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MENTAL HEALTH DISORDERPREDICTION USING MACHINE LEARNING

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ABSTRACT

In the rapidly evolving landscape of healthcare, the integration of technology has become imperative for enhancing accessibility, efficiency, and effectiveness. This abstract introduces a web application designed to address health issues by providing a comprehensive and user-friendly platform for healthcare management.

The Web-Based Health Management System offers a range of features aimed at promoting proactive health monitoring and facilitating communication between patients and healthcare professionals. Users can create personalized profiles, input health data, and receive tailored insights to better understand and manage their well-being.

Keywords: Machine Learning, Psychology, Psychiatric Disorders, Schizophrenia, Bipolar Disorder, Anxiety, Depression, Post-Traumatic Stress Disorder.

INTRODUCTION

Mental health is an integral component of our overall well-being, influencing how we think, feel, and navigate the complexities of life. In recent years, the significance of mental health has gained increased recognition, prompting a shift in societal attitudes toward understanding and addressing mental health issues. Unlike physical ailments, mental health challenges often manifest in less tangible ways, making them intricate and sometimes overlooked aspects of our lives.The World Health Organization defines mental health as a state of well-being in which an individual can realize their own potential, cope with the normal stresses of life, work productively, and contribute to their community. However, the reality is that mental health issues affect individuals.

1. LITERATURE SURVEY

Research articles and related documents are collected and compiled from academic publications with specific definitions. The data collected was analysed and classified according to various mental health problems. The effectiveness of machine learning algorithms or methods used by researchers is evaluated by determining the accuracy, sensitivity, specificity, or area under the ROC curve (AUC).

2. PROBLEM DEFINITION

Mental health issues represent a profound and intricate challenge, encompassing a spectrum of conditions that affect individuals globally. One prominent problem is the enduring stigma and discrimination attached to mental illnesses, perpetuating societal misconceptions and hindering individuals from seeking the support they need. Compounding this, limited access to quality mental

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health services remains a critical concern, with barriers arising from geographical, socioeconomic, and workforce-related challenges. Insufficient mental health literacy further contributes to delayed recognition and intervention, hindering efforts to destigmatize and normalize discussions around mental health.

2.1 Limitationsofthe existingsystem

Current mental health apps that use machine learning algorithms have some limitations. First, these applications often rely on users' personal information, and this information may not be accurate and reliable due to bias, inconsistencies, or misunderstandings.

2.2 Proposed system

The proposed methodology describes ways to explore the use of machine learning in mental health prediction. Discusses research objectives, data selection, research strategies, and analytical techniques. Highlights include summarizing recent research, identifying popular algorithms, evaluating limitations, and identifying future research opportunities. The discussion phase categorizes psychological problems, evaluates algorithm performance, and answers research questions. The results summarize the findings and highlight the potential of machine learning for mental health prediction.

3. FIGURES

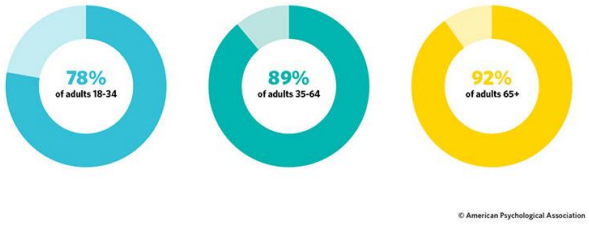

Fig.1Percentages of age groups suffering from disorders.

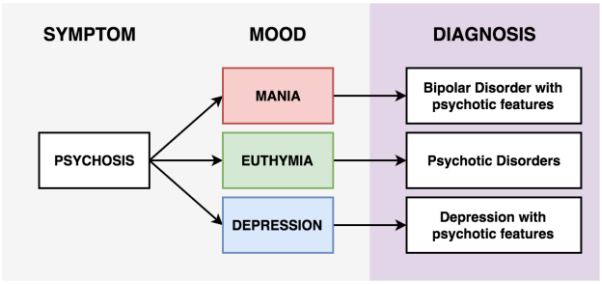

Fig.2Diagnosis of mental health disorders.

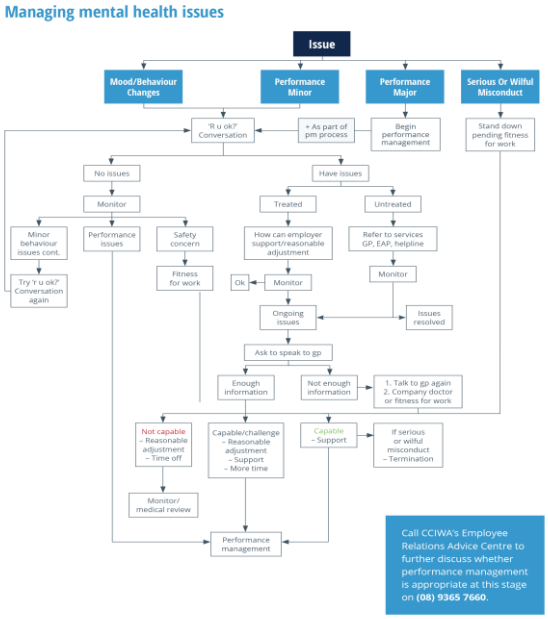

Fig.3Flow chart of the disorder detection process.

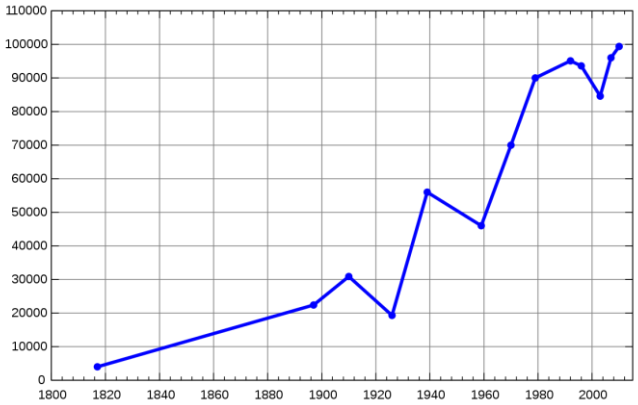

Fig. 4 Number of people searching for disorder relatingkeywords.

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4. MODULES

4.1 Machine Learning Approaches in Stress Relief

In our Stress Relief module, find solace in calming music, engaging games, and serene nature sounds. Take a moment to breathe deeply and unwind, letting go of tension and embracing relaxation. It's a sanctuary for your mind and spirit, offering simple yet effective ways to ease stress and find peace within. Helps inrejuvenate with the mood and also the mental fitness.

4.2 Machine Learning Approaches in Goal Setting

In our Goal Setting module, embark on a journey of personal growth and achievement. Set clear objectives for yourself, whether it's improving your mental well-being, cultivating healthy habits, or pursuing your dreams. Break down your goals into manageable steps and track your progress along the way. With determination and focus, you can turn your aspirations into reality and create a brighter future for yourself.

4.3 Machine Learning Approaches in Predicting Anxiety Management

In our Anxiety Management module, discover effective strategies to navigate life's challenges with confidence and calm. Learn practical techniques to soothe anxious thoughts and ease physical symptoms of stress. From deep breathing exercises to mindfulness practices, empower yourself with tools to regain control and find peace in the midst of uncertainty. Take each step at your own pace, knowing that support and guidance are here whenever you need them.

5. ACKNOWLEDGMENTS

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