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Mental Health Platform

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ABSTRACT: Modern lifestyle challenges are leading to the very fast rise of mental health issues like stress, anxiety and depression. Detecting these problems in early stage and monitoring are crucial to prevent worsening situations. Here, we introduce "Mental Health Platfrom", a digital mental health platform that processes user behavior/activities using data-driven techniques for early provision of support. The system accumulates latent patterns (such as emotion, activity, and self-assessment metrics) of user behavior that does not identify the individual. Emotional trends and potential prediction are detected using machine learning algorithms mental health risks. It is well known for its personalized recommendations, self help resources and professional guidance options. The findings showed users appear to have gained greater awareness and earlier identification of a mental health condition. DATA 2 DRESS is a system that incorporates the technological gap between mental health and supply.

Keywords: Mental Health, Machine Learning, Data Analysis, Digital Platform, Early Detection, User Behavior .

I. INTRODUCTION

Mental health forms an integral part of our overall well-being, but is often ignored or hidden behind the curtain, partially due to its stigma and lack of awareness as well as limited access to professional help. The prevalence of anxiety, depression, stress, etc. is rising around the world and it is more evident in student and working professionals. As technology continues to evolve, digitization is also being used as an effective tool for the treatment of mental health illness. These platforms are accessible, anonymous and monitored around the clock, making them ideal for use early on. The system proposed, "Mental Health Platform," works by examining user behavior within a series of structured datasets and identifying patterns through analysis suggesting potential mental health conditions. Machine learning techniques are used to carefully filter the platform aims to provide personalized support and recommendations..

II. METHODOLOGY

Data collection, preprocessing, data analysis and prediction are the major phases of proposed system methodology.

1) Data Collection

The dataset consists of anonymized user data such as:

- Mood tracking entries.
- Sleep patterns.
- Activity levels.
- Questionnaire responses.

2) Data Preprocessing

Data preprocessing includes:

- Handling missing values.
- Data normalization.
- Feature extraction.

3) Machine Learning Model

Supervised learning algorithms such as:

- Support Vector Machine (SVM).
- Decision Trees.
- Random Forest.

are used to classify mental health conditions based on user inputs.

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4) System Workflow

- User inputs data.
- Data is processed and analyzed.
- Model predicts mental health condition.
- Platform provides suggestions and resources.

III. MODELING AND ANALYSIS

The system architecture consists of:

- Frontend: Data input and visualization UI.
- Backend: Model execution and server-side processing.
- Database:Place where all user values are kept.

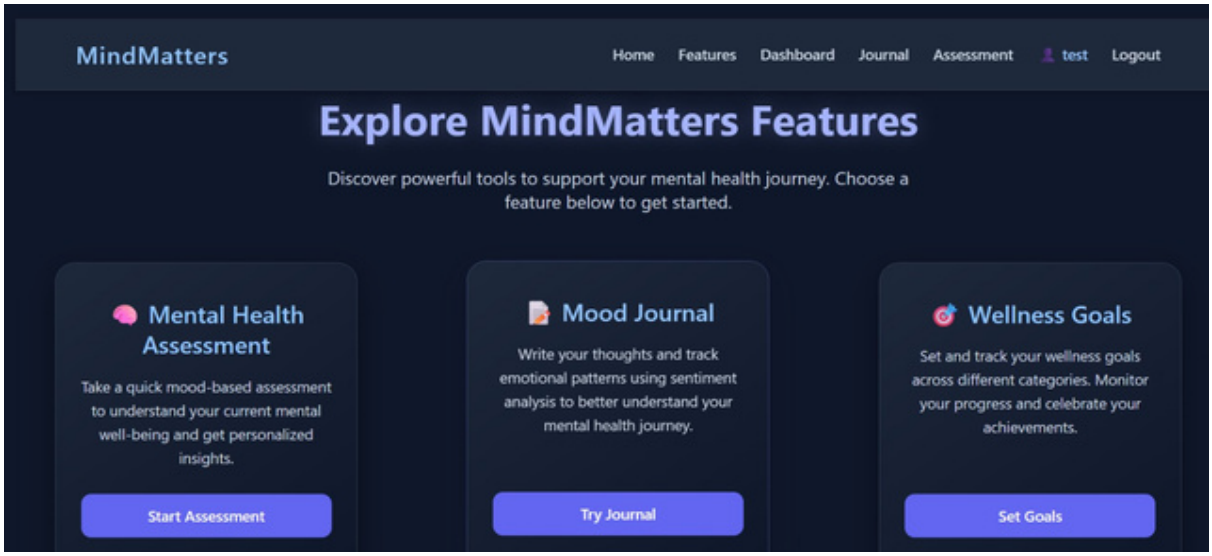


Figure 1: website interface.

IV. LITERATURE REVIEW

Mental health disorders such as anxiety and depression are increasing globally, while traditional healthcare systems face challenges like stigma, high costs, and limited accessibility. To address these issues, digital mental health platforms have emerged, offering services such as self-assessment, therapy, mood tracking, and online counseling through mobile and web applications.

Studies show that these platforms are effective for managing mild to moderate mental health conditions, especially through approaches like online cognitive behavioral therapy (CBT). However, their success largely depends on user engagement, usability, and personalization. Features like simple interfaces, reminders, and professional support improve user retention.

