Fake Product Review System using Sentimental Analysis

AISHWARYA R[1], ALFRED JOEL REMALY R[2], ARUN KUMAR M[3], Mrs. POONKODI P[4],

Dr. SANGEETHA K[5]

[1,2,3]UG Scholar, Department of Computer Science and Engineering, SNS College of Technology, Coimbatore, India.
[4]Assistant Professor, Department of Computer Science and Engineering, SNS College of Technology, Coimbatore, India.
[5]Head of Department, Department of Computer Science and Engineering, SNS College of Technology, Coimbatore, India.

---***---

Abstract: *It is prominently evident that data is the future of the world and in combination with technology, there has been a significant rise in new tools to process this data. Data analytics has also evolved into much more significance along with Machine Learning where we use the supreme power of machines to analyse data which allows us to propose solutions for real-time problems. This proposed ideology revolves around the idea of improvising and improving the standards of users online shopping experience by introducing the trust factor for the products using the feedback given by users. The ideology can be abstracted as "The reviews for a product are collected by scraping the respective online shopping websites, as a text data which is then processed using Sentiment Analysis algorithm, Natural Language Processing, a technique of machine learning used to process, extract and predict. This data is processed to extract score biasing towards the positive, negative and neutral normality for various parameters of the product."*

Keywords: Machine Learning, Data Analytics, Sentimental Analysis, Scraping, Natural Language Processing, Feedback.

1. Introduction

Feedbacks are the best and optimal way for manufacturing units to trace out the standard of the products and to improvise or alter it. However, it is not feasible to acknowledge every review from the consumer side as it requires more time, energy and human resources. Thus, this portal provides the manufacturing unit a handy provisional tool to check and analyse feedbacks of products given by the spectators. This would ultimately result in better standards, accessibility, quality, performance and efficiency of the products.

2. Fake Product Review System Interface

This website takes in a link from the respective online site that the end user would choose to buy the product. This link would then be scraped to fetch the feedback from the vendor website. Once the link is processed in this analyzing website and the results are published according to the percentage of positive, neutral or negative feedback on the vendor's website. The direct interaction between manufacturing entities and consumers would significantly increase and in turn this would surely pave the way for manufacturers to produce, render their own sub products with much more bias towards the usage of common users and also to change the quality even on their existing products and also to the forthcoming products.

3. Literature survey

1. As per the business review calculation using sentiment analysis, the research area of opinion mining, sentiment mining and sentiment extraction has gained popularity in the last years. Online reviews are becoming very important criteria in measuring the quality of a business. This paper presents a sentiment analysis approach to business reviews classification using a large reviews dataset provided by Yelp: Yelp Challenge dataset. In this work, we propose several approaches for automatic sentiment classification, using two feature extraction methods and four machine learning models.

2. A Case Study in the Automotive Industry by Freimut Bodendorf , Carolin Kaiser,the Internet is increasingly changing from a medium of distribution to a platform of interaction. Customer discussions in Web 2.0 are a valuable source of information for companies. An opinion mining approach is presented which allows an automated extraction, aggregation and analysis of customer opinions on products by using text mining. Thus, strengths and weaknesses judged by customers can be detected at an early stage and starting points for product design and marketing can be identified.

3. As per the work A framework for sentiment analysis with opinion mining of hotel reviews by Kudakwashe Zvarevashe, Oludayo O. Olugbara, the

automatic labelling of text data is hard because people often express opinions in complex ways that are sometimes difficult to comprehend. The labelling process involves huge amounts of effort and mislabelled datasets usually lead to incorrect decisions. In this paper, we design a framework for sentiment analysis with opinion mining for the case of hotel customer feedback.

4. Automatic sentiment analysis provides an effective way to gauge public opinion on any topic of interest. One of the challenges presented by using a general sentiment lexicon is that it is insensitive to the domain since the scores assigned to the words are fixed. By the analysis work on sentiments Expressed on text data by UK Energy Company Consumers done by

Victoria Ikoro, Maria Sharmina, Khaleel Malik, Riza Batista-Navarro. As a result, while one general sentiment lexicon might perform well in one domain, the same lexicon might perform poorly in another domain.
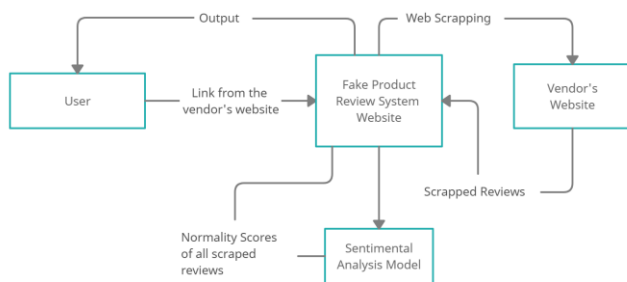
4. Block diagram

Fig 1. Fake Product Review System Block Diagram

5. Proposed System

Sentiment analysis, also referred to as opinion mining, is a sub machine learning task where we want to determine which is the general sentiment of a given document. Using machine learning techniques and natural language processing we can extract the subjective information of a document and try to classify it according to its polarity such as positive, neutral or negative. It is a really useful analysis since we could possibly determine the overall opinion about a selling object, or predict stock markets for a given company like, if most people think positive about it, possibly its stock markets will increase, and so on. Sentiment analysis is actually far from to be solved since the language is very complex (objectivity/subjectivity, negation, vocabulary, grammar,...) but it is also why it is very interesting to work on this project broadcasts the

idea of improving the essential parameters such as quality, standard, reliability etc based on user reviews for an online product

The reviews are collected by scraping the reviews from the online shopping site using beautifulsoup which is a python library for scraping websites. The reviews thus provided by the users are then evaluated by a Data Analytics engine which scores individual parameters based on sentiment or opinion extraction from the featured review and also the overall score for the product from the review. This portal provides a great way for product manufacturers which in my case are automobile manufacturers to trace out the user's perspective in corresponding product parameters and to make decisions for changing/altering and improving product quality furthermore.

6. Conclusion

This significant work would drastically improve the experience of the users in the online shopping portal. For the online shopping sectors, it reduces inevitable resources like human power, energy, time and complexion involved in the process of applying the non biased critics on their products and this would ultimately result in increasing and improvising the blossom of their brands. With this being implemented, the essential steps for a these websites holders to improvise their products such as identifying the flaws, pros, cons, suggestions and appreciations, applying the remedy using the parameters mentioned in the critics on their products and blossoming their products on a time-cycle basis would be much easier, totally feasible and very much accessible.

7. Applications

1. This website would enhance the online shopping experience of the users.

2. This website also aids both the vendor and the customer by providing the necessary information.

3. This website proves the trust factor of how machines can be relied on for accuracy.

4. Data Analytics can be an useful tool in making internet life easier.

8. References

[1] Mining Customer Opinions on the Internet - A Case Study in the Automotive Industry, Freimut Bodendorf , Carolin Kaiser 2010 Third International Conference on Knowledge Discovery and Data Mining. Year: 2010.

[2] Analyzing Sentiments Expressed on Twitter by UK Energy Company Consumers, Victoria Ikoro, Maria Sharmina, Khaleel Malik, Riza Batista-Navarro, 2018 Fifth International Conference on Social Networks Analysis, Management and Security (SNAMS),Year: 2018.

[3] Business Reviews Classification Using Sentiment Analysis, Andreea Salinca , 2015 17th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC).Year: 2015.

[4] A framework for sentiment analysis with opinion mining of hotel reviews, Kudakwashe Zvarevashe, Oludayo O. Olugbara, 2018 Conference on Information Communications Technology and Society (ICTAS) , Year: 2018.