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Title: Seam Carving for Content-Aware Image Resizing

The research paper, Seam Carving for Content-Aware Image Resizing
describes and introduce us to an effective and more efficient way of
Image Resizing. The authors stresses upon on the fact that while resizing
the image, the content of the image should also be considered. The seam
carving method introduced in the paper can be used for both reduction and
expansion of the image. A seam in seam carving is an optimal 8-connected
path of pixels on a single image from top to bottom or left to right. In
this, the optimality is defined by an image energy function. We can
change the aspect ratio of the image by repeatedly carving out or
inserting seams in one direction. We achieve content -aware resizing by
automatically carving out seams to reduce image size and insert seams to
enlarge the image. We can retarget the image to new size by applying
these operators in both directions. The author proposes a simple image
operator and calls it seam carving which carve out or insert pixels in
different part of the image thus changing the size of the image. While
reducing the size of the image, Seam Carving make sure that the structure
of the image is preserved, whereas while enlarging the size of the image,
seam carving makes sure that the balance between the artificially
inserted pixel and the original Image is balanced. Seam Carving is used
for changing the aspect ratio, Image content enhancement and Image
retargeting. The biggest advantage of seam carving is that it can support
multiple energy function such as Entropy, Visual Saliency, gradient
magnitude, eye gaze movement and many more. The author also focuses on
some limitations of using this method. Though this is an effective method
for image resizing, but It cannot be applied to all the images. Seam
carving method does not work automatically on all images. Sometimes this
can be corrected by adding high level of cues, but sometimes even high
level of information cannot solve this problem. Seam carving method has
two major limitations. First is the amount of content in the image and
the second is the layout of the image content. Though, the author focuses
on some of the possible extensions of this technique. The author is also
interested in using the same technique for video resizing.

* The paper, Seam Carving for Content-Aware Image resizing is well
written. The author was successful in explaining his ideas and thoughts
in a well descriptive way. The paper was presented in such a way that it
was easy to understand and also the use of well-descriptive images made
it more interesting and appealing. The author stressed on the fact that
how Standard image scaling is not sufficient and can typically be applied
only uniformly, but his technique can overcome that limitation.
* Though Image Resizing and optimization is not the area in which I am
really interested in but the research paper was so appealing that it
increased my interest rate in this field. The use of simple calculations
made image resizing so easy that it arouse my interest in this field.
* I really liked the way the paper was presented. The author was very
thorough in his explanation and used proper mathematics and derivations
to prove his technique. The author also presented really interesting
areas where this image resizing technique surpass the traditional Image
Resizing technique.

The paper was really interesting and easy to understand. I like the way
how author appreciated his work and tried to overcome all the challenges
that could limit his technique of image resizing. I like the way the
author explained how his method is much better than the traditional way

of Image resizing. Another interesting face about the research paper was the future work of his technique. I would like to see author implementing the same technique for video resizing. However, the only place where I think the paper didn't stand up to its mark was that the author didn't focus much on the limitations of his technique. Though he mentioned the two limitations where his technique failed, but he could have been a little more elaborate on that. He didn't discuss the limitations of this technique. He could have provided some description about how to overcome the limitations faced by his technique. All in all it was a good and understandable research paper.