SANZIDA MOJIB LUNA

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I am a researcher in **Human-Computer Interaction (HCI)** focused on inclusive design and adaptive technologies, particularly in immersive systems like augmented reality (AR). My work centers the lived experiences of Deaf and Hard of Hearing (DHH) users through participatory design, longitudinal studies, and lightweight AI-driven interventions, with the goal of shaping accessible and ethical digital futures.

EDUCATION

Rochester Institute of Technology (RIT) **Aug 2022 - Present**
PhD in Computing and Information Sciences
Advisor: Dr. Konstantinos Papangelis

Military Institute of Science and Technology (MIST) **Feb 2016 - Dec 2019**
BSc in Computer Science and Engineering

RESEARCH EXPERIENCE

Rochester Institute of Technology (RIT) **Aug 2022 - Present**
Graduate Research Assistant
Niantic X RIT Geo Games and Media Research Lab

Mixed-Methods Study on Motivation and Compliance in AR-Forward Therapeutic Games **Jan 2025 – Present**

- Conducted a 10-day longitudinal study to evaluate user motivation and task compliance in a mobile AR-forward therapeutic game
- Collected passive behavioral metrics (e.g., task completion, session duration) with daily micro-surveys and in-depth exit interviews
- Conducted thematic analysis of participant interviews to extract engagement barriers and design pain points
- Organized participatory design workshops to co-develop to encourage motivation, compliance, and accessibility-informed AR interaction strategies based on study findings
- Designed prototype and conducted prototype evaluation by interviewing user study participants to assess how well it aligns with user expectations

Developing Inclusive HCI Research Guidelines for DHH Participants in AR **Jan 2025 – Present**

- Conducted systematic analysis of prior literature to extract methodological patterns in recruitment, study design, and accessibility adaptations
- Designed and executed semi-structured interviews with established HCI researchers to capture experiential insights and accessibility challenges in AR-based studies
- Developed a structured framework analyzing literature and practitioner insights to inform inclusive, ethical, and accessible research practices

Systematic Review on Accessibility in AR **Sep 2024 - Jan 2025**

- Conducted a comprehensive literature review of 553 papers, systematically evaluating accessibility considerations across visual, hearing, cognitive, and motor disabilities
- Developed rigorous selection criteria to identify 70 key papers for in-depth analysis
- Created analytical framework examining research methodologies, demographic representation, technological implementations, and experimental design
- Integrated findings to identify gaps in current research and opportunities for AI integration in accessible AR

Exploring Perspectives of DHH People in an AR Environment Regarding Visual Scanning, 3D Interaction and Instructional Comprehension **Sep 2023 - Sep 2024**

- Designed experiments examining visual scanning, 3D interaction, and instruction comprehension between DHH (11) and hearing (15) participants
- Coordinated with ASL interpreters to ensure accessible study environments
- Applied reflexive thematic analysis to identify significant patterns in user behavior and performance
- Employed mixed-methods approach combining think-aloud protocols with semi-structured interviews

Investigating Experiences and Challenges of DHH People in a Co-located Collaborative Multiplayer AR Game **Aug 2022 - Aug 2023**

- Developed interview protocols and survey instruments following ethical research guidelines
- Recruited 17 Deaf and Hard of Hearing (DHH) participants through a screening survey

- Designed and conducted user studies with DHH participants, incorporating contextual inquiries and semi-structured interviews
- Implemented data triangulation methods for comprehensive qualitative analysis
- Led paper writing as first author, compiling findings for academic publication

LIST OF PUBLICATIONS

1. **Sanzida Mojib Luna**, Jiangnan Xu, Garreth W. Tigwell, Nicolas LaLone, V Saker, Alan Chamberlain, David I Schwartz, and Konstantinos Papangelis. 2025. Exploring Deaf And Hard of Hearing Peoples' Perspectives On Tasks In Augmented Reality: Interacting With 3D Objects And Instructional Comprehension. In CHI Conference on Human Factors in Computing Systems (CHI '25), April 26-May 1, 2025, Yokohama, Japan. ACM, New York, NY, USA, 14 pages. https://doi.org/10.1145/3706598.3713678
   — Accepted as Full Paper in CHI '25

2. **Sanzida Mojib Luna**, Garreth W. Tigwell, Konstantinos Papangelis, and Jiangnan Xu. 2024. Exploring Visual Scanning in Augmented Reality: Perspectives From Deaf and Hard of Hearing Users. In The 26th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '24), October 27–30, 2024, St. John's, NL, Canada. ACM, New York, NY, USA, 6 pages. https://doi.org/10.1145/3663548.3688535
   — Accepted as Poster in ASSETS '24

3. **Sanzida Mojib Luna**, Jiangnan Xu, Dr. Konstantinos Papangelis, Dr. Garreth W. Tigwell, Dr. Nicolas LaLone, Dr. Michael Saker, Dr. Alan Chamberlain, Dr. Samuli Laato, John Dunham, and Yihong Wang. 2024. Communication, Collaboration, and Coordination in a Co-located Shared Augmented Reality Game: Perspectives From Deaf and Hard of Hearing People. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11–16, 2024, Honolulu, HI, USA. ACM, New York, NY, USA, 14 pages. https://doi.org/10.1145/3613904.3642953
   — Accepted as Full Paper in CHI '24

