

题 目： 基于主成分分析的人脸识别研究

摘要

人脸识别技术在现代社会具有广泛的应用,是目前模式识别领域的研究热点。本文首先介绍了面部校正和二值化等图像预处理的方法,然后详尽地介绍了主成分分析(Principle Component Analysis, PCA)算法的原理和基于 PCA 算法的人脸识别方法,最后使用 matlab 软件进行仿真实验。实验表明本设计是可行且有效的。

关键字: 人脸识别, 图像预处理, 主成分分析

Abstract

Face recognition technology has a wide range of applications in today's society, and it is a research hotspot in the field of pattern recognition.

This paper first introduces the methods of face correction and binary image preprocessing, then introduces the principle of principal component analysis (PCA) algorithm and face recognition method based on PCA algorithm in detail, and finally uses MATLAB software for simulation experiment. Experiments show that the design is feasible and effective.

Key words: Face recognition, Image preprocessing, PCA

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