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Fake Product Review Monitoring System

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A B S T R A C T

Fake review detection and its elimination from the given dataset using different Natural Language Processing (NLP) techniques is important in several aspects. In this article, the fake review dataset is trained by applying two different Machine Learning (ML) models to predict the accuracy of how genuine are the reviews in a given dataset. The rate of fake reviews in Ecommerce industry and even other platforms is increasing when depend on product reviews for the item found online on different websites and applications. The products of the company were trusted before making a purchase. So this fake review problem must be addressed so that these large Ecommerce industries such as Flipkart, Amazon, etc. can rectify this issue so that the fake reviewers and spammers are eliminated to prevent users from losing trust on online shopping platforms. This Fake review detection and its elimination from the given dataset using different Natural Language Processing (NLP) techniques is important in several aspects. In this article, the fake review dataset is trained by applying two different Machine Learning (ML) models to predict the accuracy of how genuine are the reviews in a given dataset. The rate of fake reviews in Ecommerce industry and even other platforms is increasing when depend on product reviews for the item found online on different websites and applications. The products of the company were trusted before making a purchase. So this fake review problem must be addressed so that these large Ecommerce industries such as Flipkart, Amazon, etc. can rectify this issue so that the fake reviewers and spammers are eliminated to prevent users from losing trust on online shopping platforms. This

Keywords: Machine learning , Sentiment Analysis ,Sentiment Classification.

Introduction

The elegance with online review posting has grown at a faster rate and people buying almost everything online that gets delivered at their doorsteps. Hence, people are not subject to physically inspect the product when buying online so they drastically unwantedly/wontedly depend on reviews of other buyers this must be made truthful as much as possible so that the buyer is not cheated with fake reviewers or spammers time and again. The problem is simple yet tiring to be accomplished through/read every review to mark it as a fake or ambiguous category this must be done systematically to get to the root of the problem. This problem can be addressed by training an ML model which deals with the review section to flag a particular review as genuine or spam. The interesting thing is spammers who didn't use the product can be caught this way. A spam review or the usage of different customer id can be used to filter review of the product falsely to get a good rating of the product. This can be filtered by checking the use of words like "awesome", "so good", "fantastic" etc. can be flagged. Since they tend to hype the product or they try to emulate genuine reviews with the same words using it again and again to make an impact on the buyer. Hence the issue of spam filtering requires huge data to train and be effective with added domain knowledge such as sarcasm sentences used by users to show their dissent towards the product, sometimes the product is good but not the delivery or the packing which affects the review classification. Here, an NLP technique is used to identify such reviews instead of misclassification to a negative review as in sentiment analysis. To remove unwanted or outdated product reviews those include data pre-processing.

Related Work

The previous analysis is done on the expressed views through text, blogs, reviews, feedbacks, etc. as opinions by users which are unique to compute, study to obtain relevant information, that is nothing but sentiment analysis. Exiting research used a two-step approach, SVM classifier for classifying tweets other used emoticons, smileys, and Hashtags to classify labels into multiple sentiments The other researcher used an SVM classifier for training data using emoticons

Literature Survey

• FAKE REVIEW MONITORING SYSTEM NSC

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As most of the customers buy their product based on the review of the products. In such cases people go through with the rating or review of the products while observing those, people may not be able to find whether the report is real or fake. Some companies exhibit their own review for the demand of product and company rating purpose. To resolve this problem to find out fake review in the website this "Fake Review Monitoring" system is introduced. This system includes with verification process of reviews by the reference of IP address and then separate them into spam and non-spam reviews .

PROBLEM STATEMENT :

As most of the people require review about a product before spending their money on the product. So people come across various reviews in the website but these reviews are genuine or fake is not identified by the user. In some review websites some good reviews are added by the product company people itself in order to make product famous this people belong to Social Media Optimization team. They give good reviews for many different products manufactured by their own firm. User will not be able to find out whether the review is genuine or fake. To find out fake review in the website this "Fake Product Review Monitoring and Removal for Genuine Online Product Reviews Using Opinion Mining" system is introduced. This system will find out fake reviews made by the social media optimization team by tweeter .

:GOALS AND OBJECTIVES:

The main objective of this project is to classify reviews between genuine and spam. The interesting thing is spammers who didn't use the product can be caught this way.

• To counter such spammers, a sophisticated model is required in which a need to be trained on millions of reviews. In this work " dataset" is used to train the models and its very small dataset is used for training on a very small scale and can be scaled to get high accuracy and flexibility.

• To find out the review is fake or genuine, system will find out the product review rating of the user if the system observe fake review product will be automatically removed.

• This system uses data mining methodology. This system helps the user to find out correct review of the product. we propose a system which improves users shopping experience by recognizing emotions behind the reviews and detecting fake or false reviews posted by opponent with wrong intentions .

