Tamanna Motahar

PhD Student · School of Computing

University of Utah

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Research Statement

My research interest sits broadly at the intersection of Human Computer Interaction (HCI), Personal Informatics, and Accessibility. Through a user-centric approach, my research aims to understand how Personal Informatics can better help individuals with severe motor disabilities; particularly those who have sustained spinal cord injuries and use powered wheelchairs for mobility. As a researcher, my goal is to design accessible technologies to impact and empower marginalized populations worldwide with their personal data.

Education

University of Utah   *Salt Lake City, Utah, USA*
PhD in Computing [Focus Area: Human Centered Computing]   *2020 - present*
- CGPA: 3.97/4.00
- Advisor: Dr. Jason Wiese

University of Alberta   *Edmonton, AB, Canada*
M. Eng. in Electrical and Computer Engineering   *2011 - 2015*

North South University   *Dhaka, Bangladesh*
M. Sc. in Electronic and Telecommunication Engineering   *2007 - 2010*

American International University Bangladesh   *Dhaka, Bangladesh*
B.Sc. In Computer Engineering   *2002 - 2006*
- Vice Chancellor's Gold Medal, *Summa Cum Laude*
- CGPA: 3.91/4.00

Awards, Fellowships and Travel Grants

2022	**Gary Marsden Travel Award for CHI2022**, ACM SIGCHI
2022	**Cultural Competence in Computing (3C) Fellowship**, Duke University
2021	**Tapia Scholarship**, ACM Richard Tapia Celebration of Diversity in Computing
2021	**Rising Star**, ACM-W Asia Pacific
2019	**Grace Hopper Scholar**, Grace Hopper Conference, Orlando, Florida
2019	**CICS Fellowship Award**, (top 1% of new graduate students), University of Massachusetts Amherst
2019	**Runner Up, Facebook Global Literacy and Accessibility Research Proposal**, FaceBook
2018	**Junior Faculty Travel Grant**, ACM Ubicomp/ISWC Conference'18, Singapore
2018	**Best Poster Award**, HCI across Borders, ACM CHI Conference'18, Montreal, Canada
2018	**Participant Grant**, ACM SIGCHI Across Borders Initiatives, Swansea, UK
2018	**Travel Grant**, ACM SIGCHI Summer School, HCI Research and UX Design, IIT Bombay, India
2017	**Research Travel Grant**, North South University, Bangladesh, for BIBE conference in Washington DC
2006	**Vice Chancellor's Gold Medal for Academic Excellence**, 6th convocation, American International University- Bangladesh
2006	*Summa Cum Laude*,, 6th convocation, American International University- Bangladesh
2002 - 2006	**Merit Scholarship (100%)**, American International University- Bangladesh

Publications

Journal Papers [Peer-Reviewed]

J5. Johannah Cohoon, Kazi Sinthia Kabir, **Tamanna Motahar**, Jason Wiese. 2023. Cultivating Altruism Around Computing Resources: Anticipation Work in a Scholarly Community. In *Proceedings of ACM on Human-Computer Interaction (PACMHCI), CSCW 2023 (To Appear)*

J4. **Tamanna Motahar**, Jason Wiese. 2022. A Review of Personal Informatics Research for People with Motor Disabilities. In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) 6, 2, Article 66 (July 2022)*

J3. Nova Ahmed, Lamia Iftekhar, Mahbuba Tasmin, Tamanna Urmi, Silvia Ahmed, **Tamanna Motahar**. "Challenges for women in computing in Bangladesh considering the learning and workplace environment over a period of eight years." Springer Nature Social Sciences 2, no. 10 (2022): 1-24.

