Md Naimul Hoque

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Research Interest

I study how interactive systems can help people use AI reliably and get benefitted in the process. This typically results in novel interactive systems, data visualization, and data sonification techniques for promoting creativity, learning, and sensemaking.

Education

Ph.D in Information Studies   Sep 2020-
University of Maryland, College Park
MD, USA

M.S in Computer Science   Aug 2018- May 2020
Stony Brook University, Stony Brook
NY, USA

B.Sc in Computer Science   Jan 2011- Jan 2015
University of Dhaka
Dhaka, Bangladesh

Publication

Conference and Journal Publication

1. **Md Naimul Hoque**, Niklas Elmqvist. Dataopsy: Scalable and Fluid Visual Exploration using Aggregate Query Sculpting. *IEEE Transaction on Visualization and Computer Graphics (TVCG)*, 2023. (to appear)
2. **Md Naimul Hoque**, Bhavya Ghai, Kari Kraus, Niklas Elmqvist. Portrayal: Leveraging NLP and Visualization for Analyzing Fictional Characters. *Proceedings of the ACM Conference on Designing Interactive Systems (DIS)*, ACM, New York, NY, USA, 2023. https://doi.org/10.1145/3563657.3596000. (demo)
3. **Md Naimul Hoque**, Md Ehtesham-Ul-Haque, Niklas Elmqvist, Syed Masum Billah. Accessible Data Representation with Natural Sounds. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, ACM, New York, NY, USA, 2023. https://doi.org/10.1145/3544548.3581087.
4. **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 (TVCG)*, 2022. https://doi.org/10.1109/TVCG.2022.3209466. (pdf)
5. **Md Naimul Hoque**, Bhavya Ghai, Niklas Elmqvist. DramatVis Personae: Visual Text Analytics for Identifying Social Biases in Creative Writing. *Proceedings of the ACM Conference on Designing Interactive Systems (DIS)*, ACM, New York, NY, USA, 2022. https://doi.org/10.1145/3532106.3533526.
6. **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 (TVCG), 2021.
https://doi.org/10.1109/TVCG.2021.3102051. (pdf)

7. **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. *Proceedings of the ACM on Human-Computer Interaction (CSCW)*, ACM, New York, NY, USA, 2020. https://doi.org/10.1145/3415225.

8. **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

1. **Md Naimul Hoque**, Niklas Elmqvist. Augmenting Human-AI Co-Writing with Interactive Visualization. In2Writing Workshop, ACM CHI 2023.

2. Bhavya Ghai, **Md Naimul Hoque**, Klaus Mueller. WordBias: An Interactive Visual Tool for Exploring Intersectional Social Biases Encoded in Word Embeddings. Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI), ACM, New York, NY, USA, 2021.

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

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

5. Md Mehedi Hassan, Ashik Adnan, Asif M. Saleheen, **Md Naimul Hoque**. Understanding the Patterns of Crime Reports in a Popular Bangladeshi Newspaper. Companion of ACM CSCW, 2019.

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

Employment

Graduate Research Assistant   May 2022-
Human-Computer Interaction Lab, University of Maryland
Advisor: Niklas Elmqvist
Focus: Creativity support tools, accessible data visualization

Research Intern   May 2021- Aug 2021
Bosch Research
Advisor: Liang Gou
Focus: Interactively labeling large-scale image datasets

Graduate Teaching Assistant   Sep 2020 - May 2022
University of Maryland
Courses: Data Visualization, Big Data Analytics, Data Science

Graduate Research Assistant   May 2019 - Aug 2020
Stony Brook University
Advisor: Klaus Mueller
Focus: Creativity support tools, interactive causal inference

Lecturer   July 2015 - May 2018
Eastern University
Dhaka, Bangladesh

Software Engineer   Jan 2015 - June 2015
Enosis Solution
Dhaka, Bangladesh

Invited Talks

giCentre, City, University of London   May 2023

HCIL Symposium, University of Maryland   April 2023

DGP Lab, University of Toronto   Feb 2023

Awards and Recognitions

Doctoral Student Research Award ($1000), UMD   May 2023

Dr. Dana Rotman Doctoral Student Travel Awards ($130), UMD Feb 2021

Doctoral Student Research Award ($1000), UMD   March 2021

Chairman's Fellowship ($3000), Stony Brook University   August 2018