

图形、图像、模式识别

图像分块重构和LDA融合的人脸识别方法

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摘要 提出了一种新的基于图像分块重构和线性判别分析相融合的方法, 主要用于人脸识别。该方法通过计算两幅图像之间图像块的重构均值误差, 运用线性判别分析求出两幅图像降维后的欧式距离, 融合重构误差和欧式距离计算这两幅图像之间的差别程度。识别过程中, 待测图像与训练图像中差别最小的认为是属于同一个人。该方法在ORL人脸数据集上进行实验, 并在PIE数据集上验证了其有效性。新方法能够有效克服光照变化、平移等影响, 在识别性能上比较有优势。

关键词 [人脸识别](#) [光照变化](#) [线性判别分析 \(LDA\)](#)

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Face recognition using image block reconstruction and Linear Discriminant Analysis

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Abstract

This paper presents a new method combining the image block reconstruction and the Linear Discriminant Analysis (LDA), which is mainly used for face recognition. By calculating the average error of the reconstructed image blocks, using the linear discriminant analysis method in computing the distance between the two images after reducing dimensions, then it combines the reconstitute error and the distance to obtain the difference of the two images. During the recognition process, the smallest distance among query image and training images are thought to be of the same person. This method makes experiments on ORL human face data sets and the validity checking test cases of this method on the PIE data sets. This new method effectively overcomes the effect of illumination variations, translation and so on with, relative advantage in recognition performance.

Key words [face recognition](#) [illumination variations](#) [Linear Discriminant Analysis \(LDA\)](#)

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