J2. Iman Deznabi, **Tamanna Motahar**, Ali Sarvghad, Madalina Fiterau, Narges Mahyar. 2021. Impact of the COVID-19 Pandemic on the Academic Community Results from a survey conducted at University of Massachusetts Amherst. In *ACM Transactions on Digital Government: Research and Practice*, 2(2), 1-12, 2021

J1. Nahian Ahmed, Naimul Islam, Ferdous Hasan, **Tamanna Motahar**, Mohammad Sujauddin. 2019. Understanding the political ecology of forced migration and deforestation through a multi-algorithm classification approach: The case of Rohingya displacement in the southeastern border region of Bangladesh. *Geology, Ecology, and Landscapes*, 3, no. 4 (2019): 282-294

Conference Papers [Peer-Reviewed]

C9. **Tamanna Motahar**, Isha Ghosh, Jason Wiese. 2022. Identifying factors that inhibit self-care behavior among individuals with severe spinal cord injury. In *Proceedings of the ACM Conference on CHI Conference on Human Factors in Computing Systems, pp. 1-16. 2022* **(Acceptance Rate 24%)**

C8. Mahbuba Tasmin, Nova Ahmed, **Tamanna Motahar**. 2019. Gender Disparity in Computer Science Education in Bangladesh: A Study of Women's Participation in Computer Science. In *Proceedings of the 2019 IEEE International Conference on Engineering, Technology and Education (TALE)*, pp. 1-7. IEEE, 2019

C7. Kimia T. Zaman, Wordh U. Hasan, Lubaba Bazlul, **Tamanna Motahar**, Nova Ahmed. 2019. Exploring challenges and solution approaches regarding wellbeing of female rohingya community in Bangladesh. In *Proceedings of the IEEE conference on TENCON 2019-2019 IEEE Region 10 Conference (TENCON)*, pp. 361-366. IEEE, 2019

C6. **Tamanna Motahar**, Md F.Farden, Dibya P. Sarkar, Md A. Islam, Maria E. Cabrera, Maya Cakmak . 2019. SHEBA: A Low-Cost Assistive Robot for Older Adults in the Developing World. In *Proceedings of the 2019 28th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, pp. 1-8. IEEE, 2019

C5. Jafrul I. Sojol, Md S. Alam, Nazmul Hossain, **Tamanna Motahar**. 2019. Smart School Bus: Ensuring Safety On The Road For School Going Children. In *Proceedings of the 2019 21st International Conference on Advanced Communication Technology (ICACT)*, pp. 734-739. IEEE, 2019

C4. Dibya P. Sarkar, Md F. Farden, Md A. Islam, Rahat J. Rony, **Tamanna Motahar**. 2019. A Low-cost Healthcare Bot for Elderly People. In *Proceedings of the 2019 Joint 8th International Conference on Informatics, Electronics Vision (ICIEV) and 2019 3rd International Conference on Imaging, Vision Pattern Recognition (icIVPR)*, 2019, pp. 18-23

C3. Mahmudur Rashid, SM A. Ahad, Shahida Siddique, **Tamanna Motahar**. 2019. Smart Warehouse Management System with RFID and Cloud Database. In *Proceedings of the 2019 Joint 8th International Conference on Informatics, Electronics Vision (ICIEV) and 2019 3rd International Conference on Imaging, Vision Pattern Recognition (icIVPR)*, 2019, pp. 218-222

C2. Mostafa D. Mahdi, Zahid H. Anik, Rahbar Ahsan, **Tamanna Motahar**. 2018. EZ parking: smart parking space reservation using internet of thingsy. In *Proceedings of the 2018 International Conference on Advanced Computer Science and Information Systems (ICACSIS)* (pp. 113-118). IEEE, 2018

C1. **Tamanna Motahar**, Rummana Rahman, Rafiya Hossain. 2017. A Simulation Study on Light Scattering Effect on Waterborne Bacteriophage Virus Using Mie Analysis. In *Proceedings of the 2017 IEEE 17th International Conference on Bioinformatics and Bioengineering (BIBE)*, pp. 255-259. IEEE, 2017

Extended Abstracts [Peer-Reviewed]

E8. **Tamanna Motahar**, Noelle Brown, Eliane S. Wiese, Jason Wiese. 2023. Building "Design Empathy" for People with Disabilities: an Unsolved Challenge in HCI Education. In *Proceedings of the 5th Annual Symposium on HCI Education (EduCHI 2023) (pp. 68-71)*

