Presentation a Neural Network with Gradual–Clustering Performance for Text Classification

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Abstract

So far, various methods have been used to classify text. One of the methods of text classification is using Artificial Neural Network (ANN). In this article, we have proposed and examined text classification with the proposed method of clustering neural network. The method of ANN is that, this network is composed of several sub networks (in this method, we consider each sub-network as a cluster which contains nodes and edges) with specific examples and unique models and they are interconnected step-by-step in order that the network be completed. For finding the pattern of sub-networks, the relationship between the inputs and outputs are put into consideration and the resulting pattern is generalized in sun-networks. When sub-networks are compounded together, regarding rules that they have learned, they have found the ability to create a similar output from the same inputs. The proposed system includes two phases: Learning and Test. The system in learning phase considers a set of training texts for extracting sub-network properties as to obtain the main features of each sub-network, while it uses these specific features of sub-network for classifying the uncategorized text in test phase. We have utilized two sets of data for our experiments: 1)
20-newsgroup; 2) Reuters 21578. The experimental obtained results show that our proposed method can extend text classification, at its best to 92%.

References


Index Terms

Computer Science

Networks

Keywords

Artificial Neural Network, Unsupervised Learning, Text Classification, Machine Learning, Clustering Neural Network.