Analyzing Public Sentiment towards Mental Health on Social Media Twitter Using Machine Learning

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Abstract

Mental health affects lives globally, with around 300 million people experiencing depression in 2019, including 15.6 million in Indonesia. The Covid-19 pandemic increased cases of anxiety and depression, and by 2022, WHO reported 23 million people suffering from psychiatric disorders. In Indonesia, adolescent mental health issues are also high, with excessive social media use linked to an increase in emotional disorders. Twitter, with its real-time data, is becoming an important tool for analyzing public sentiment and understanding opinions through analytics and machine learning techniques. This study aims to determine public sentiment towards mental health in Indonesia through Twitter social media and test the effectiveness of using machine learning in sentiment analysis. The results show that the Naive Bayes and Decision Tree methods are effective in analyzing sentiment, with an accuracy of 91% and 89% respectively. The average result of cross validation shows a value of 73.21% for Naive Bayes and 67.02% for Decision Tree. In this study, positive sentiment is more dominant with a percentage value of 78.7%, while negative sentiment is only 21.3%. The findings indicate that Indonesians' awareness of the importance of mental health is increasing, and they increasingly understand the importance of maintaining mental health

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