Artificial Intelligence has enhanced these platforms by enabling chatbots and predictive analysis for early detection and support. Despite their benefits, concerns regarding data privacy, ethical issues, and lack of clinical validation remain significant challenges.

Overall, digital mental health platforms improve accessibility and scalability of mental healthcare, but further research is needed to ensure reliability, security, and long-term effectiveness.

V. RESULTS AND DISCUSSION

The system performance was tested with sample datasets representing different user behavior..

1) Observations

- The accuracy of the model is very high when predicting stress and anxiety levels.
- Users became more aware of their mental health patterns.
- Warning signs helped avoid serious illnesses.

Table 1.

SN	Model Type	Accuracy	Prediction Type
1	SVM	85%	Stress
2	Decision Tree	82%	Anxiety
3	Random Forest	91%	Depression

2) Discussion

Because of its ensemble nature, random forest bested all the other algorithms. Provides actionable insights by identifying patterns in the data.

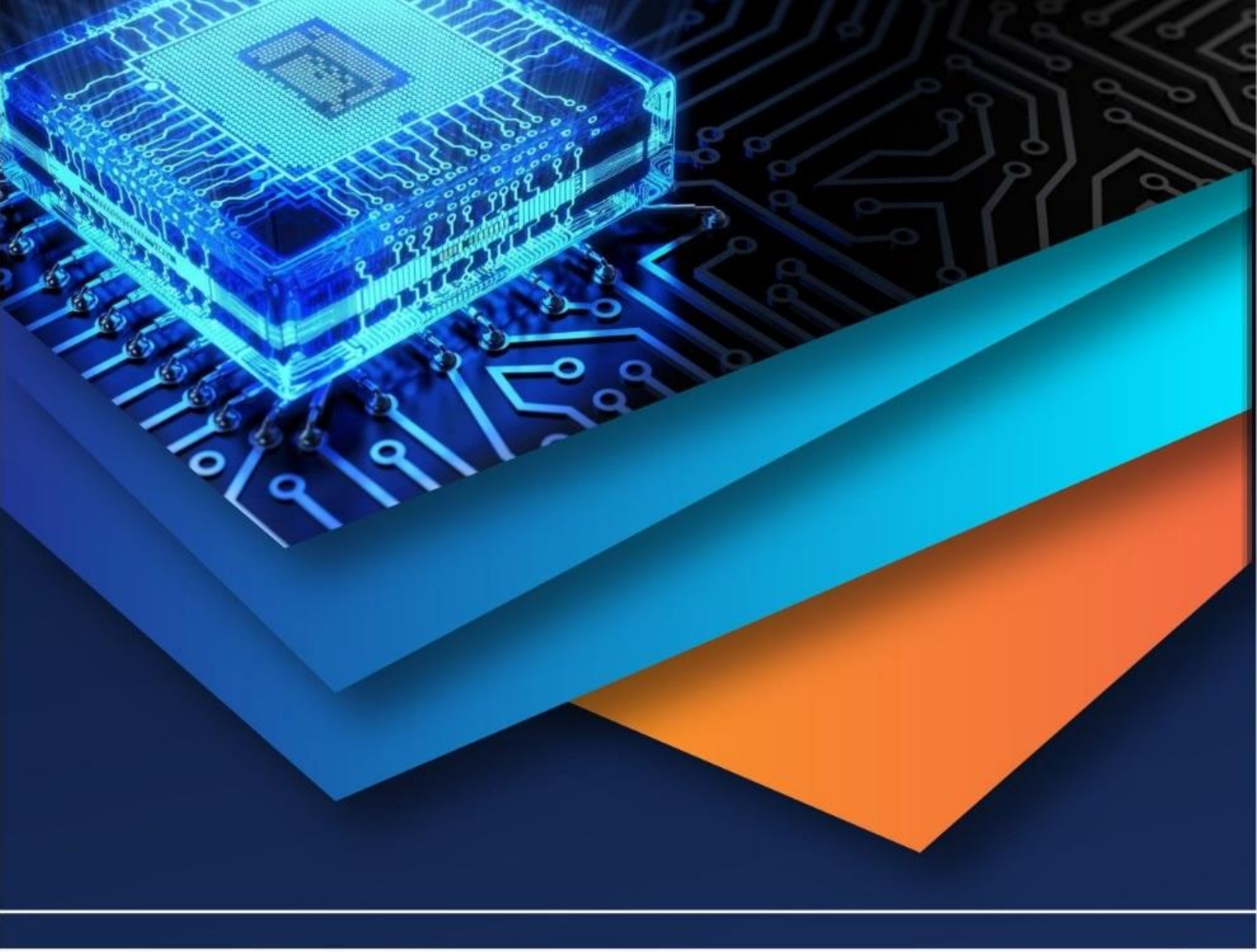
VI. CONCLUSION

The "Mental Health Platform" is a successful example of utilizing digital solutions for mental health tracking and early intervention. Combining machine learning techniques with user-friendly interfaces, the system helps tailor support to ensure personal mental health monitoring and awareness. This unique data-driven study brings to light the challenges in developing mental disorders because of their years-long identification process, and many people may not even realize they have one solution.

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