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Mohammad Alaul Islam

Professional Summary

My work and research interests lie at the intersection of human-computer interaction, UX research, data analytics, and information visualization. I use mixed-methods approaches, including qualitative and quantitative studies, to understand human behaviour, interactions, and user needs. I enjoy exploring complex data, developing interactive visualizations, and designing practical solutions to real-world problems. My experience spans human-centred design, usability evaluation, experimental research, and software development.

Professional Experience

April 2026– October 2026 **Visiting Researcher**, *Department of Physical Therapy, University of Toronto*, Toronto, Canada. Conducted interdisciplinary research on neuromuscular electrical stimulation (NMES) and rehabilitation technologies. Developed a research platform for managing experimental data, integrating sensor measurements, and supporting physiological signal processing and visualization. Collaborated with researchers to translate study requirements into practical software solutions and data analysis workflows..

May 2023– October 2026 **Postdoctoral Researcher**, *KITE Research Institute, University Health Network*, Toronto, Canada. Conducted interdisciplinary research in human-computer interaction, digital health, and rehabilitation technology, working closely with clinicians, patients, caregivers, and researchers. My research focused on smart sensor technologies for diabetic foot ulcer prevention, co-designing educational tools for pressure injury prevention and management, and investigating repositioning patterns in home-care settings.

Education

Oct 2019– Mar 2023 **PhD in Computer Science**, *Université Paris-Saclay & Inria*, France.
My doctoral research investigated the perception, design, and interaction of micro visualizations on small displays, particularly smartwatches and fitness trackers. The work combined visualization design, human-computer interaction, and empirical user studies to examine how people interpret and interact with data in limited display spaces

2018–2019 : **Master's in Human-Computer Interaction**, *Université Paris-Saclay*, Saclay, France.

2015–2016 : **MSc in Computer Science & Engineering**, *United International University*, Dhaka, Bangladesh.

2009–2013 : **BSc in Computer Science & Engineering**, *Ahsanullah University of Science and Technology*, Dhaka, Bangladesh.

Additional Research Experience

Sept 2024 – July 2025 ***Graduate Research Co-Advisor***, *Department of Physical Therapy, University of Toronto*.
Project: Evaluation of Wound Watch: A Novel Pressure Injury Education Module.
Co-advised six Master of Science in Physical Therapy students on research protocol development, study design, and research ethics submissions. Provided feedback and guidance throughout the research process.
Faculty Advisor: Dr. Sharon Gabison

June 2022 – July 2022 ***Visiting Researcher***, *Interactive Media Lab, TU Dresden, Germany*.
Participated in a two-week international research collaboration investigating data visualization on smart and flexible displays. **Collaborators:** Dr. Raimund Dachselt & Dr. Petra Isenberg

March 2021 – Aug 2021 ***Master's Student Research Supervisor***, *Inria / Université Paris-Saclay*, Saclay, France.
Supervised a master's research internship investigating user preferences for the visual aesthetics of data representations on smartwatches. **Faculty Advisor:** Dr. Petra Isenberg

March 2019 – August 2019 ***Master's Internship***, *CEA Tech, Toulouse, France*.
Conducted research and development on interaction techniques for 3D point-cloud data. Collaborated with a research team on the design, development, and integration of multiple 3D point-selection techniques. **Supervisors:** Dr. Louis-Pierre Berge, Radhouene Azzabi, and Prof. Dr. Emmanuel Dubois

Industry Experience

May 2017 – Aug 2018 ***Associate Senior Programmer***, *CSL Software Resources Ltd.*, Dhaka, Bangladesh.
Worked on the design and development of Enterprise Resource Planning (ERP) software for the textile industry. My responsibilities included analyzing business requirements, developing application modules, designing user interfaces, and implementing database-driven solutions using C# and the .NET framework.

April 2016 – May 2017 ***Software Engineer***, *National Development Engineers Ltd.*, Dhaka, Bangladesh.
Contributed to the analysis, design, and development of ERP systems for construction and engineering operations. Worked on translating business requirements into functional workflows, developing low- and high-fidelity interface prototypes, and supporting database design using Microsoft SQL Server.

Feb 2014 – Feb 2016 ***Web Application Developer***, *Authentic Software*, Dhaka, Bangladesh.
Developed web-based applications and user interfaces using JavaScript, PHP, and related web technologies. Worked on translating user and business requirements into interface designs and functional applications, gaining practical experience in both frontend development and UX/UI design.

Technical and Research Skills

Research Methods	Mixed-methods research, qualitative and quantitative studies, interviews, surveys, usability testing, controlled experiments, co-design, and human-centred design
UX & Visualization	Human-computer interaction, UX/UI design, information visualization, interaction design, prototyping, Figma, and D3.js
Data Analysis	Python, R, SPSS, Pandas, NumPy, SciPy, Matplotlib, and MATLAB
Programming	Python, JavaScript, C#, Java, PHP, HTML5, and CSS
Web Tech.	React, Node.js, Three.js, FastAPI, REST APIs, and .NET
Databases	SQL, MySQL, Microsoft SQL Server, and SQLite
Dev Tools	Git, GitHub, and Visual Studio Code

Publications

Overview	My research has contributed to peer-reviewed publications in human-computer interaction, information visualization, and digital health, including work presented at ACM CHI, IEEE VIS, and EuroVis.
Complete List	An updated list of my publications is available on *Google Scholar*.
PhD Thesis	*Visualizations for Smartwatches and Fitness Trackers*, Université Paris-Saclay, 2023.

Academic Service and Volunteering

2023–2024 **Peer Reviewer**, *IEEE VIS, ACM CHI, IEEE TVCG*.
Reviewed research submissions in human-computer interaction and information visualization.

2020–2021 **Doctoral Student Representative**, *ED STIC, Pôle B, Université Paris-Saclay*, France.
Represented doctoral students within the doctoral school.

2020 **Event Coordinator**, *CARaDOC – Careers and Doctors*, Université Paris-Saclay, France.
Contributed to the coordination of an academic career development event.

2020–2022 **Conference Student Volunteer**, *IEEE VIS 2020, IEEE VIS 2021, EuroVis 2022*.
Supported academic conference activities as a student volunteer.