Abstract

The application and usage of opinion mining, especially for business intelligence, product recommendation, targeted marketing etc. have fascinated many research attentions around the globe. Various research efforts attempted to mine opinions from customer reviews at different levels of granularity, including word-, sentence-, and document-level. However, development of a fully automatic opinion mining and sentiment analysis system is still elusive. Though the development of opinion mining and sentiment analysis systems are getting momentum, most of them attempt to perform document-level sentiment analysis, classifying a review document as positive, negative, or neutral. Such document-level opinion mining approaches fail to provide insight about users’ sentiment on individual features of a product or service. Therefore, it seems to be a great help for both customers and manufacturers, if the reviews could be processed at a finer-grained level and presented in a summarized form through some visual means, highlighting individual features of a product and users sentiment expressed over them. In this paper, the design of a unified opinion mining and sentiment analysis framework is presented at the intersection of both machine learning and natural language processing approaches. Also, design of a novel feature-level review summarization scheme is proposed to visualize mined features, opinions and their polarity values in a comprehensible way.
Index Terms

Computer Science
Information Sciences

Keywords
- Opinion Mining
- Subjectivity Classification
- Feature Identification
- Sentiment Classification
- Natural Language Processing
- Rule-Based System
- Machine Learning
- Review Summarization.