Sentiment Analysis Based on Deep Learning Methods for Explainable Recommendations with Reviews

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Abstract

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Abstract:
Explainable recommendation systems have gained much attention in the last few years. Most of them use textual reviews to provide users with interpretability about why services or products are liked by users or recommended for them. Sentiment analysis has potential advantages to determine the attitudes of users in online communities using websites such as Twitter, Facebook, and YouTube. However, sentiment analysis of textual reviews in explainable recommendation systems seems to be a really challenging task. In this paper, we present a deep learning-based architecture for sentiment analysis to automatically predict the sentiment of reviews, which are considered as explanations of recommendations. It consists of two instances of the prediction model, one with the Long Short-Term Memory (LSTM) method and the other with the Gated Recurrent Unit (GRU) method. We evaluate their performance on one real-world dataset from Amazon and compare them with one state-of-the-art method. The experimental results show that our methods perform better than the baseline approach.