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Abstract
An Automatic Document Classifier System based on Ontology and the NaU+EFve Bayes Classifier is proposed in this paper. The main concept is to first establish a keyword synonymous table by experts for narrowing down the range and getting the consistency of keywords. The Formal Concept Analysis is then used for establishing knowledge ontology through the complex categories and attributes relation. Finally, the ontology is applied to a NaU+EFve Bayes Classifier to get the automatic document classifier system. In this system, 1752 documents divided into 10 categories are used to assess the effectiveness of classification, where 1252 and 500 documents are the training and testing documents respectively, and the F1-measure and Ten-fold Cross Validation are as the assessment criteria. The experimental results show that nine from 8 categories reaches 80% effectiveness of the documents classification, whereas the other two categories reached over 75% effectiveness of the documents classification. In sum, the average effectiveness of document classification in 10 categories is about 86%. Thus, the automatic classifier system can indeed reach the effectiveness of document classification.
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