DETECTING AND TRACKING MENTAL ILLNESS ON SOCIAL NETWORKS BY USING SVM

Dr.B.Sujatha[1], L.Manivannan[2], K.Mohan[3], A.Sakthivel[4], G.Vigneshwaran[5]

[1]*Professor , Department of Computer Science and Engineering,*

Sengunthar Engineering College(Autonomous),India

[2,34,5]*Final Year, Department of Computer Science and Engineering,*

Sengunthar Engineering College (Autonomous),, India

ABSTRACT

Although rates of diagnosing mental illness have improved over the past few decades, many cases remain undetected. Symptoms associated with mental illness are observable on Twitter, Facebook, and web forums, and automated methods are increasingly able to detect depression and other mental illnesses. In this paper, recent studies that aimed to predict mental illness using social media are reviewed. Mentally ill users have been identified using screening surveys, their public sharing of a diagnosis on Twitter, or by their membership in an online forum, and they were distinguishable from control users by patterns in their language and online activity. Automated detection methods may help to identify depressed or otherwise at risk individuals through the large-scale passive monitoring of social media, and in the future may complement existing screening procedures.

1.INTRODUCTION

1.1 About The Project

Psychological Stress is becoming a threat to people's health nowadays. With the rapid pace of life, more and more people are feeling stressed. According to a worldwide survey reported by new business in 2010, over half of the population have experienced an appreciable rise in stress over the last two years. Though stress itself is non-clinical and common in our life, excessive and chronic stress can be rather harmful to people's physical and mental health. According to existing research works, long-term stress has been found to be related to many diseases, e.g., clinical depressions, insomnia etc. Moreover, according to Chinese Center for Disease Control and Prevention, suicide has become the top cause of death among Chinese youth, and excessive stress is considered to be a major factor of suicide. All these reveal that the rapid increase of stress has become a great challenge to human health and life quality.

2.LITERATURE SURVEY

2.1 Related work

We have divided the related work into four subsections. First, we discuss the state-of-the-art approaches for studying depressive behavior on social data. Second, we review studies that have inferred demographic information using social media data.Then, we discuss the association between color sensitivity and mental health disorders. Finally, we cover state-of-the-art studies that have used visual imagery to study individual's behavior.

276

2.1.1. A Synoptic Survey of Social Network Mental Disorder Identification via Social Media Mining

AUTHORS:Meghana.M, Thippeswamy.K.

The strongest weapon to conquer the knowledge in today's world - "Internet" , has unfortunately turned out to be one of our greatest obsessions in killing time and is affecting our daily activities and responsibilities with a massive desire to get rid of everything to be able to 'Netflix and relax' all the time.

Though the 'Internet Addiction' is gaining attention in the mental health field and had been recently added to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) as a disorder, it needs a lot of research and standardized diagnosis. Their detection at an early stage is extremely important because the clinical interventions only during the last stage will make things worse and critical.

In this paper, the authors argue that the potential Social Network Mental Disorder (SNMD) users can be automatically identified and classified into various categories like Virtual Relationship Addiction, Obsessive Online Gambling and Information Glut using SNMD based tensor model, with the data sets collected from data logs of various Online Social Networks (OSNs).

2.1.2. Mining Online Social Data For Detecting Social Network Mental Disorders

AUTHORS:Hong-Han Shuai, Chih-YaShen.

An increasing number of social network mental disorders (SNMDs), such as Cyber-Relationship Addiction, Information Overload, and Net Compulsion, have been recently noted. Symptoms of these mental disorders are usually observed passively today, resulting in delayed clinical intervention.

In this paper, the authors argue that mining online social behavior provides an opportunity to actively identify SNMDs at an early stage. It is challenging to detect SNMDs because the mental factors considered in standard diagnostic criteria (questionnaire) cannot be observed from online social activity logs. Our approach, new and innovative to the practice of SNMD detection, does not rely on self-revealing of those mental factors via questionnaires. Instead, the authors propose a machine learning framework, namely, Social Network Mental Disorder Detection (SNMDD),

That exploits features extracted from social network data to accurately identify potential cases of SNMDs. Also exploit multi-source learning in SNMDD and propose a new SNMD based Tensor Model (STM) to improve the performance. Our framework is evaluated via a user study with 3126 online social network users.

