Abstract

On the last years, face recognition has become a popular area of research in computer vision and one of the most successful applications of image analysis and understanding. Face recognition is of two types. One is pixel-based and the other is feature-based. Pixel-based techniques use principal component analysis (PCA) for face recognition, whereas feature-base techniques extract the facial features and use them to classify faces. Feature-based technique has been used in this work. Feature-based techniques extract the features of the face and use it for recognition. The recognition system should be robust enough to classify the face. Therefore, the training set should contain all the orientations of the face. In this work, the front view has only been taken in to consideration assuming that each person should stand in front of camera. The first step of the proposed algorithm is to resolve the image to Red, Green and Blue bands, then deal with each image as a gray scale one which is represented as a 2-D matrix. The second step is to detect isolated image points using simple method and alternative method. The third step is to extract features from each band. Finally, extracted features should be trained by neural network structure. Ten images have been tested by the proposed algorithm and the
result of accuracy rate was 100%.

References


Index Terms

Computer Science Image Processing

Keywords

Face recognition, Feature extraction, Facial feature detection, Biometric identification, Recognition based on neural network