Abstract

Sentiment Analysis means determining the views of the user from the text regarding that topic i.e. how one feels about it. It can be used to classify the text content into positive or negative. Various researchers have used a wide range of methods to train the classifiers for the Twitter dataset with varying results. This paper introduces a hybrid approach of using Swarm Intelligence optimization algorithms with classifiers. For each tweet, pre-processing will be done by performing various processes i.e. tokenization; removal of stop-words and emoticons; stemming. Then their feature vectors are being made by the calculation of TF-IDF and optimized with Particle Swarm Optimization (PSO) and Ant Colony Optimization (ACO) before performing the binary text categorization. Naïve Bayes and Support Vector Machine (SVM) is the machine learning techniques used for the binary classification of tweets. The results drawn using optimization with classifiers is much efficient than using classifier alone.

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Twitter Sentiment Analysis using Machine Learning and Optimization Techniques

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Index Terms

Computer Science

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Keywords

Sentiment Analysis, Ant Colony Optimization (ACO), Particle Swarm Optimization (PSO), Naïve Bayes, SVM.