

# Depression Detection from Tweets Using Deep Learning and NLP

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**Abstract**—Due of the multifaceted nature of mental problems, detecting mental illness via social media can be a difficult process. With the continued rise in popularity of social media platforms, which have become a vital part of people’s lives, this study topic has begun to grow in recent years. Because of the intimate interaction that exists between social media platforms and its users, these platforms have come to mirror the users’ personal lives on a variety of levels. Researchers are supplied with a lot of information on one’s life in such a setting. Aside from the difficulty of detecting mental illness using social media platforms, supervised machine learning technologies such as deep neural networks have not been generally used due to the challenges of acquiring adequate amounts of annotated training data. As a result of these considerations, we attempt to determine the most effective deep neural network design among a few architectures that have been effectively employed in natural language processing applications. Given minimal unstructured text data gathered from the Twitter social media site, the chosen structures are utilized to recognize people with indicators of mental diseases (in our example, depression).

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