Innovative concepts for newborn pain based systems with Hu moment and similar classifier

Abstract

Image analysis of infant pain has been proven to be an excellent tool in the area of automatic detection of pathological status of an infant. This paper investigates the application of parameter weighting for invariant moments to provide the robust representation of infant pain images. Two classes of infant images were considered such as normal images, and babies in pain. A Similar Classifier is suggested to classify the infant images into normal and pathological images. Similar Classifier is trained with different spread factor or smoothing parameter to obtain better classification accuracy. The experimental results demonstrate that the suggested features and classification algorithms give very promising classification accuracy of above 89.54% and it expounds that the suggested method can be used to help medical professionals for diagnosing pathological status of an infant from face images.