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A Synoptic Survey of Social Network Mental Disorder Detection

Jakiya Mulla[1], Alisha Nadaf[2], Prof. Sayali Shinde[3]
[1, 2]*Seventh Sem B.E, Department of CSE, DACOE karad.*
[3]*Assistant Professor, Department of CSE, DACOE Karad.*

Abstract: ***Social media has many good and bad traits but extensive use of social media effect on health. Using Social media regularly has been proven to cause many serious health issues. An increasing number of social network mental disorder such as cyber relationship addiction, Information overload, net compulsion have been noted. Suffering from serious mental illness such as depression can lead to many people become suicidal. Symptoms of these mental disorder are observed today and resulting in delayed clinical intervention. So In this paper, we argue that detect social network mental disorder at early stage. And also provide solution to overcome social media usage. Our approach is to build an android app that analysis behavior of user, provide report of social media usage and detect mental disorder by using report. If user has extensive use of social media app then restrict those users from using social media app by blocking that app for certain time limits.***
Keywords: Online social network, behavior analysis, Social network mental disorder detection, Tensor Flow lite.

I. INTRODUCTION

With explosive growth of popularity of social network, messaging app , online social Network have become part of many people daily lives. Most research on social network mining focuses on discovering knowledge behind the data for improving user's life. While online social Network's seemingly expand their user's capability in increasing social contrasts, they may actually decrease face-to-face interpersonal Interaction in real world. Due to epidemic scale of these phenomena, new terms such as Phubbing i.e. Phone Snubbing and NomoPhobia i.e. No Mobile Phone Phobia have been created to describe those who cannot stop using mobile social networking app. Social media has negative impact on health. Most of user's get lazy because of excessive use of social network which bring disorder in our routine life. Virtual world which devours mind of users. These symptoms form important diagnostic criteria for SNMDs like Cyber-Relationship Addiction, Information Overload, Net Compulsion, Cyber-Sexual and Computer Addiction. The symptoms of these disorders were till now observed passively and hence the clinical intervention got delayed. Research shows that the early diagnosis of such mental disorders can greatly reduce the risk. Hence the practice of SNMD, that relies on self-revealing of those mental factors via questionnaires in Psychology is not adopted in our proposed model as the users might try to over smart the diagnosis by answering questions dishonestly. We propose a new innovative machine learning android app called Social Network Mental Disorder Detection that detects potential SNMD users, by analyzing their behavior based on some important factors such as Count of lock or Unlock Screen, Night Time access, Text Detector, Social media Usage. Also provide Users information about how many time they spend as Useful and how many time they spend as Useless time. By using this generate Report of Behavior analysis and by using this Report detect Social Network Mental Disorder detection.

II. RELATED WORK

Internet is considered as one of the largest sources of information that is used worldwide. Unfortunately, many people are addicted to the internet. The Usage of internet has increased to great extent that it started interfering in other key areas of life such as education, work and relationship, physical and emotional health. When internet becomes a priority, the individual no longer participate in life outside the virtual world. Internet addiction is a compulsive disorder that interferes with normal living. It causes Severe stress and relationship problems with family and friends. There are different forms of addiction involved with over-use of internet, and it is essential to identify the category. Most of the times, internet addiction is characterized by a compulsive desire to interact online through gambling, gaming, social networking and compulsive surfing.Net Compulsion includes compulsive gaming ,gambling ,trading stocks ,shopping or excessive use of interferes with personal and professional well-being[7].
There were cross-sectional studies to examine the associations of suicidal thoughts and attempt with Internet addiction and Internet activities in a large representative adolescent population where students aged 12–18 years were selected using a stratified random sampling and were asked to complete the questionnaires.

The questions were used to inquire as to analyze the participants' suicidal thoughts and attempt in the past one month. The kinds of Internet activities that the adolescents participated in were also noted. The associations of suicidal thoughts and attempt with Internet addiction and Internet activities were examined using logistic regression analysis to control for the effects of demographic characteristics, depression, family support and self-esteem. Online gaming, online searching for information, and online studying were associated with an increased risk of suicidal thoughts. While online gaming, chatting, watching movies, shopping, and gambling were associated with an increased risk of suicidal attempt, watching online news was associated with a reduced risk of suicidal attempt [8].

