

# Sentiment Analysis on Social Media using Machine Learning Approach

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## Abstract

Social media has been embraced by different people as a convenient and official medium of communication. People write messages and attach images and videos on Twitter, Facebook and other social media which they share. Social media therefore generates a lot of data that is rich in sentiments from these updates. Sentiment analysis has been used to determine opinions of clients, for instance, relating to a particular product or company. Knowledge based approach and Machine learning approach are among the strategies that have been used to analyze these sentiments. The performance of sentiment analysis is however distorted by noise, the curse of dimensionality, the data domains and size of data used for training and testing. This research aims at developing a model for sentiment analysis in which dimensionality reduction and the use of different parts of speech improves sentiment analysis performance. It uses natural language processing for filtering, storing and performing sentiment analysis on the data from social media. The model is tested using Naïve Bayes, Support Vector Machines and K-Nearest neighbor machine learning algorithms and its performance compared with that of two other Sentiment Analysis models. Experimental results show that the model improves sentiment analysis performance using machine learning techniques.

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