WARDA USMAN

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EDUCATION

PhD in Computer Science Sep 2020-Present
Brigham Young University, Provo, Utah
Specialization: **Human-computer interaction**
Expected Graduation: Dec 2025

MS in Computer Science, with concentration in Human Computer Interaction Apr 2023
Brigham Young University, Provo, Utah
GPA: 3.99/4.00
Thesis: "I think they're poisoning my mind: Understanding user rationales and mental models for adopting secure email"

BS in Computer and Information Sciences Jun 2019
Pakistan Institute of Engineering and Applied Sciences (PIEAS)
Cum Laude
Key courses learned: Data communication, UI/UX design in web development, discrete mathematics, computer security, algorithm analysis, operating systems, software engineering, theory of automata, computer networking, operations research, calculus and analytical geometry, and database systems.

RESEARCH INTERESTS

Human-computer interaction, computer-supported cooperative work and social computing, usable security and privacy, social media, technology adoption and non-use, individual and developmental differences associated with technology use, cross-cultural values in design, vulnerable populations and technology, ethical research practices

RESEARCH PROJECTS

Investigating User Adoption and Barriers to Secure Email Systems: A Semi-Structured Interview Study
Led a semi-structured interview study on the adoption and use of end-to-end encrypted email systems. Analyzed user motivations, including privacy concerns, and identified barriers to regular use. Findings offer insights into improving secure email usability and adoption

Security and Privacy Experiences of First- and Second-Generation Pakistani Immigrants to the US: Perceptions, Practices, Challenges, and Parent-Child Dynamics
Conducted a qualitative interview study exploring the security and privacy experiences of first- and second-generation Pakistani immigrants to the US, with a focus on parent-child dynamics. Analyzed participants' reflections on privacy challenges in both physical and digital contexts, and explored how cultural and generational differences impact their use of technology and social media. Findings offer recommendations to improve social media platforms for better support of segmented content sharing.

A Framework and Guide for Human-Centered Threat Modeling in Security and Privacy Research
Systematized the literature on human-centric threat modeling in HCI and usable security through the analysis of 78 papers. Developed a comprehensive framework of guidelines for conducting threat modeling with a focus on addressing user needs, vulnerabilities, and harms. Findings provide a foundation for future research in designing secure, usable systems and were presented as a framework in an SoK paper

Understanding Gendered Perspectives on Online Harassment: A Cross-Gender Interview Study
Led a semi-structured interview study exploring how university students in Pakistan experience and define gender-based harassment. Analyzed diverse perspectives across genders to uncover distinct threat models and coping mechanisms

Investigating AI Manipulation in Teens: A Mixed-Methods Study
Contributed to a study examining how AI chatbots influence teens' behavior through manipulative design features. The study involves a 40-minute exploratory interview to understand teens' current practices and attitudes toward AI manipulation, followed by a 15-minute quantitative experiment analyzing user behavior and responses to AI-driven design suggestions.

PEER-REVIEWED PUBLICATIONS

Conferences are the top-tier academic publishing venues for computer scientists. Thus, the majority of my research is published in CS conference proceedings.

Usman, W., Sadik, J., Taha, Elgedawy, R., Ruoti, S., & Zappala, D. Security and Privacy Experiences of First- and Second-Generation Pakistani Immigrants to the US: Perceptions, Practices, Challenges, and Parent-Child Dynamics
The 2025 IEEE Symposium on Security and Privacy (IEEE S&P, 14% acceptance rate)

Usman, W., & Zappala, D. SoK: A Framework and Guide for Human-Centered Threat Modeling in Security and Privacy Research
The 2025 IEEE Symposium on Security and Privacy (IEEE S&P, 14% acceptance rate)

Usman, W., Hu, J., Wilson, M., & Zappala, D. Distrust of Big Tech and a Desire for Privacy: Understanding the Motivations of People Who Have Voluntarily Adopted Secure Email
The 2023 USENIX Symposium on Usable Privacy and Security (SOUPS, 22% acceptance rate)

WORK EXPERIENCE

Graduate Research Assistant Jan 2021- Present
Usable Security and Privacy Lab - BYU

CS Belonging Lead Jan 2021-Present
BYU CS Office of Inclusion, Diversity, and Equity

TEACHING EXPERIENCE

Adjunct Professor Jan-Apr 2024
Brigham Young University
CS256 - Introduction to human-computer interaction

Teaching Assistant
Brigham Young University
CS465 - Computer Security Fall 2023
CS110 - How to program Winter 2022, 2023
CS260 - Web programming Winter 2021

MENTORSHIP

Undergraduate Research Mentor
Guided and supported undergraduate students in their research and academic growth. Focused on fostering critical thinking, project management, and research skills through one-on-one mentorship sessions.

UR2PhD Graduate Student Mentor Training Course
Completed a specialized mentoring course from the Computing Research Association (CRA), developing a strong foundation in culturally-responsive mentoring. Applied best practices to support diverse students, ensuring an inclusive and empowering learning environment.

AWARDS AND HONORS

Brigham Award Nominee, BYU Student Connection & Leadership Center	2023 Winner CS
department 3MT Competition	2023, 2024
Google Conference Scholarship	2022
USENIX Student Grant ($1350)	2022
Graduate Professional Development Grant ($500)	2022
Ministry of IT Pakistan's startup competition winner (70,000 PKR)	2018

SKILLS

Python, JMP (statistical analysis software), R, focus groups, concept testing, usability testing, survey design

SERVICE AND CO-CURRICULARS

Student Volunteer 2023, 2024
USENIX Symposium on Usable Privacy and Security (SOUPS)
Subreviewer for Daniel Zappala 2024
USENIX Symposium on Usable Privacy and Security (SOUPS)
Vice President 2023-2024
BYU Graduate Student Society
Graduate Student Delegate 2021-2023
BYU College of Physical and Mathematical Sciences
Part-time Volunteer Jun 2019
SOS Childrens Village, Pakistan
Head Operations Jun 2019
Mental Health Awareness Workshop, Steps College, Pakistan