Identification of Emotional Valence in Sentences of Children’s Tales

Abstract

Sentiment analysis in texts has been widely explored recently, mainly using natural language processing and machine learning techniques. However, despite the advances achieved, there are still significant challenges to be solved. Our work explores the analysis of feelings in narrative texts by identifying the emotional valences in sentences belonging to children’s tales, which can be used, for example, as a resource for applications aimed at synthesizing narrators and virtual actors in Brazilian Portuguese. Using natural language processing techniques and an affective database called Anew-Br, we created our EMONT V1 algorithm, which attributes emotional valence to the phrases of the developed corpus. Two different approaches were taken to obtain comparable results, thereby increasing the reliability of our system: a subjective assessment that aims to label sentences by a group of 100 volunteers, which we assume to be grund-truth, and an objective assessment comparing the labels provided by some commercial platforms that promise to provide similar functionality. Our algorithm has achieved precision performance equivalent to significant industries such as IBM Watson, Google Cloud, and Microsoft Azure. The results of this methodology can be extended to other childrens' sentences or similar texts, for example, romance, short story, chronicle, fable, parable, anecdote, or legend.