

ABSTRACT

SENTIMENT LABELING BASED ON SEMI-SUPERVISED LEARNING USING DEEP LEARNING

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Sentiment analysis is the process of analyzing, processing and understanding text data with the aim of obtaining information on the tendency of opinions in a problem. In the sentiment analysis research process, there is a problem, namely when sentiment analysis research is carried out but still using the manual labeling method by humans (expert annotation). Of course, this has disadvantages, namely related to subjectivity, long time and expensive costs. Another way is to use computer assistance (machine annotator). However, the use of machine annotators also has the research problem of not being able to detect sarcastic sentences. Thus, the researcher proposed a sentiment labeling method using Semi-Supervised Learning. Semi-Supervised Learning is a labeling method that combines human labeling and machine annotation techniques. This research uses machine annotators in the form of Deep Learning algorithms, namely the Long Short-Term Memory (LSTM) and Gated Recurrent Unit (GRU) algorithms. The word weighting method used in this research is Word2Vec Continuous Bag of Word (CBoW). The results showed that the GRU algorithm tends to have a better accuracy rate than the LSTM algorithm. The average accuracy of the training results of the LSTM and GRU algorithm models is 0.904 and 0.913. While the average accuracy of labeling by LSTM and GRU is 0.569 and 0.592.

Keyword : Annotation, Classification, Deep Learning, Semi-Supervised Learning, Word2Vec