

A Comprehensive Study on Social Network Mental Disorders Detection via Online Social Media Mining

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Abstract: Mental stress is becoming a threat to people's health now days. With the rapid pace of life, more and more people are feeling stressed. It is not easy to detect users stress in an early time to protect user. With the fame of web-based social networking, individuals are used to sharing their day by day activities and interacting with friends via web-based networking media stages, making it possible to use online social network data for stress detection. In our system we find that users stress state is closely related to that of his/her friends in social media, and we employ a large-scale dataset from real-world social platforms to systematically study the correlation of users' stress states and social interactions. We have first define a set of stress related textual, visual, and social attributes from various aspects, we proposed system where we can perform sentiment analysis of facebook post after Formation of topic using SVM. We can classify user are in stress or not. After classification users are in stress or not, recommendation of hospital on a map can be done as well as Admin can send mail of precaution list for user for become healthy and happy in life.

Keywords- Mental stress, Facebook post, SVM, social networking

I. INTRODUCTION

The stress is considered to be a major factor of change mood of a user and user goes into a depression. Now a day's user can be stressed due to social interactions of social networks. The rapid increase of stress has become a great challenge to human health and life quality. Thus, there is significant importance to detect stress before it turns into severe problems. Social media can be exploited due to the sheer amount of information, which refers to user behavioral attributes. Getting advantage of that information to predict the social media users' mental health level can help psychiatrist, family or friends to get the right medical advice and therapy on time to the depressed user.

Mental stress is turning into a risk to individual's well-being these days. With the fast pace of life, progressively and more individuals are feeling stressed. 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. Users' social interactions on social networks contain useful cues for stress detection. Social psychological studies have made two interesting observations. The first is mood contagions: a bad mood can be transferred from one person to another during social interaction. The second Social Interaction: people are known to social interaction of user. The advancement of social networks like Facebook, twitter and Sina Weibo2, an ever increasing number of people will share their every day events and moods, and interact with friends through the social networks. We can classify using support vector method user are in stress or not.

II. LITERATURE SURVEY

Yuan Zhang, Jie Tang, Jimeng Sun, Yiran Chen, and Jinghai Rao have introduced study a novel problem of emotion prediction in social networks. A method referred to as Moodcast for modeling and predicting emotion dynamics in the social network. The proposed approach can effectively model each user's emotion status and the prediction performance is better than several baseline methods for emotion prediction. It is used to due to the limited number of participants. For model learning, it uses a Metropolis-Hastings algorithm to obtain an approximate solution. Experimental results on two different real social networks demonstrate that the proposed approach can effectively model each user's emotion status and the prediction performance is better than several baseline methods for emotion prediction. The Goal of this paper was to examine the programmed acknowledgment of individuals' every day worry from three different sets of information: a) people action, as identified through their cell phones (information relating to transient properties of people); b) climate conditions (information relating to transient properties of the earth); and c) identity characteristics (information concerning lasting manners of people). The issue was demonstrated as a 2-way classify action one. The outcomes convincingly recommend that all the three 484 sorts of information are important for achieving a sensible prescient control. For whatever length of time that one of those data sources

is dropped, exhibitions dip under those of the baselines. In addition, the distributional information for exactness and appear the heartiness and speculation energy of our multifactorial approach. [1]

Liqiang Nie, Yi-Liang Zhao, Mohammad Akbari, Jialie Shen, and Tat-Seng Chua have introduced about Bridging the vocabulary gap between health seekers and healthcare knowledge with a global learning approach. A medical terminology assignment scheme to bridge the vocabulary gap between health seekers and healthcare knowledge. The scheme comprises of two components, local mining and global learning. Extensive evaluations on a real world dataset demonstrate that our scheme is able to produce promising performance as compared to the prevailing coding methods. We will investigate how to flexibly organize the unstructured medical content into user needs-aware ontology by leveraging the recommended medical terminologies. This paper displays a restorative phrasing task plan to connect the vocabulary hole between wellbeing searchers and medicinal services information. The plan includes two parts, neighborhood mining and worldwide learning. The previous sets up a tri-arrange system to locally code every restorative record. Nonetheless, the nearby mining methodology may experience the ill effects of data misfortune and low exactness, which are caused by the nonappearance of key medicinal ideas and the nearness of the superfluous restorative ideas. This spurs us to propose a worldwide learning way to deal with adjust for the deficiency of nearby coding approach. The second segment cooperatively learns and spreads phrasings among fundamental associated medicinal records. It empowers the combination of heterogeneous data. Broad assessments on a real world dataset exhibit that our plan is capable to create promising execution when contrasted with the overall coding techniques. All the more imperatively, the entire procedure of our approach is unsupervised and holds potential to deal with substantial scale information. [2]

