Abstract

The exponential growth of internet opened a new platform where people can freely express and exchange their suggestions, ideas and feedback about any product or services. People prefer e-commerce websites to buy or sell products or services and they like to review and analyze the opinions of others while purchasing any product or services. The social-medias, e-commerce websites, review websites, forums, blogs etc. encourage users to share their views, opinions, suggestions and feedback about different aspects that touch their day to day life. This trend lead to a huge accumulation of user generated content on internet. The processing and analyzing this huge unstructured content, which are written in natural language is a challenging task. These factors motivated the development of an opinion mining and sentiment analysis system that can automatically extract, classify and summarize users’ reviews. The present work proposes a multi-step opinion mining system that involves pre-processing to clean the document, a rule-based system to extract features and a scoring mechanism to tag their polarity. The proposed system can be used for binary as well as fine-grained sentiment classification of user reviews. The proposed technique utilizes fuzzy functions to emulate the effect of various linguistic hedges such as dilators, concentrator and negation on opinionated phrases that make the system more accurate in sentiment classification and summarization of users’ reviews. Experimental evaluation indicates the system can perform the sentiment
analysis with an accuracy of 93.85%.

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Index Terms

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Keywords
Opinion Mining; Sentiment Analysis; Machine Learning Techniques; Rule Based System; Online Product Reviews; Review Classification; Review Summarization