Gender Recognition using Fusion of Facial Strips

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Abstract

Gender recognition is an important task in the framework of social and human-computer interaction, in the security/access applications and also in the selection and presentation of the information of interest. Human faces provide significant cues for gender recognition, which explains their use in gender classification. Since the most salient features for gender classification are not completely known, a good approach is to use raw image features combined with powerful classifiers, as Support Vector Machines (SVMs). This paper presents the implementation of such a scheme: the face image is decomposed into horizontal and vertical stripes, and Support Vector Regression (SVR) on the stripes' grey level features is applied to extract the facial feature vector. Afterwards, a binary SVM classifier is applied in the resulting feature space to perform gender recognition. Experiments on the Faces94 database with 6 stripes image decomposition, linear SVRs and SVM classifier, even without face localization, show a satisfactory accuracy, around 80%.