Deep Learning Approaches to Text Production

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Summary

Text production is a key component of many NLP applications. In data-driven approaches, it is used for instance, to generate dialogue turns from dialogue moves, to verbalise the content of Knowledge bases or to generate natural English sentences from rich linguistic representations, such as dependency trees or Abstract Meaning Representations. In text-driven methods on the other hand, text production is at work in sentence compression, sentence fusion, paraphrasing, sentence (or text) simplification, text summarisation and end-to-end dialogue systems.

Following the success of encoder-decoder models in modeling sequence-rewriting tasks such as machine translation, deep learning models have successfully been applied to the various text production tasks. In this tutorial, we will cover the fundamentals and the state-of-the-art research on neural models for text production. Each text production task raises a slightly different communication goal (e.g, how to take the dialogue context into account when producing a dialogue turn; how to detect and merge relevant information when summarising a text; or how to produce a well-formed text that correctly capture the information contained in some input data in the case of data-to-text generation). We will outline the constraints specific to each subtasks and examine how the existing neural models account for them.

Categories

Preferred Conference: *NAACL 2018*
2nd Choice Preference: *EMNLP 2018*

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