

Tamanna Motahar

PHD CANDIDATE • KAHLERT 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)**, and **Accessibility**. Through a user-centric approach, my research aims to understand how technology can better help individuals with Equity, Well-being and Social Justice. As a researcher, I aim to address crucial socio-technical problems to impact and empower marginalized populations worldwide.

Education

University of Utah

PHD IN COMPUTING

- Focus Area: Human Centered Computing
- Committee: Jason Wiese (chair), Marina Kogan, Eliane S. Wiese, Patrick A. Carrington, Mark W. Newman

Salt Lake City, Utah, USA

2020 - 2024 (expected)

University of Alberta

M. ENG. IN ELECTRICAL AND COMPUTER ENGINEERING

Edmonton, AB, Canada

2015

North South University

M. SC. IN ELECTRONIC AND TELECOMMUNICATION ENGINEERING

Dhaka, Bangladesh

2010

American International University Bangladesh

B.SC. IN COMPUTER ENGINEERING

- Vice Chancellor's Gold Medal
- *Summa Cum Laude*

Dhaka, Bangladesh

2006

Awards, Fellowships and Recognition

- 2024 **Recognition for Outstanding Review**, CHI 2024
- 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 **Runner Up, Facebook Global Literacy and Accessibility Research Proposal**, FaceBook
- 2018 **Best Poster Award**, HCI across Borders, ACM CHI Conference'18, Montreal, Canada
- 2018 **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

Grants

2023	Google Inclusion Research Award , Prepared the grant document for PI Prof. Jason Wiese	\$60,000
2022	Gary Marsden Travel Award for CHI2022 , ACM SIGCHI	\$1800
2021	Rising Star Grant , ACM-W Asia Pacific	\$500
2019	CICS Fellowship Award , (top 1% of new graduate students), University of Massachusetts Amherst	\$5000
2018	Participant Grant , ACM SIGCHI Across Borders Initiatives, Swansea, UK	\$3000
2018	Junior Faculty Travel Grant , ACM Ubicomp/ISWC Conference'18, Singapore	\$1000
2018	Research Travel Grant , North South University, Bangladesh, for CHI conference in Montreal, Canada	\$3000
2017	Research Travel Grant , North South University, Bangladesh, for BIBE conference in Washington DC	\$2000
2018	Travel Grant , ACM SIGCHI Summer School, HCI Research and UX Design, IIT Bombay, India	\$800

Publications

JOURNAL AND CONFERENCE PAPERS [PEER-REVIEWED]

- CHI, IMMUT, DIS and ASSETS are the top publication venues in HCI and Accessibility research domain
- Student mentees are marked with an asterisk (*)

- P18. **Tamanna Motahar**, Sara Nurollahian, *Yeon Jae Kim, Marina Kogan, Jason Wiese. *Paper under review for ASSETS 2024*
- P17. **Tamanna Motahar**, *Yeon Jae Kim, *Eden Fisher, Jason Wiese. *Paper under major revision for IMMUT 2024*
- P16. **Tamanna Motahar**, Noelle Brown, Eliane S. Wiese, Jason Wiese. In *Proceedings of the ACM Designing Interactive Systems Conference (DIS) 2024 (Accepted)*
- P15. **Tamanna Motahar**, Jason Wiese. 2024. Investigating Technology Adoption Soon After Sustaining a Spinal Cord Injury. In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) 8, 1, Article 14 (March 2024)*
- P14. Johannah Cohoon, Kazi Sinthia Kabir, **Tamanna Motahar**, Jason Wiese. 2023. Cultivating Altruism Around Computing Resources: Anticipation Work in a Scholarly Community. In *Proceedings of the ACM on Human-Computer Interaction, Volume 7, Issue CSCW2, Article No.: 336, pp 1-22*
- P13. **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)*
- P12. **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 (CHI), pp. 1-16. 2022 (Acceptance Rate 24%)*
- P11. Nova Ahmed, Lamia Iftakhar, *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.*
- P10. 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*
- P9. *Nahian Ahmed, Naimul Islam, Ferdous Hasan, **Tamanna Motahar**, Mohammad Sujuddin. 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*
- P8. *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*
- P7. *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*
- P6. **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*
- P5. *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*
- P4. *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*
- P3. *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*
- P2. *Mostafa D. Mahdi, Zahid H. Anik, *Rahbar Ahsan, **Tamanna Motahar**. 2018. EZ parking: smart parking space reservation using internet of things. In *Proceedings of the 2018 International Conference on Advanced Computer Science and Information Systems (ICACSIS) (pp. 113-118). IEEE, 2018*
- P1. **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]

- W8. **Tamanna Motahar**, Noelle Brown, Eliane S. Wiese, Jason Wiese. 2023. Building “Design Empathy” among HCI Students for People with Disabilities. *The ASSETS workshop on A11yFutures: Envisioning the Future of Accessibility Research, October 17, 2023 (A11yFutures)* [Virtual]
- 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

BOOK CHAPTER

- Ahsanur Rahman, **Tamanna Motahar**. “Big Graph Analytics.” *Data Analytics: Concepts, Techniques, and Applications*. Edited by Mohiuddin Ahmed, Al-Sakib Khan Pathan, CRC Press, 9/21/2018, page 97- 130

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.

