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Detecting Mental Disorder of Users via Online Social Media

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ABSTRACT: Mental disorders are becoming a threat to people's health now a day. With the rapid pace of life, more and more people are feeling stressed. It is not easy to detect user's mental disorders 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 mental disorders state is closely related to that of his/her friends in social media, and I employ a large-scale dataset from real-world social platforms to systematically study the correlation of users' stress states and social interactions 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 first define a set of stress-related textual, visual, and social attributes from various aspects in social network mental disorders (SNMDs), In proposed system using CNN we can sentiment analysis of Facebook post after Formation of topic using Transductive Support Vector Method(TSVM) we can classified user are in detecting mentally disorders or not. After classification user are in mentally disorders or not k-nearest neighbours algorithm (KNN) is used for recommendation hospital on a map as well as Admin can send mail of precaution list for user for become healthy and happy in life.

KEYWORDS: Stress detection, factor graph model, micro-blog, social media, healthcare, social interaction.

I. INTRODUCTION

Mental disorders are threatening people's health. It is non-trivial to detect mental disorders or stress timely for proactive care. Therefore we presented a framework for detecting users' psychological stress states from users' monthly social media data, leveraging face book post ' content as well as users' social interactions. In this proposed system SNMD framework system using conventional neural network (CNN) for extraction of face book post. TSVM (Transductive SVM) for classification of post and KNN (K-nearest neighbours) for recommendation purpose. Employing real-world social media data as the basis, we studied the correlation between user' psychological stress states and their social interaction behaviours. We recommended the user for health consultant or doctor. We can show the hospitals for further treatment on a graph which locate shortest path from current location user to that hospital. We recommended the user for health precaution send on mail for user interaction purpose.

1.1. Problem Statement

The mental disorders are considered to be a major or main factor of change mood ofa user and user goes into a depression. Now a day's user can be stressed due to socialinteractions of social networks. The rapid increase of mental disorders or stress hasbecome a great challenge to human health and life quality. Thus, there is significantimportance to detect mental disorder before it turns into severe problems.

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1.2. Goals and objectives

The main objective of our system is whether user is in stress or not due tointeraction of social network.
We recommend the user a health consultant or doctor.
We show the hospitals for further treatment on a graph which locates the shortestpath from current location of the user to that hospital.
We recommend the user for health precaution send on mail for user interactionpurpose.

1.3. Statement of scope

The proposed scheme has the scope in below application in future,
Our application is used in hospitals, in clinics.
Our application is also used for medical consults for detecting the stress on asocial interaction of social network

II. LITERATURE SURVEY

[1]. Daily stress recognition from mobile phone data, weather conditions and individual traits:

We have 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.

[2]. Flexible, high performance convolutional neural networks for image classification:

In Our system, we present our new deep CNN architecture, MaxMin-CNN, to better encode both positive and negative filter detections in the net. We propose to adjust the standard convolutional square of CNN 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 convolutionmaps.This conduct is acquired by altering the customary enactment work venture before pooling1.Time required for this is more. It is time consuming process.

[3]. Predicting personality from twitter:

We are interested in the identity of clients. Identity has been appeared to be applicable to many sorts of cooperation's. We are interested in the identity of clients. Identity has been appeared to be applicable to many sorts of cooperation's; it has been appeared to be helpful in anticipating work fulfilment,relationship achievement, and even inclination .We is 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 fulfilment, 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.

[4]. Learning robust uniform features for cross-media social data by using cross autopen coders:

This is used to study about learning robust uniform features for cross-media social data by using cross auto encoders. To solve learning models to address problem handle the cross-modality correlations in cross-media social elements. We propose CAE to learn uniform modality-invariant features, and we propose AT and PT phases to leverage massive cross media data samples and train the CAE. Learning robust uniform features for cross-media social data by using cross auto encoders take a more time.

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[5]. We feel fine and searching the emotional web:

We can studies about when aany 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. Theimplications of such visualizations arecrowd sourcing 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.

[6]. Psychological stress detection from cross-media microblog data using deep sparse neural network.1985

We study the about an automatic stress detection method from cross-media micro blogdata. Three-level framework is for stress detection from cross-media microblog data. By combining a Deep Sparse Neural Network to incorporate different features from cross-media 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.

[7]. Bridging the vocabulary gap between health seekers and healthcare knowledgeLiqiangNie, Yi-Liang Zhao, Mohammad Akbari, JialieShen, and Tat-Seng Chua. 2013

To study 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.

[8]. Dynamic social influence analysis through time-dependent factor graphs. Chi Wang, Jie Tang, Jimeng Sun, and Jiawei Han. 2011

To find out around an impact boost issue, this 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.