Our approach is to build an android app that analysis behavior of user, provide report of social media usage and detect mental disorder by using report. We propose a new innovative machine learning android app called Social Network Mental Disorder Detection that detects potential SNMD users, by analyzing their behavior based on some important factors such as Count of lock or Unlock Screen, Night Time access, Text Detector, Social media Usage. Also provide Users information about how many time they spend as Useful and how many time they spend as Useless time. By using this generate Report of Behavior analysis and by using this Report detect Social Network Mental Disorder detection.

So In this paper we argue that detect social network mental disorder at early stage and also provide solution to overcome this social media usage.

If user has extensive use of social media app then restrict those users from using social media app by blocking that app for certain time limits.

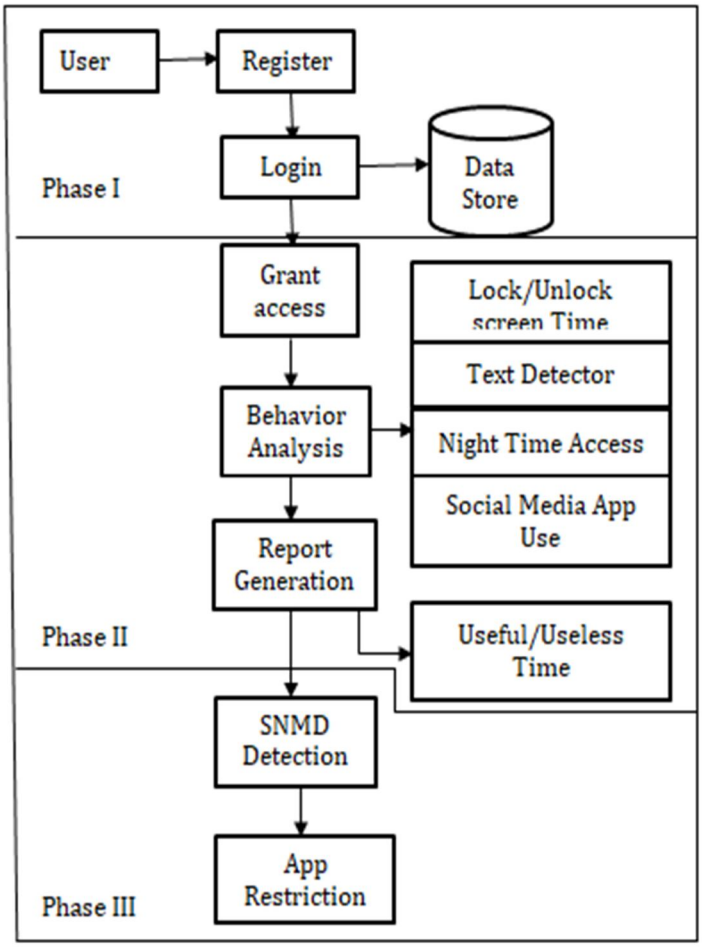

Fig. SNMDD Framework

In this approach, build an android app using TensorFlow Lite. In this user can limit app usage. It helps between virtual life and real life. It block app in case user expected unlimited usage. User can track phone Usage and get a detailed report to understand time and app Consumptions. Here TensorFlow Lite can be used to deliver a trained TensorFlow model as an on device. TensorFlow Lite enables on-device machine learning inference with low latency. Hence it is fast. TensorFlow Lite takes small binary size. Hence, good for mobile devices.

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III. PRELIMINARIES

A. Social Network Mental Disorder Detection

In this paper, we aim to analyze behavior of user to detect following types of SNMDs [7]:

1) Virtual Relationship Addiction, which includes the addiction to social networking, checking and messaging to an extent where virtual and online friends become more important than real-life relationships with family and friends.
2) Obsessive Online Gambling, which includes compulsive online social gaming or gambling, often leading to financial and job-related problems.
3) Information Glut, addresses how the information technology revolution would shape the world, and how the large amount of data available on the Internet would make it more difficult to sift through and separate fact from fiction.
4) Net Compulsion, this type of addiction includes compulsive gaming, gambling, trading stocks, shopping or excessive use of internet that interferes with personal and professional well-being.
5) General Addiction, in which some people plays on computer, they enjoy playing offline games and stay in front of computer for long period.
6) Compulsive Web Surfing, is a disorder where individuals keep on surfing the web or database to a point. They do not give time to friends, family members or regular work at home.