Presentations

INVITED TALKS

- Spring 2024 “*Expanding Personal Informatics Research for People with Severe Motor Disabilities*”, CMU Accessibility Lunch, Carnegie Mellon University, Pittsburgh
- 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 “*A Review of Personal Informatics Research for People with Motor Disabilities*”, ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubicomp’22), Atlanta, USA
- Fall 2022 “*Personal Informatics for People with Motor Disabilities*”, SIGCHI Summer/Winter School, Bangladesh, North South University

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, Kahlert School of Computing, University of Utah

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

POSTER PRESENTATIONS

- P9. **Tamanna Motahar**. 2023. Designing Wheelchair-based Technology to Prevent Pressure Ulcer: A Human Centered Computing (HCC) Approach. *1st Mountain West Undergraduate Research Showcase in Computing, 2023*, University of Utah, Salt Lake City, UT
- P8. **Tamanna Motahar**. 2023. Designing Wheelchair-based Technology to Prevent Pressure Ulcer: A Human Centered Computing (HCC) Approach. *Grad Visit Day*, Kahlert School of Computing, University of Utah, Salt Lake City, UT
- 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 CHIInclusive, 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
- 2016 - 2019 **Faculty Researcher**, North South University, Bangladesh
- 2012 - 2013 **Graduate Researcher**, University of Alberta, Canada

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, UMass Amherst
- Summer 2020 **Instructor | Introduction to Programming (Java) (80 Students)**, CICS, UMass Amherst
- 2019 **Senior Lecturer**, North South University, Bangladesh
- 2016 - 2018 **Lecturer**, North South University, Bangladesh

PROGRAM COMMITTEE MEMBER

Associate Chair (AC), Late Breaking Work, CHI 2022, 2023, 2024

REVIEWER

ACM CHI, 2024 (**Recognition for Outstanding Review**), 2023, 2020

ACM IMWUT, 2024

ACM CSCW, 2024

International Journal of Human-Computer Interaction, 2023

ACM Journal on Computing and Sustainable Societies (JCSS), 2023

ACM CHI Late Breaking Work, 2024, 2023, 2022, 2021, 2020, 2019

ASSETS 2022, Workshop

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

- 2023 **Grad Representative**, Equity, Diversity and Inclusion Committee (EDI), College of Engineering, University of Utah
- 2023 **Organizer**, Summer HCI Writing Workshop, University of Utah
- 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

Student Mentees

- 2023- **Yeon Jae Kim** , BS Student, Kahlert School of Computing, University of Utah, Co-authored paper: [P16, P17]
- 2023 **Eden Fisher**, Prospective Undergraduate Student, MIT, Co-authored paper: [P16]
- 2023- **Kraisorachote Harry Jens Phanich** , BS/MS Student, Kahlert School of Computing, University of Utah
- 2019 **Mahbuba Tasmin, Computer Science Undergrad, North South University, Bangladesh**, Co-authored paper: [P8, P11], Current Position: PhD Student, Umass Amherst
- 2018 - 2019 **Dibya P. Sarkar, Computer Science Undergrad, North South University, Bangladesh**, Co-authored paper: [P4,P6], [E3], Current Position: PhD Student, University of Victoria, Canada
- 2018 - 2019 **Kimia Tuz Zaman, Computer Science Undergrad, North South University, Bangladesh**, Co-authored paper: [P7], Current Position: PhD Student, North Dakota State University
- 2018 **Mostafa Didar Mahdi, Computer Science Undergrad, North South University, Bangladesh**, Co-authored paper: [P2], Current Position: MSC Student, University of Adelaide, Australia

Reference

1. **Prof. Jason Wiese (Advisor)**, Assistant Professor, Kahlert School of Computing, University of Utah
2. **Prof. Marina Kogan**, Assistant Professor, Kahlert School of Computing, University of Utah
3. **Prof. Patrick Carrington**, Assistant Professor, Human-Computer Interaction Institute, Carnegie Mellon University
4. **Prof. Mark W. Newman**, Professor, School of Information, EECS Department, University of Michigan