

Curvelet Features with Mouth and Face Edge Ratios for Facial Expression Identification

Authors : S. Kherchaoui, A. Houacine

Abstract : This paper presents a facial expression recognition system. It performs identification and classification of the seven basic expressions; happy, surprise, fear, disgust, sadness, anger, and neutral states. It consists of three main parts. The first one is the detection of a face and the corresponding facial features to extract the most expressive portion of the face, followed by a normalization of the region of interest. Then calculus of curvelet coefficients is performed with dimensionality reduction through principal component analysis. The resulting coefficients are combined with two ratios; mouth ratio and face edge ratio to constitute the whole feature vector. The third step is the classification of the emotional state using the SVM method in the feature space.

Keywords : facial expression identification, curvelet coefficient, support vector machine (SVM), recognition system

Conference Title : ICIPACV 2014 : International Conference on Image Processing, Analysis and Computer Vision

Conference Location : Istanbul, Türkiye

Conference Dates : June 19-20, 2014