Sarah Tabassum

Charlotte, NC – USA

✉ stabass2@charlotte.edu   •   🖰 linkedin.com/in/thesarahtabassum

Education

University of North Carolina at Charlotte
Doctor of Philosophy (PhD), NC, USA   *2021– 2026*
Department of Software and Information Systems, College of Computing and Informatics
Research Interests: Usable Privacy & Security, HCI, Software and System Security
CGPA: 3.88 on a scale of 4.00
Expected Graduation Date: May 2026

Ahsanullah University of Science and Technology
Bachelor of Science (B.Sc.), Dhaka, Bangladesh   *2014–2018*
Department of Computer Science and Engineering
CGPA: 3.905 on a scale of 4.00 (Merit Position: 1st)

Skills

- **Research Methods:** Interviews, Surveys, User study, Focus Groups, Usability Testing
- **Data Analysis:** Statistical Analysis, Thematic Analysis, Content Analysis, Qualitative Data Coding
- **Programming Languages & Tools:** Java, C, C#, C++, Python, JavaScript, PHP, MySQL, SQLite
- **Platforms & IDE:** IBM SPSS, RStudio, Jupyter Notebook, PyCharm, Android Studio, Netbeans, Microsoft Visual Studio, Code Blocks, MATLAB
- **Soft Skills:** Teamwork, Analytical Problem-solving, Project Management, Presentation, Communication

Published and Submitted Research Work

- **Tabassum, S., Faklaris, C., and Lipford, H. R. "What Drives SMiShing Susceptibility? A U.S. Interview Study of How and Why Mobile Phone Users Judge Text Messages to be Real or Fake."** In Proceedings of the Twentieth Symposium on Usable Privacy and Security(SOUPS 2024), Aug. 11-13, 2024, in Philadelphia, PA, USA (33 out of 156, 21.2% acceptance rate). USENIX Association, Berkeley, CA. [Preprint]
  An interview study on SMiShing among 29 mobile phone users in Charlotte, U.S., reveals prioritization of content, format, and links over sender details. Proposed design changes aim to enhance user resilience against SMiShing, providing valuable insights to combat cyber threats in this domain.

- **Al Qahtani, E., Javed, Y., Tabassum, S., Sahoo, L., & Shehab, M. (2023). Managing Access to Confidential Documents: A Case Study of an Email Security Tool. Future Internet, 15(11), 356.** Published by MDPI on 2023/10/28
  Affiliated with LIISP Lab
  Link to the paper
  This study explores user perceptions and behaviors related to the adoption and use of end-to-end encryption tools, focusing on managing access control for confidential emails.

- **Faklaris, C., Lipford, H. R., & Tabassum, S. (2023). Preliminary Results from a US Demographic Analysis of SMiSh Susceptibility. arXiv preprint arXiv:2309.06322.** Under Review
  Affiliated with SPEX Lab
  This study investigates SMiShing (SMS-based phishing) vulnerabilities among U.S. adult mobile phone users, finding that younger individuals and college students are more susceptible, and surprisingly, participants with higher security training and awareness were less accurate in identifying potential SMiShing attempts.

○ **Tabassum, S., Shehab, M., & Fakralis, C. (2023). Unmasking MetaMask: A Comparative Analysis of Crypto Wallet and Traditional Payment Systems** Under Review
This study explores the usability, privacy, and security aspects of web-based cryptocurrency wallets, particularly MetaMask, in comparison to traditional credit card systems, with findings revealing a complex landscape where usability challenges coexist with heightened privacy and security awareness among novice users

○ **What Would Motivate Users to Use Gmail's Confidential Mode?** Accepted by HICSS'24
Affiliated with LIISP Lab
This study investigates Gmail's Confidential Mode (GCM) and its usage motivations and user perceptions, specifically focusing on non-GCM users, finding that users are motivated to use GCM for sharing confidential documents and have misconceptions about its encryption capabilities.

Research Experience

○ **Who Falls for SMiSh? Analyzing U.S. Demographics' Susceptibility to SMS-based Mobile Messaging Attacks and Factors Influencing Them** January 2023 - present
The project seeks to identify the U.S. demographic groups most susceptible to SMiShing through statistical analysis of online surveys and interviews, uncovering reasons behind their vulnerabilities. Findings inform strategies for telecom providers to mitigate its impact.
- Performed statistical analyses to identify the factors that increase the vulnerability of populations to fall for SMiShing. Additionally, designed and conducted an interview study to explore the underlying reasons.