E7. **Tamanna Motahar**, Johannah Cohoon, Kazi Sinthia Kabir, Jason Wiese. 2023. Closing the Gap: Aligning Developers' Expectations and Users' Practices in Cloud Computing Infrastructure. In *The Platform for Advanced Scientific Computing (PASC 2023)*

E6. Nova Ahmed, **Tamanna Motahar**, Silvia Ahmed, Tamanna Urmi, Mahbuba Tasmin, Lamia Iftekhar. "Opportunities for Women in Computing: Perspective of Bangladesh." In *Proceedings of the 2022 International Conference on Information and Communication Technologies and Development (ICTD)*, pp. 1-4. 2022.

E5. **Tamanna Motahar**, Nova Ahmed. 2022. Exploring Technology Usage of Southeast Asian Elderly Women for Better Mental Health during COVID-19 Pandemic. In *Proceedings of the CHI Conference on Human Factors in Computing Systems Extended Abstracts, pp. 1-7. 2022* **(Acceptance Rate 36%)**

E4. **Tamanna Motahar**, Mahmood Jasim, Syed I. Ahmed, Narges Mahyar. 2020. Exploring how international graduate students in the US Seek support. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems, (pp. 1-8), 2020* **(Acceptance Rate 40%)**

E3. **Tamanna Motahar**, Md F. Farden, Md A. Islam, Rahat J. Rony, and Dibya P. Sarkar. 2018. Mini nurse-bot: A healthcare assistance for elderly people. In *Proceedings of the 2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers (Ubicomp)*, pp. 170-173. 2018

E2. Maliha B. Nur, **Tamanna Motahar**, Sayed I. Masud, Emrul Kaisar. 2018. RICKSHAW BUDDY: A Cost Effective Automated Auto Rickshaw Assistance System. In *Proceedings of the 2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers (Ubicomp)*, pp. 190-193. 2018

E1. **Tamanna Motahar**, Taskin Fatema, Rajdeep Das. 2018. Bornomala AR-bengali learning experience using augmented reality. In *Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI) Adjunct*, pp. 182-188. 2018

Workshop Papers [Lightly Peer-Reviewed]

W7. **Tamanna Motahar**, Kazi Sinthia Kabir, Joshua Dawson, Jason Wiese. 2023. HCI Research Challenges in Complex Healthcare Context. *The CHI Symposium for the Workgroup on Interactive Systems in Healthcare (WISH@CHI'23)*

W6. **Tamanna Motahar**, Marina Kogan, Jason Wiese. 2022. Using Online Social Spaces for Information Seeking and Identity Construction for People with Spinal Cord Injuries. *CSCW 2022 Workshop: Information-Seeking, Finding Identity: Exploring the Role of Online Health Information in Illness Experience* [Virtual]

W5. **Tamanna Motahar**, Jason Wiese. 2022. AI-driven Personal Informatics for Individuals with Severe Spinal Cord Injury. *CHI '22 Workshop: Grand Challenges for Personal Informatics and AI, CHI 2022*, [Virtual]

W4. **Tamanna Motahar**, Jason Wiese. 2022. Designing Technology for Complex Self-care : Considerations for people with Spinal Cord Injury. *CHI '22 Workshop: Challenges, Tensions, and Opportunities in Designing Ecosystems to Support the Management of Complex Health Needs, CHI 2022*, New Orleans, LA

W3. **Tamanna Motahar**, Jason Wiese. 2022. Expanding Disability Justice in HCI : Considerations of Holistic "Lived Experience". *CHI '22 Workshop: Dreaming Disability Justice in HCI„ CHI 2022*, [Virtual]

W2. **Tamanna Motahar**. 2018. Secret Bot: A Video Streaming, Android Device Controlled Spy Robot. In *Proceedings of the 2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers (Ubicomp)*, pp. 1789-1792. 2018