STATEMENT OF SCOPE:

• Now-a-days, due to the advent of technology and internet, shopping is mostly based on reviews or feedbacks. Traditionally when e-commerce websites were not considered. Buying product then using it will reveal its quality. Ecommerce have played a vital role in changing this shopping culture. Today everything can be purchased with just a phone and network .To find out the review is fake or genuine, system will find out the product review rating of the user if the system observe fake review product will be automatically removed. This system uses data mining methodology. This system helps the user to find out correct review of the product.

Methods:

A] SENTIMENT ANALYSIS :Sentiment analysis tasks typically combine two different tasks: (1) Identifying sentiment expressions, and (2) Determining the polarity(sometimes called valence) of the expressed sentiment. These tasks are closely related as the purpose of most works is to determine whether a sentence bears a positive or a negative(implicit or explicit)opinion about the target of the sentiment

B] SVM(SUPPORT VECTOR MACHINE) a] Support vector machines are a set of supervised learning methods used for classification, regression, and outliers detection. All of these are common tasks in machine learning. b] Import the dataset. c] Explore the data to figure out what they look like. d] Pre-process the data. e] Split the data into attributes and labels. f] Divide the data into training and testing sets.

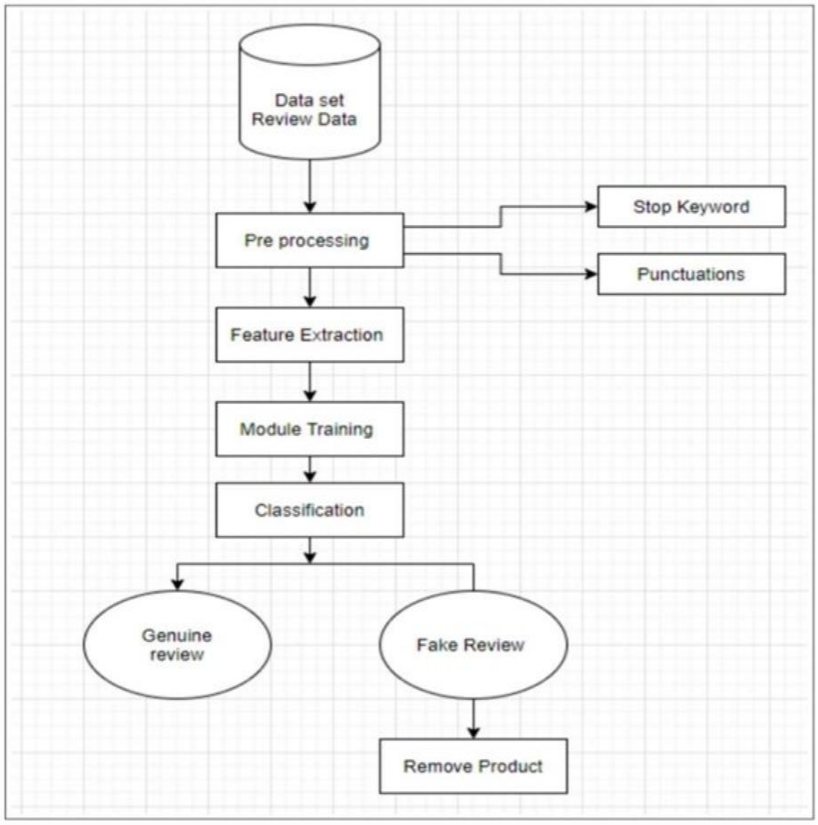
Train the SVM algorithm. Make some prediction

System Work As Follows:

• Admin will add products to the system. • Admin will delete the review which is fake. • User once access the system, user can view product and can post review about the product. • System will track the IP address of the user. • If the system observes fake review coming from same IP address many a times this IP address will be tracked by the system and will inform the admin o remove this review from the system.

Features:- • Admin Login: - Admin login to the system using his admin ID and password. • Add product:- Admin will add product to the system. • Delete Review:- Admin will remove the review which tracked by the system as fake. • User Login:- User will login to the system using his user ID and password. • View product: User will view product. • Post Review:- User can post review about the product. • Tracks IP Address:- If the system finds a review is fake it will inform the admin to remove the fake review .

Architectural Diagram:



Conclusions and Future Work

In this paper we have used sentimental analysis for detecting the spam in the product reviews. Sentiment analysis play vital role to make business decision about the product/services. As we applied two machine learning algorithms for analysing the Fake product reviews. Major challenges in Sentiment Analysis includes feature weighting which plays a crucial role for good classification. In future we will apply some other machine learning algorithms for sentimental analysis and compare their result to find the best algorithm.

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