B. Behavior Analysis

In this paper we analyze behavior of user based on following factors.

1) Lock/Unlock Screen Time, is one factor in which calculate how many time user lock screen and how many time user unlock screen that means how many time user may see his/her mobile. and also respond for each and every notification that come on mobile. So by this we know that user is addicted to phone or not?
2) Night Time Access, is one factor in which we know that how much time user spend time on mobile in specific night. By using this information provide report to user that how much time spend in night.
3) Text Detector, in which detect text on searching time.
4) Social Media App Usage, in which know that user how much time spend on social media app like Facebook , YouTube, tiktok, whatsapp etc.so this report also provide user. Also provide report of how much useful time they spend on Social app or how much useless time spend on Social app [5].
Here report is that social media use over time.

Usage of the major social media platform varies by factors such as age, gender. For many users social media is part of their daily lives.

So we provide daily report of their social media usage to them. Social media is considered to be one of the most harmful part of society. If the use of social media is not monitored, it can lead to grave consequences. It is harmful because it invades your privacy like never before. The oversharing happening on social media makes children a target for hackers and predators. It also leads to cyberbullying which affects any person significantly.

Thus sharing on social media by children must be monitored at all times.

C. TensorFlow Lite

TensorFlow Lite is a set of tools to help run tensorflow models on mobile. It enables on-device machine learning inference with low latency and small binary size.

TensorFlow Lite consists of two main components:

1) The TensorFlow Lite interpreter, which runs specially optimized models on many different hardware types, including mobile phones etc.
2) The TensorFlow Lite converter, which converts TensorFlow models into an efficient form for use by the interpreter, and can introduce optimizations to improve binary size and performance.

TensorFlow Lite is designed to make it easy form to perform machine learning on devices.

For developers performing machine learning on-device can help improve:

a) Latency
b) Privacy
c) Connectivity
d) Power Consumption

IV. CONCLUSION

In this paper, we attempts that detect social network mental disorder at early stage. And also provide solution to overcome social media usage. In this approach, build an android app using TensorFlow Lite. In this user can limit app usage. It helps between virtual life and real life. It block app in case user expected unlimited usage. User can track phone Usage and get a detailed report to understand time and app Consumptions.

V. FUTURE SCOPE

To provide features like Parental Control, in which, If child use mobile app more than limited time, it will send notification to parent.