W1. **Tamanna Motahar**. 2018. Socio-Technical Aspects of Text Entry. *Workshop on Socio-Technical Aspects of Text Entry, MobileHCI 2018* , Barcelona, Spain

Workshop Co-organised

Maryam Bandukda, Giulia Barbareschi, Aneesha Singh, Dhruv Jain, Maitraye Das, **Tamanna Motahar**, Jason Wiese, Lynn Cockburn, Amit Prakash, David Frohlich, Catherine Holloway. 2022. A Workshop on Disability Inclusive Remote Co-Design. In ACM Conference on Computers and Accessibility, *ASSETS '22*

Professional Magazines

M2. **Tamanna Motahar**, Nova Ahmed. 2021. *Activism and COVID-19: Older Southeast Asian Women Embracing Technology* 2021. UXPA User Experience Magazine, The Magazine of the User Experience Professionals Association.

M1. Mahbuba Tasmin, Nova Ahmed, **Tamanna Motahar** 2021. *Rooting the Gender Polarity in Computer Science: A Study on Women in Computer Science Education in Bangladesh*. ACM-W Celebration, ACM-W Asia Pacific 2021.

POSTER PRESENTATIONS

P7. **Tamanna Motahar**. 2022. Exploring Technology Usage of Southeast Asian Elderly Women for Better Mental Health during COVID-19 Pandemic. *Late Breaking Work, CHI 2022*, New Orleans, LA

P6. **Tamanna Motahar**. 2021. Improving Pressure Relief (PR) Adherence with Technology: A Human Centered Computing (HCC) Approach. *University of Utah CS Research Day* [Virtual]

P5. **Tamanna Motahar**. 2019. Broadening Participation: Inclusion of Female Computing Students in Competitive Programming. *Grace Hopper Conference 2019*, Orlando, FL

P4. **Tamanna Motahar**. 2019. Toward Designing Mental Health Solution for Female Rohingya Refugees. *HCI Across Borders, CHI2019* , Glasgow, Scotland **Highest Voted Poster**

P3. **Tamanna Motahar**. 2019. The Wave of Inclusion at HCI: Participation Improvement of Female Students. *Workshop on CHInclusive, CHI2019*, Glasgow, Scotland

P2. **Tamanna Motahar**. 2018. Supporting Missing Daughters. *HCI Across Borders, CHI2018* , Montreal, Canada **Best Poster Award**

P1. **Tamanna Motahar**. 2018. Bornomala AR-bengali learning experience using augmented reality. *MobileHCI 2018* , Barcelona, Spain

Professional Experience

RESEARCH EXPERIENCE

2020 - Present	**Research Assistant| Personal Data and Empowerment Lab (PeDEL)**, School of Computing, University of Utah
2019	**Research Assistant	HCI-VIS Lab**, CICS, University of Massachusetts Amherst
2017 - 2019	**Faculty Researcher** , North South University, Bangladesh

TEACHING EXPERIENCE

Fall, 2022	**Teaching Mentee| CS 3540| Designing Human Centered Experiences (78 Students)** , School of Computing, University of Utah
Fall, 2021	**Teaching Mentee|COMP 1010| Programming for All (220 Students)** , School of Computing, University of Utah
2019-2020	**Teaching Associate	Introduction to Programming (Java) (150 Students)**, CICS, University of Massachusetts Amherst
2019	**Senior Lecturer**, North South University, Bangladesh
2016 - 2018	**Lecturer**, North South University, Bangladesh

GUEST LECTURE

Fall, 2022	**"Title: Identifying Factors that Inhibit Self-care Behavior Among Individuals with Severe Spinal Cord Injury"**, CS 3540| Designing Human Centered Experiences, School of Computing, University of Utah

PROGRAM COMMITTEE MEMBER

2023	**Program Committee Member**, Late Breaking Work, CHI 2023
2022	**Associate Chair (AC)**, Late Breaking Work, CHI 2022

