Algebra, Operating Systems, Data Structures, Databases, Embedded Systems, Theory of Computation, Telecommunication, Power Electronics, Digital Logic Design, Signal and Systems, Ethics.

Last updated: June 7, 2023