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Element

Mindfulness Approach from Binaural Beats using Mobile Application

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Abstract

In the current world, people have shown how powerful stress, anxiety and depression is by looking at mental illnesses and suicide rate. In this research, it is shown how much the rate has been increased from 2002, and it is caused due to the busy life schedule of people. Since there is no way to detect stress other than using a standard questionnaire or using an expensive EEG result with vigorous training data from the same person, the heart rate pattern was introduced since smartwatches are now used in day to day life.

The aim of this research is to present an application that detects and reduces stress by having feedback from the Apple Health Kit and Google Fit application. By using machine learning classifier, K-Nearest Neighbours and Naive Bayes the application has managed to detect stress and a further the application goes towards eliminating stress based on the user preferences and it's own treatment records by using an artificial neural network (ANN).

The research further criticizes how the current process of application works and how it can be improved further on even with a traditional approach. Since this research is based on the end results of conventional approaches that pathway was slightly adjusted using binaural beats, therefore, these auditory waves are expected to give an equivalent effect as meditation in a subordinate response time.

The results of the application showed tremendous improvement in accuracy during the first 90 days and from there onwards it shows how accuracy was perfected gradually from beyond.

Key words: Mindfulness, K-Nearest Neighbor, Machine Learning, Stress Detection, Binaural Beats