[9]. Picture tags and world knowledge: learning tag relations from visual semantic sources LexingXie and Xuming He. 2013

Picture tags and world knowledge: learning tag relations from visual semantic sources studies the use of everyday words to describe images**.** The proposed tagging algorithm generalizes to unseen tags, and is further improved upon incorporating tag-relation features obtained via ICR.Techniques are to better incorporate multi-word terms and out-of-vocabulary words; advanced NLP techniques for learning word relations from free-form text; evaluation of latent concept relation suggestion, and predicting the type of relations.

[10]. Moodcast: Emotion prediction via dynamic continuous factor graph model Yuan Zhang, Jie Tang, Jimeng Sun, Yiran Chen, and Jinghai Rao.

We study a novel problem of emotion prediction in social networks. A method referred to as Mood cast for modelling and predicting emotion dynamics in the social network. The proposed approach can effectively model each user's

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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.

III.EXISTING SYSTEM APPROACH

Existing works demonstrated that leverage social media for healthcare, and in particular stress detection, is feasible. There are some limitations exist in face book content based stress detection. Users do not always express their stressful states directly in face book post. Although no stress is revealed from the post itself, from the follow-up interactive comments made by the user and her friends, we can find that the user is actually stressed from work. Thus, simply relying on a user's face book post content for stress detection is insufficient. Users with high psychological stress may exhibit low activeness on social networks. Stress detection performance is low.

IV.PROPOSED SYSTEM APPROACH

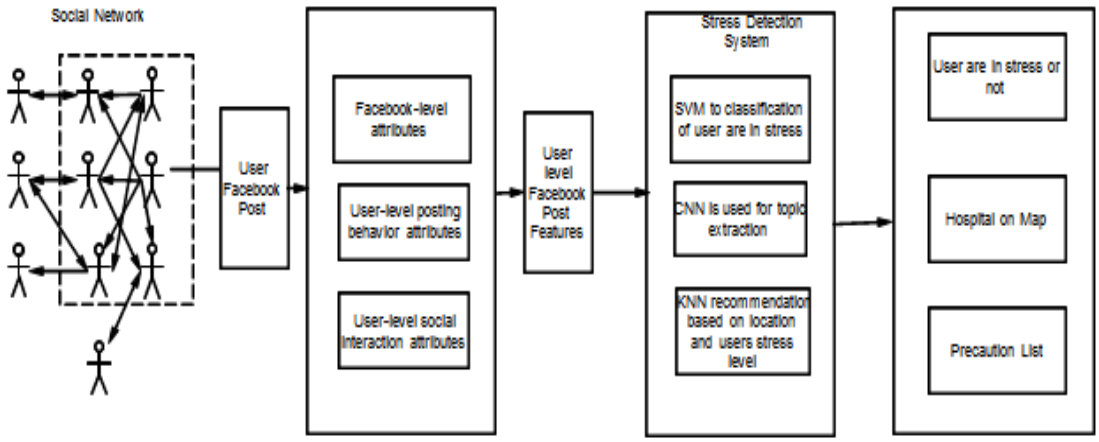

Fig.1 Block Diagram of Proposed System

In a proposed system architecture, we can detect whether the user is stressed or not due to interaction in social network. In a social networking site like face book or twitter, users interact with other people. User can upload different posts on face book. There are three types of information that we can use as the initial inputs. Those are face book-level attributes, user-level posting behaviour attributes, and user-level social interaction attributes. Face book-level attributes describe the linguistic i.e. positive and negative words and visual content like brightness, cool colour, dull colour, as well as social attention factors (being liked, commented) of a single face book post. User level posting behaviour attributes as summarized from a user's monthly face book postings, post time , post type social interaction attributes extracted from a user's social interactions with friends. In particular, the social interaction attributes can further be broken into: (i) Social interaction content attributes extracted from the content of user's social interactions with friends like words and emotions and (ii) Social interaction structure attributes extracted from the structures of user's social interactions with friends. On this user input post we can fetch user level face book post features. On that input of face book post, conventional neural network (CNN) is used for topic extraction. Using CNN we can perform sentiment

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analysis of face book post after formation of topic. Using (TSVM)Transductive Support vector Machine we can classify if the users are in stress or not. After classification of user whether he or she is stressed or not, k-nearest neighbours algorithm (KNN) is used for recommendation of hospital on a map as well as admin can send mail of precaution list for user to become healthy and happy in life.

V. METHODOLOGIES/ALGORITHM DETAILS

1. **Algorithm 1. SVM (Support Vector Machine):-**used for classification purpose.

