Abstract

In mobile communications, image retargeting is generally required at the user end. The existing coding techniques do not support content-aware spatial scalability. The work presented in this paper addresses the increasing demand of compression techniques for arbitrary resolution display devices. This paper throws light on efficient content-aware compression of medical images. The principle of seam carving is incorporated into a wavelet codec. In the meantime, discrete wavelet transform (DWT) is performed and DWT coefficients are grouped. The coefficients are encoded and decoded using SPIHT and the image can be reconstructed in a content-aware manner. Experimental results show that the retargeted image generated by the proposed technique preserve sensitive image content and has been proven efficient for medical images by achieving excellent compression performances.
Efficient Image Compression based on Seam Carving for Arbitrary Resolution Display Devices


Index Terms

Computer Science

Image Processing

Keywords

- Content-aware
- discrete wavelet transform (DWT)
- image compression
- seam carving (SC)
spatial scalability