Abstract

In recent years, depression has become the most common mental disorder with a rough estimate of around 350 million people globally suffering from it. Classifying depression based on the text taken from the social media websites is an extremely complex task because of the underlying complications and variations in the behavior of the affected people. Leveraging from the advancement of AI techniques, we exploit the information that we get from the interaction online on different social media platforms and detect the depression at its earliest by using machine learning (ML) and deep learning (DL) techniques using the text obtained from the social media platforms. For this purpose, we use a subset of Sentiment140 dataset, specifically labelled for the task of depression detection. We employ different classical ML classifiers (including KNN, SVM, NB, LR, and RF) using TF-IDF technique and one DL algorithm (DNN) using word embeddings to classify the users' tweets according to their depressive and non-depressive sentiment and give comparative analysis of their performance in terms of accuracy, f1-score, precision and recall. Our results show that SVM and DNN perform best i.e. accuracy score of 99% for the identification of depression from social media data.