

Maitraye Das

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Education

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 (top 6% of the graduating class)

BANGLADESH
Sep 2015

Research Interests

Human-Computer Interaction, Accessibility, Computer-Supported Cooperative Work

Research Experience

ABILITY TEAM | MICROSOFT RESEARCH
Research Intern | mentored by **John Tang**

Summer 2020

- Working on a project related to workplace accessibility (details under NDA).

COLLAB LAB | NORTHWESTERN UNIVERSITY
Graduate Research Assistant | advised by **Darren Gergle**

Fall 2017 – Present

- 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. [CHI 2019]

INCLUSIVE TECHNOLOGY LAB | NORTHWESTERN UNIVERSITY
Graduate Researcher | mentored by **Anne Marie Piper**

Spring 2018 – Present

- Conducted ethnographic field observations and contextual interviews at a weaving studio for adults with vision impairments. Developing multimodal augmentations for enhancing collaborative weaving experiences among visually impaired weavers and their sighted instructors. [CHI 2020]
- Conducted semi-structured interviews with 20 visually impaired professionals. Performed qualitative analysis to understand collaborative writing practices among blind and sighted co-authors. [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. [CHI 2018]

BANGLADESH UNIVERSITY OF ENGINEERING & TECHNOLOGY
Undergraduate Researcher | advised by **Tanzima Hashem**

Aug 2014 – Sep 2017

- Developed a secret sharing algorithm for privacy-preserved and authenticated queries in genomic databases to compute disease susceptibility. [COMPSAC 2018, Journal of Information Processing 2019]

Honors & Awards

Best Paper Honorable Mention Award ACM CHI	2020
Best Paper Honorable Mention Award ACM CSCW	2019
Special Recognition for Outstanding Review 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

Maitraye Das, Anne Marie Piper, and Darren Gergle. Supporting Collaborative Writing for People with Vision Impairments. Under review in *ACM Transactions on Computer-Human Interaction (TOCHI)*.

Katya Borgos-Rodriguez, **Maitraye Das**, and Anne Marie Piper. Melodie: A Design Inquiry into Accessible Crafting through Audio-Enhanced Weaving. Under review in *ACM Transactions on Accessible Computing*.

👤 **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)*, 1-15. DOI: <https://doi.org/10.1145/3313831.3376477> ***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. DOI: <https://doi.org/10.1145/3359293> ***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. DOI: <https://doi.org/10.1145/3290605.3300793>

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. DOI: <https://doi.org/10.2197/ipsjip.27.624>

👤 **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. DOI: [10.1109/COMPSAC.2018.00097](https://doi.org/10.1109/COMPSAC.2018.00097) ***Best Paper Award**

Moushumi Sharmin, Monsur Hossain, Abir Saha, **Maitraye Das**, Margot Maxwell, and Shameem 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, 1-16. DOI: <https://doi.org/10.1145/3173574.3173676>

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. DOI: [10.1109/ICCITECHN.2017.8281831](https://doi.org/10.1109/ICCITECHN.2017.8281831)

Selected Workshops, Posters, and Doctoral Consortia

Maitraye Das. 2020. Designing for Collaborative Content Creation for People with Vision Impairments. To appear in *the 2020 Conference Companion Publication on Computer Supported Cooperative Work and Social Computing (CSCW '20)*. DOI: <https://doi.org/10.1145/3406865.3418369> [Doctoral Consortium]

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

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*.

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. DOI: <https://doi.org/10.1145/3267305.3277807>

Maitraye Das. 2018. Towards Understanding the Effects of Social Networking on Postpartum Depression in Women. In *Grace Hopper Celebration of Women in Computing*, TX, USA.

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*.

***Best Technical Poster Award**

Teaching Experience

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

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

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

Students Mentored

At Northwestern: Thomas McHugh, Rawan Mohamed, Caroline Brewley	2019, 2020
At BUET: Nusrat J. Mozumder, Khandaker A. Akbar	2017-2018
At UIU: Fatema Khan, Ahiya Ahammed	2016

Invited Talks

Input and Interaction (INFO 463) University of Washington	Nov 2020
▪ Guest lecture: Accessibility in Collaborative Writing for People with Vision Impairments (virtual)	
Bangladesh HCI and ICTD Study and Research Group , Virtual Event	April 2020
▪ Talk: Designing for Accessible Interaction	

Academic Services

Reviewer

DIS 2020, CSCW 2020, 2019, GHC Faculty Scholarship 2017, Australasian Database Conf. 2016

Student Volunteer

CSCW 2019, CHI 2019, UbiComp 2018, InfoSocial Graduate Conference (NU) 2018

Publicity Co-chair

InfoSocial Graduate Conference at Northwestern University 2019

Outreach & Memberships

Member

Northwestern Graduate Women in Computing, 2019 - Present
Association for Computing Machinery (ACM), SIGCHI, SIGACCESS, 2017 - Present
Bangladeshi Women in Computer Science and Engineering, 2015 - Present

Code Coach Volunteer

BraveCamp Chicago, Brave Initiatives, Summer 2018

Vice-President

Murchhona:BUET (Cultural Club), 2014 – 2015