

论文

## 一种基于Gabor描述的概率子空间人脸识别方法

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摘要

该文提出了一种Gabor小波域的概率子空间人脸识别方法,简称GPSA方法。考虑到Gabor小波在人脸识别中的优势,首先给出了一种改进的人脸图像Gabor特征描述方法,在此基础上建立基于Gabor特征的概率子空间模型,人脸识别按照概率匹配方式进行,从而有机集成了Gabor特征描述和基于类内、类间变化的概率子空间分析两者所提供的鉴别信息,增强了人脸识别系统的鲁棒性。在包括190人的人脸数据库上的实验结果表明,所提出方法的识别性能较现有的概率子空间分析方法有了较明显的改善。

关键词 [人脸识别](#) [Gabor描述](#) [概率子空间分析](#)

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## Gabor Representation Based Probabilistic Subspace Analysis for Face Recognition

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Abstract

In this paper, a GPSA face recognition approach by probabilistic subspace analysis in Gabor wavelet domain is presented. First, an improved Gabor representation scheme for face images is given, then a Gabor based probabilistic subspace model is built, so recognition is performed in a manner of probabilistic matching. The discriminatory information yielded from both probabilistic subspace analysis and Gabor representation is exploited altogether in GPSA method, and hence the robustness of face recognition system is enhanced effectively. The experimental results on a mixture face database including 190 individuals show that the proposed GPSA method outperforms the existing PSA method.

Key words [Face recognition](#) [Gabor representation](#) [Probabilistic subspace analysis \(PSA\)](#)

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