# Investigating downstream extensions of a question-answer generation model

Name: Ayush Modi

Supervisor name: Brooks Paige

## Abstract

Neural Question-Answer Generation is a task in natural language processing that aims to generate question-answer pairs from an arbitrary passage of text. Lee et al \cite{lee2020infohcvae} proposed a model called Info-HCVAE, which uses a variational-autoencoder with LSTMs with self-attention mechanism to solve this task. Due to the modular design of their model, Info-HCVAE can be extended to several downstream applications, such as MCQ (multi choice question) generation, information retrieval, keyword extraction, controlled question generation et cetera. The current Info-HCVAE model can generate questions and answers, however, the design of the model can be reconfigured to also generate distractors which will allow generating MCQs. Information retrieval, also known as query-document ranking, refers to retrieving documents in order of their relevance to the query. Using question-answer generation models for this information retrieval is a novel approach and this report will evaluate the success of Info-HCVAE in this task. Lastly, controlled question-generation attempts to resolve a limitation in Info-HCVAE where the majority of the questions begin with “what”, this report evaluates the different methods attempted to generate more varied types of questions.