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论文

一种新的有监督保局投影人脸识别算法

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摘要：

为了充分利用样本的类别信息，提出了一种新的有监督保局投影人脸识别算法（NSLPP）。首先，把类间散布矩阵融入到传统保局投影算法的目标函数中，修改目标函数，并基于新的目标函数得到变换矩阵；然后用线性鉴别的思想筛选出变换矩阵中的最优基向量，构成最终的变换矩阵，把训练样本和测试样本投影到有最优基向量构成的子空间得到训练样本和测试样本的特征；最后采用最近邻分类器分类，在ORL和FERET人脸库上的测试结果表明，NSLPP算法具有较好的识别性能。

关键词： 人脸识别　有监督保局投影　线性鉴别　有监督学习　face recognition　supervised locality-preserving projections　linear discrimination　supervised learning

New supervised locality-preserving projections algorithm for face recognition

Abstract:

In order to make full use of the classification information of samples to get optimal features, a new Supervised Locality Preserving Projections (NSLPP) algorithm for face recognition was proposed. Between-class scatter matrix was embedded in the objective function of original locality preserving projections, and the transformation matrix could be obtained based on the modified objective function. Subsequently, according to the idea of linear discriminant, the optimal base vectors of the transformation matrix were selected to form the final transformation matrix. As a result, the features of training samples and testing samples were got by projecting them on the subspace spanned by optimal base vectors. Finally, Nearest Neighborhood (NN) algorithm was used to construct classifiers. Experiments on ORL and FERET face database show that the recognition performance of NSLPP is effective.

Keywords:

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参考文献：

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