

Product Specification & Review based Analysis

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Abstract— Online shopping is growing massively where huge number of consumer reviews of products is available, which contains valuable information for users who goes in search of good products. However the reviews are disordered, which leads to difficulties in searching of good products and knowledge accession. This paper proposes a product ranking framework, which identifies the important aspect from consumer reviews. The product aspect ranking framework analyses the online consumer reviews through Sentiment Classifier and then the Probabilistic Aspect Ranking is developed which displays the products in order based on review given by the consumers and the ratings predicted.

Key words: Product Aspect Ranking Framework, Consumer Reviews, Sentiment Classifier

I. INTRODUCTION

Data mining the extraction of hidden predictive information from large database, is a powerful new technology with great potential to help companies focus on the most important information in their data warehouses. Data mining tools predict future trends and behaviors allowing business to make proactive, knowledge driven decisions. The automated, prospective analyses offered by data mining move beyond the analyses of the past events provided by retrospective tools typical of decision support systems. Data mining tools can answer business questions that traditionally were too time consuming to resolve. Data mining techniques can be implemented rapidly on existing software and hardware platforms to enhance the value of existing information resources and can be integrated with new products and systems as they are brought on-line.

In recent years, we have observed a flourish of review websites. It provides great platforms to share our viewpoints for various products we purchase. It is difficult for users to make a choice when all consumer products emulate positive sentiment and negative sentiment. It's known that the different people have their own perspective thus to make a purchase decision, users not only need to know whether the product is good, but also need to know how good the product is. In this work, we propose a Sentiment based rating prediction method to improve prediction correctness.

Sentiment Classification analyzes the opinions, expression, likes and dislikes of customers towards various products. Here Sentiment analysis is used, as the reviews are unstructured and are written in natural language such data may not be useful. Example :Suppose someone has posted a review about a mobile phone "The sound quality of a mobile phone is amazing" reflects positive opinion "Amazing" of product mobile phone. Generally, reviews are divided into two groups positive and negative. Hence it is important to provide numerical scores. Based on the review given by the customer, rating is predicted. The product is re-ranked according to the ratings, these ratings helps other users to view the product which is top rated. The top rated products

are will always be in the top of the list and the least rated products will be in the bottom.

II. LITERATURE SURVEY

There are several related works can be identified related to the Sentiment Classification Product framework.

- In accordance to Latent Aspect Ranking Analysis [LARA] Model [4], the words from reviews are given some weight, like delicious as of 1 and dislike as 0. And the final weightage are calculated after considering all the words.
- Product Aspect Ranking Techniques: A Survey [2], provides the description of various techniques for product aspect identification.
- Wang and Lam [3] used supervised learning technique were hidden markov model and conditional random were used as extractor and was effective but the preparation of training data set is time consuming.
- Neha M Toshinwal and D.V Gore [4] identify the important aspects of products which are assumed to be frequently in the reviews.
- According to the survey the product aspects are identified and the aspects of products which are commented frequently of reviews are identified.

III. METHODOLOGY

The process of product ranking has three main steps

- a) Aspect identification: identifying the features of products
- b) Sentiment Classification: identifying the sentimental expression from the user reviews
- c) Product Re-ranking: Re-ranking the highest rated product in the top list.

In order to provide better service to users, admin upload some products which will be automatically categorized under particular group which in turn can be visualized by the users.



Fig. 1: System architecture

IV. RESULTS & DISCUSSION

First, we extract product characteristics from consumer reviews. Then, we identify the sentiment expression words which describes the product attribute. Besides, we leverage sentiment dictionaries to calculate sentiment f a specifics

consumer on an item. The sentimental measurement approach is proposed. Then we make use of sentiment for rating prediction. And then the product is re-ranked according to the ratings predicted using aspect ranking algorithm i.e. the top related product will be ranked at the top of the list and least rated products will be ranked at the bottom of the list. Significant performance improvements are obtained on the application of extractive summarization by making use aspect ranking.

Rating level	General Meaning
★ ★ ★ ★ ★	I love it
★ ★ ★ ★	I like it
★ ★ ★	It's okay
★ ★	I don't like it
★	I hate it

Table 2:

V. CONCLUSION

This overall work proposes a framework where large numbers of products are categorized into their particular groups at a same time. Identify the important features of a product from the online customer reviews considering the aspect frequency, from that rating is predicted. Further considering these rating aspect ranking is developed to re-rank the product. Thus we can visualize the highest ranked product at the top of the product list.

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