MD ALOMGEER HUSSEIN

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EDUCATION

Ph.D. in Information Systems, University of Maryland, Baltimore County   August 2022 - Present
Advisor: Professor Dr. Tera L. Reynolds
Assistant Professor,
Director at Care Research Lab,
Department of Information Systems,
University of Maryland, Baltimore County

Relevant Coursework: Deep Learning, Casual AI, Data Mining,
Ethical and Responsible AI, Health Informatics,
Human-Computer Interaction, Digital Health Equity   **Cumulative GPA: 3.782/4**

M.Sc. in Electrical and Electronic Engineering,
University of Dhaka, Bangladesh.   October 2017

B.Sc. in Electrical and Electronic Engineering,
University of Dhaka, Bangladesh.   December 2015

SKILLS SUMMARY

Languages:	Python, C, MATLAB, SQL, HTML, CSS
Frameworks:	Tensorflow, PyTorch, Numpy, Pandas, Matplotlib, SciKit-Learn, HuggingFace, NLPTK, OpenCV
Tools:	GIT, MySQL
Soft Skills:	Leadership, Sportsperson, Event Management, Public Speaking, Time Management, Calligraphy

ACADEMIC EXPERIENCE

Building a Framework and Toolkit for Effective Participatory AI Engagement in Hard-to-Reach Populations.

Funded by: Google Society-Centered AI Grant   2024 - 2025

OBJECTIVE: The objective of this project is to leverage participatory artificial intelligence (AI) to empower underserved patients from hard-to-reach populations, specifically those in low-income neighborhoods, in understanding and utilizing their medical records. By partnering with community health organizations (CHOs) in Baltimore, Maryland, this initiative seeks to improve health literacy and patient engagement, ultimately addressing disparities in healthcare access and usage.

A Patient-centered Approach to Evaluating Large Language Model-generated Responses to Patients' Questions. (Manuscript)

OBJECTIVE: The objective of this study is to empirically evaluate the ability of LLMs to provide responses to patients' online questions related to their laboratory test results that are readable, complete, personalized, transparent, and emotionally supportive compared to responses written by other users in an online health community (OHC).

Patient-facing AI: Current Status, Challenges, and Opportunities – A Systematic Review. (Manuscript)

OBJECTIVE: This systematic literature review aims to explore the use of artificial intelligence (AI) in patient-facing tools, focusing on the AI methods employed, their intended uses, and the sociotechnical implications of these technologies. By synthesizing the current state of knowledge, we seek to identify key trends, challenges, and opportunities for future research and development in this rapidly evolving field.

TEACHING ASSISTANT EXPERIENCE

University of Maryland, Baltimore County   Spring 2023 - Fall 2024

As a Teaching Assistant, I Led full class sessions and collaborated in course development and grading, ensuring continuity and alignment with academic goals. Managed online platforms for student interaction and provided individual tutoring to enhance understanding of database design.

Courses:

- IS 410: Introduction to Database Design — Fall 2023

- IS 295: Intermediate Business Applications — Spring 2023, Spring 2024

- IS 325: Introduction to Management Science — Spring 2023, Spring 2024

- IS 310: Software and Hardware Concepts — Fall 2024

MENTORING EXPERIENCE

Mentor for Senior Level Student

University of Maryland, Baltimore County — Summer 2023 to Fall 2024

- Mentored Austyn Nguyen on research methodologies, data analysis, and academic writing.

RESEARCH INTERESTS

My interests span Deep Learning, Machine Learning, Natural Language Processing, Generative AI, and the application of Large Language Models in medicine. With a robust academic foundation, I passionately explore and contribute to these fields, aiming to advance knowledge and practice in my areas of study.

PUBLICATIONS

Journal: Md. A. Hussein, Md. T. B. Noman and Md. A. R. Ahad. *A Study on Tiredness Measurement using Computer Vision.* Journal of the Institute of Industrial Applications Engineers Vol.7, No.4 (2019) pp.110–117.

Journal: M.A. Islam, M.Z.H. Majumder and **M.A. Hussein**. *Chronic kidney disease prediction based on machine learning algorithms.* Journal of Pathology Informatics. 2023.100189.

Journal: Islam, M. A., Majumder, M. Z. H., **Hussein, M. A.**, Hossain, K. M., Miah, M. S. (2024). *A review of machine learning and deep learning algorithms for Parkinson's disease detection using handwriting and voice datasets.* Heliyon.

LEADERSHIP EXPERIENCE

- **Vice President, Bangladesh Student Association**
  University of Maryland, Baltimore County — 2024-2025
  Responsible for organizing community events, leading initiatives to promote cultural awareness, and facilitating communication between students and university administration to address the needs of Bangladeshi students.

- **Team Leader, Sakura Science Exchange Program**
  Japan Science and Technology Agency, Japan — December 2 - December 22, 2019
  Led a team of five in a cross-cultural scientific exchange program, coordinating activities and facilitating collaborative projects aimed at promoting international scientific cooperation.