Classification of Gender Face Image Based on Slantlet Transform

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ABSTRACT
Image Face classification has been an effective research area over last two or three decades and it is considered as a challenging research topic. In this paper a new classification algorithm is proposed for gender classification based on face image. The proposed algorithm consists of two phases: training and testing phases. In the training phase five steps are implemented to classify gender images; at first step the face in a digital image is segmented so as to eliminate the undesirable background, the redundancy and suppression of noise is reduced using Slantlet Transform in step two. From transformed face images, Eigen faces feature is extracted using Principle Component Analysis (PCA). In step three to reduce the number of dimensions without losing information (Eigen value is used as a vector of features), in the final step decision whether the face image is male or female is done by applying Support Vector Machine (SVM).

The experimental outcome indicate that the SVM classifier achieves precision of 89% when the classification process using Wavelet Transform, and 93 % with Slantlet Transform for the same number of the test-set.

Keywords: Slant Transform, Principle Component Analysis (PCA), Support Vector Machine (SVM).