Patent Search

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Abstract:

Abstract The purpose of face recognition technology is to verify or authenticate a person's identification using only a scan of their face. There is a method that uses a visual characteristics to verify their identity. When it comes to face identification systems for person detection or authentication protocols, the correct assessment of characteristics is vital because the grouping of these traits immediately reveals the identity of the person. The work presents a novel approach to facial identification descriptors and the SVM methodology. To obtain an optimum human facial recognition system, we first use face descriptors to extract and choose the statistical para then we apply the SVM method to categorize those features. The primary phase of the identification process is image enhancement. The second stage is used to ider characteristics of every human face found in the first stage. The success of succeeding steps depends on this one being completed. The HOG approach is utilized as t solution for the classifying operation in this hybrid system for face recognition that also incorporates the findings of the SVM algorithm. Following a thorough experin validation and analysis of the face detection and recognition performance on the "ORL" and cropped "Yale B" samples, a thorough analysis of the suggested method i comparison to state-of-the-art approaches is presented. The suggested methodology achieves the greatest face recognition accuracy in the employed sample. In add suggested HOG SVM approach to building face recognition algorithms can yield remarkable results when the database size is large, making it suitable for deployment of protection and authentication frameworks.

Complete Specification

Description:A Strategy for Hybrid Face Recognition Based on Facial Features Descriptors and the SVM Classification

Field and Background of the Invention

The face authentication process involves supplying and verifying evidence of a person's actions, software, and a server's claimed identity. Many different ways of ve one's identity have indeed been offered as potential means of transmitting critical data with safety. When it comes to quickly and accurately verify the identity of an individual, the biometric system is the gold standard. Biometric technologies are founded on the idea that each individual can be distinguished by a combination of traits, such as fingerprints, hand geometry, retinal and iridescent patterns, and signatures. Furthermore, biometric technology is the use of such biometric technolo verify a user's identity before granting them access to a particular system. Automatically recognizing a face image in a dataset is known as "facial recognition." Rese have been working hard to develop precise and reliable programmes for biometric systems, like facial recognition software, fingerprint scanners, and iris scanners, become more essential in the creation of smart buildings. One of today's most useful technologies in modern identity, validation, and security mechanisms is facial recognition technology. Additionally, it has applications for credit card verification and the identification of criminals. Previous work on face recognition systems has concentrated on identifying features one at a time, like the eyes, nose, mouth, and forehead shape, and then using those features to define the face images in term their relative positions and sizes. While there are numerous obstacles to overcome before a face may be recognized, one of the biggest is the need to account for va in lighting, occlusions, and other factors that can affect how a face is perceived.

Some of the most popular methods for extracting facial features are:

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