Brendan J. Frey have introduced about generic message-passing algorithm, the sumproduct algorithm, that operates in a factor graph. Factor graphs provide a natural graphical description of the factorization of a global function into a product of local functions. It can generate Factor Graphs and the Sum-Product Algorithm. Further exploration of the modeling power of factor graphs and applications of the sumproduct algorithm will prove to be fruitful. We display a bland message-passing calculation, the aggregate item calculation, that works in a factor chart. Following a solitary, basic computational govern, the whole item calculation registers—either precisely or around—different peripheral capacities got from the worldwide capacity. A wide assortment of calculations created in computerized reasoning, flag preparing, and advanced interchanges can be determined as particular examples of the whole item calculation, including the forward/in reverse calculation, the Viterbi calculation, the iterative "turbo" disentangling calculation, Pearl's conviction spread calculation for Bayesian systems, the Kalman channel, and certain fast Fourier transform (FFT) calculations. [3]

Xiao jun Chang, Yi Yangl, Alexander G. Hauptmann, Eric P. Xing and Yao-Liang Yu have introduced about an detecting complex events in unconstrained Internet videos. We propose an efficient, highly scalable algorithm that is an order of magnitude faster than existing alternatives. Better performance cannot always be guaranteed by more concepts. We concentrate on identifying complex occasions in unconstrained Web recordings. While most existing works depend on the wealth of named preparing information, we consider a more troublesome zero-shot setting where no preparation information is provided. We first pre-prepare a number of idea classifiers utilizing information from other sources. The atomic standard rank total structure is embraced to look for agreement. To address the testing improvement definition, we propose an effective, profoundly adaptable calculation that is a request of size speedier than existing choices. Trials on late TRECVID datasets confirm the predominance of the proposed approach.

[4] Jennifer Golbeck, Cristina Robles, Michon Edmondson, and Karen Tumerare introduced an interested in the identity of clients. Identity has been appeared to be applicable to many sorts of cooperations. We are interested in the identity of clients. Identity has been appeared to be applicable to many sorts of cooperations; it has been appeared to be helpful in anticipating work fulfillment, relationship achievement, and even inclination. We are intrigued in the identity of clients. Identity has been appeared to be applicable to many sorts of communications; it has been appeared to be valuable in foreseeing work fulfillment, expert and sentimental relationship achievement, and even inclination for various interfaces. We can begin to answer more sophisticated questions about how to present trusted, socially-relevant, and well-presented information to users. This made it unreasonable to utilize identity investigation in numerous web-based social networking areas. In this paper, display a technique by which a client's identity can be precisely anticipated through the openly accessible data on their Facebook profile. We will depict the sort of information gathered, our strategies for examination, and the machine learning methods that enable us to effectively foresee identity. We at that point talk about the suggestions this has for web-based social networking outline, interface plan, what's more, more extensive areas. [5]

Sepandar D. Kamvar have introduced an studies about whe any person feel fine and searching the emotional web. On the

usage of We Feel Fine to suggest a class of visualizations called Experiential Data Visualization, which focus on immersive item-level interaction with data. The implications of such visualizations for crowdsourcing qualitative research in the social sciences. Repeated information in relevant answers requires the user to browse through a huge number of answers in order to actually obtain information. To date, most research in assessment examination has been engaged on calculations to extricate, order, and condense conclusion. While this has obviously been valuable, there remains an expansive open door for specialists to fabricate immersive interfaces that take into account thing level investigation of slant information. This thing level investigation of information can bring its own experiential advantages to the client, and additionally empower crowdsourced subjective information investigation.[6]

Dan C Cirean, Ueli Meier, Jonathan Masci, Luca Maria Gambardella, furgen Schmidhuber have introduced an new deep SVM architecture, MaxMin- SVM, to better encode both positive and negative filter detections in the net. We propose to adjust the standard convolutional square of SVM keeping in mind the end goal to exchange more data layer after layer while keeping some invariance inside the system. Our fundamental thought is to abuse both positive and negative high scores got in the convolution maps. This conduct is acquired by altering the customary enactment work venture before pooling. Time required for this is more. It is time consuming process.[7]

