Depression Detection of User in Social Media Twitter using Decision Tree with Word2Vec

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Abstract

Social media is a medium or place on the internet that allows users to be themselves. Interact, cooperate, share and communicate with other users virtually. Not only sharing happy feelings, user also share their emotions and sentiments towards a particular issue. Which sometimes makes users look depressed when they deliver it. Depression itself is the most commonly encountered mental illness. Which makes the sufferer feel sad, lonely, inferior, and closed from the people around them. And even worse, depression can make the sufferer have suicidal thoughts. Therefore, we need to know whether the user is indicated to be depressed or not to prevent unwanted things.Using a depression measurement tool scale called DASS 42 for data labeling. To detect depression we can use the sufferer's Twitter account and take data based on tweets from the user, and change all the dataset to vector using both architecture of Word 2 Vec Skip-Gram and CBOW. In this research, we utilize Decision Tree to detect depression. And the best results obtained from the Word2Vec Skip-Gram model with a data ratio of 90:10 using the gini criterion parameter and a max of depth value of 20 which resulted in an accuracy of 93% and f1-Score of 94%.

Keywords: Social Media, Depression, DASS-42, Word2Vec, Decision Tree