# Detect and Analyse the Presence of Mental Disorder User's in Online Social Networks

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**ABSTRACT**

Now a day online social networks has become one of the popular medium to communicate or share the information with one another around the world. One among the several social networks is twitter,which has the facility to post the updates of each and every individual user to others who are following that user.As we all know that in current days psychological stress is threatening people's health. It is very important for each and every individual to identify and reduce the stress level in a proactive manner.Also all the users try to communicate with others using the social media like facebook, twitter and so on for sharing their common updates and their day to day events in their personal life. In this thesis, we try to find out the individual users mental disorder state (I.e. Abnormal State) and also their state levels are closely connected with his/her friends stress levels in social media. In the beginning of the thesis we try to figure out the words which are related to mental stress and try to add those words into the database and try to match each and every user tweet with those predefined words. If any word is matched with mental disorder related tweet then we can easily separate that tweet as one category and those which are not matched with any such related words are treated as Normal tweets. By conducting various experiments on our proposed approach we try to find out the individual user stress level users and also the percentage of disorder which is occurred by the their follower list who are maintaining same level of stress in the social networks

**Key Words:**

Tweets, Attacker, Abnormal State,Mental Disorder Tweets, Proactive manner.

# I. Introduction

Twitter is one of the small micro blogging service which spread its momentum in receiving a lot of user's attention around the world. This became more popular because all the user tweets are posted directly on follower wall without any privacy restrictions like other OSN. These online social networks are mainly used for all individuals around the world to stay always well-connected to their family, relatives, childhood friends, employees and so on [1]. The primary objective of the twitter is "What is happening around me?" and the expected response for this query should be always less than 140 words. For posting their regular updates each individual should register first into the application and then try to login with their valid credentials and try to post a message like tweet. This tweet is also termed as a SUM (Status Update Message) which clearly defines the state and status about that appropriate OSN user. Those who are following the current tweet user or who is followed by the corresponding tweet user can able to re-tweet the user with some messages[2].

