三角网格与鱼眼变换相结合的图像缩放方法

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摘　要：为了解决传统内容感知图像缩放技术缩放效果的不确定性，且方法不适用于多光谱遥感图像的问题，提出了一种三角网格与鱼眼变换相结合的图像缩放方法.首先，根据敏感目标的特征识别标注出敏感目标区域，然后，对标注出的敏感区域内部进行基于三角网格的非均匀缩放变换，而对剩余部分根据敏感区域的缩放变化做基于鱼眼变换的压缩.实验结果表明，图像敏感区域内部失真很小，实验结果很好地保持了敏感目标的特征，缩放效果较传统内容感知图像缩放方法有明显改善.

关键词：敏感区域；三角网格；鱼眼变换；图像缩放

An Image Scaling Method Based on Triangle Mesh and Fish-eye Transformation

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Abstract：In order to solve the uncertainty of the scaling effect of the traditional content-aware image scaling technique, and the method is not applicable to the multi-spectral remote sensing image, an image scaling method combining triangular mesh and fish-eye transformation is proposed. Firstly, the sensitive target area is marked according to the feature identification of the sensitive target. Then, the non-uniform scaled transformation based on triangular mesh is performed inside the sensitive area, and the remaining part is transformed according to the zooming change of the sensitive area. The experimental results show that the image-sensitive region of the internal distortion is very small and the characteristics of sensitive target are well maintained. The scaling effect is significantly improved compared to the traditional content-aware image scaling method.

Key words：sensitive area; triangular mesh; fish-eye transformation; image scaling

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