Abstract

Clustering is an important task gives good results with information retrieval (IR), it aims to automatically put similar documents in one cluster. Stemming is an important technique, used as feature selection to reduce many redundant features have the same root in root-based stemming and have the same syntactical form in light stemming. Stemming has many advantages it reduces the size of the document and increases processing speed and used in many applications as information retrieval (IR). In this paper, we have evaluated stemming techniques in clustering of Arabic language documents and determined the most efficient in pre-processing of Arabic language, which is more complex than most other languages. Evaluation used three stemming techniques: root-based Stemming, light Stemming and without stemming. K-means, one of famous and widely clustering algorithm, is applied for clustering. Evaluation depends on recall, precision and F-measure methods. From experiments, results show that light stemming achieved best results in terms of recall, precision and F-measure when compared with others stemming.


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Stemming Effectiveness in Clustering of Arabic Documents


Index Terms

Computer Science  Pattern Recognition

Keywords

Arabic text clustering  Stemming  light stemming  K-means