

عنوان مقاله:

Facial Expression Recognition Using Geometric Normalization and Appearance Representation

محل انتشار:

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خلاصه مقاله:

Facial expression recognition is a challenging and interesting problem in computer vision and pattern recognition. Geometric variability in both emotion expression and neutral face is a fundamental challenge in facial expression recognition problem. This variability not only directly affects geometric facial expression recognition methods, but also is a critical problem in appearance methods. To overcome this problem, this paper presents an approach which eliminates geometric variability in emotion expression; thus, appearance features can be accurately used for facial expression recognition. Therefore, a fixed geometric model is used for geometric normalization of facial images. This model is defined as one of the emotional expressions. In addition Local Binary Patterns are utilized to represent facial appearance features. Experimental results show that the proposed method is more accurate than the existing works. Also for facial expression recognition, using geometric expression models of facial images where they have larger size in mouth/eyes regions, such as Surprise, gives better results indicating that mouth and eyes are important regions in emotion expression.

کلمات کلیدی:

facial expression recognition; face geometry normalization; Local Binary Patterns (LBP); Piecewise Linear Warp; (Support Vector Machine (SVM

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