MD NAIMUL HOQUE

nhoque@umd.edu ◇ naimulh0que.github.io ◇ Google Scholar

RESEARCH SUMMARY

My research interests span to visual analytics, human-computer interaction, and machine learning. More precisely, I seek to understand how interactive visual interfaces may enhance user agency and trust in AI-mediated systems. This includes designing systems to foster creativity and learning, designing novel visualization for interpreting ML models, and multi-modal interactions (auditory and visual) for sensemaking.

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

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. We submitted a patent for the project and currently working on writing a paper.

Graduate Teaching Assistant   MD, USA
University of Maryland, College Park   *Aug 2020 - Present*
Courses: Introduction to Data Visualization; Introduction to Data Science.

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

- <u>Md Naimul Hoque</u>, Bhavya Ghai, Niklas Elmqvist. DramatVis Personae: Visual Text Analytics for Identifying Social Biases in Creative Writing. *In Proceedings of the ACM Conference on Designing Interactive Systems, to appear, 2022.* [101/469, 21.5% acc. rate]

- <u>Md Naimul Hoque</u>, Klaus Mueller. Outcome-Explorer: A Causality Guided Interactive Visual Interface for Interpretable Algorithmic Decision Making. *IEEE Transaction on Visualization and Computer Graphics.* 2021. 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. *ACM Conference on Computer-Supported Cooperative Work and Social computing (CSCW)*. 2020. 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. 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*. 2021. pdf github video

- 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 Workshp*. 2021.

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

- 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 2018*. 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

- Image Analysis Tools: OpenCV, Dlib