基于 arm-linux 机器视觉的图像特征点快速检测方法

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摘　要：针对传统的检测方法一直存在噪声影响严重，导致检测结果不准确的问题.提出基于 arm-linux 机器视觉的图像特征点快速检测方法，首先利用机器视觉技术拍摄目标图像信息，通过 arm-linux 系统对目标图像信息进行特征点分析提取、小波去噪等进一步处理；再依据图像处理结果建立 Facet 模型，计算求解图像特征点二阶方向导数，获取图像特征点二阶方向导数极小值小于零的像素点作为提取的图像特征点，通过对极大值的归一化和图像局部非极大值抑制完成对图像特征点的快速检测.实验结果分析证明，所提方法可以降低图像特征点的检测成本，减小噪声影响且稳定性强，适用性范围广，安全性高.

关键词：基于 arm-linux；机器视觉；图像特征点；快速检测方法

The Method Based on Arm - Linux Machine Vision for Rapid Detection of Image Feature Points

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Abstract：For the traditional detection methods, there is a serious problem of noise, which leads to inaccurate results. The rapid detection method of ARM-Linux image feature points based on machine vision, the first shooting target image by using machine vision technology, through the ARM-Linux system to carry on the analysis of the feature points extraction, wavelet denoising and further processing of the image information; then according to the results of the image processing to establish the Facet model, calculation of feature points for image two order directional derivative, image acquisition the feature points of two order directional derivative minimum value is less than zero pixels as image feature extraction, based on the maximum value of the normalized image and local non maxima suppression to complete rapid detection of image feature points. The experimental results show that the proposed method can reduce the detection cost of image feature points, reduce the noise influence and has strong stability, wide applicability and high security.

Key words：based on arm - linux; machine vision; image feature point;rapid detection methods

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