

Predicting Mental Health Status in Clinical Patients Using NLP Techniques

This project addresses the critical challenge of delayed mental health diagnoses due to the complex and often subjective nature of mental health assessments, which rely heavily on patients' self-reported statements. Many patients struggle to receive timely intervention as mental health professionals may face time constraints and inconsistencies in interpreting these reports. To overcome these issues, the project employs Natural Language Processing (NLP) techniques to develop a diagnostic application that automatically classifies mental health statuses from patient statements. Using a dataset from Kaggle, the model categorizes textual data into relevant mental health conditions, including "Anxiety," "Depression," "Normal," and "Stress." Key NLP methods, such as tokenization, stopword removal, and text vectorization, are applied to preprocess the text data and prepare it for analysis. The project utilizes powerful libraries like TensorFlow and Scikit-Learn to build a classification model capable of identifying patterns indicative of mental health issues. The process involves thorough data preprocessing, model training, and evaluation to ensure accuracy and reliability in predictions. The expected outcome is a robust NLP-driven solution that enables clinicians to swiftly identify patients at risk, facilitating timely interventions and enhancing the overall management of mental health care in both clinical and telemedicine settings.

About Dataset:

Link: <https://www.kaggle.com/datasets/suchintikasarkar/sentiment-analysis-for-mental-health>

This dataset compiles mental health statuses from statements collected across various sources, including social media and Reddit. It integrates data from several Kaggle datasets and classifies entries into seven categories: Normal, Depression, Suicidal, Anxiety, Stress, Bi-Polar, and Personality Disorder. Each entry features a unique identifier, the user's statement, and the assigned mental health status, making it a useful resource for developing mental health applications and conducting sentiment analysis.

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