Classifying Facial Expressions Based on a Motion Local Appearance Approach

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Abstract : This paper presents the classification results about exploring the combination of a motion based approach with a local appearance method to describe the facial motion caused by the muscle contractions and expansions that are presented in facial expressions. The proposed feature extraction method take advantage of the knowledge related to which parts of the face reflects the highest deformations, so we selected 4 specific facial regions at which the appearance descriptor were applied. The most common used approaches for feature extraction are the holistic and the local strategies. In this work we present the results of using a local appearance approach estimating the correlation coefficient to the 4 corresponding landmark-localized facial templates of the expression face related to the neutral face. The results let us to probe how the proposed motion estimation scheme based on the local appearance correlation computation can simply and intuitively measure the motion parameters for some of the most relevant facial regions and how these parameters can be used to recognize facial expressions automatically.