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Depression Detection Using Textual Analysis with AI

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ABSTRACT

Psychological health plays a very important role in every person's life. Neglecting this can result in several problems such as stress, depression and etc. These problems need to be detected and controlled at the early stages of life for the better mental health. Depression is considered to be one of the leading causes of mental ill health and it has been found to increase the risk of early deaths. Moreover, it is a major cause of suicidal tendencies and this may to lead significant impairmentin a person's daily life. Detecting depression is one of the most challenging tasks. Most of the people are totally unaware that theymay have any depression caused due to some stress in the daily life. If at all people are aware of it then some people conceal their depression from everyone. So, an automated system is required which will pick out people who are suffering from depression.A system has been proposed which will analyse features of the person from the text using Artificial intelligence and sentimental analysis and will help in detecting signs of depression if present in them. This system will be trained with text and classify them as neutral or negative based on the word-list to detect depression tendencies.

Keywords: Machine-Learning, Artificial Intelligence, Depression detection, Sentiment Analysis.

I. INTRODUCTION

MENTAL health issues such as depression have been linked to deficits of cognitive control. It affects one in four citizens of working age which can cause significant losses and burden to the economic, social, educational, as well as justice system. Depression is defined as a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturb sleep or appetite, and poor concentration. 7.5 percent of all people with disabilities suffer from depression, making it the largest contributor, exceeding 300M people.

The illness still remains with the person. This may be in the form of insomnia, excessive sleeping, fatigue, loss of energy, or digestive problems. Artificial intelligence and mathematical modelling techniques are being progressively introduced in mental health research to try and solve this matter. The mental health area can benefit from these techniques, as they understand the importance of obtaining detailed

information to characterize the different psychiatric disorder.

II. METHODS AND MATERIAL

In our website system there are some complex analyses in which we require feature extraction for complex analysis of text analysis.

III. RESULTS AND DISCUSSION

A. Background Study

Recent years have witnessed an increase of research for clinical and mental health analysis from facial and text expressions. There is a progress on emotion recognition from facial expression and text expression. We proposed a computational approach in which we can detect depression by text expression. We are going to detect the depression using sentimental analysis and machine learning.

B. Components

1) **Input:** Input is provided as text and numbers of answers to the questions asked as an input.
2) **Sentimental analysis:** To analyse the words such as positive, negative or neutral categories.
3) **Output:** After performing algorithms output s is provided with the help of depression scale.

IV. IMPLEMENTATION DETAILS

A. Survey Questions:

In this section questions are asked to the user related to depression or emotion, so as to get the result whether the user is depressed or not respectively.

B. Textual Analysis:

Sentiment analysis is the process of using natural language processing, text analysis, and statistics to analyse customer sentiment and Most of the current thinking in sentiment analysis happens. For example, a given sentence may be 45 percenthappy, 23 percent sad, 89 percent excited and 55 percenthopeful. these numbers don't add up to 100 percent they' re individual indications of how 'X' a sentence's sentiment is.

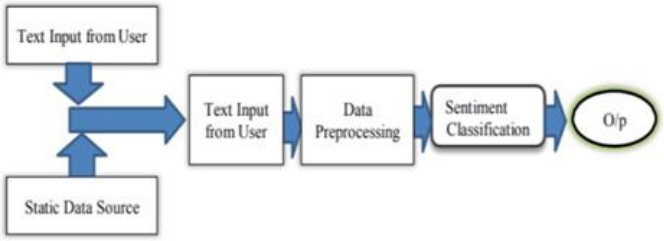

Fig. Architecture Diagram

V. CONCLUSION

Depression is a serious issue prevailing nowadays. Many people, students and employees of companies are going through this. So, it has become necessary to detect it so thatit could be cured at the early stages only. For this an artificial intelligent system was proposed for automatic depression scale prediction. The proposed system will provide accurate results for depression detection with the help of the depression scale. To improve the accuracy of automatic depression recognition from textual features, we proposed a new method based on deep learning. We conclude that, powerful regression model can improve the accuracy of depression recognition.

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