

# Maitraye Das

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maitraye.github.io

## Education

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NORTHWESTERN UNIVERSITY (NU)  
**PhD in Technology and Social Behavior**

Advised by Darren Gergle

GPA: 3.97 out of 4.00

EVANSTON, IL, USA  
**Fall 2017 - Present**

BANGLADESH UNIVERSITY OF ENGINEERING & TECHNOLOGY (BUET)

**Bachelor of Science in Computer Science and Engineering**

Advised by Tanzima Hashem

GPA: 3.85 out of 4.00

BANGLADESH  
**Sep 2015**

## Research Interests

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Human-Computer Interaction, Accessibility, Assistive Technology, Social Computing

## Research Experience

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COLLAB LAB | NORTHWESTERN UNIVERSITY

**Fall 2017 – Present**

**Graduate Research Assistant** | advised by **Darren Gergle**

- Designed an experimental study to evaluate the use of non-speech audio representations in collaborative writing for screen reader users. Developed prototype using Python and Amazon Polly, conducted testing sessions with 48 participants and performed mixed-method analyses.
- Collected a dataset of nearly 0.45 billion edits by 2000 OpenStreetMap editors using Python and Osmium. Quantitatively analyzed gender-based self-focus bias using R and Pandas. Presented this work at the ACM CHI 2019.

INCLUSIVE TECHNOLOGY LAB | NORTHWESTERN UNIVERSITY

**Spring 2018 – Present**

**Graduate Researcher** | mentored by **Anne Marie Piper**

- Conducted ethnographic field observations and contextual interviews at a weaving studio for adults with vision impairments. Developing multimodal augmentations for enhancing collaborative making experiences among visually impaired weavers and their sighted instructors. Paper accepted at the ACM CHI 2020.
- Conducted semi-structured interviews with 20 academics and professionals with vision impairments. Qualitatively analyzed interview data to understand collaborative writing practices among blind and sighted collaborators. Presented this work at the ACM CSCW 2019.

WESTERN WASHINGTON UNIVERSITY

**Summer 2017**

**Researcher (remote)** | mentored by **Moushumi Sharmin & Shameem Ahmed**

- Performed a systematic literature review on the design of smart technologies (wearable devices, smartphone, augmented and virtual reality, robots, etc.) for children with autism. Paper published at the ACM CHI 2018.

BANGLADESH UNIVERSITY OF ENGINEERING & TECHNOLOGY

**Aug 2014 – Sep 2017**

**Undergraduate Researcher** | advised by **Tanzima Hashem**

- Developed a secret sharing algorithm for privacy-preserved and authenticated queries in genomic databases to compute disease susceptibility of patients. Paper published at the IEEE COMPSAC 2018 and Journal of Information Processing.

## Honors & Awards

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Finalist   Microsoft Research PhD Fellowship	2020
Best Paper Honorable Mention Award   ACM CHI	2020
Best Paper Honorable Mention Award   ACM CSCW	2019
Best Paper Award   IEEE COMPSAC	2018
Student Travel Grant   ACM UbiComp	2018
Student Scholarship   Grace Hopper Celebration, USA	2018
Best Undergraduate Thesis Award   Dept. of CSE, BUET	2015
Best Technical Poster   Grace Hopper Celebration India	2014
Student Scholarship   Grace Hopper Celebration India	2014
Dean's List Award & University Merit Scholarship   BUET	2011-2015

## Peer-Reviewed Publications

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👤 **Maitraye Das**, Katya Borgos-Rodriguez, and Anne Marie Piper. 2020. Weaving by Touch: A Case Analysis of Accessible Making. In *Proceedings of the Conference on Human Factors in Computing Systems (CHI '20)*.  
\* **Best Paper Honorable Mention Award**

👤 **Maitraye Das**, Darren Gergle, and Anne Marie Piper. 2019. "It doesn't win you friends": Understanding Accessibility in Collaborative Writing for People with Vision Impairments. In *Proceedings of the ACM on Human-Computer Interaction*, Vol. 3, CSCW, Article 191 (November 2019), 26 pages.  
\* **Best Paper Honorable Mention Award**

**Maitraye Das**, Brent Hecht, and Darren Gergle. 2019. The Gendered Geography of Contributions to OpenStreetMap: Complexities in Self-Focus Bias. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)*, Paper 563, 14 pages.

Nusrat Jahan Mazumder, **Maitraye Das**, Tanzima Hashem, Sharmin Afrose, and Khandaker Ashrafi Akbar. 2019. Towards Privacy-preserving Authenticated Disease Risk Queries. In *Journal of Information Processing*, Vol. 27, (September 2019), pp. 624-642.

