

MENTAL HEALTH IDENTIFIER

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ABSTRACT

This paper presents a critical assessment analysis on mental health detection in Online Social Networks (OSNs) based on the data sources, machine learning techniques, and feature extraction method. The appropriateness of the mental health detection was also investigated by identifying its data analysis method, comparison, challenges, and limitations. This study reviewed articles published in major databases between 2007 and 2018 through keyword searches. The articles were screened base on their titles and abstracts before the full texts were reviewed. The articles were coded in accordance with data set (e.g., data sources, keywords, and geographical locations), method of data analysis, machine learning or deep learning technique, classifier performance, and feature extraction method.

I. INTRODUCTION

The current changes in the social landscape have contributed significantly to the increase in the rate of mental health problems and psychological disorders. The World Health Organization (WHO) has defined “mental health” as the condition of a person who is able to handle his/her stress in life according to his/her ability, but is still able to work normally and productively as well as contribute to the society [1]. Factors that affect mental health probably originate from an The associate editor coordinating the review of this manuscript and approving it for publication was Shen Yin. individual’s way of life, such as work stress, bad financial situation, family issues, relationship problems, and violence, along with environmental factors [2]. These situations can contribute to mental health disorders, such as depression, anxiety, stress, and various psychological disorders that exert an impact on the quality of life and holistic well-being of a person

Approximately 450 million people worldwide are mentally ill, with the disease accounting for 13% of the global disease burden [3]. WHO estimated that one in four individuals experiences mental disorders in any stage of their lives [4]. In 2018, WHO released a guideline on managing the physical conditions of adults with severe mental health problems.

II. METHODOLOGY

The main purpose of this paper is to explore the adequacy, challenges, and limitations of a mental health problem detection based on OSNs data. machine learning techniques, and feature extraction methods used in mental health detection. The study found that OSNs exhibit high potential as a data source in early detection of mental health problems. Most researchers used text analysis on a new data set extracted from different OSNs sources. The extracted data were examined using a statistical analysis or machine learning techniques. Several studies also applied multimethod techniques, which included distributing questionnaires while requesting for the respondents’ consent to later access and extract information from his/her OSNs account. Big data in OSNs contribute on mental health problem detection.

1. Requirement Analysis:

The project initiation phase involved comprehensive requirements gathering through stakeholder meetings and user surveys. Understanding the needs of both guests and administrators was crucial in defining the system functionalities.

2. System Architecture Design:

The architectural design phase focused on outlining the structure of the application. Utilizing the Model-View-Controller (MVC) pattern, the system’s components were organized to ensure modularity, scalability, and maintainability. Firebase was chosen as the primary database to facilitate real-time data interactions.

3. User Interface Design:

User interface (UI) design was a collaborative effort involving designers and usability experts. Wireframes and mockups were created to visualize the user journey, ensuring a seamless and intuitive experience for both guests and administrators.

4. Implementation:

The application was developed using Android Studio, incorporating Java for backend logic. Integration with Stripe for secure payments and Express.js for transaction security was implemented during this phase. Firebase SDKs were utilized for real-time database interactions.

5. Testing:

Rigorous testing was conducted to ensure the reliability and functionality of the application. Unit testing, integration testing, and user acceptance testing were carried out to identify and rectify potential issues. Emphasis was placed on validating the payment and refund processes.

6. Deployment:

The deployment phase involved releasing the application on the Google play Store. Continuous monitoring and updates were planned to address any unforeseen issues and introduce feature enhancements based on user feedback.

