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Abstract

Identification via face recognition offers enormous advantages to both civilian and criminal detection programs. A next generation system that has the potential to recognize such wanted criminals from a large dataset considered to be used for security of the public safety. It also has the prospective to provide high data rates at low power over various illumination conditions in the, to be identified images. This face recognition technique for next generation acts as a baseline for the development of future solutions for response and recovery. This research is a new state-of-art integrating various techniques to perceive the faces using Illumination Normalization, Feature Extraction and Classification. The Illumination Normalization is useful for removing the dimness and shadow from the facial image which obtained from the large dataset reduces the effect of illumination variations, but, still retains the necessary information

of the face. The robust local feature extractor which is the gray-scale invariant texture called Local Binary Pattern (LBP) is helpful for feature extraction. The K-Nearest Neighbor classifier is utilized for the purpose of classification and matching the face images from the dataset. Thus, the next generation system tends to identify and recognize the input face image after preprocessing the image and feature extraction. Various images for the system from Yale-B database are used for testing to achieve the next generation face recognition system which helps in improving the performance in identifying and recognizes the faces in various illuminations.

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Index Terms

Computer Science

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Keywords

Next Generation Face Recognition System(ngfrs) Illumination Variation Feature
Extractor

Lbp

K-nn Classifier