👤 **Maitraye Das**, Nusrat Jahan Mazumder, Sharmin Afrose, Khandaker Ashrafi Akbar, and Tanzima Hashem. 2018. A Novel Secret Sharing Approach for Privacy-Preserving Authenticated Disease Risk Queries in Genomic Databases. In *Proceedings of the 42nd IEEE International Conference on Computers, Software, and Applications (COMPSAC '18)*, pp. 645-654.  
\* **Best Paper Award**

Moushumi Sharmin, Monsur Hossain, Abir Saha, **Maitraye Das**, Margot Maxwell, and Shamim Ahmed. 2018. From Research to Practice: Informing the Design of Autism Support Smart Technology. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, Paper 102, 16 pages.

Abir Saha and **Maitraye Das**. 2017. Impact of Social Networking on Post-Partum Depression in Women: An Analysis in the context of Bangladesh. In *Proceedings of the 20th IEEE International Conference on Computer and Information Technology (ICCIT '17)*, pp. 1-6.

## Workshops and Posters

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**Maitraye Das**, Katya Borgos-Rodriguez, and Anne Marie Piper 2020. Rethinking Power and Politics in Accessible Making. In *the 2020 ACM CHI Workshop on Investigating the Role of Critical Disability Studies in HCI*. [Workshop Position Paper]

**Maitraye Das**. 2019. Who Can See What: Privacy and Audience Management for People with Vision Impairments on Social Media. In *the 2019 ACM CSCW Workshop on Addressing the Accessibility of Social Media*. [Workshop Position Paper]

**Maitraye Das.** 2018. Understanding Collaborative Writing Practices of People with Visual Impairments. In *Proceedings of the 2018 ACM International Conference on Pervasive and Ubiquitous Computing (UbiComp '18)*, pp. 1744-1749. [Workshop Short Paper and Poster]

**Maitraye Das.** 2018. Towards Understanding the Effects of Social Networking on Postpartum Depression in Women: An Analysis in the Context of Bangladesh. In *Grace Hopper Celebration of Women in Computing, USA*. [Poster]

**Maitraye Das, Sharmin Afrose, and Tanzima Hashem.** 2015. Protecting Genomic Privacy in Medical Tests using Distributed Storage. In *Grace Hopper Celebration of Women in Computing, USA*. [Poster]

**Maitraye Das, Sunandita Sarker, and Shahina Ferdous.** 2014. SpeechAid: A Self-treatment System for Individuals with Speech Disorder via Mobile Application. In *Grace Hopper Celebration India*. [Poster]

**\* Best Technical Poster Award**

## Teaching Experience

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UNITED INTERNATIONAL UNIVERSITY (UIU)

DHAKA, BANGLADESH

**Lecturer | Dept. of Computer Science and Engineering**

**Oct 2015 – Mar 2017**

- Instructed courses on Computer Architecture, Digital Logic Design, Electrical Circuits and Assembly Programming Language

## Skills

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**Programming:** Python, R, C, C++, Java, HTML, CSS

**Methods:** Interview, Ethnographic field observations, Survey, Experiment design, Prototyping

## Students Mentored

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Thomas McHugh   Bachelor's student in Computer Science, Northwestern University	2020
Rawan Mohamed   Bachelor's student in Computer Science, Northwestern University	2020
Caroline Brewley   High school student researcher	2019
Nusrat Jahan Mozumder   Bachelor's student In Computer Science & Engg, BUET	2017-2018
Khandaker Ashrafi Akbar   Bachelor's student In Computer Science & Engg, BUET	2017-2018
Fatema Khan   Bachelor's student In Computer Science & Engg, UIU	2016
Ahiya Ahammed   Bachelor's student In Computer Science & Engg, UIU	2016

## Academic Service

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### Reviewer

ACM DIS 2020

ACM CSCW 2020, 2019

GHC Faculty Scholarship 2017

Australasian Database Conference 2016

### Student Volunteer

ACM CSCW 2019

ACM CHI 2019

ACM UbiComp 2018

InfoSocial Graduate Conference at Northwestern University, 2018

### Publicity Co-chair

InfoSocial Graduate Conference at Northwestern University, 2019

## **Outreach & Memberships**

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### **Member**

Northwestern Graduate Women in Computing, '19 - Present

Association for Computing Machinery (ACM), SIGCHI, SIGACCESS, '17 - Present

Bangladeshi Women in Computer Science and Engineering, '15 - Present

### **Code Coach Volunteer**

BraveCamp Chicago, Brave Initiatives, Summer '18

### **Vice-President**

Murchhona:BUET (Cultural Club), '14 - '15