

- EDUCATION**
- Northeastern University**
Ph.D., Network Science 2022
- United International University (UIU)**
M.S., Computer Science and Engineering, *summa cum laude* 2015
Thesis: Virtual P2P Client: Accessing P2P Applications Using Virtual Terminals
- Institute of Business Administration, University of Dhaka**
B.B.A, Finance (minor in Marketing) 2013
- HONORS & AWARDS**
- Graduate research assistantship, Northeastern University 2016-2020
Travel scholarship for SISIMID 2017, University of Washington 2017
NULab travel grant, Northeastern University 2016
Graduate fellowship, College of Science, Northeastern University 2015
Gold medal for academic excellence, United International University 2015
Graduated *summa cum laude*, United International University 2015
- JOURNAL ARTICLES**
- Nelson, L. K., Getman, R. & Haque, S. A. (2021). And the Rest is History: Measuring the Scope and Recall of Wikipedias Coverage of Three Womens Movement Subgroups. *Sociology Methods & Research*, Online First
- Mistry, D., Litvinova, M., Pastore y Piontti, A., Mu, K., Xiong, X., Haque, S. A., Quan-Hui, L., Gomes, M. F. C., Fumanelli, L., Longini Jr., I. M., Halloran, M. E., Merler, S., Ajelli, M. & Vespignani, A. (2021). Inferring high-resolution disease-specific human mixing patterns. *Nature Communications*, 12 (1), 1-12
- Cevik, M., Haque, S. A., Manne, J., Kuppali, K., Sax, P. E., Majumder, M. S., & Orkin, C. (2021). Gender disparities in international COVID-19 clinical trial leadership. *Clinical Microbiology and Infection*
- Hassan, M. K., Islam, L. & Haque, S. A. (2017). Degree distribution, rank-size distribution, and leadership persistence in mediation-driven attachment networks. *Physica A: Statistical Mechanics and its Applications*, 469, 23-30
- Haque, S. A., Islam, S., Islam, M. J., & Grégoire, J. C. (2016). An architecture for client virtualization: A case study. *Computer Networks*, 100, 75-89
- CONFERENCE PROCEEDINGS**
- Chowdhury S. S., Saquib N., Zawad N., Mandal M. K. & Haque S. A. (2018). State-ment networks: a power structure narrative as depicted by newspapers. *In NeurIPS 2018 workshop on Machine Learning for developing world*
- Haque, S. A., Islam, S., & Grégoire, J. C. (2015, February). Short Paper: 'Virtual P2P client: Accessing P2P applications using virtual terminals'. *In 2015 18th International Conference on Intelligence in Next Generation Networks*, (pp. 142-144). IEEE
- ARTICLES UNDER REVIEW**
- Zippel, K., Haque, S. A. & Melson, M. C., The NSF ADVANCE network of organiza-tions. *ADVANCE Journal special issue: Collaborations, Collisions, and Connections*
- Nelson, L., Getman, R. & Haque, S. A. And the rest is history. *Sociology Meth-ods and Research Special Issue: Applied Computational Text Analysis in Sociological*

Research.

PRESENTATIONS Diversity of COVID-19 Experts Featured in the News Media
Networked Justice Symposium at Networks 2021, Virtual 06/2021

Reconstructing geographic transmission pathways of ZIKV epidemic in the Americas
International Conference on Network Science (NetSci), Burlington, VT 05/2019

Classical music clustering based on acoustic features
poster with Xindi Wang
CompleNet Conference, Boston, MA 03/2018

MEDIA Revisiting 2019 Dengue Outbreak: A failure of prediction or policy?
ARTICLES Published in The Daily Star, the most circulated English daily in Bangladesh 03/2020

RESEARCH **Research Assistant** 2019-2021
EXPERIENCE CSSH, Northeastern University
Supervisor: Kathrin Zippel, Professor & Laura Nelson, Assistant Professor

- **Diffusion of ideas of gender equity interventions through networks of U.S. universities:** In this study I am assisting in visualizing the network of university and individual collaboration who participated in the ADVANCE grants provided by NSF.

