ISSN 2395-1621

Depression Detection Model in Micro blog System

[#1]Vaishnavi Jagtap, [#2]Sushma Sarode, [#3]Nikita Mohod, [#4]Manjusha kale

[1]piyalijagtap40@gmail.com
[2]sushmasarode1998@gmail.com
[3]nikitamohod55@gmail.com
[4]manjushakale15@gmail.com

[#1234]Department of Computer Engineering,

Dhole Patil College of Engineering, Pune.

ABSTRACT

The rise of online social network provides unprecedented opportunities for solving problems in awide variety of fields with information techniques . For example, traditional psychology research is based on questionnaires and academic interviews, but many psychologists are now turning their sights to web media. They try to analyze the data of social networks from the view of psychology. Undoubtedly, this discipline integration injects vigor into psychology, however, the supports from technical perspective are far from enough. Machine learning has been introduced into the medical field as a means to provide diagnostic tools capable of enhancing accuracy and precision while minimizing laborious tasks that require human intervention. There is mounting evidence that the technology fueled by ML has the potential to detect, and substantially improve treatment of complex mental disorders such as depression. this system analyses the post data and using the analyzed data the the random forest algorithm predicts if the user is depressed or not Due to its ease of use, this system can offer a viable tool for mental health professionals to identify symptoms of depression, thus enabling a faster preventative intervention. Furthermore, it may alleviate the challenge of interpreting highly physiological and behavioral symptoms of depression by providing a more objective evaluation.

Keywords
User Generated Content (UGC), Social Network Sites (SNS), Support Vector Machine (SVM),Post Tagging, Sentiment Polarity,Tokenization, Opinion Mining.

ARTICLE INFO

Article History

Received: 11th December 2019

Received in revised form :

11th December 2019

Accepted: 14th December 2019

Published online :

14th December 2019

I. INTRODUCTION

The proliferations of internet and communication technologies, especially the online social networks have revived how people interact and communicate with each other electronically. The applications such as Facebook, Twitter, Instagram and alike not only host the written and multimedia contents but also offer their users to express their feelings, emotions and sentiments about a topic, subject or an issue online. On one hand, this is great for users of social networking site to openly and freely contribute and respond to any topic online; on the other hand, it creates opportunities for people working in the health sector to get insight of what might be happening at mental state of someone who reacted to a topic in a specific manner. In order to provide such insight, machine learning techniques could potentially offer some unique features that can assist in examining the unique patterns hidden in online communication and process them to reveal the mental state (such as happiness, sadness, anger, anxiety, depression) among social networks users. Moreover, there is growing body of literature addressing the role of social networks on the structure of social relationships such as breakup relationship, mental illness (depression, anxiety, bipolarity etc.), smoking and drinking relapse, sexual harassment and for suicide idealization.

II. LITERATURE SURVEY

1.Akkapon Wongkoblap ; Miguel A. Vadillo ; Vasa Curcin ”Detecting andTreating Mental Illness on Social Networks” Mental illness is becoming a serious global health problem worldwide, with a growing number of patients suffering from depression, anxiety and other disorders. New solutions are needed to tackle this issue. The

main goal of this research project is to develop prediction models to clas- sify users with poor mental health from social network data and then implement an intervention model to help these users.

2."Classifying Depressed Users With Multiple Instance Learning from Social Network Data" Over 320 million people are suffering from depression worldwide. Depression is one of the. common mental health disorders. By its nature, depression can reoccur. People suffering from depression tend to lose interest, have low mood, feel hopeless, or have social isolation. At its worst, depression can lead to suicide. So far, there are a few numbers of studies investigating deep learning techniques to classify social network users with depression. Most of the studies used classical machine learning techniques e.g., regression, support vector machine, or decision trees. This paper aims to develop a deep learning predictive model to classify users with depression. Because depression is a recurrent disease, it is interesting in finding unusual patterns in user-generated content over time. Social network posts over time were extracted for time series data. The predictive model for the classification was obtained from deep learning techniques.

3.Shivaprasad T K and Jyothi Shetty, Sentiment Analysis of Product Reviews: A Review, 2017 Now a days internet is the most valuable source of learning, getting ideas, reviews for a product or a service. Everyday millions of reviews are generated in the internet about a product, person or a place. Because of their huge number and size it is very difficult to handle and understand such reviews. Sentiment analysis is such a research area which understands and extracts the opinion from the given review and the analysis process includes natural language processing(NLP), computational linguistics, text analytics and classifying the polarity of the opinion. In the field of sentiment analysis there are many algorithms exist to tackle NLP problems. Each algorithm is used by several applications. In this system we have shown the taxonomy of various sentiment analysis methods. This paper also shows that Support vector machine (SVM) gives high accuracy compared to Naive bayes and maximum entropy methods.

4.De Choudhury M, Counts S, Horvitz E. Predicting postpartum changes in emotion and behavior via social media Choudhury et al. considered online networking as a promising instrument for public health, concentrating on the utilization of Twitter presents on fabricating predictive models about theforth coming impact of childbirth on the conduct and disposition of new mothers. Utilizing Twitter posts, they measured postpartum changes in 376 mothers along measurements of social engagement, feeling, informal community, and phonetic style. ODea et al.

