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Fake Product Review Monitoring and Removal For Genuine Online Shopping

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Abstract: ***In today's world reviews play a vital role in online shopping and sales of the product because people consider all the pros and cons of any product before they buy it as there are many different options for the same product as well as different manufacturers for the same type of product with the difference in quality. While buying the product the reviews are directly related to the sales of the product and thus it is necessary for online websites to spot fake reviews and remove them. So, Fake Review Detection is used to spot any fraudulent going on because it's not possible for them to verify every product and sale manually so this application comes into the picture that tries to detect fake reviews given by the customers and remove them for genuine online shopping.***

Keywords: Reviews, Manufactures, Fake review detection, Fraudulent, Customer

I. INTRODUCTION

Fake Review Detection is used to spot any review because it's not possible for them to verify every product sale and review manually. We develop a program that helps us to detect and remove fake, misguided reviews and help the users to buy the products based on genuine reviews.

Although, some of the algorithms that have been used in past such as opinion spam analysis give good results, still no, an algorithm can resolve all the challenges and difficulties faced by today's generation. In this application, we try to get maximum accurate results for fraud detection and its removal.

A. Literature Review

A study on Review Manipulation Classification using Decision Tree

Identifying review manipulation has become one of the hot research issues in e-commerce because more and more customers make their purchase decisions based on personal comments from virtual communities and e-business websites. Customers consider these personal reviews are more reliable than the existing internet advertisements. Consequently, some enterprises attempt to create fake personal comments to affect customer behaviors and increase their sales. But, how identifying those manipulated reviews is a difficult task for customers. Therefore, this study employs a Decision Tree (DT) to improve the classification performance of review manipulation by introducing eight potential review manipulation attributes.

Opinion spam and analysis

Evaluative texts on the Web have become a valuable source of opinions on products, services, events, individuals, etc. Recently, many researchers have studied such opinion sources as product reviews, forum posts, and blogs. To the best of our knowledge, there is still no published study on this topic, although Web spam and email spam have been investigated extensively. We will see that opinion spam is quite different from Web spam and email spam, and thus requires different detection techniques. This paper analyzes such spam activities and presents some novel techniques to detect them.

II. PROPOSED SYSTEM

Our proposed system tells about the user can buy any product he will search the reviews of related products because the same product as there can be different manufacturers for the same type of product or there might be differences in sellers that can provide the product or there might be some difference in the procedure that is taken while buying the product so the reviews are directly related to the sales of the product and thus it necessary for the online websites to spot fake reviews as it's their own reputation that comes into consideration as well, so a Fake Review Detection is used to spot any fraudulent going on because it's not possible for them to verify every product and sale manually so a program comes into the picture that tries to detect any pattern in the reviews given by the customers.

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III. APPROACH

A. *Upload Dataset:* In this module, we consider the amazon dataset. The reviews which are present on the products are considered and the application checks whether the review is fake or not.

B. *Pre Process Dataset:* In this module, Data is pre-processed using the techniques of Data cleaning, Data integration, Data transformation, and Data reduction.

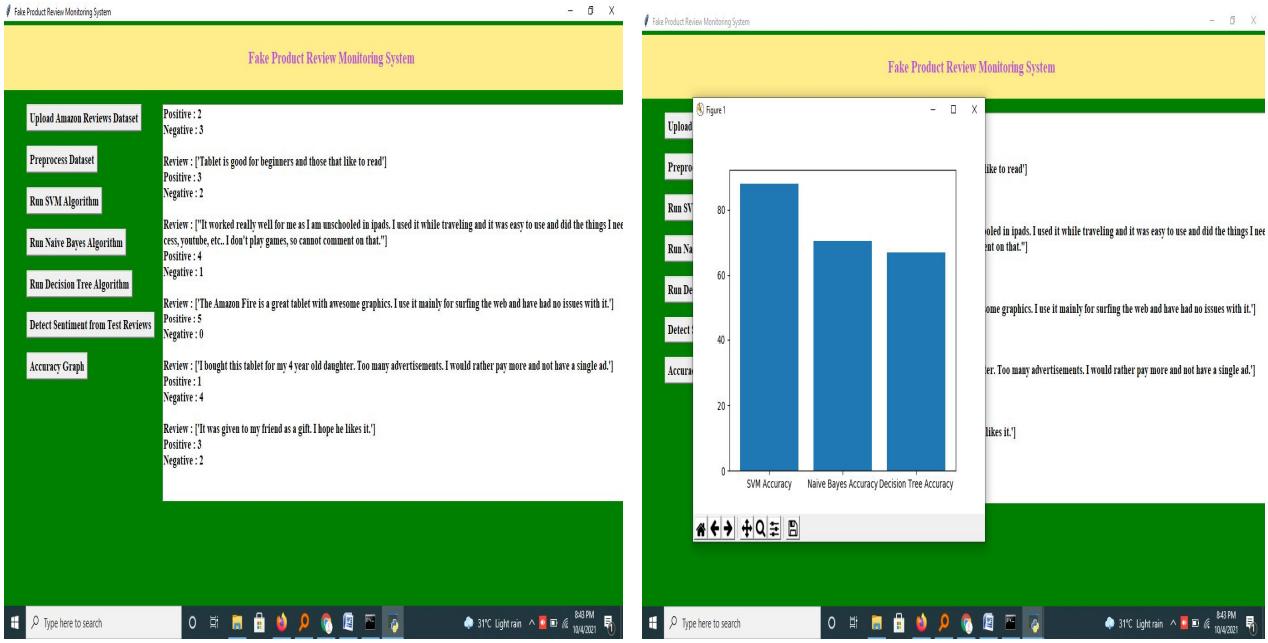
C. *Svm Algorithm:* The SVM Algorithm is used to separate the reviews based on the count of negative and nonnegative reviews of the product. The reviews are differentiated by using Naïve Bayes. If the count of negative reviews is very less, they are removed since the product is genuine with more positive reviews.

