

Suleiman D., Etaiwi W., Awajan A., 2021. Recurrent Neural Network Techniques: Emphasis on Use in Neural Machine Translation. *Informatica*, Vol 45, Number 7, Pages 107–113. <https://doi.org/10.31449/inf.v45i7.3743> (ISI, Scopus)

Abstract

Natural Language Processing (NLP) is the processing and the representation of human language in a way that accommodate its use in modern computer technology. Several techniques including deep learning, graph-based, rule-based and word embedding can be used in variety of NLP application such as text summarization, question and answering and sentiment analysis. In this paper, machine translation techniques based on using recurrent neural networks are analyzed and discussed. The techniques are divided into three categories including recurrent neural network, recurrent neural network with phrase-based models and recurrent neural techniques with graph-based models. Several experiments are performed in several datasets to make translation between different languages. In addition, in most of techniques, BLEU is used in evaluating the performance of different translation models.