AN EDGE BASED MODEL FOR EFFICIENT REPRESENTATION AND ACCURATE RECOGNITION OF HUMAN FACES

B. H. SHEKAR, G. THIPPESWAMY AND P. SHIVAKUMARA

Abstract

In this paper, we investigate whether the rule-based systems are effective and efficient for face recognition when the number of classes is fixed and known. The rules are derived from edge based features namely *aspect ratio, straightness, compactness* and *crookedness*. In the training phase, a representative feature value is calculated for each class based on the average percentage of edges that satisfy the rule. An unknown image representative feature value is compared against the class representative feature value to assign a label to it during recognition. The proposed system does not require extensive feature extraction and classification techniques. Extensive experiments have been conducted on the standard CALTECH face database which is having varied background/illumination to exhibit that the proposed rule based system outperforms some of the well known techniques developed for face recognition.