

Sarcasm detection using deep learning with contextual features

ABSTRACT

Our work focuses on detecting sarcasm in tweets using deep learning extracted features combined with contextual handcrafted features. A feature set is extracted from a Convolutional Neural Network (CNN) architecture before it is combined with carefully handcrafted feature sets. These handcrafted feature sets are created based on their respective contextual explanations. Each feature sets are specifically designed for the sole task of sarcasm detection. The objective is to find the most optimal features. Some sets are good to go even when it is used in independence. Other sets are not significant without any combination. The results of the experiments are positive in terms of Accuracy, Precision, Recall and F1-measure. The combination of features is classified using a few machine learning techniques for comparison purposes. Logistic Regression is found to be the best classification algorithm for this task. Furthermore, result comparison to recent works and the performance of each feature set are also shown as additional information.

Keyword: Sarcasm detection; Natural language processing; deep learning