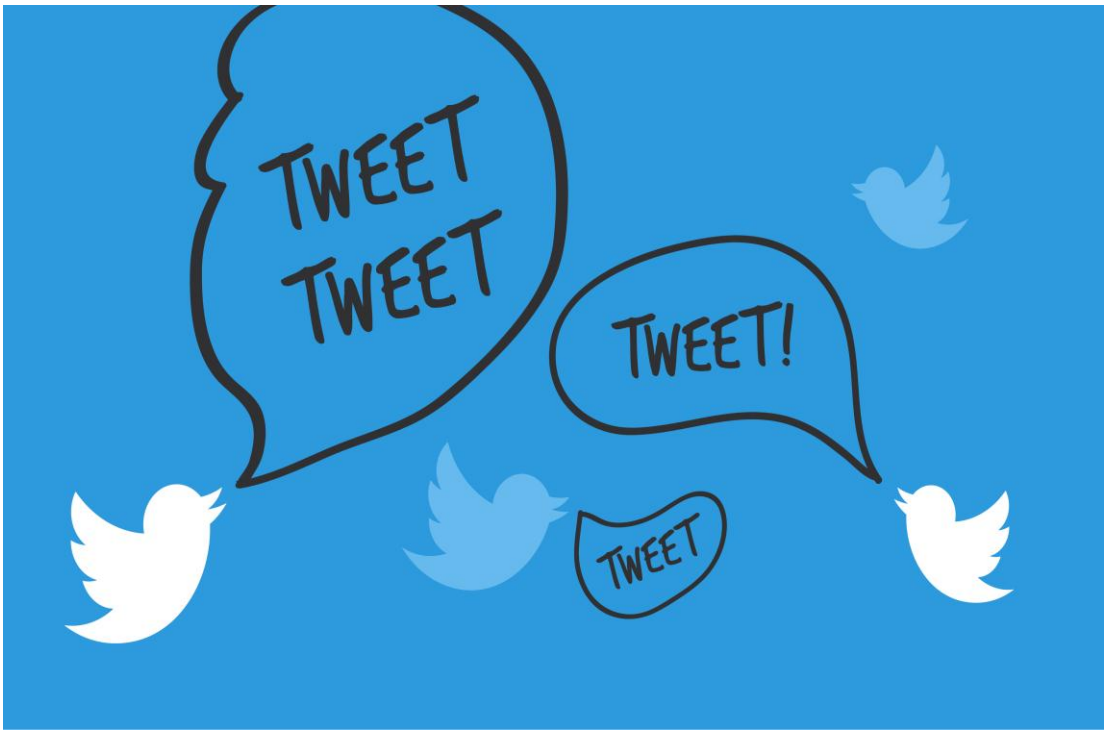


**Figure 1. Represents the Pictorial Representation of Twitter and Its Tweet**

From the above figure 1,we clearly observe the pictorial representation of twitter and its relative tweet. Now a day's each and every individual try to share their personal, emotional,

work stress, personal stress[3] and mental stress on their SUM. Once the user try to share his/her personal feelings and emotions on his SUM[4], all the other users who are followed by him try to observe the intention of that user and try to give comments to comfort him. This is particularly used to develop stories, track breaking news, and assess how public opinion is evolving in the breaking story[5]. In this paper, the main goal of using this twitter interface is to find out the mental disorder of each and every individual OSN user based on their tweets [7] which are posted by them.

In this proposed application we try to design Online Social Network Mental Disorder (OSNMD) users can be automatically identified and classified into various categories like Addiction of Games, Online Gambling and Information Glut with the data sets collected from data logs of various Online Social Networks (OSNs). The proposed model stands out in the list as the users are not involved in revealing their habits to understand and diagnose the symptoms manually Here in this application we try to figure out some words which are mostly stressful and which are mostly having mental disorder due to these tweets [6].

## II. Background Work

In this section we will mainly discuss about the background work that was carried out in order to prove the performance of our proposed model to identify the users who are suffering with mental disorder related issues and find out how much percentage of people are suffering with these types of qualities.

### Preliminary Knowledge

Internet Addiction is one of the compulsive behaviour such as drug and alcohol addictions, but in online. Recently one of the national survey revealed that over 80% of people are suffering with internet addiction and they get suffer from emotional problems such as depression, mood disorders, social unrest and anxiety disorders, and will use the fantasy world of the Internet to psychologically escape unpleasant feelings or stressful situations[8].

This was clearly explained in the figure 2,in which there are many factors that leads a person to addict for the internt.Now let us discuss about those factors in detail:

