

# FIRE 2021: Forum for Information Retrieval Evaluation, Virtual Event, In December 13 - 17, 2021

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# Sentiment Analysis of Dravidian-CodeMix Language

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## Abstract

The computational examination of people's opinions, attitudes, and emotions conveyed in written language is known as sentiment analysis or opinion mining. In recent years, it has become one of the most active study fields in natural language processing and text mining. Sentiment analysis of social media texts, which are predominantly code-mixed for Dravidian languages, is becoming more popular. In a multilingual community, code-mixing is common, and code-mixed writings are produced using native and non-native scripts. The current paper uses machine learning, deep learning, and parallel hybrid deep learning models to identify sentiments in Dravidian code-mixed social media text. The experiments were conducted using a dataset from the *Dravidian-CodeMix-FIRE 2021*<sup>1</sup> competition, which included YouTube comments in Tamil, Malayalam, and Kannada code-mixed languages.

## Keywords

Sentiment Analysis, code-mixed, deep learning, machine learning, Dravidian languages, CEUR-WS

## 1. Introduction

Human language is a difficult beast to grasp. It is tough to teach a machine to recognize the different linguistic nuances, cultural variances, slang, and misspellings that appear in social media discussions. It's considerably more difficult to teach a machine to recognize how context affects tone. When it comes to interpreting the tone of a piece of literature, humans are fairly intuitive. Consider this sentence: "I love waiting for the doctor". Most people would immediately recognize that the preceding sentence is mocking. We understand that everyone must wait in line to see a doctor, but we all despise waiting. We can easily identify the sentiment as negative by using this contextual information in the statement. However, a machine reading the statement above might recognize the word "love" and categorize it as positive without knowing the context.

The computational examination of people's opinions, sentiments, attitudes, and emotions conveyed in written language is known as sentiment analysis or opinion mining [1]. Due to its vast range of applications, it has become one of the most active research domains in natural language processing and text mining in recent years [2]. Opinions influence our behavior and are crucial to almost all human activity [3]. Whenever we need to make a decision, we want

<sup>1</sup><https://dravidian-codemix.github.io/2021/index.html>

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