Detection of facial changes for ICU patients using KNN classifier

Abstract

This paper presents an integrated system for detecting facial changes of patient in a hospital in Intensive Care Unit(ICU).In this research we have considered the facial changes most widely represented by eyes and mouth movements. The proposed system uses color images and it consists of three modules. The first module implements skin detection to detect the face. The second module constructs eye and mouth maps that are responsible for changes in eye and mouth regions. The third module extracts the features of eyes and mouth by processing the image and measuring certain demensions of eyes and mouth regions. Finally the result of this work shows that the (k-NN) can be used for used to classify the awake ness with the average accuracy of 94%.

Keywords — Detection of facial changes, ICU patient, K-NN classifier