Sentiment Analysis Using Machine Learning

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ABSTRACT

Addressed Twitter's sentiment analysis problem; categorized tweets based on expressed sentiment: positive, negative, or neutral. Twitter is an online microblog and social networking platform that allows users to write short status updates that are 140 characters long. It is a rapidly expanding service with more than 200 million registered users, of which 100 million are active users, and half of them log in on Twitter every day-generating about 20,000 registered users. 250 million tweets every day. With so much usage, we want to reflect the mood of the public by analyzing the emotions expressed in tweets.

Keywords

Machine Learning, Decision Tree, Data Mining, Classification

1. INTRODUCTION

Addressed Twitter's sentiment analysis problem; categorized tweets based on expressed sentiment: positive, negative, or neutral. Twitter is an online microblog and social networking platform that allows users to write short status updates that are 140 characters long. It is a rapidly expanding service with more than 200 million registered users, of which 100 million are active users, and half of them log in on Twitter every day-generating about 20,000 registered users. 250 million tweets every day. With so much usage, we want to reflect the mood of the public by analyzing the emotions expressed in tweets.

2. OBJECTIVE AND SCOPE

Sentiments are sentences or words that depict an expressed point of view or opinion, and can be negative, positive or neutral. We will propose a novel hybrid approach that involves both dictionary-based and corpus-based techniques that will find the semantic direction of emotional words in tweets. We will also consider features such as emoji, neutralization, negation processing, and capitalization, as they have recently become an important part of Internet languages. The proposed sentiment analysis of Twitter data is based on two important parts: data extraction, preprocessing and classification of the extracted data.

3. METHODOLOGY

Decision Tree:-This is a decision support tool that utilizes decision trees and their decision models, and their consequences, including opportunities, resource costs, and uses for event outcomes. This is the method for displaying algorithms that contain only conditional control statements.

Learn in a decision tree used in a decision tree to transform from an observation of an element (represented in a branch) to an objective value of an element (represented in a table). It is a predictive model whose methods are used in statistics, data mining, and machine learning. The target variable in the tree model can have a discrete set, and the values there are called classification trees. In these tree structures, the leaves show the categories of tags, and the branches represent the collection of features that led to those tags.

4. LOGISTIC REGRESSION

In the field of data, learning machines also support other technologies, which is a logical reaction. This is a step-by-step approach in a binary ranking problem (a problem with two class values). In the publication you will find logistics regulation algorithms for learning machines. Potential logical possibilities include (technical episode) that the logical copy model may be a predefined class (for example, the first class). For example, if you are dealing with male or female gender, you can describe first-class male and logistic regression models as the probability that the male is male.

More formal:

P (sex = male | height)

In addition, element (x) may belong to a predefined class (y = 1), we can formally

write

P (x) = P (y = 1 | x)

Use logistic suppression to make predictions. It is easy to enter and calculate the results using the logic suppression model to predict the logic regulation equations.

A solid example is given and explained.

It involves a (fully fake) model model that predicts whether men are dependent on men

Height or male. If you are 150 cm long, you are male or female.

5. RANDOM FOREST

Random forest is a holistic learning method for classification, regression, and other tasks that operates by constructing a large number of decision trees while training and outputting classes as class patterns or single tree mean predictions. Random forest corrects the habit of decision trees overfitting their training set. Confusion matrix-A confusion matrix is a type table that is often used to describe the performance of a classification model on a set of test data

6. RESULTS AND DISCUSSIONS

Sentiment analysis is an interdisciplinary field that involves natural language processing, artificial intelligence, and text mining. We have already seen that sentiment analysis can be used to analyze opinions in blogs, newspapers, articles, social media sites, movie review sites, where a third person tells their point. For sentiment analysis, we also studied natural language processing and machine learning techniques.

7. CONCLUSION

The task of sentiment analysis, especially in the field of Weibo, is still in its infancy and far from complete. Therefore, we came up with some ideas that we think are worth exploring in the future and may further improve performance.

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