Abstract

Long Short-Term Memory (LSTM) sequence-to-sequence model has been widely used to solve some challenges in summarizing text. However, this model has two main problems: the appearance of word outside of vocabulary or often called out-of-vocabulary (OOV) word and the repetition of words. In this paper, a pointer generator and a coverage weighting are proposed to overcome these problems. It starts with a basic sequence-to-sequence model. Then, upgrade with an attention mechanism, which has been added coverage weighting on its calculation to reduce the occurrence of word repetition, and change the encoder to a bi-directional LSTM. After that, the pointer generator is applied in order to point back to the source-word and generate a word if it encounters an OOV word. Using the CNN/Daily Mail news article in English as the dataset and ROUGE score as evaluation metric, the proposed model produces some summaries those are quite similar to the summaries by the experts. It gives some relative improvements from 18 to 34% compared to the standard attention mechanism model. However, it requires a relative higher complexity up to 40%, where it needs more processing time (7 days) than the standard model (only 5 days).