



Título: Aspect Extraction Using Weak Supervision and Transfer Learning

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Local: Hall do Centro de Ciências - Bloco 902

Resumo:

In Sentiment Analysis we have three levels of Sentiment Classification: document level, sentence level and aspect level. In a opinionated document, an author can write both positive and negative opinions about different things, and the same could happen for a sentence. Aspect-based sentiment analysis tries to find the sentiment at the most detailed level, the aspect level. One of the tasks involved in Aspect-based Sentiment Analysis is the aspect extraction: the identification of aspects (attributes or characteristics) that have been evaluated in a sentence. For example, in the sentence “The picture quality of this camera is amazing,” the aspect is “picture quality”. Different approaches have been used to perform the task of aspect extraction and, more recently, the use of deep convolutional neural networks proved to be very useful. But this technique has some pitfalls, like the huge number of labeled examples required to train the network. In this work we propose the use of weak supervision and transfer learning to address the problem of labeled examples scarcity. The first method takes advantage of existing unsupervised methods to create a weakly annotated set of training data, and the

second one uses a source task with plentiful data to improve performance on a target task with fewer available examples. The use of these two techniques aims to improve the accuracy of the deep learning model and avoid the use of manual inputs like language rules, handcrafted features and lexicons.

Banca:

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