MASTER'S PROJECT (FALL 2014)

TOPIC: *Feature-Based Analysis of Product Reviews for Online Products Using Text Mining*

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ABSTRACT

The e-commerce boom has caused a large number of products being sold online. Due to the convenience of e-commerce, more and more people purchase products online nowadays. To provide feedback and help other users to make decisions on buying suitable products, a user can describe his/her experience with a product via reviews, blogs or forums posts. This results in hundreds or thousands of review comments posted for each product. Since manual analysis of a large number of product reviews is not a feasible approach, there is a pressing need that we use an automated approach such as text mining, to automatically extract valuable information from the large amount of reviews. In this project, we use text mining techniques to analyze product reviews and classify each review based on its positive and negative opinions on selected product features. By quantifying and visualizing the strength and weakness of the product features for each product, users would have a better view when comparing similar online products for purchasing. In our approach, we first manually select the product features among related terminologies identified from product reviews. Then we automatically extract the opinion sentences consisting of the product features, and quantify the strength of either a positive or negative opinion using predefined algorithms. The resulting value is a score ranging from -1 to 1, where a negative score represents a negative opinion, and a positive score indicates a positive one. The product features are then arranged in an ascending order, which will give the users a clear picture about the strength and weakness of the product. Our experimental results using data collected from Amazon website show that our approach can significantly save a user's time in evaluating similar online products in order to make the right decision on online shopping.