

Chapter 82

Feature Based Opinion Mining

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ABSTRACT

Opinion mining is the estimated learning of user's beliefs, evaluation and sentiments about units, actions and its features. This method has several features matched with data mining techniques, language processing methods and feature oriented data abstraction. This seems to be extremely difficult to mine opinions from analysis those exist in common human used language. Views are very essentials when one desires to construct a judgment. Data abstraction is an important characteristic for decision making applicable to individuals and organization of different nature. While selecting and purchasing a particular product, it is always beneficial for an individual to collect other views for correct decision making. One association wants to conduct surveys and gather opinions to develop their product excellence. Internet as a source of information, having a number of websites available with the customer reviews as a number of products, it is easy to extract the features from these opinions, sentiments and view, is a task comes under feature-based opinion mining.

INTRODUCTION

Web is playing an important role in advertising information regarding products. Web sites are also used by the consumers to express their views related to a product. Customer can say what they think (positive/negative) about the product. It is a good medium to collect consumer feedback, reviews and comments. These customer responses in the form of reviews and comments are very useful as information that can be further utilized as a base for future analysis of product sales and revenue. The common example is hotel booking, an online customer can check the reviews for setting his sentiments regarding the preference of the hotel likely to be booked.

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Therefore customer is utilizing large number of information available on the net (in form of reviews and comments) to improve their decision making process for example in their hotel booking. This is also called as Sentiment analysis. The various web application works on client opinion. Generally, it is seen that a web application approach to the customer is according to its area of interest. This is mined on the basis of customer reviews blogs and search on the internet. This help to analyze customer's inclination on a particular product choice.

Opinion mining process has three basic components

1. **Customer or Opinion Holder:** The customer is the person who has his own view related to a particular object and has the power to communicate those views and opinions.
2. **Product:** An object like goods and services about which views can be formed.
3. **Opinion:** These are views or thoughts or sentiments on an object given by the customer.

For marketing view point, selling the product on the internet with the help of the websites are largely influenced by the sentiments of the customer expressed in the form of reviews. Generally sentiments are related to less cost of the product and good opinion given the other customers on the same products because it is human behavior that people always try to know other people's thoughts and opinions before drawing any conclusion. It is often seen that most of the businesses try to collect and analyze customer reviews regarding their goods and services and try to enhance or modify them as per the customer need e.g. In restaurants individual's reviews in relation to food quality taste and services are collected to enhance the performance . Consumer opinions about the object can be either positive or negative which is referred as the sentiment orientation or the polarity of the sentiment. The internet is utilized for large amount of review collection and to develop the review database. These reviews act as a foundation for decision making.

Feature based opinion mining is the process of extracting the relevant information regarding the product and the services e.g., website of Trivago does the feature based opinion mining; they collect the reviews of various hotel booking and then extract the relevant hotel list that meets the customer satisfaction. There are two basic methods of opinion mining

1. **Direct Opinion:** This method has no comparison value. The subjective opinions on the products are given by the customers and these opinions are evaluated to check the worth of the product.
2. **Comparison Opinion:** This method is largely used in advertising industry. Here the objective opinions are taken related to the product and compared for relative analysis and then these opinions are used for the further promotion of the product.

The expensive utilization of opinion mining is in online sales of products, goods and services. This single platform can provide customers with a large variety of products having reasonable prices and interesting offers and discounts. But with the passage of time competition with the websites are increased due to almost having same kind of product and services. Now the opinion of individual customers is valuable for promotion and sales. As no professional staff assistance is provided for appropriate selection, this sentimental analysis plays a vital role. Every online sale has a platform for customer reviews and rating that will help future customers for buying. The challenge is that the most of the reviews are opaque and it is hard to be believed by the customer. So, the best methods to evaluate these reviews are feature based opinion mining or sentiment analysis.

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