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Texture descriptors based affective states recognition-frontal face thermal image (Conference Paper)

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Abstract

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Recognition of human affective states could be achieved through affective computing via various modalities; speech, facial expression, body language, physiological signals etc. In this paper, we present a noninvasive approach for affective states recognition based on frontal face (periorbital, supraorbital, maxillary/nose and mouth region) thermal images. The GLCM features derived from the PCA of the four level decomposition of 2D-DWT (Daubechies-4 Mother wavelet) and LBP features are exploited to provide useful information related to the affective states. The mean classification accuracy of 98.6% was achieved (SVM-Gaussian kernel). The findings of this study endorse the earlier findings; thermal imaging ability to quantify Autonomous Nervous System (ANS) parameters through contactless, nonintrusive and noninvasive manner for affect detection. © 2016 IEEE.

Author keywords

affective states emotion frontal face thermal image

Indexed keywords

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