Creating Emotion Recognition Algorithms based on a Convolutional Neural Network for Sentiment Analysis

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Abstract

The objective of the research is the development of a convolutional neural network model for sentiment analysis, as well as the software implementa-tion of the resulting network. Convolutional neural networks are easy to train and implement. To train them, a standard error backpropagation algo-rithm is used, and because the filter weights are evenly distributed the num-ber of parameters in the convolutional neural network is small. From the viewpoint of computational linguistics, convolutional neural networks are a powerful tool for classification, that, however, does not have any language intuition, which significantly complicates the analysis of algorithm errors. However, it is convolutional networks that are widely used in text data anal-ysis tasks. Neural networks always work with big data and often require a lot of processing power. Therefore, to simplify computations, it makes sense to use "lazy" NNs. A "lazy" neural network is a network, which, if it receives input data that repeats the patterns that were previously processed by it, re-turns a result that was obtained earlier.

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