



# EMOTION DETECTION FROM TEXT BASED SENTENCES USING MACHINE LEARNING

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**Abstract:** In the realm of digital communication, extracting emotions from text assumes a pivotal role in deciphering human sentiment. This research delves into the significance of discerning sentiments from textual content, leveraging a diverse suite of machine learning algorithms. The study harnesses the power of Support Vector Machines, Linear Support Vector Classification, Random Forest, and Decision Trees to decode the intricate emotional nuances intertwined with language. Central to this exploration is the filtration and classification of six cardinal emotions: 'joy', 'fear', 'anger', 'sadness', 'disgust', 'shame', and 'guilt'. These emotional facets serve as the bedrock for analysis, reflecting the spectrum of human experiences. The study's results reveal the prowess of these algorithms in emotion classification. Notably, Support Vector Machines, Linear Support Vector Classification, and Random Forest showcase a remarkable accuracy of 96%. On the other hand, Decision Trees set a higher benchmark with an impressive accuracy of 92%. This research amplifies the potential of machine learning in deciphering emotions from text, shedding light on the synergy of language and sentiment analysis. The outcomes extend beyond numerical metrics, enriching our understanding of human emotional expression within textual communication across diverse contexts and applications.

**Keywords:** Machine learning, Sentiment analysis, Text based emotion detection