Problem statements

This system applies data mining to psychology area for detecting depressed users in social network services. Firstly, a sentiment analysis method is proposed utilizing vocabulary and man-made rules to calculate the depression inclination of each micro-blog. The most direct ex- pression of depressed mood is the users micro-blog content, so the sentiment analysis method in this section helps to figure out the polarity of each piece of micro-blog, which emphasizes the depression inclination reflected from the content. the proposed system will classify the users emotional status using supervised algorithm like random forest algorithm and predict whether user is depressed or not.

III. PROPOSED SYSTEM

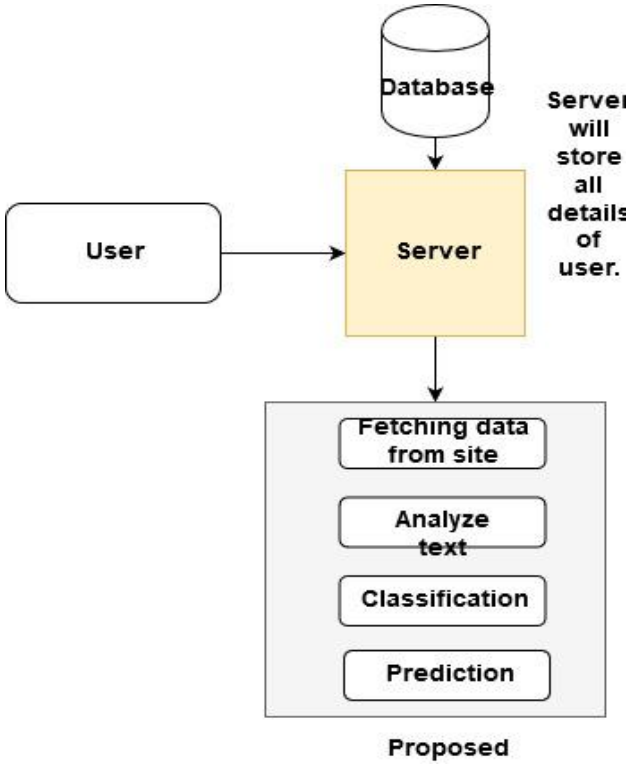

Fig . System architecture

IV. CONCLUSION

In this proposed system we have exhibited the capability of using Social media as a tool for measuring and detecting major depression among its users. To give a clear understanding of our work, numbers of research challenges were state the start of this proposed system. The analytics performed on the selected dataset, provide some insight on the research challenges. Below is the summary of our findings: What depression is and what are the common factors contributing toward depression. While we feel moody, sad or low from time to time, few people encounter these emotions seriously, for drawn out stretches of time (weeks, months or even years)and in some cases with no apparent reason. Despondency is something other than a low state of mind its a genuine condition that influences someone's physical and emotional feelings. Depression can influence any of us anytime. However, some phases or events make us more vulnerable to depression. Physical and emotional changes associated with growing-up, losing a loved one, beginning a family, retirement may trigger some emotional influx that could lead toward depression for few people. This system will detect depressed people through their posts. In future work, we plan to use another technique

to extract paraphrases from more types of emotional features. Also, we plan to use more dataset to verify our techniques efficiency and effectiveness. We in agreement with the existing body of literature that suggests that more focused studies in depression analysis are needed**.**

REFERENCE

[1] Akkapon Wongkoblap ; Miguel A. Vadillo ; Vasa Curc in ”Detecting and Treating Mental Illness on Social Networks ”Published in: 2017 IEEE International Conference on Healthcare Informatics (ICHI).

[2] ”Classifying Depressed Users With Multiple Instance Learning from Social Network Data” Published in: 2018 IEEE International Conference on Health care Informatics(ICHI).

[3] Maryam Mohammed Aldarwish ; Hafiz Farooq Ahmad,”Predicting Depression Levels Using Social Media Posts” Published in: 2017 IEEE 13th International Symposium on Autonomous Decentralized System(ISADS)

[4] Islametal. HealthInf SciSyst (2018) 6:8 Md. RafqulIslam1*,Muhammad Ashad Kabir2, AshirAhmed3,AbuRaihanM.Kamal1,HuaWang4and Anwaar Ulhaq5.

[5] R. Collobert, J. Weston, L. Bottou, M. Karlen, K. Kavukcuoglu, and P. Kuksa. Natural language processing (almost) from scratch. Journal of Machine Learning Research, 12(Aug):24932537,2011.

[6] K.Dave,S.Lawrence,and D.M.Pennock. Miningthe peanutgallery: Opinion extraction and semantic classification of product reviews. In Proceedings of the 12th international conference on World Wide Web,pages519528. ACM,2003.

[7] M.S.ElliandY.-F.Wang. Amazonre views,business analytics with sentiment analysis.

[8] S.Hotaand S.Pathak. Knn classifier based approach formulti-class sentiment analysis of twitter data. In International Journal of Engineering Technology, pages 13721375. SPC,2018.

[10] B.LiuandL.Zhang. A Survey of Opinion Mining and Sentiment Analysis,pages415463. Springer US,Boston, MA,2012.

[11] C. Rain. Sentiment analysis in amazon reviews using probabilistic machine learning. SwarthmoreCollege,2013.

