

MindHealth – Application for Monitoring Mental Health and Detecting Depression

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Abstract

Depression is a prevalent mental illness affecting millions worldwide, often leading to significant morbidity and mortality. Increasing in recent decades, more and more people are affected by this pathology, which manifests itself from adolescence. At the same time, it is the cause of death of over 850,000 people every year. The studies carried out have proven that it is much better to prevent than to treat or, to start treating at an early stage of the pathology. In this sense, the progression of the pathology is greatly hindered. A good solution for preventing depression is to detect it before it starts or treat it at the time of its onset. But, most of the time, people do not know when to act at the right time or there is something stronger in them that prevents them from acting, this determines the evolution of depression. This study proposes a solution for monitoring mental health and detecting depression using wearable technology. These devices can track various metrics, including daily activity, sleep quality, heart activity and anxiety levels, which are very important in the process of monitoring mental health and have great significance in the process of detecting depression. Following the implementation of the solution, on a publicly available dataset, depression can be detected with 98% accuracy using artificial intelligence and provides a multi-level psyche monitoring. In conclusion, the specified solution brings a benefit in terms of monitoring the psyche, this is achieved through the daily evaluation of the well-being, but also through the monitoring of the physical parameters. At the same time, the proposed solution allows checking the existence of depression pathology, taking into account different essential parameters.

Keywords: Monitoring; Depression; Mental health; Wearable sensors

