CS562 Project Proposal

I have chosen to recreate a portion of the "A Neural Attention Model for Sentence Summarization" paper. This paper consists of using different encoders to summarize articles into headlines. Specifically, I will look into two of the three encoders described in the paper: Bag-of-Words encoder and Attention-Based Encoder. For generating the summaries, a beam-search decoder will be implemented.

The data set will be obtained from the DUC-2004 shared task. Requests for the data have been sent in and are currently awaiting reply. This data will be obtained from the site: https://duc.nist.gov/data.html.

The same metrics as the DUC-2004 evaluation will be used to assess the results of the project. Namely, ROUGE-1, ROUGE-2, and ROUGE-L will all be reported and then compared against the papers metric as a baseline. Following the baselines example, the length of the summaries will be hard cut at 75 characters. With no preference given to the length of the generated summary. Other baselines that it will be compared against include the Topiary, which is the winning resultant from the original shared-task.

The expectation is that attention-based encoder model will largely outperform the bag-of-words model. While both will still underperform to the reference sample in both ROUGE-1 and ROUGE-L. For ROUGE-2 metric, the bag-of-words model will still be underperforming to the reference but the attention-based model should perform as good or better than the reference model.

Reference Paper:

Alexander M Rush, et al.: A Neural Attention Model for Sentence Summarization. EMNLP 2015.