4. Jiangnan Xu, Konstantinos Papangelis, Garreth W. Tigwell, Nicolas Lalone, Pengyuan Zhou, Michael Saker, Alan Chamberlain, John Dunham, **Sanzida Mojib Luna**, and David Schwartz. 2024. Spatial Computing: Defining the Vision for the Future. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '24). Association for Computing Machinery, New York, NY, USA, Article 583, 1–4. https://doi.org/10.1145/3613905.3643978
   — Accepted as Extended Abstract in CHI '24

5. **Sanzida Mojib Luna**, Garreth W. Tigwell, Konstantinos Papangelis, and Jiangnan Xu. 2023. Communication and Collaboration Among DHH People in a Co-located Collaborative Multiplayer AR Environment. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 64, 1–5. https://doi.org/10.1145/3597638.3614479
   — Accepted as Poster in ASSETS '23

6. **Sanzida Mojib Luna.** 2023. DHH People in Co-located Collaborative Multiplayer AR Environments. In Companion Proceedings of the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY Companion '23). Association for Computing Machinery, New York, NY, USA, 344–347. https://doi.org/10.1145/3573382.3616039
   — Accepted as Doctoral Consortium in CHI PLAY '23

7. Sarwar, H., Das Gupta, D., **Luna, S.M.**, Suhi, N.J., Tasnim, M. (2021). Result Prediction Using Data Mining. In: Arai, K. (eds) Intelligent Computing. Lecture Notes in Networks and Systems, vol 284. Springer, Cham. https://doi.org/10.1007/978-3-030-80126-7_23
   — Peer-reviewed conference paper published as a book chapter

8. Barsha, Farhat Lamia, Zarin Tasneem, **Sanzida Mojib**, Masuda Afrin, Nusrat Jahan, Marzouka Tasnim, Umma Habiba, and Muhammad Nazrul Islam. "An IoT-based automated door accessing system for visually impaired people." In 2019 IEEE International WIE Conference on Electrical and Computer Engineering (WIECON-ECE), pp. 1-4. IEEE, 2019. https://doi.org/10.1109/WIECON-ECE48653.2019.9019945
   — Accepted as a conference paper

TEACHING EXPERIENCE

Course: GAME DESIGN & DEVELOPMENT II (*IGME- 320*) **Jan 2025 - May 2025**
Teaching Assistant
Course Instructor: Dr. Konstantinos Papangelis

- Delivered a guest lecture on *Accessible Game Designs* and *User Research Methods*
- Mentored student teams in refining game concepts through iterative feedback and critical review
- Guided students in designing and developing user studies to evaluate their projects, emphasizing experimental design, ethical research practices, and inclusive evaluation strategies

PROFESSIONAL SERVICES

1. Guest editor of Special Issue on *Spatial Computing* to the journal *Behaviour & Information Technology* 2024-2025

2. Reviewer for *ACM CHI* Conference (full-length conference paper) 2023-2024
3. Led a Special Interest Group (SIG) at CHI'24 2024
4. Reviewer for *ACM CHI PLAY, AutomotiveUI, IMWUT, MobileHCI, INTERACT* Conference 2023-2024
5. Contributed to grant writing efforts for *Niantic X RIT Geo Games and Media Research Lab* *2023*

TRAVEL GRANTS

2024 Conference on Human Factors in Computing Systems (CHI 2024) **2024**
Presented a full paper (List of Publications #4) and led a Special Interest Group (SIG) at CHI 2024 as a first-time in-person attendee in Honolulu, Hawai'i, USA.

25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2023) **2023**
Presented poster (List of Publications #5) at ASSETS'23 as a first-time attendee in NYC, New York, USA.

INVITED TALKS AND PRESENTATIONS

1. Guest speaker at the Technology, Equity, and Accessibility (TEA) Lab, Northeastern University 2025
2. Presenter at the Graduate Showcase at RIT 2025
3. Guest speaker at the University of California, Irvine Center for Hearing Research Journal Club 2025
4. Guest speaker at the Versatilist Podcast by Immersive Learning Research Network (ILRN) 2025
5. Guest Speaker at the *Research Potential Assessment* Q/A Session 2025
6. Poster presenter at the *a2ru 2024* at RIT 2024

AWARD AND HONORS

Featured in RIT Magazine Spring 25 Issue for contributions to accessibility research in AR **2025**
Honorable Mention in 3MT Competition at RIT **2024**
Best Paper in the WEICON-ECE 2019 **2019**

SKILLS AND OTHER INFORMATION

Technical Skills: Java, Python, C/C++, HTML/CSS/JavaScript, MATLAB, MySQL, Oracle, Firebase.
Software Tools/Framework: Overleaf, MAXQDA, NVivo, Git, Weka, Eclipse, NetBeans, VS Code, Android Studio, Blender, Adobe Illustrator, Adobe Photoshop, Canva.
Hardware: Raspberry Pi, Arduino, PIC16F877A.
Language: English, Bengali (native), Hindi (spoken).