Abstract

Image inpainting is the process of filling in missing regions in an image. The objective of inpainting is to reconstruct the missing regions in a visually plausible way. Several algorithms are available in the literature for the same. In this paper we introduce a two different approaches to improve the performance of exemplar based Image Inpainting Algorithm. Both the algorithms are based on patch propagation by inwardly propagating the image patches from the source region into the interior of the target region patch by patch. In the first approach of exemplar-based image inpainting a simple patch shifting scheme is used. In traditional exemplar-based inpainting errors often occur when small number of known pixels are used to
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present a large unknown area. The patch shifting scheme provides more meaningful target patch than traditional exemplar-based approach. In this scheme, the target patch which has known pixels less than predefined threshold would be shifted in the direction that increases the number of known pixels. This means the chance to filling-in each patch more naturally is increasing. The second approach of exemplar-based image inpainting algorithm uses region segmentation. The method uses segmentation map to improve the performance of robust inpainting, in which a segmentation method is used to utilize spatial information in the source region. With the segmentation map, it adaptively determines patch size, and reduces search region.

References


Index Terms

Computer Science

Image Processing
Keywords
Patch  Patch Shifting  Threshold Value  Segmentation Map  Adaptive Patch Size