

# Chapter 85

## Sentiment Analysis and Sarcasm Detection (Using Emoticons)

**Vibhu Dagar**

*Vellore Institute of Technology, Vellore, India*

**Amber Verma**

*Vellore Institute of Technology, Vellore, India*

**Govardhan K.**

*Vellore Institute of Technology, Vellore, India*

### ABSTRACT

*Sentiment analysis is contextual mining of text which identifies and extracts subjective information in source material and helps a business to understand the social sentiment of their brand, product, or service while monitoring online conversations. However, analysis of social media streams is usually restricted to just basic sentiment analysis and count-based metrics. This is akin to just scratching the surface and missing out on those high value insights that are waiting to be discovered. Twitter is an online person-to-person communication administration where overall clients distribute their suppositions on an assortment of themes, talk about current issues, grumble, and express positive or on the other hand negative notions for items they use in life. Hence, Twitter is a rich source of information for supposition mining and estimation investigation.*

### INTRODUCTION

Internet based Social Media websites, for example, Twitter enable clients to post short and casual messages, communicate their suppositions on a wide assortment of points and express their feelings. Clients express their assessments on the world of politics, strict convictions, purchaser items what's more, individual issues in a couple of words. Twitter is a rich asset from which you can pick up bits of knowledge by performing assessment examination. Supposition investigation is significant as it has some genuine

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applications. Corporate associations need to reveal bits of knowledge for better client the board. They need to hold old clients and pull in new ones.

Supposition investigation enables organizations to perform statistical surveying to assess client input, without having to convey polls or overviews. Political decision gatherings need to contemplate the move in popular conclusion about their up-and-comers. Notwithstanding, any standard calculation may neglect to catch genuine estimations covered up in the printed piece of tweets. There is the test of discovery of mockery or incongruity in the writings and it can prompt wrong classification of tweets.

With various settings they can mean various things. Incorrectly spelled words and linguistic mistakes can include to the clamor in the informational collection. Tweets containing a blend of positive and negative words can be wrongly classified as nonpartisan conclusion. Subsequently, recognizable proof of genuine feelings dependent on just literary piece of tweets isn't adequate as it is essential to comprehend the real plan of the creator of the tweet. Estimation examination, otherwise called Opinion mining, can be improved a lot further by utilizing emoticons. Emoticons were included to web based life destinations to speak to facial highlights of a creator and to zest up enthusiastic signs to instant messages. Numerous mind boggling thoughts can be passed on through basic emoticons. While customary notion investigation decides if a book is certain or negative (extremity), an additional layer of emoticons investigation can help in arranging messages into further classifications like love, happiness, shock, outrage, misery, dread, and so on. emoticons can likewise help in better characterization in instance of wry writings.

This examination expects to research the assumptions of tweets utilizing emoticons. By performing emoticons investigation, this examination fills a hole between the territory where most research has been centered distinctly around the literary piece of tweets. These emoticons can also be used to identify sarcasm in some cases. Sarcasm is in the tone of a person but sometimes its the emoticons that bring it out. Tweets with text portraying certain meaning can mean different altogether when seen in contrast with the emoticons. We have tried to capture this aspect of tweets in our research.

**ML-Based:** Classifies the content as certain, uncertain or impartial utilizing Machine Learning grouping calculations and etymological highlights.

**Vocabulary Based:** Makes utilization of opinion dictionaries, assessment vocabularies are assortments of clarified and preprocessed assumption terms. Conclusion esteems are allotted to words that portray the positive, negative and impartial demeanor of the speaker. It is additionally named:

**Word Reference Based Strategy:** It utilizes a little arrangement of seed words and an online word reference. The procedure here is beginning seed set of words with their realized directions are gathered and afterward online word references are looked to locate their plausible equivalents and antonyms. The example is arranged dependent on the presence of such flagging opinion words.

**Corpus-Based Technique:** Uses corpus information to distinguish notion words. Despite the fact that it isn't as successful as word reference based plan, it is useful in finding the area and setting of explicit opinion words against the corpus information. The calculation will approach not exclusively to estimation names, yet in addition to a unique situation.

**Hybrid:** It is a blend of both Machine Learning and dictionary based methodologies.

In view of an investigation of online message sheets, Russell S, Norvig P. (2003) proposes that females utilize less emoticons than guys, and use them in progressively shifted settings, with guys generally utilizing them for mockery and prodding. In any case, these discoveries ought to be seen circumspectly, since the impacts are probably going to have been vigorously affected by the themes of the message sheets analyzed. While the male commanded message board was about football, the theme of the female overwhelmed message board was "dietary issue support," a region probably not going to be related with

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