



Literacy situation models knowledge base creation

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Abstract

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Keywords

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Introduction

In recent years, there have been significant advancements in text generation models, but they still face challenges in producing coherent and lengthy stories with context provided as additional knowledge. Our paper addresses this issue by developing a model that can generate stories based on its beginning and ending, while taking into account given context. Context will be provided in form of character sentiment, which will be reversed. To achieve this, we divide the problem into two domains: character sentiment analysis and usage and story generation. With the former, we aim to extract information about the attributes of individual characters in the story, while the latter focuses on using the provided data as additional context for story generation.

Related work

Article Automatic Story Generation: Challenges and Attempts [1], provides a good baseline. It describes approach to spatiotemporal modeling using convolutional LSTM networks (CLSTM). The authors introduce a Bayesian hierarchical framework that employs low-rank matrix factorization to learn separable spatial and temporal priors for the CLSTM weights [1]. Furthermore, they incorporate uncertainty quantification into the framework using dropout variational inference. Experiments on synthetic and real-world datasets demonstrate the efficiency of the proposed method, with improvements in predictive performance and uncertainty quantification compared to existing techniques [1].

More similar to our area is an interesting article titled Controllable Multi-Character Psychology-Oriented Story Generation [2]. It presents an approach to automatic story generation that emphasizes controllable multi-character interactions and psychological elements [2]. The authors propose a

psychologically-driven, deep-learning-based framework that uses BERT-based models for character interaction, an LSTM model for plot control, and a psychology-based rule system to manage character relationships and emotions. Experiments demonstrate the effectiveness of the proposed method in generating coherent and engaging stories with customizable plots, complex character relationships, and a rich portrayal of character psychology, highlighting its potential for advancing the field of story generation.

In the article [3], authors developed a text generation framework to address the disadvantages of previous model [4]. They incorporated external knowledge and developed a contextual ranker to rank the relevance of retrieved knowledge sentences to the story context. Sentence embeddings are then used for weak supervision. The top-ranked knowledge sentences are fed to the conditional text generator to guide generation. The results are measured by automatic metrics and human evaluations, which show that their model generates more fluent, consistent, and coherent stories with lower repetition rate and higher diversities compared to previous state-of-the-art models. The model is also controllable as evidenced by successful replacement of keywords used to generate stories. Especially beneficial for us are the comparison between BERT and GPT2 language models and ways how to compare goodness of generated stories.

Very recent article on the topic [5] explores the use of large-scale latent variable models for neural story generation with a focus on controllability. Authors integrate latent representation vectors with a Transformer-based pre-trained architecture to build a conditional variational autoencoder (CVAE) and show through experiments that their model achieves state-of-the-art conditional generation ability while maintaining excellent representation learning capability and controllability. The model components, such as encoder, decoder, and

variational posterior, are all built on top of pre-trained GPT2 language model.

Methods

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Results

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Discussion

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Acknowledgments

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