

基于图像全局矢量的特征点矢量提取方法

邹 彬, 陆 阳, 钱 钧, 贺峻峰, 李良福, 杨一洲

(西安应用光学研究所, 陕西 西安 710065)

摘 要: 针对传统二进制特征描述子提取算法复杂, 鲁棒性较差等缺点, 提出了一种具有一定全局参考性及鲁棒性的二进制特征矢量; 首先, 对输入的匹配图像求取其 Harris 特征点及其显著图; 然后, 将图像空间网格化, 求取各网格中心, 并按其对应网格的显著度进行排序, 生成全局基准矢量; 最后, 将各个特征点与全局基准矢量进行比较, 生成基于显著度加权的二进制特征矢量. 实验结果表明, 该算法提取的二进制特征在极大减少计算的同时, 还具有良好的特征表征能力.

关键词: 二进制特征; 显著性; 基准矢量; 网格中心

Binary Image Feature Extraction Method Based on the Image Global Binary Vector

ZOU Bin, LU Yang, QIAN Jun, HE Jun-feng, LI Liang-fu, YANG Yi-zhou

(Xi 'an Institute of Applied Optics, Xi'an 710065, China)

Abstract: To overcome the weakness of algorithm complexity and less robust by traditional binary feature extraction algorithm, this paper presents a novel binary feature extraction method with certain global reference and robustness. Firstly, Harris feature points and Saliency map are obtained from the input matching image. Secondly, the image space is partitioned into grid in order to get the grid center, which is sorted according to the saliency degree of the corresponding grid to generate the global reference vector. Finally, the feature points are compared with the global reference vector to generate the binary feature based on the saliency weighted. Experimental results show that the proposed algorithm can greatly reduce the computational burden, and has a good ability of characterization.

Key words: binary feature; saliency; reference vector; grid center

作者简介:

邹 彬 男, (1986-), 工程师. 研究方向为图像处理与识别. E-mail: zoubean@163.com.