Abstract

Face recognition is emerging as an active research area in numerous commercial and law enforcement applications. Different existing methods perform well under certain conditions. Gabor-based face representation has achieved enormous success in face recognition. This research addresses a novel algorithm for face recognition using neural networks trained by Gabor features. The system is commenced on convolving a face image with a series of Gabor filter coefficients at different scales and orientations. The novel contribution of this paper is the scaling of rms contrast. The neural network employed for face recognition is based on the multilayer perceptron (MLP) architecture with ART algorithm. The effectiveness of the algorithm has been justified over a face database with images captured at different illumination conditions.

References


Index Terms

Computer Science

Artificial Intelligence
Keywords
  Gabor filter  rms contrast  neural network  ART.