

基于视觉显著性的局部感知锐度的 模糊图像质量评价算法研究

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摘要: 提出了一种基于视觉显著性和局部感知锐度特征的模糊图像质量评价算法.首先利用有效的视觉显著性检测图像的显著区域,然后结合图像的局部方差和均值,构建有效图像的显著性权值;其次,分别计算图像的局部感知锐度谱特征和空间局部锐度特征,并然后结合视觉显著性权值形成新的锐度特征图,最后通过分析带权锐度特征图,计算图像质量的最终的评价值.在经典数据库 TID2008,CSIQ,和 LIVE 上验证该算法的有效性,结果表明,与传统的基于局部感知锐度特征的评价算法相比,新算法有效地结合颜色信息和图像显著性,提高模糊图像的评价效果.

关键词: 模糊图像质量评估; 局部感知锐度特征; 无参考;视觉显著性

No-reference Image Blur Assessment Method Based on Local Perceive and Visual Saliency

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Abstract: This paper proposes a new image quality assessment method based on visual saliency and local perceptual sharpness. Firstly, the effective visual saliency image salient region is detected, and then the image local variance and mean construct effective image saliency weights are combined. Secondly, the image sharpness of local spectrum feature of local spatial features and sharpness are respectively computed, and then a new feature sharpness map is formed by combing the visual saliency weight of the image. Finally, the final evaluation index value of image quality is computed by the analysis of the sharpness map .Some experimental results show that the proposed method is effective than traditional evaluation method based on local perceptual sharpness in the classical database TID2008,CSIQ and LIVE because we effectively combine with color information and image saliency and improve the quality evaluation.

Key words: blur image quality assessment; local perceive sharpness; no reference; visual saliency

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