VI. ACKNOWLEDGEMENT

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REFERENCES

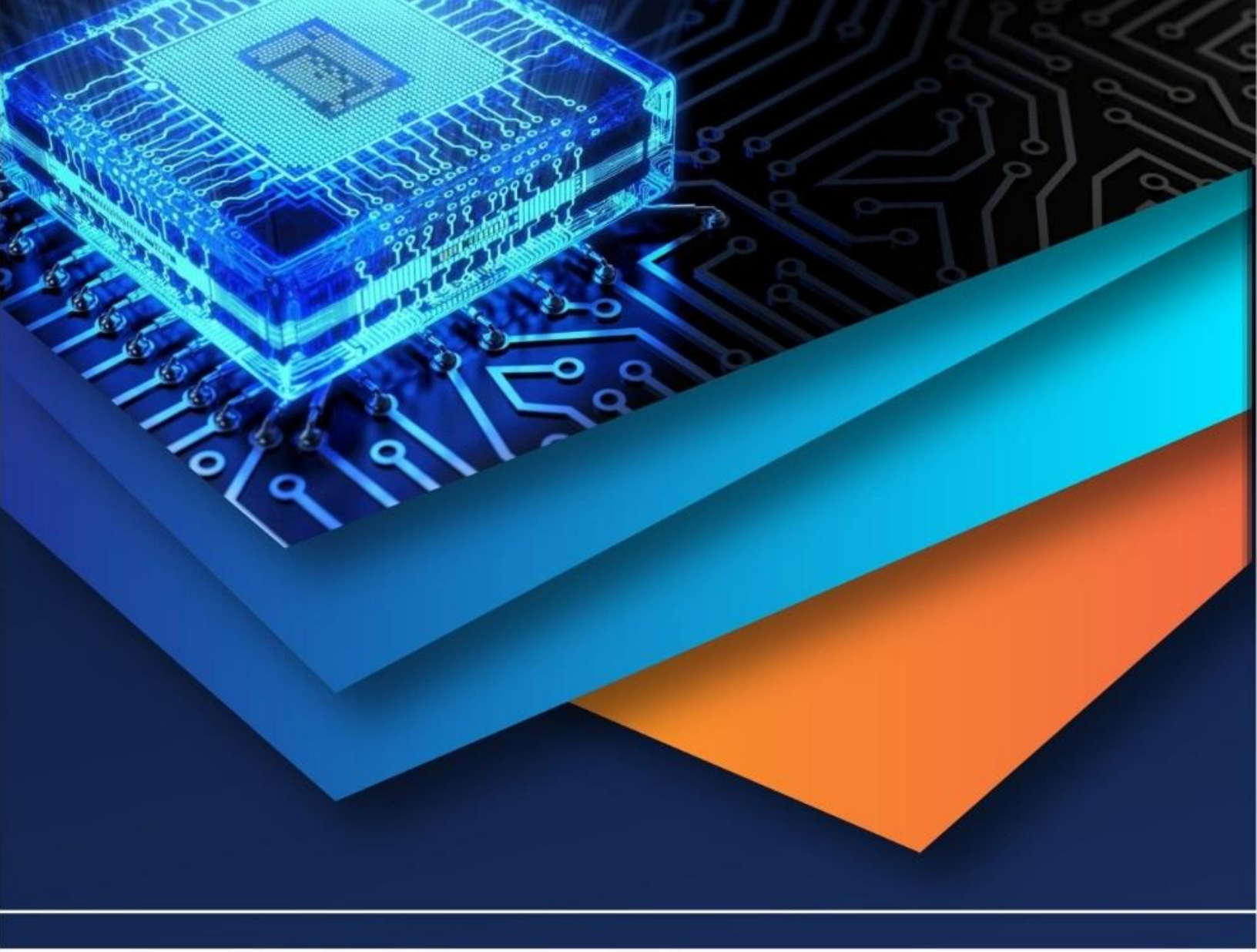
[1] D. Li, X. Li, L. Zhao, Y. Zhou, W. Sun, and Y. Wang. Linking multiple risk exposure profiles with adolescent Internet addiction: insights from the person-centered approach. Computers in Human Behavior, 2017.
[2] K. Kim, H. Lee, J. P. Hong,M. J. Cho, M. Fava,D. Mischoulon, D. J. Kim, and H. J. Jeon. Poor sleep quality and suicide attempt among adults with internet addiction: a nationwide community sample of Korea. PLOS ONE, 2017.
[3] C.-H Chang, E. Saravia, and Y.-S. Chen. Subconscious crowdsourcing: a feasible data collection mechanism for mental disorder detection on social media, ASONAM, 2016.
[4] B. Saha, T. Nguyen, D. Phung, and S. Venkatesh. A framework for classifying online mental health- related communities with an interest in depression. IEEE Journal of Biomedical and Health Informatics, 2016.
[5] M. Choudhury, M. Gamon, S. Counts, and E. Horvitz. Predicting depression via social media. ICWSM, 2013.
[6] L. Leung. Net-generation attributes and seductive properties of the internet as predictors of online activities and internet addiction. Cyberpsychol. Behav. Soc. Netw., 2004.
[7] Hong-Han Shuai, Chih-Ya Shen, De-Nian Yang, Senior Member, IEEE, Yi-Feng Lan, Wang- Chien Lee, Philip S. Yu, Fellow, IEEE and Ming-Syan Chen, Fellow, IEEE, "A Comprehensive Study on Social Network Mental Disorders Detection via Online Social Media Mining", 2018.
[8] H.-H. Shuai, C.-Y. Shen, D.-N. Yang, Y.-F. Lan, W.-C. Lee, P. S. Yu, and M.-S. Chen. Mining online social data for detecting social network mental disorders. 2016.

BIOGRAPHIES

Ms. Jakiya Mulla is currently pursuing her Bachelor of engineering degree in department of CSE at AGTI's Dr. Daulatrao Aher college of engineering Karad.

Ms. Alisha Nadaf is currently pursuing her Bachelor of Engineering degree in department of CSE at AGTI's Dr. Daulatrao Aher College of Engineering Karad.

Ms. Sayali Shinde Assistant Professor at Department of Computer Science and Engineering, AGTI's Dr. Daulatrao Aher College of Engineering Karad.



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