IEEE International Conference on Control System, Computing and Engineering, 2012, pages 259-263

Image processing on facial paralysis for facial rehabilitation system: a review

Abstract

Image processing has been used widely in many areas but limited in facial rehabilitation area. Facial paralysis has been concerned recently due to the importance of face-to-face communication in our daily life. Patient with facial paralysis will have asymmetry of their face, difficult in doing their daily activities such as eating and drinking, and having physical and psychosocial distress due to their physical appearance. The objective of this paper is to show the importance of image processing methods on facial paralysis cases which have been less considerate among researchers and has provided overview on its application for facial measurement in facial rehabilitation area. A search of online databases such as PubMed, Elsevier, IEEE, Springer, ACM digital library and Medline was conducted in the period from July, 2011 to Jan, 2012 by using some keywords related to facial paralysis and image processing. 23 articles were satisfying the criteria which were chosen for the studies. The results of review shows many promising image processing methods are available in extracting 2D or 3D information acquired from images or videos which can be improved and also shows the developing fully automated rehabilitation system is possible in future.

Keywords — Facial image processing, facial paralysis, facial rehabilitation