D. *Naïve Bayes Algorithm:* There is a dictionary of negative words given to the application. Whenever a word is used and repeated using the Naïve Bayes algorithm the negative review count is taken.

E. *Decision Tree:* The decision tree algorithm is used to separate the reviews based on the star ratings given by the users. The hyperplane separates the reviews into two categories, products with less than a 2.5-star rating and products with more than 2.5-star ratings.

F. *Sentiment Analysis:* Sentiment analysis is done on the reviews for better results since emojis and slang are used in the comments which are difficult to detect through a dictionary of words.

IV. RESULTS



The result of this application is detecting fake reviews and removal of them using the SVM algorithm, decision tree, naïve Bayes, and sentiment analysis. We also display the accuracy graph which shows the accuracy of the algorithms used on the dataset to detect the fake review.

V. CONCLUSIONS

We have come to a conclusion that we can detect fake reviews using the SVM algorithm, naive Bayes, decision trees, and sentiment analysis and remove them so that the user can buy the product considering its genuine review. This application will do an analysis and then post genuine reviews on genuine products. So it's will help users not to get misguided by the fake reviews.

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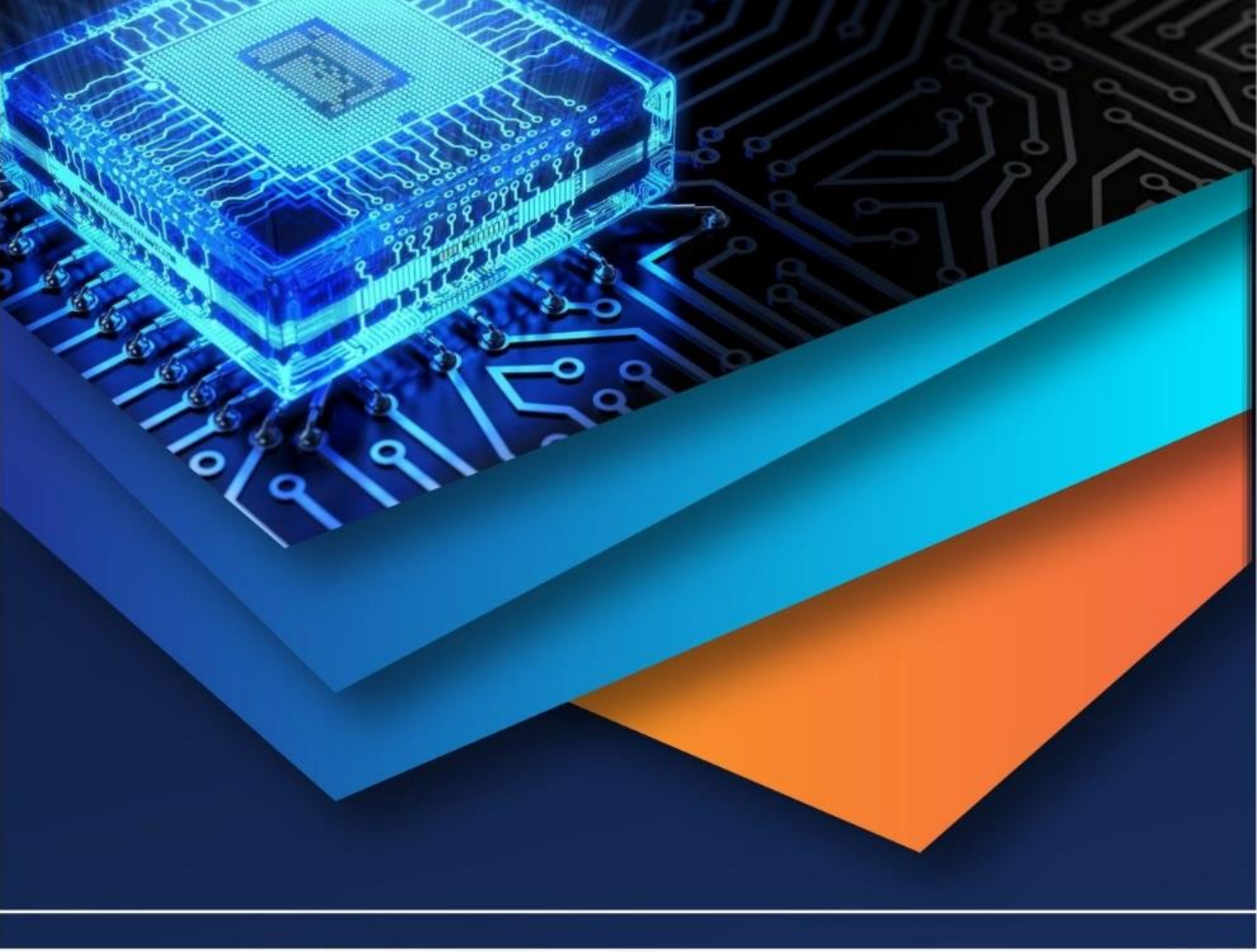
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