

Sentiment Analysis and Trend Detection in Twitter

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Abstract. Social networks such as Twitter are considered a rich resource of information about actual world actions of all types. Several efforts have been dedicated to trend detection on Twitter i.e., the current popular topics of conversation among its users. However, despite these efforts, sentiment analysis is not taken into account. Sentiment analysis is the field of study that analyzes people's opinions and moods. Therefore, applying sentiment analysis to tweets related to a trending topic also enables to know if people are talking positively or negatively about it, thus providing important information for real-time decision making in various domains. On the basis of this understanding, we propose SentiTrend, a system for trend detection on twitter and its corresponding sentiment analysis. In this paper, we present the SentiTrend's architecture and functionality. Also, the evaluation results concerning the effectiveness of our approach to trend detection and sentiment analysis are presented. Our proposal obtained encouraging results with an average F-measure of 80.7 % for sentiment classification, and an average F-measure 80.0 % and 75.5 % for trend detection.

Keywords: Twitter · Social media analysis · Sentiment analysis · Trend detection

1 Introduction

The messages posted in social networks provide a solid background about the ideas and opinions not only about the users of the social networks but also about the environment where they live. This information can be used and consumed by a wide range of institutions and organisms for strategic decision making.

Nowadays, Twitter is one of the most popular online social networking and micro-blogging services that enables its users to send and read text-based posts of up to 140 characters, known as tweets. Millions of users use Twitter to keep in touch with friends, meet new people and discuss about everything [1]. Companies are increasingly using Twitter to advertise and recommend products, brands, and services; to build and maintain reputations; to analyze users' sentiment regarding their products or those of their competitors; to respond to customers' complaints; and to improve decision making and business intelligence [2].