

IMAGE PROCESSING BASED ON HEALTH ASSISTANT

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Abstract

In the present, facial recognition is used in many situations. This document discusses the facial recognition approach that can be used as a health assistant. The main goals of my study are to recognize patients by their faces and to monitor their heart rate using OpenCV and machine learning. This approach is able to monitor heart rate than the first systems because the first system used a specific area on the forehead. However, in this study to monitor heart rate, two zones on the cheeks were used and it provides an average heart rate and accuracy is higher than that of the first systems. To measure heart rate, it has used an algorithm that can detect RGB colors and variant of green color. With the help of a health assistant based on image processing, it is able to recognize the person and measure the heart rate while maintaining the distance between the doctor and the patient. It supports non-contact medical treatment of patients and maintains social distance between doctor and patient. It is a solution for the control of the Corona pandemic. Once a patient enters the hospital, all personal data that they wish to enter in the hospital is stored on a cloud server. Therefore, the doctor can view the patient's information whenever he wants. According to the study, this helps reduce the number of files and documents used in hospitals to record patient information by computerizing them and ensuring high security for those details. In addition to being able to see the history of a patient and predict the disease, that patient will have to suffer. This system has developed using web camera based real time face recognizing and for the developing purpose, the system set an algorithm by practicing programming on Python, Haar cascade and OpenCV.

Keywords: Python Language, OpenCV, Image Processing Heart Rate Monitoring, Face Detection, Face Recognition, Health Assistant