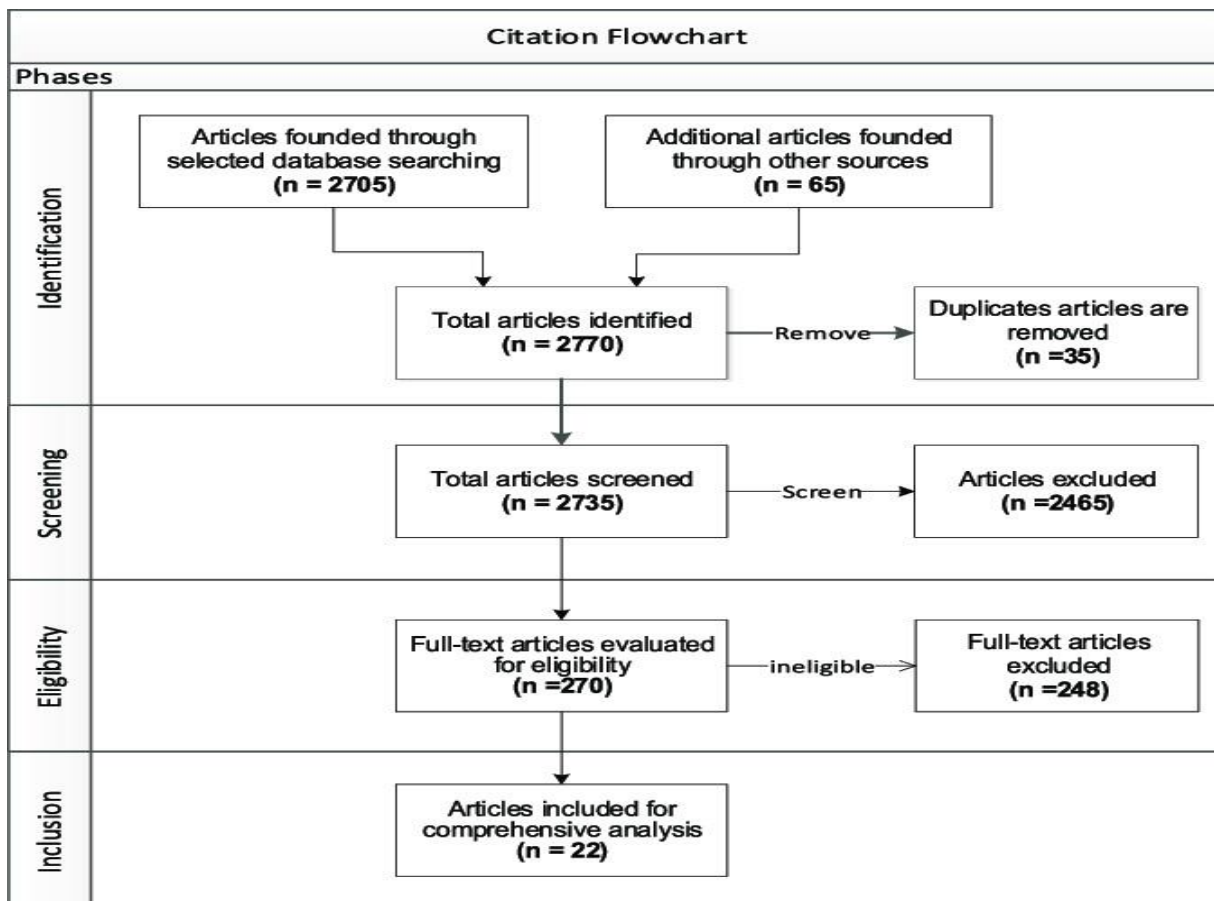
7. User Training and Support:

A user training program was designed to acquaint both guests and administrators with the application’s features. Additionally, a robust support system, including FAQs and in-app assistance, was implemented to address user queries.

8. Iterative Refinement:

The development process followed an iterative approach, incorporating user feedback and addressing emerging challenges. Regular feedback loops ensured that the system evolved to meet the dynamic needs of both users and administrators.

III. MODELING AND ANALYSIS



Dia:- Flowchart of Citation from the First Stage of Identification until the Final Stage of Inclusion articles.

Feature extraction method and objectives, data analysis methods, and classifier performance. The selected studies were categorized distinctly based on the data set, type of mental health problems, data source based on geographical location extraction, and OSNs type. Majority of the studies used new data sets extracted from OSNs mental health problem detection

Nearly all the researchers in Table 2 prepared their own data sets, except for one, who used data from another study. The data sets provided were based on the count where the research was conducted, the type of OSNs used, and the duration of data extraction. The advantage of using an original data set is that the information is specific to the objectives of the research depending on the location. Several data were extracted directly from public posts in Twitter or Sine Weibo. Three types of data were extracted. The first type included data extracted from public application programming interface services

IV. RESULT AND DISCUSSION

One of the interesting and challenging tasks is mental health problem detection over time. In contrast with other text classification tasks, mental health status can vary significantly over time. For example, a mental health case reported in an OSNs website may begin with a simple mental health issue (i.e., a weak signal) and end with a suicide case (i.e., a strong signal). Consequently, different mental health scenarios that change over time should be considered while building machine learning models. A model should be effective in detecting weak signals and in continuously evolving mental health detection cases over time

V. CONCLUSION

In conclusion, the mental health detector. The purpose of this systematic review is to conduct a critical assessment on mental health problem detection. This analysis consists of the data source, the feature extraction method, and classifier performance in machine learning or deep learning techniques. This systematic review also investigates the appropriateness of pre-mental health detection by identifying its method of data analysis, challenges, and limitations.

VI. REFERENCES

- [1] Oei, T. P., Sawang, S., Goh, Y. W., Mukhtar, F. (2013) "Using the depression anxiety stress scale 21 (DASS-21) across cultures." *International Journal of Psychology* 48 (6): 1018-1029.
- [2] Kroenke, K., Spitzer, R. L., Williams, J. B. (2001) "The PHQ-9: validity of a brief depression severity measure." *Journal of general internal medicine* 16 (9): 606-613.
- [3] Sau, A., Bhakta, I. (2018) "Screening of anxiety and depression among the seafarers using machine learning technology." *Informatics in Medicine Unlocked* :100149
- [4] M. Hamilton, "Development of a rating scale for primary depressive illness," *British Journal of Social and Clinical Psychology*, vol. 6, no. 4, pp. 278-296, 1967. View at: [Publisher Site](#) | [Google Scholar](#)
- [5] American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, American Psychiatric Association, Reston, VA, USA, 2013.
- [6] M. I. Jordan and T. M. Mitchell, "Machine learning: trends, perspectives, and prospects," *Science*, vol. 349, no. 6245, pp. 255-260, 2012. View at: [Publisher Site](#) | [Google Scholar](#)