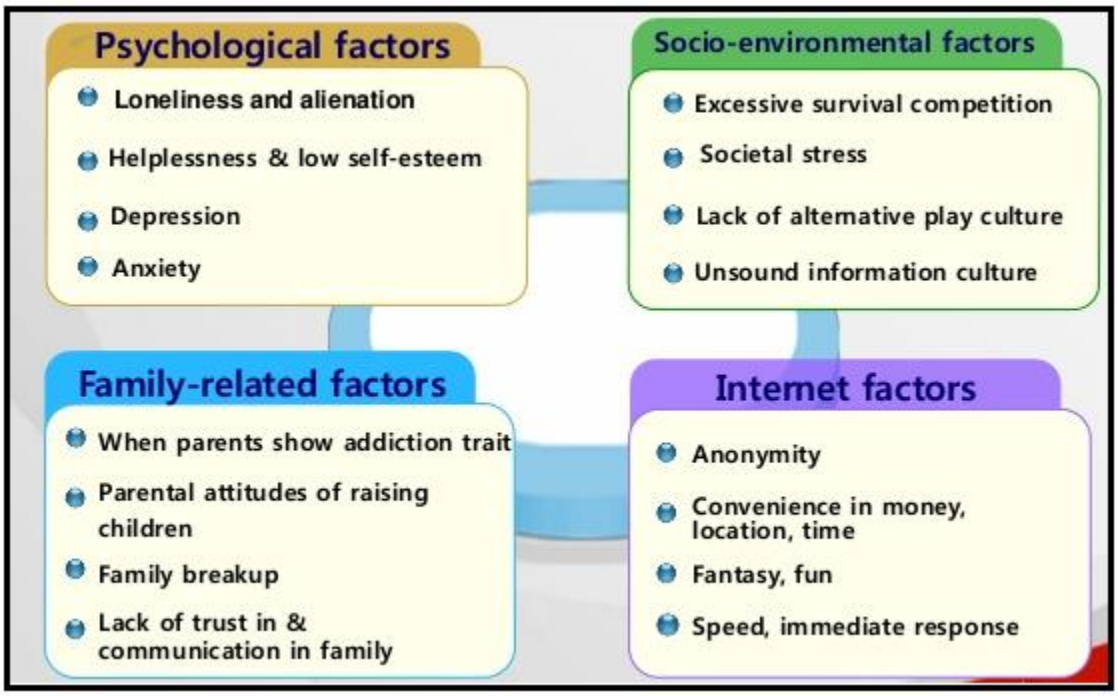


**Figure 2. Represents the Main Factors for Internet Addiction**

There are mainly 4 main factors which are showing more impact on users to get addicted for internet. They are as follows:

1) Psychological Factors

2) Socio Environmental Factors

3) Family Related Factors

4) Internet Factors

Psychological Factors mainly occur during the situation like: Loneliness, Helplessness, depression about some situation and anxiety on others work[9]. In these type of situations the OSN users always get depressed and addict to the internet to get relief from that situation. In the same way Socio Environmental Factors[10] mainly occur during the situation like: Excessive Competition,Social Stress, Lack of alternate ways and a lot more depressions . In

these types of situations the OSN users always get depressed and addict to the internet to get relief from that situation[11].

Family Related Factors mainly occur during the situation like: When parents show difference in their love for multiple children, if the family is break up, Lack of proper communication in the family and with the parents. In these types of situations the OSN users always get depressed and addict to the internet to get relief from that situation [12].

Internet Factors mainly occur during the situation like: In convenience in arranging the money, fantasy, fun, late responses and more addiction to vulgar chats and images. In these types of situations the OSN users always get depressed and addict to the internet to get relief from that situation[13].

## III. Proposed Online Social Network Mental Disorder (OSNMD) Detection Method

In this section we mainly discuss about the proposed OSNMD detection method in order to find out the mental disorder of an users who are present in the twitter and also to find out how many are having similar type of situation. Now let us discuss about the proposed system in detail:

The proposed approach is classified into three levels for identifying the mental disorder related users in the tweet application. They are as follows:

a) Load Data Set
b) Sample Stream and Search Stream
c) Identify the Normal Tweets and Mental Stress Related Tweets.

### a) Load Data Set

Here we try to gather our dataset using Twitter API with 2 various collection home windows. One lasted for 40 days and also the various other lasted for 1 month.We will try to

collect all the latest tweets from our known groups which we try to communicate since from last two months[9]. At the end, we got greater than 10000 tweets from 1500 accounts . Here we mainly gathered the tweets which are posted by various users on their walls and those tweets contain the following meta data.

1) Tweet Topic Name
2) Posted By
3) Posted to
4) Data and Time
5) Comments and Replies for that tweet

### b) Sample Stream and Search Stream:

Here we try to gather some sample keywords which are mostly related to mental stress related or which may be related to internet addiction. Here for a sample we will take two data sets one is contained with a set of twitter accounts and on another side we try to take the Sample tweets which are posted by the various users.