○ **Exploring the Digital Experiences of First-Generation Educational Migrants in the USA** October 2023 - present
This study is aimed at investigating how first-generation educational migrants in the USA navigate double presence and absence on social media, exploring its impact on their sense of belonging and identity. Additionally, it will examine participants' perceptions of social media's contributions to their security and privacy needs, aiming to uncover associations between these factors and comparing experiences between newcomers and non-newcomers regarding digital security and privacy implications.
- Conducted systematic literature reviews to pinpoint research gaps in understanding digital experiences and vulnerabilities among migrants, devising a structured plan for a mixed-method study in this area.

○ **Unmasking MetaMask: A Comparative Analysis of Novice Users' Interaction** September 2022 - present
A study exploring the usability, privacy and security perceptions of novice users towards crypto wallets during transactions, compared to their views on traditional payment systems.
- Designed and conducted interviews to collect qualitative data from novice cryto wallet users
- Used thematic analysis to pinpoint perceptions of usability, security, and privacy among these novices during transactions.
- Conducted statistical analysis to contrast the usability concerns between crypto and credit card systems.

○ **Users' management of access controls on confidential information:** December 2021 - February 2023
This project focused on Virtru, a data protection and data privacy platform known for its email encryption service, to understand user perceptions of this tool to manage access control for confidential information if sent via email.
- Interviewed participants to find out their perception of access controls on confidential information
- Coded their responses, performed thematic analysis.

Work Experience

○ **Graduate Research Assistant, University of North Carolina at Charlotte, NC, USA**
February 2023 - Present
Worked on projects like, "Who Falls for SMiSh? Analyzing U.S. Demographics' Susceptibility to SMS-based Mobile Messaging Attacks and Factors Influencing Them", "Exploring the Digital Experiences of First-Generation Educational Migrants in the USA"

- **Instructor of Record, Course: Mobile Application Development (Android)**
  University of North Carolina at Charlotte, NC, USA
  August 2022 - December 2023
  I deliver lecture on Android development, grade the assignments, maintain office hour
- **Graduate Teaching Assistant, Course: Mobile Application Development (Android)**
  University of North Carolina at Charlotte, NC, USA
  August 2021 - July 2022
  Graded the assignments & exams, maintained office hour(tutoring hour)
- **Lecturer, Department of Computer Science and Engineering**
  Ahsanullah University of Science and Technology
  Dhaka, Bangladesh
  July 2019 - December 2020
  Conducted Courses: Elementary Structured Programming Language, Software Development-I Lab
  Delivered lectures, prepared course materials, graded exam papers, and maintained office hours
- **Lecturer, Department of Computer Science and Engineering**
  Northern University Bangladesh, Dhaka, Bangladesh
  September 2018 - June 2019
  Conducted Courses: Software Engineering, Digital Logic Design, Data Structures, Software Development-I Lab
  Delivered lectures, created course content, graded exam papers, maintained office hours.

Mentoring

In my role as a mentor, I guided undergraduate students in acquiring research techniques related to human-computer interaction and usable privacy and security. This involved instructing them in both qualitative and quantitative research methods, as well as providing guidance on conducting literature reviews. Over the summers of 2022, 2023, and 2024, I had the privilege of mentoring students through the Research Experience for Undergraduates (REU) program and OUR Summer Research Scholar Program. Additionally, I provided personalized mentorship to **Nishka Matthew** and **Jabou Jallow** in 2024, **Kaylei Goff** in 2023, and **Bridget Falade** in 2022, facilitating their development in research skills and fostering their growth as aspiring researchers in the field.

Campus Talks

- **"What we learned about 'Who Falls for SMiSh?': U.S. Demographic Vulnerabilities to SMiShing"** was a seminar talk for the CyberDNA Lab at UNCC on October 26, 2023.

Workshops and Panels Co-organized

- **Workshop on Inclusive Privacy and Security (WIPS) 2024**
  Co-organized the Workshop on Inclusive Privacy and Security (WIPS) at SOUPS 2024. Additionally, served as **paper chair** alongside Garrett Smith for the virtual workshop held on August 9, 2024.