3.SYSTEM ANALYSIS

3.1.EXISTING SYSTEM

Social media has become the most widely used communication and interaction tool between people over the past few years. Direct interaction between people is decreasing as people tend to communicate indirectly through smart phones. The process is difficult to recognize person's personality.

Social media might help us to get the information needed as people spend much time checking social media. The user expressing their feelings and thoughts through statuses, comments, and updates.

3.2.DISADVANTAGES

- Time spent on social networks or information checked repeat which considers customer's data.
- Difficult to see person's personality.
- Facebook users generally express their feelings and opinions through status updates or comments.

3.3.PROPOSED SYSTEM

The proposed system is to identify the personality trait of a social media user. Psychology showed there is a correlation between personality and the linguistic behaviour of a person. A prediction system that can automatically predict user personality based on their activities in Facebook. Big Five Personality is used traits in this model such as Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism.

3.4.ADVANTAGES

- Long range informal communication customer.
- Personality is used to analyse someone's character characteristics.
- The features with different approach are used to verify the users details.
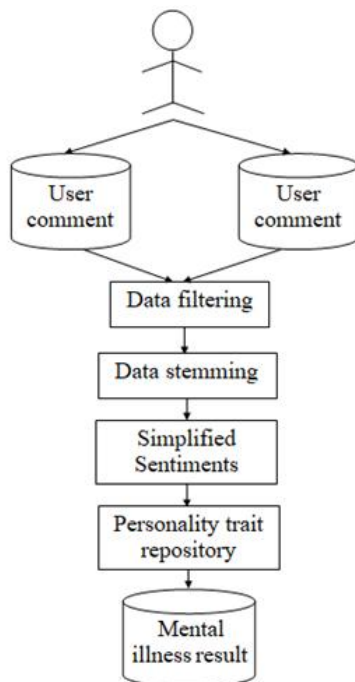
4. ARCHITECTURE DIAGRAM

Fig.4.1 Arc hitecture Diagram

5.SYSTEM IMPLEMENTATION

Implementation is the stage in the project where the theoretical design of the project is turned into a working system. It is a stage where the operation of the system is monitored to ensure that it continues to work effectively. Education and training of the users are also essential to ensure smooth functioning of the system.

The major tasks involved in the implementation are

- Computer based/system testing.
- Training the user personnel
- Full system testing and making the necessary changes as desired by the user.
- Change over.
- Maintenance.

The implementation strategy used is the parallel changeover. The automated system has been put to use gradually so that its usage can prove better for the concern. After the system has been tested, the implementation type or the change over technique from the existing system to the new system is a step-by-step process. In the system, at first only a module of the system is implemented and checked for suitability and efficiency. When the end-user related to the particular module is satisfied with the performance, the next step of implementation is preceded.

Implementation to some extent is also parallel. For instance, modules, which are not linked, with other modules are implemented parallel and the remaining is the step-by-step process. Backups are necessary since any time unexpected events may happen. And so during the program execution, the records are stored in the workspace. This helps to recover the original status of the records from any accidental updating or intentional deletion of records.

5.1.MPLEMENTATION PROCEDURES

Implementation means converting older system to a new design in operation. This involves creating computer capable files and basic software needed to run this system. The basic concept for

278

implementation needed is software installation and system requirements. So in order to implement them, suitable hardware and software must be available.

5.3 Module Description

5.3.1 Social User

The user module allows users to register, log in, and log out. Users benefit from being able to sign on because this associates content they create with their account and allows various permissions to be set for their roles. The user module supports user roles, which can be set up with fine-grained permissions allowing each role to do only what the administrator permits. Each user is assigned one or more roles. By default there are three roles: anonymous (a user who has not logged in) and authenticated (a user who is registered), and administrator (a signed in user who will be assigned site administrator permissions).

5.3.2 Admin

Admin module allows system administrator to set up back-end of the system and perform basic system configuration, mainly definition of predefined drop-down fields, definition of classes time schedule, etc. All the new packages and promo bundles as well as new prices and price types for classes, new subjects offered, etc. are defined here.

