Abstract

This paper describes that how we can implement various techniques using "Seam Carving..."
for Image and Video Retargeting which would solve many problems that arise during the displaying, scaling, resizing of the various images and videos [1,2,3]. In this paper you will go through many techniques and their implementations that have been proposed by many authors using Seam Carving for Image and Video Retargeting. Seam carving that is also known as image retargeting, scaling, liquid resizing, or liquid rescaling; is generally an algorithm for image resizing that was developed and introduced by Shai Avidan, of the Mitsubishi Electric Research Laboratories (MERL), and Ariel Shamir, of the Interdisciplinary Center and MERL[1]. As per the algorithm suggested by the author, you have to establish number of seams in the selected image and further automatically remove seams to reduce the size of the image. The same approach is adopted for video retargeting except the fact that you use video frames instead of objects in the image. The paper discusses various approaches that have been adopted by various authors in this respect.

References

- Seam Carving for Content-Aware Image Resizing Shai Avidan Mitsubishi Electric Research Labs Ariel Shamir the Interdisciplinary Center & MERL-Cited by 1007
- Improved seam carving for video retargeting M Rubinstein, A Shamir, S Avidan - ACM transactions on graphics (TOG), 2008 - dl. acm. org-Cited by 508
- Seam carving for content-aware image resizing S Avidan, A Shamir - ACM Transactions on graphics (TOG), 2007 - dl. acm. org-Cited by 1017
- Content-aware image resizing using perceptual seam carving with human attention model DS Hwang, SY Chien - Multimedia and Expo, 2008 IEEE, 2008 - ieeexplore. ieee. org-Cited by 49
- Discontinuous seam-carving for video retargeting M Grundmann, V Kwatra, M Han-Computer Vision, 2010 - ieeexplore. ieee. org-Cited by 76
- Image retargeting using importance diffusion S Cho, H Choi, Y Matsushita- Image Processing (ICIP), 2009 - ieeexplore. ieee. org-Cited by 46
- Wavelet based seam carving for content-aware image resizing JW Han, KS Choi, TS Wang (ICIP), 2009 16th IEEE , 2009 - ieeexplore. ieee. org-Cited by 19
Analysis of Seam Carving Techniques for Image and Video Retargeting

- Optimized image resizing using seam carving and scaling, Weiming Dong, LIAMA-NLPR, CAS Institute of Automation, China, Ning Zhou, Sony Corporation, Japan, Jean-Claude Paul, INRIA, France, Xiaopeng Zhang, LIAMA-NLPR, CAS Institute of Automation, China, SIGGRAPH Asia &apos;09 ACM SIGGRAPH Asia 2009 papers.


**Index Terms**

Computer Science  
Image Processing

**Keywords**

Graphics  
Image Processing  
Html  
Web Layouts  
Picture Contents  
Cropping  
Distorts  
Stretching  
Seam Carving  
Video Retargeting  
Liquid Rescaling  
Content-aware Scaling