REVIEWER

2023 -	**Review board member**, ACM Journal on Computing and Sustainable Societies (JCSS)
2023	**Track: Accessibility**, CHI 2023
2019-2023	**Late Breaking Work**, CHI 2023, CHI 2022, CHI 2021, CHI 2020, CHI 2019
2022	**Workshop**, ASSETS 2022
2020	**Track: Data VIsualization**, CHI 2020

PROFESSIONAL SERVICE

2017-2019	**Founding Faculty Advisor**, First and only ACM-W Chapter in Bangladesh
2017-2019	**Founding Membership Chair**, First ACM SIGCHI Chapter in Bangladesh

INDUSTRY EXPERIENCE

2013-2014	**Data Analyst, Business Intelligence (BI)**, Thakral Information Systems, (Strategic Alliance Partner of IBM) Airtel, Bangladesh
2012-2013	**Data Specialist**, West Canadian Digital Imaging, Edmonton, Canada
2010-2012	**Technical Support Specialist**, Marketlinc Telecommunication Corporation (McAfee Anti-Virus), Canada

ADMINISTRATIVE EXPERIENCE

2018-2019	**Assistant Proctor**, North South University, Bangladesh

Outreach Activities

ORGANIZATION AND SERVICE

2022 - Present	**General Member**, Graduate Student Advisory Committee (GradSAC), School of Computing, University of Utah
2022	**Student Volunteer, Ubicomp and ISWC Conference**, Atlanta, GA
2019	**Co-Organizer**, ACM SIGCHI Summer School, North South University, Bangladesh
2019	**Panel- Organizer**, HCI Research and Design Perspectives in Bangladesh (Virtual), Part of HCI Discussion Series in Bangladesh
2018	**Founding Organizer**, First National Level Inter University Girls' Programming Contest (IUGPC), Bangladesh

INVITED TALKS

Summer 2023. *"Can Everyone Use a Fitbit? Expanding Personal Informatics Technology for People with Severe Motor Disabilities"*, Digital Health Initiative (DHI) Symposium, University of Utah Health, Salt Lake City

Fall 2022. *"Personal Informatics for People with Motor Disabilities"*, SIGCHI Summer/Winter School, Bangladesh, North South University, Bangladesh

Spring 2021. *"What do you Track? Why do you Track"*, North South University HCI Research Group [Virtual]

Fall 2020. *"My Life–Joys and Challenges"*, Celebration of International Women's Day, North South University IEEE Women in Engineering [Virtual]

Spring 2020. *"Stress Management"*, Ada Lovelace Celebration, Dhaka, Bangladesh

Spring 2018. Keynote Speaker- *"Women in Technology"*, Women in Digital, Dhaka, Bangladesh

Spring 2018. *"Initiation of HCI: Ongoing activities globally at the SIGCHI community"*, Workshop on Human Computer Interaction, North South University, Dhaka, Bangladesh

PANELIST AND SPEAKER

2020	**Panelist**, SIGCHI Summer School, Dhaka, Bangladesh [Virtual]
2018	**Speaker and Panelist**, International Women's Day Celebration, North South University IEEE Student Branch
2018	**Panelist**, Techbeez: Women in ICT, Lighthouse Castle Partners, Women Techmakers Bangladesh and EMK Center, Dhaka Bangladesh

Students Mentored

2023-   **Kraisorachote Harry Jens Phanich,** , BS/MS Student, Kahler School of Computing, University of Utah

2019   **Mahbuba Tasmin, Computer Science Undergrad, North South University, Bangladesh**, Co-authored paper: [C8], Current Position: PhD Student, Umass Amherst

2018 - 2019   **Dibya P. Sarkar, Computer Science Undergrad, North South University, Bangladesh**, Co-authored paper: [C4,C6], [E3], Current Position: PhD Student, University of Victoria, Canada

2018 - 2019   **Kimia Tuz Zaman, Computer Science Undergrad, North South University, Bangladesh**, Co-authored paper: [C7], Current Position: PhD Student, North Dakota State University

2018   **Mostafa Didar Mahdi, Computer Science Undergrad, North South University, Bangladesh**, Co-authored paper: [C2], Current Position: MSC Student, University of Adelaide, Australia