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**  University of Maryland, College Park  MD, USA | Sep 2020- |
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| **M.S in Computer Science**  Stony Brook University, Stony Brook  NY, USA | Aug 2018- May 2020 |
| **B.Sc in Computer Science**  University of Dhaka  Dhaka, Bangladesh | Jan 2011- Jan 2015 |

# Publication

## Conference and Journal Publication

1. Shahreen Salim, **Md Naimul Hoque**, Klaus Mueller. Belief Miner: A Methodology for Discovering Causal Beliefs and Causal Illusions from General Populations. *Proceedings of the ACM on Human-Computer Interaction (CSCW)*, 2023. (accepted with minor revision)
2. **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)
3. **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](https://character-traits.herokuapp.com/home))
4. **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>.
5. **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](https://naimulh0que.github.io/docs/vcp.pdf))
6. **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>.
7. **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](https://naimulh0que.github.io/docs/Outcome_Explorer_final_manuscript.pdf))
8. **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>.
9. **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](https://naimulh0que.github.io/docs/RfmCluster_ICTAI2016.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**  Human-Computer Interaction Lab, University of Maryland  Advisor: Niklas Elmqvist  Focus: Creativity support tools, accessible data visualization | May 2022- |
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| **Research Intern**  Bosch Research  Advisor: Liang Gou  Focus: Interactively labeling large-scale image datasets | May 2021- Aug 2021 |
| **Graduate Teaching Assistant**  University of Maryland  Courses: Data Visualization, Big Data Analytics, Data Science | Sep 2020 - May 2022 |
| **Graduate Research Assistant**  Stony Brook University  Advisor: Klaus Mueller  Focus: Creativity support tools, interactive causal inference | May 2019 - Aug 2020 |
| **Lecturer**  Eastern University  Dhaka, Bangladesh | July 2015 - May 2018 |
| **Software Engineer**  Enosis Solution  Dhaka, Bangladesh | Jan 2015 - June 2015 |

# Invited Talks

| giCentre, City, University of London | May 2023 |
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| 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 |
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| 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 |