

# **SURVIVOR: SELF- REPORTING MOBILE APPLICATION FOR DEPRESSION OUTPATIENTS**

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## **Abstract**

Depression is a major mental health issue that affects millions of people globally. To avoid the negative effects of depression, it is important to diagnose and treat it early, as well as to monitor mental health after treatment. The goal of this project is to create a self-reporting machine learning-based mobile application for depression severity analysis that is targeted for young adults in Sri Lanka who have been diagnosed and treated for depression. The application will present a series of multiple-choice questions to help users determine the severity level of their depression. Back-end machine learning methods will be used to calculate the depression severity level. The proposed application's intent is to create a user-friendly, accessible, and efficient tool for determining depression severity levels and encouraging users to seek assistance from professionals when necessary.

For the front-end interface, the application will use React and React Native frameworks. The back-end algorithms will be written using Python and executed on the Anaconda environment. The Depression Anxiety Stress Scales (DASS) dataset, obtained from the University of New South Wales (UNSW) School of Psychology website, will be used as a dataset to create the depression severity analysis model.

The suggested depression severity analysis model's performance is evaluated using standard data science metrics such as accuracy, precision, recall, and F1 score. A hold-out validation approach is also used to split the dataset into training and testing sets. Cross-validation studies were also carried out to assess the model's robustness and predictability.

**Keywords:** mental health, depression severity analysis, machine learning, mobile application

**Subject Descriptors:** Mobile Application Development, Machine Learning, Depression Severity Analysis