5.3.3 Data Filtering Module

Data collected from the social media will be the text from comments posted by the user. The main aim for filtering data is to remove the redundant or irrelevant data. As a result, we will get clean data which can be processed more effectively. First of all, the probable phrases and their synonyms that can occur in the comments are listed. This list helped in extracting those phrases from the text. Also, the dictionary including list of words l ike 'a', 'an', 'the', 'you', 'of', 'over' etc. is made to avoid useless text from getting processed.

5.3.4 Data Stemming Module

Data stemming uses the extracted phrases after data filtering. Stemming is the process for reducing the words to their stem or root form. In this, the set of words that can be treated as equivalent are identified and these multiple occurrences are replaced with their root form.

5.3.5 Simplified Sentiments Module

In this module ,the input will be provided for simplifying the sentiments. The sentiments which are associated with the text used in comment may be openness to experience, consciousness, extraversion, agreeableness, neuroticism. The input here is the stem or root form of the words or phrases used in the comments. So, it is easier to identify the corresponding sentiments. Social media is one of the most easily accessible ways to understand natural behavior of an individual, understand user's likes and dislikes and so we can link information extracted from social media to understand personality traits of social media users.

5.3.6 Personality trait repository Module

Personality trait repository is used to associate the Big five personality traits with the corresponding attributes. The attributes considered here are openness to experience, consciousness, extraversion, agreeableness, neuroticism. Each attribute included in the repository is again linked with the synonymous words. The information retrieved is the text in comments. The text is composed of phrases, certain adjectives. These phrases and adjectives will be the input to the repository.

classifier as $f(x_i) = \tilde{w} > \tilde{x_i} + w_0 = w > x_i$ where $w = (\tilde{w}, w_0)$, $x_i = (\tilde{x_i}, 1)$

- Initialize $w = 0$
- Cycle though the data points { x_i, y_i }
- if x_i is misclassified then $w \leftarrow w + \alpha \, sign(f(x_i)) \, x_i$.

• Until all the data is correctly classified.

6. RESULT OUTCOMES

Fig.6.1 Admin login page

Fig.6.2User Registration page

Fig.6.3Admin view social user page

Fig.6.4Data stemming page

7.CONCLUSION AND FUTURE ENHANCEMENTS

7.1.CONCLUSION

This project is using two different types of social networks, namely, **"DETECTING AND TRACKING MENTAL ILLNESS ON SOCIAL NETWORKS"** have been employed for the automated detection of mental illness. A robust and computationally low-intensive feature, namely, approximate mental illness has been used for the proposed mental illness detection system. Experimental results show that overall accuracies as high performance can be achieved by this system. As the proposed system is based on a single feature that has a low computational burden, it is best suited for the real-time detection of epileptic seizures from ambulatory recordings.

7.2.FUTURE ENHANCEMENTS

This project is successfully developed and install from the server. It run without error in client side. The entire project has been developed and deployed as per the requirements stated by the user, it is found to be bug free as per the testing standards that is implemented. Any specification-untraced errors will be concentrated in the coming versions, which are planned to be developed in near future.

- To establish and start various Branches
- We can also deal through internet by creating web pages and a banking website for internet dealing.
- To have more and more customer satisfaction we will emphasize more and more on our dealings.

REFERENCES

1. Mohsinkamal, Saif Ur Rehmankhan;"Predicting Mental Illness using Social Media Posts and Comments" IEEE Intell ,Volume 11 Issue 12, 2020.

2. Hong-Han Shuai, Chih-YaShen;"A Comprehensive Study on Social Network Mental Disorders Detection via Online Social Media Mining" Volume: 30, Issue: 7, July 1 2018 PAGES 1212 - 1225.

3. B. Saha, T. Nguyen, D. Phung, and S. Venkatesh. A framework for classifying online mental healthrelated communities with an interest in depression. IEEE Journal of Biomedical and Health Informatics, 2016.

4. Hong-Han Shuai, Chih-YaShen; "Mining Online Social Data for Detecting Social Network Mental Disorders" cite as, arXiv:1702.03872 [cs.SI], 11 pages Issue 13 Feb 2017.