MD NAIMUL HOQUE

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RESEARCH INTERESTS

Human-Computer Interaction, Visual Analytics, Human-Centered AI, and Accessibility

EDUCATION

University of Maryland, College Park, MD, USA *Aug 2020 - Present*
Ph.D. in Information Studies CGPA: 3.95/4
Human-Computer Interaction Lab (HCIL), Advisor: Niklas Elmqvist

Stony Brook University, NY, USA *Aug 2018 - May 2020*
M.S. in Computer Science CGPA: 3.9/4.00
Advisor: Klaus Mueller

University of Dhaka, Dhaka, Bangladesh *2011-2015*
B.Sc. in Computer Science and Engineering CGPA: 3.6/4.00

PROFESSIONAL EXPERIENCE

Graduate Research Assistant MD, USA
University of Maryland, Advisor: Niklas Elmqvist *May 2022-*
Projects: Creativity support tools; Accessible data representation.

Research Intern Virtual
Bosch Research, Advisor: Liang Gou *May 2021 - Aug 2021*
Designed an interactive interface to interpret visual concepts learned from a self-supervised model. The interface allows weak supervision for fine-tuning the concepts. This work will appear at IEEE Visualization Conference (VIS), 2022.

Graduate Teaching Assistant MD, USA
University of Maryland, College Park *Aug 2020 - April 2022*
Courses: Data Visualization (INST760); Introduction to Data Science (INST737); Advanced Data Science (INST750); Big Data Analysis (INST767)

Graduate Research Assistant NY, USA
Stony brook University, Advisor: Klaus Mueller *May 2019- Aug 2020*
Projects: Visual causal model for transparent decision making, Collaborative sense-making through causal reasoning; Interactive tool for balancing screentime for characters in a live telecast.

PUBLICATION

Peer Reviewed Conference and Journal Papers

- Md Naimul Hoque, Bhavya Ghai, Kari Kraus, Niklas Elmqvist. PORTRAYAL: Leveraging NLP and Visualization for Analyzing Fictional Characters. *Designing Interactive Systems Conference (DIS)*, 2023.

- Md Naimul Hoque, Md Ehtesham-Ul-Haque, Niklas Elmqvist, Syed Masum Billah. Accessible Data Representation with Natural Sounds. *ACM CHI Conference on Human Factors in Computing Systems, 2023.* https://doi.org/10.1145/3544548.3581087. (pdf)

- Md Naimul Hoque, Wenbin He, Shekar Arvind Kumar, Liang Gou, Liu Ren. Visual Concept Programming: A Visual Analytics Approach to Injecting Human Intelligence at Scale. *IEEE Transaction on Visualization and Computer Graphics*, 2022. (presented at *IEEE Visualization conference, VIS'22*). https://doi.org/10.1109/TVCG.2022.3209466. (pdf)

- Md Naimul Hoque, Bhavya Ghai, Niklas Elmqvist. DramatVis Personae: Visual Text Analytics for Identifying Social Biases in Creative Writing. In *Designing Interactive Systems Conference (DIS)*, 2022. https://doi.org/10.1145/3532106.3533526. (pdf) (video) (github) (try it out!)

- Md Naimul Hoque, Klaus Mueller. Outcome-Explorer: A Causality Guided Interactive Visual Interface for Interpretable Algorithmic Decision Making. *IEEE Transaction on Visualization and Computer Graphics*, 2021. (presented at *IEEE Visualization conference, VIS'22*). https://doi.org/10.1109/TVCG.2021.3102051. (pdf) (video)

- Md Naimul Hoque, Nazmus Saquib, Syed Masum Billah, and Klaus Mueller. Toward Interactively Balancing the Screen Time of Actors Based on Observable Phenotypic Traits in Live Telecast. In *Proceedings of the ACM on Human-Computer Interaction (CSCW)*, 2020. https://doi.org/10.1145/3415225. (pdf) (video)

- Md Naimul Hoque, Choudhury Farhan Ahmed, Nicolas Lachiche, Carson K. Leung, Hao Zhang. Reframing in Clustering. *IEEE 28th International Conference on Tools with Artificial Intelligence (ICTAI)*, 2016. (pdf)

Workshops, Posters, and Extended Abstracts

- Bhavya Ghai, Md Naimul Hoque, Klaus Mueller. 2021. WordBias: An Interactive Visual Tool for Exploring Intersectional Social Biases Encoded in Word Embeddings. *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*. (pdf) (github) (video)

- Md Naimul Hoque, Niklas Elmqvist. 2021. Towards Using Visual Analytics to Promote Diversity, Equity, and Inclusion. *Artificially Intelligent Technology for the Margins: A Multidisciplinary Design Agenda. CHI Workshp.*

- Md Naimul Hoque, Darius Coelho, Klaus Mueller. 2019. Examining the Visualization Practices of Data Scientists on Kaggle. *InfoVis Poster*.

- Md Mehedi Hassan, Ashik Adnan, Asif M. Saleheen, Md Naimul Hoque. 2018. Understanding the Patterns of Crime Reports in a Popular Bangladeshi Newspaper. *Companion of ACM CSCW.* (pdf)

- Md Naimul Hoque, Rawshan E. Fatima, Manash Mandal, Nazmus Saquib. 2017. Evaluating gender portrayal in Bangladeshi TV. *Machine Learning for the Developing World, NIPS 2017 Workshop.* (pdf)

AWARDS AND ACHIEVEMENTS

- Dr. Dana Rotman Doctoral Student Travel Awards. iSchool, University of Maryland, College Park. 2021

- Doctoral Student Research Award (DRSA). iSchool, University of Maryland, College Park. 2021. ($1000)

- Chairman's Fellowship. Stony Brook University. 2018. ($3000)

TECHNICAL SKILLS

- Programming Languages: Python, Javascript, R, C, C++, Java, PHP

- Markup Languages : CSS, HTML

- Database: MySql, Oracle, MongoDB

- ML Framework: PyTorch, Tensorflow

- Web Framework : Flask, React

- Visualization Tool: D3.js

- VCS : Git

- NLP Tools: spaCy, NLTK, Stanford NLP