

Structure-preserving manipulation of photographs

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Figure 1: Our approach takes as input an image (left), and allows a user to manipulate its structure in order to create abstracted or enhanced output images. Here we show a line drawing with line thickness proportional to their structural importance (middle), and a reconstruction of color information that focuses on the bee and removes detail around it (right).

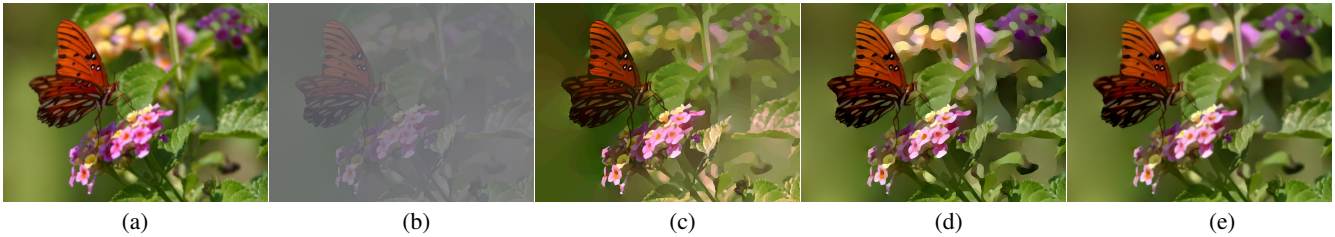


Figure 7: Gradient reconstruction. (a) Input image. (b) Reconstructed image using only the original gradient values at edge positions. (c) Reconstructed image with histogram equalization. Note the quantization artefacts. (d) Reconstructed image using contrast correction. Note that blurry edges become sharp if the profile is not taken into account. (e) Full reconstruction using contrast correction and re-blurring.

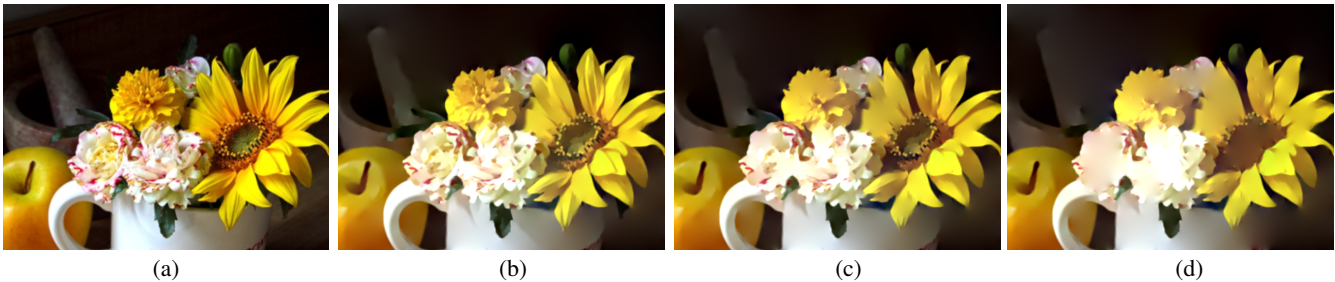


Figure 8: Detail removal: (a) original image, and (b-d) several levels-of-detail automatically generated by our method.

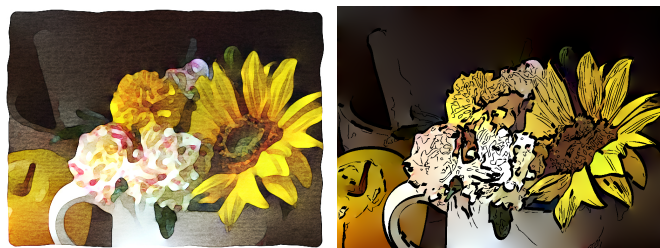


Figure 15: Different stylizations obtained from our abstracted images, in a watercolor and drawing style.



Figure 14: Failure in the image reconstruction due to the isoluminance of the pink flowers and green leaves, which leads to a greenish butterfly.