Research Assistant 2016-2019
MOBS Lab, Northeastern University
Supervisor: Alessandro Vespignani, Professor

- **Flocking behavior in science:** The objective of this project is to identify emerging pattern of flocking between scientists in different disciplines. My responsibility was to find the similarity between scientific fields to see how different fields cross-pollinate with each other over time. I have Extracted keywords from the abstract and of 120 million papers collected from Microsoft Academic Graph using high performance computing platforms.
- **Reconstructing pathways of Zika epidemic in Americas:** The objective of this project is to compile evidence concerning the Zika outbreak create a comprehensive investigation on how the disease spread throughout the Americas. I have collected Collected genomic inferences and surveillance data on disease and applied statistical techniques to compare them with model generated data.
- **Visualizing Zika importations:** This web based interactive visualization developed with D3, mongodb and ExpressJS illustrates the simulated imported Zika cases in more than 3000 urban areas in the world over the last two years. Such a visualization tool can help the appropriate authority to make a swift response to the outbreak by mobilizing medicine and skilled health workers to the right places.
- **Author name and geo-location disambiguation of Web of Science Dataset:** This work is crucial for author name disambiguation and studying spatial diffusion patterns of knowledge and science. My responsibilities involved geo-localizing bibliographical records from Web of Science database.
- **Creating synthetic population and contact matrix of Australia:** The objective of this study was to understanding finer details of contact patterns between Australian population during epidemic spreading. I have created synthetic population of households, workspace and schools of every state of Australia by using publicly available census data for this purpose.

Research Assistant 2013-2015
Department of CSE, United International University
Supervisor: Salekul Islam, Associate Professor

- **Virtual P2P Client: Accessing P2P Applications using Virtual Terminal:** The objective of this study was to develop a virtual P2P BitTorrent client to separate the data plane and control plane. It was deployed in web server to measured how well P2P clients perform in the edge clouds like AWS and Linode.

Research Assistant 2014-2015
Department of Physics, University of Dhaka
Supervisor: Md Kamrul Hassan, Professor

- **Leadership persistence in network:** Simulated how long a leader, the node with the maximum degree persists in its leadership using mediation driven attachment (MDA) model and compared it with the Barabasi-Albert (BA) model

PROFESSIONAL EXPERIENCE

ORISE Fellow of Drug Safety & Artificial Intelligence 2021-Present
CDER, FDA, Silver Spring, MD

This is a data science fellowship at Office of Translational Sciences, Center for Drug Evaluation and Research, FDA. The objective of this fellowship is to enhance a natural language processing and machine learning classifier system to capture information in free text clinical narratives that identifies drug-adverse events related to mental health disorders, opioid addiction, and opioid overdose.

Visitng Data Scientist, Northeastern LEADERS program Jan-May, 2021
Merck & Co., Inc., NJ

The core responsibilities was to effectively describe complex entities within and across clinical study documents that are organized in structured content management systems. Implemented a D3 visualization server to visualize the components used in clinical documents. Deployed the network of connected documents in a Neo4j graph database server to analyze the borrowing and lending of information between clinical documents.

Business Development Executive 2013-2015
Mukto Software Limited, Dhaka
Created liaison between the corporate customer and the software development team by outlining requirements of enterprise resource planning (ERP) software projects.

SERVICE

Clinical Microbiology and Infection 2022
Reviewer.

Sociology Methods & Research 2021
Reviewer.

EMNLP 2021
Reviewer.

ACL-IJCNLP 2021
Reviewer.

Harvard Misinformation Review 2020
Reviewer.

NetSci-X Conference 2020
Reviewer of submitted abstracts.

Complenet Conference 2018
Reviewer of submitted abstracts.

Kolpokoushol: An Antidisciplinary Experimental Lab 2016-2018
Actively mentored 3 students for three years on designing and implementation of data science projects. The work has been presented in machine learning for development (ML4D) workshop in NeurIPS.

**ADVANCED
TRAINING &
CERTIFICATES**

Participated in Summer Institute in Statistics and Modeling in Infectious Diseases (9th SISMD), University of Washington 2017

Participated in Complex System Summer School (CSSS 2016), Santa Fe Institute, New Mexico. 2016
Project: Simple Agent-Based Model of the Development of Trust in Hierarchical Organizations

**PROFESSIONAL
AFFILIATIONS**

- Network Science Society
- Society for Young Network Scientists

**TECHNICAL
STRENGTHS**

Analystical Skills: Network Analysis, Agent Based Modelling, Natural Language Processing, Clustering Techniques, Embedding Methods, Regression Analysis
Programming: Python, R, Bash, JavaScript
Database: SQL, BigQuery, MongoDB (NoSQL), neo4j
Visualization: Matplotlib, D3, Gephi, GnuPlot, Adobe Illustrator
Research Computing: Unix, Git, SLURM, Google Cloud Command Line Interface