



## COLLEGE of ENGINEERING AND PHYSICAL SCIENCES

SCHOOL OF COMPUTER SCIENCE

### School of Computer Science Seminar

#### Natural Language Processing and Visualization for Inclusive Data Exploration

**Date and Time:**

Tuesday, February 6, 2024, 1:00-2:00 pm

**Location:**

Reynolds 1101

**Presentation by:**

Dr. Enamul Hoque Prince

**Abstract:**

Natural language and visualization are two powerful complementary modalities for communicating data insights. While visualizations can be very effective in finding patterns, trends, and outliers in data, natural language can help explain the key points in visualizations and enable users to express their complex information needs about data naturally. In this talk, I will present how to tightly integrate state-of-the-art natural language processing (NLP) and visualization (Vis) techniques to support a diverse range of users with different levels of skills and backgrounds in performing data analysis tasks. We will introduce several NLP tasks for Vis, including automatic natural language interactions with visualizations, chart question answering, and chart summarization. We will then demonstrate several applications that leverage such NLP tasks to make data visualizations and analytics more accessible and inclusive.

**Biography:**

Dr. Enamul Hoque Prince is an Associate Professor and the Director of the School of Information Technology at York University. Previously, he was a postdoctoral fellow in Computer Science at Stanford University. His research addresses the challenges of the information overload problem using an interdisciplinary lens, combining information visualization and human-computer interaction with natural language processing. Since his research is uniquely positioned at the intersection of information visualization, NLP, and HCI, he regularly publishes in top venues in each of these areas including IEEE Vis, ACL, EMNLP, CHI, IUI, and UIST. He serves as an Area Chair for the ACL Rolling Review (2021-) and as a program committee member (2018-) for the IEEE Vis. His research has been funded by NSERC Canada, Canada Foundation for Innovation, and National Research Council Canada, among others.