

1. INTRODUCTION

In this age of rapidly developing technology, all kinds of things can be accessed very easily. Social media is one of the results of the development of internet-based technology, where users can continue to interact without the limitations of space and time that hindered human interaction in the past [1]. TikTok is one of the most popular social media platforms today. TikTok also includes a social networking application and music video platform where users can edit and share short video clips complete with filters and accompanied by music as support [2]. The TikTok app can be downloaded from the Google Play Store for Android users. Google Play Store provides a review function to rate apps, movies, and other services. With the review function, a lot of textual data is available. These text collections are a rich source of opinions, views, and emotions. A large number of reviews complicates the sentiment analysis process. Therefore, there is a need for a system that can perform sentiment analysis on aspects of these reviews and a feature expansion feature is needed to handle mismatches.

Sentiment analysis is the process of identifying sentiments that appear in a text by processing textual data to understand the opinions contained in a sentiment. Using sentiment analysis, the process of extracting information can be done to analyze the opinions contained in Google Play Store reviews written by users[3]. Sentiment analysis is a subset of computer text classification that intends to classify text based on its polarity, such as positive, negative, and neutral [4]. Therefore, analyzing the multi-faceted sentiment towards the TikTok app using Google Play Store reviews is very important.

Research [5] analyzed Naïve Bayes and Convolutional Neural Network methods using BOW extraction features and Word2Vec expansion features for text classification. It showed that the Convolutional Neural Network method with expansion features using Word2Vec got the highest accuracy at 91%. Furthermore, research [6] also analyzes multi-aspect sentiment on the Netflix application by combining SVM and LDA methods which get the highest f-1 score at 78.15%. The next research [7], analyzed the sentiment of text classification using fastText with a dataset of movie review sentences, and fastText got higher accuracy than word2vec by 85.2%.

Researcher [8] combined the K-Means Algorithm and Convolutional Neural Network in Android Application Classification based on permission, and got the highest accuracy result of 92.23%. Research [9] compares deep learning methods with machine learning methods, the deep learning method used is Convolutional Neural Network while the machine learning methods used are SVM, KNN, and GSD. The accuracy results obtained in analyzing twitter sentiment with a general Indonesian dataset is 81.4%, this accuracy is the highest compared to other machine learning accuracies. Furthermore, in research [10] The final test accuracy results obtained are obtained accuracy in recognizing vegetable types of 98.1% with one of the best test results, namely the classification of corn vegetables with an accuracy of 99.98%.

Based on these studies, the motivation of this research is to conduct experiments to improve the accuracy value of previous studies by combining CNN and FastText. The dataset used in this research is TikTok application reviews obtained from the Google Play Store. In addition, the difference between the proposed and previous research is that it runs several scenario stages in its testing.

This research aims to build a sentiment analysis system on Google Play Store reviews of the TikTok application with the Convolutional Neural Network method and FastText Feature Expansion. And to find out the performance value of combining the CNN method and FastText feature expansion in calibrating the multi aspects of sentiment analysis of the TikTok application. The expected result is the performance of sentiment classification accuracy in every aspect consisting of Features, Business, and Content.