

一种改进的 Harris 与 SIFT 算子结合的图像配准算法

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摘要: 针对 SIFT 算法提取的特征点过多, 运算量大的问题, 提出一种 Harris 和 SIFT 算子相结合的图像配准算法, 首先应用 Harris 算子提取特征点, 然后删除质量较差的特征点; 再为其余特征点分配 SIFT 特征向量并匹配特征点; 然后利用投票策略提纯匹配点; 最后使用 PROSAC 改进算法估算变换模型. 实验验证了本算法性能.

关键词: 图像配准; Harris 算子; SIFT; PROSAC

Advanced Image Registration Method Based on Harris and SIFT Algorithm

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Abstract: Considering the redundant feature points, high computational complexity in image mosaic method based on scale invariant feature transform (SIFT) algorithm, an advanced image registration method is proposed. At first it uses Harris to extract the feature points from two images. The feature points of low quality are canceled. Then SIFT descriptor is utilized to characterize and match those feature points. The voting strategy based on corners' constraint relations is used to delete mismatching points. The advanced PROSAC algorithm is used to compute the transform matrix between the two images. The experiments verify the algorithm's efficiency.

Key words: image registration; Harris operator; SIFT; PROSAC

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