In machine learning, support vector machines (SVMs, also support vector networks)are supervised learning models with associated learning algorithms that analyse dataused for classification and regression analysis. Given a set of training examples,each marked as belonging to one or the other of two categories, an SVM trainingalgorithm builds a model that assigns new examples to one category or the other,making it a non-probabilistic binary linear classifier (although methods such as Plattscaling exist to use SVM in a probabilistic classification setting). An SVM model isa representation of the examples as points in space, mapped so that the examples ofthe separate categories are divided by a clear gap that is as wide as possible. Newexamples are then mapped into that same space and predicted to belong to a categorybased on which side of the gap they fall.
When data are not labeled, supervised learning is not possible, and an unsupervisedlearning approach is required, which attempts to find natural clustering of the datato groups, and then map new data to these formed groups. The clustering algorithmwhich provides an improvement to the support vector machines is called supportvector clustering and is oftenused in industrial applications either when data are notlabelled or when only some data are labelled as a pre-processing for a classificationpass.

2. Algorithm 2. KNN (K nearest Neighbours)
In Pattern acknowledgment, the k-closest neighbor's calculation (k-NN) is a nonparametrictechnique utilized for characterization and relapse. For every situation,the information comprises of the k nearest preparing precedents in the element space.The yield relies upon regardless of whether k-NN is utilized for arrangement or relapse.Utilizing this KNN calculation we can proposal of medical clinic to client ona guide additionally show shorted separation from a present area to that emergencyclinic on goggle delineate. We additionally prescribe the safeguard as per dimensionof client stretch.

1. Find k most similar users (KNN).
2. Identify set of items, C, Visited by the group of user together with their frequency.
3. Prescribe the best N-most regular things in C that the dynamic client visited or not.

3. Algorithm 3. A Convolutional Neural Network (CNN)
A Convolutional Neural Network (CNN) is included 1 or a great deal of convolutionallayers (frequently with a subsampling step) thus pursued by one or a ton ofcompletely associated layers as in a standard multilayer neural system. The designof a CNN is intended to require advantage of the second structure of associate degree
Input image or alternative second input like a speech signal). This is achieved withnative connections and tied coupled followed by some sort of pooling which endsup in translation invariant options. Another good thing about CNNs is that they'reeasier to coach and have several fewer parameters than totally connected networks
With constant variety of hidden units.
Input: - User face book post.
Output:-Extraction of topic.

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VI. RESULT AND GRAPHS

We can see the stressed and non-stressed user in the graph; we see 2 users are in stressed and 5 users in the non-stressed user.

Table 10.1: Compute Stress Users and Non-Stress Users

Sr. No.	Stress User	Non-Stress User
1	2	5

From above table we design in graph as below,

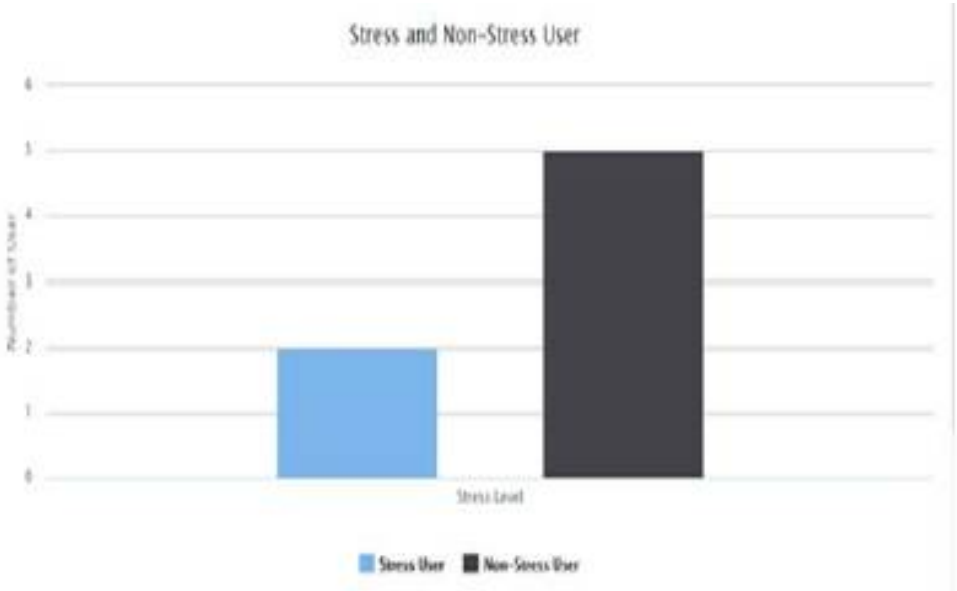

Figure 10.1: Stressed and Non-Stressed User

VII. CONCLUSION AND FUTURE WORK

Conclusion

Psychological 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 face book 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 behaviours. We recommended the user for health consultant or doctor. We show the hospitals for further treatment on a graph which

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locate shortest path from current location user to that hospital. We recommended the user for health precaution PDF send on mail for user interaction purpose.

Future Work

In this system if user in stress for health precaution pdf on mail. In feature send the MAIL OF VIDEO AS WELL AS GIF TO USER FOR INTERACTION PURPOSE.

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