Abstract

Various techniques have been proposed in the literature to detect and recognize full face images. However, only few attempts reported towards the problem of identifying and recognizing partial and occluded face images. In this direction, in this Paper, propose a method for recognition of a face under partial visibility. Initially, for every full face image in the training set, its intensity image is processed to obtain a histogram which represents relative frequency of occurrence of various gray levels in it. A cumulative histogram is generated by using the intensity histogram. Further, slope and intercept values are computed using a regression line fitted on the cumulative histogram. For every person, the slope and intercept values obtained for different training samples are aggregated to form an interval valued feature vector which is stored as the representative in the knowledge base. During testing, slope and intercept values of a given partial face image are compared against the stored intervals of the training samples to recognize the person. The proposed algorithm has been experimentally validated on AR face dataset and results obtained are highly satisfactory.
References


Index Terms

Computer Science

Image Processing
Keywords

Partial face recognition, Linear regression, Slope, Intercept, interval valued features.