**An analysis of depression detection using machine learning and feature selection techniques**

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# **Abstract**

Depression has emerged as a prevalent psychological illness, and the pervasive utilisation of social media platforms has engendered novel concepts for the detection of diverse mental disorders. Globally, a significant number of adolescents and adults suffer from melancholy at this time. Failing to identify depression in its early stages or providing opportune counselling for an affected individual may result in significant complications. It is among the primary causes cited in support of suicidal cases. However, it is paradoxical that society as a whole continues to reject the classification of depression as a mental disorder, resulting in a considerable proportion of depressed individuals going undiagnosed and untreated. Presently, the majority of research employs a single detection method, and the low recognition rate is frequently the result of an unbalanced class distribution. Furthermore, the accuracy of recognition is compromised when high-dimensional data sets contain an excessive quantity of extraneous or repeated attributes. This paper will propose feature selection and machine learning techniques for depression user detection in order to address this issue.

In this work will used novel machine learning and feature selection techniques for the classification and detection of depression. To develop this system will used depression dataset from the GitHub[[1]](#footnote-1), also will follow some key data preprocessing techniques for cleaning and labelling, after this will applied feature selection techniques that select the most significant features from the input dataset, next split the dataset into two from training and testing ratio. Then will applied supervised machine learning techniques for detection of depression, finally will calculate the performance of machine learning models in terms of accuracy, recall, f1-score and precision measure with classification report and confusion metrix. The experimental results will show the design machine learning models outperform base models in terms of all measures. This work will implement on python simulation tool. This research is anticipated to contribute to the advancement of techniques for detecting depression in social networks, thus establishing the basis for future research.

1. https://github.com/ Sabab31/Depression-Repository [↑](#footnote-ref-1)