Chi Wang, Jie Tang, Jimeng Sun, and Jiawei Han have introduced an To find out around an impact boost issue, which expects to locate a little subset of hubs (clients) in an interpersonal organization that could expand the spread of impact. A Pairwise Factor Graph (PFG) model to formalize the problem in probabilistic model, and we extend it by incorporating the time information, which results in the Dynamic Factor Graph (DFG) mode. The proposed approach can effectively discover the dynamic social influences. Parallelization of our algorithm can be done in future work to scale it up further. Propose a pairwise factor Graph (PFG) model to show the social impact in social systems. A productive calculation is intended to take in the model and make induction. We additionally propose a dynamic factor Graph (DFG) model to fuse the time information. Trial comes about on three distinct classifications of information sets demonstrate that the proposed methodologies can proficiently induce the dynamic social impact. The outcomes are connected to the impact boost issue, which intends to locate a little subset of hubs (clients) in an informal organization that could maximize the spread of impact. Trials demonstrate that the proposed approach can encourage the application. [8]

Andrey Bogomolov, Bruno Lepri, Michela Ferron, Fabio Pianesi, and Alex Pentland have introduced Studies about Daily stress recognition from mobile phone data, weather conditions and individual traits. That day by day stress can be dependably perceived in view of behavioural measurements, got from the client's cell phone action what's more, from extra markers, for example, the climate conditions (information relating to short lived properties of the condition) and the identity attributes. In work environments, where stress has become a serious problem affecting productivity, leading to occupational issues and causing health diseases. Our system could be extended and employed for early detection of stress-related conflicts and stress contagion, and for supporting balanced workloads.[9]

H. Lin, J. Jia, Q. Guo, Y. Xue, J. Huang, L. Cai, and

L. Feng have introduced the about a an automatic stress detection method from cross-media microblog data. Threelevel framework for stress detection from cross-media microblog data. By combining a Deep Sparse Neural Network to incorporate different features from crossmedia microblog data, the framework is quite feasible and efficient for stress detection. This framework, the proposed method can help to automatically detect psychological stress from social networks. We plan to investigate the social correlations in psychological stress to further improve the detection performance. We build a three-level structure to figure the issue. We initially get an arrangement of low-level highlights from the tweets.

At that point we characterize and separate center level portrayals in light of mental and workmanship hypotheses: etymological characteristics from tweets' writings, visual traits from tweets' pictures, and social properties from post remarks and top choices. At last, a Deep Sparse Neural Network is intended to take in the pressure classifications joining the cross-media traits. Investigation comes about demonstrate that the proposed technique is compelling and effective on recognizing mental worry from microblog information. [10]

III. SYSTEM ARCHITECTURE

In the proposed system architecture we can detect user are in stress or not due to interaction social network. In a social network contain Facebook. On a Facebook user are interact with other people. User cans different posts on a Facebook. There are three types of information that we can use as the initial inputs, i.e, Facebook-level attributes, user-level posting behavior attributes, and user-level social interaction attributes. Facebook-level attributes describe the linguistic i.e. positive and negative words and visual content like brightness, cool color, dull color, as well as social attention factors (being liked, commented,) of a single post. User level posting behavior attributes as summarized from a user as monthly postings, post time, post type; social interaction attributes extracted from a user as social interactions with friends.

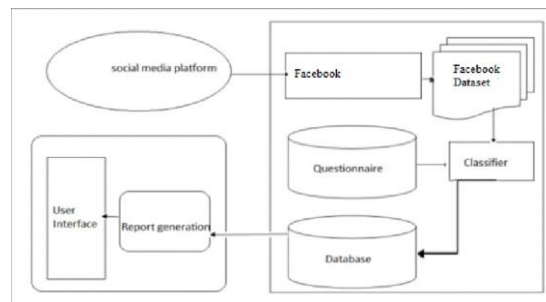


Fig system Architecture

In particular, the social interaction attributes can further be broken into:

1. Social interaction content attributes extracted from the content of users as social interactions with friends like words and emotions.
 2. Social interaction structure attributes extracted from the structures of users as social interactions with friends.
- On this user input post we can fetch user level post features on that input of Facebook post SVM is used for topic extraction. We can perform sentiment analysis of Facebook post after Formation of topic Using SVM we can classified user are in stress.

IV. CONCLUSIONS

Mental stress is threatening people's health. It is non-trivial to detect stress timely for proactive care. Therefore we presented a framework for detecting users' psychological stress states from users' monthly social media data, leveraging Facebook post' content as well as users' social interactions. Employing real-world social media data as the basis, we studied the correlation between user' psychological stress states and their social interaction behaviors. We recommended the user for health consultant or doctor. We can also try to show the hospitals for further treatment on a graph which locate shortest path from current location user to that hospital. Also, recommended the user for health precaution send on mail for user interaction purpose and show which age category persons are in stress.

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