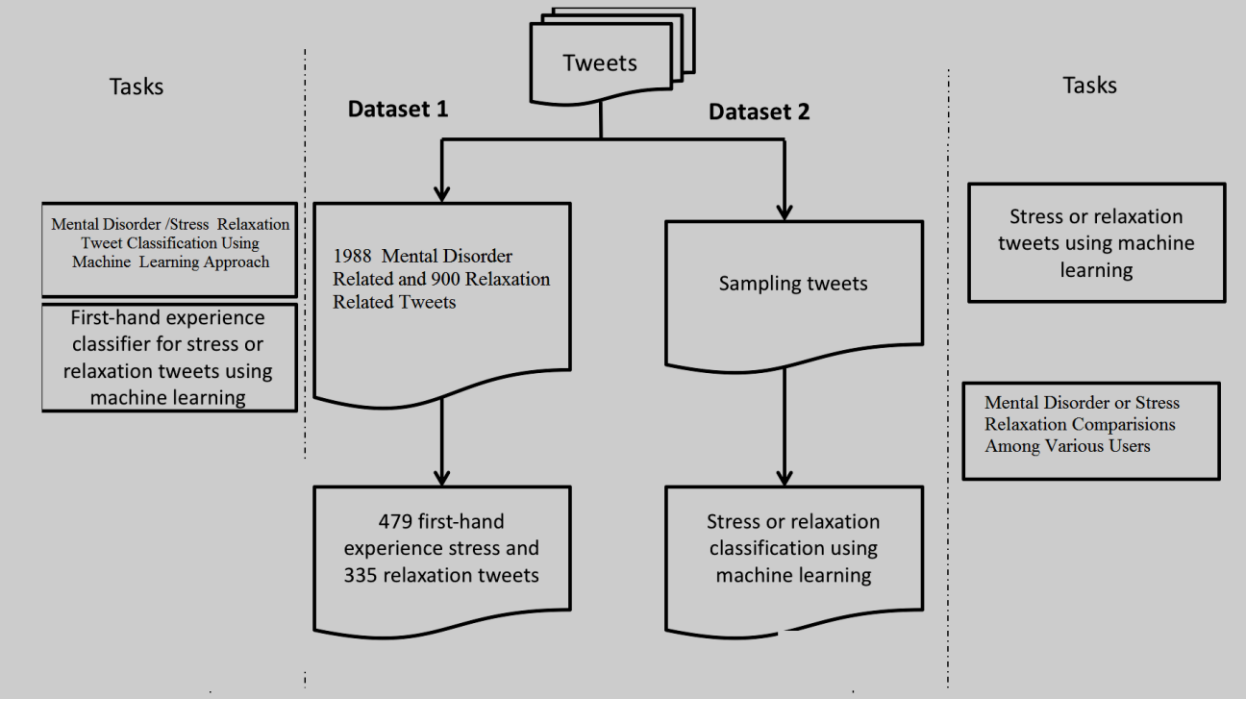


**Figure 3. Represents the Proposed Architecture of Mental Disorder Detection from OSN Networks Using Twitter as Sample API**

### c) Identify the Normal Tweets and Mental Stress Related Tweets.

Here we try to apply the machine learning algorithm to classify the tweets based on some keywords which are taken for sampling and also try to identify each and every tweet posted by the OSN users. Initially the tweet is pre-processed and tries to find out the stop words which are present inside the tweet. Once the stop words are removed then stemming is applied in order to maintain the unique elements in the data set. Once the data set is formed with unique strings then they are matched with the pre-defined sampling keywords. If any string is matched with the sample keyword those message is treated as Mental Disorder or stress related tweet and all other are treated as normal tweets. In this way we are going to segregate both the normal tweets and Mental Stress related tweets from various user accounts in the OSN.

## IV. Conclusion

In this proposed work, we for the first time designed an application in order to find out the individual users mental disorder state (I.e. Abnormal State) and also their state levels are closely connected with his/her friends stress levels in social media. By using ML algorithm in data mining,we try to figure out the words which are related to mental stress or mental disorder and try to add all those words as a sampling database. Once the sample database is formed we try to match each and every user tweet with those predefined words. If any word is matched with mental disorder related tweet then we can easily separate that tweet as one category and those which are not matched with any such related words are treated as Normal tweets. By conducting various experiments on our proposed approach we finally came to an detailed analysis of each and every individual user stress level as well as the total percent of abnormal state carried out by that individual user in online social networks

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