



Figure 1. (a) Original natural image. (b) Filtered image resulting after the application of the bilateral filtering. The standard deviation values in the spatial and intensity domain respectively are set to  $\sigma_d=3$  and  $\sigma_r=20$ .

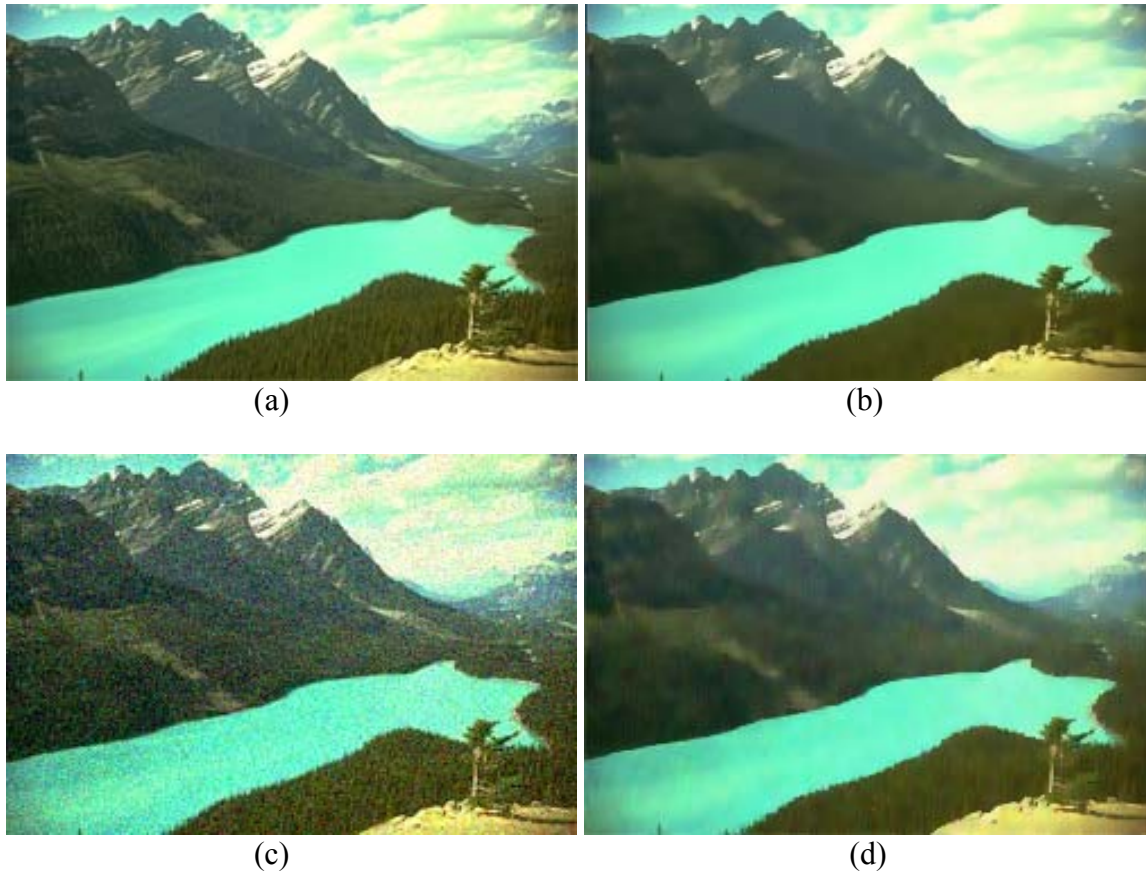


Figure 2. (a) Original image. (b) Filtered image using the bilateral filtering technique with the following parameters  $\sigma_d=3$  and  $\sigma_r=20$ . (c) The original image corrupted with Gaussian noise (standard deviation 30 intensity levels on each colour channel). (d) Filtered image using the bilateral filtering technique with the following parameters  $\sigma_d=5$

and  $\sigma_r=30$ . It can be noted the good feature presentation achieved even for images with low signal to noise ratio (SNR).

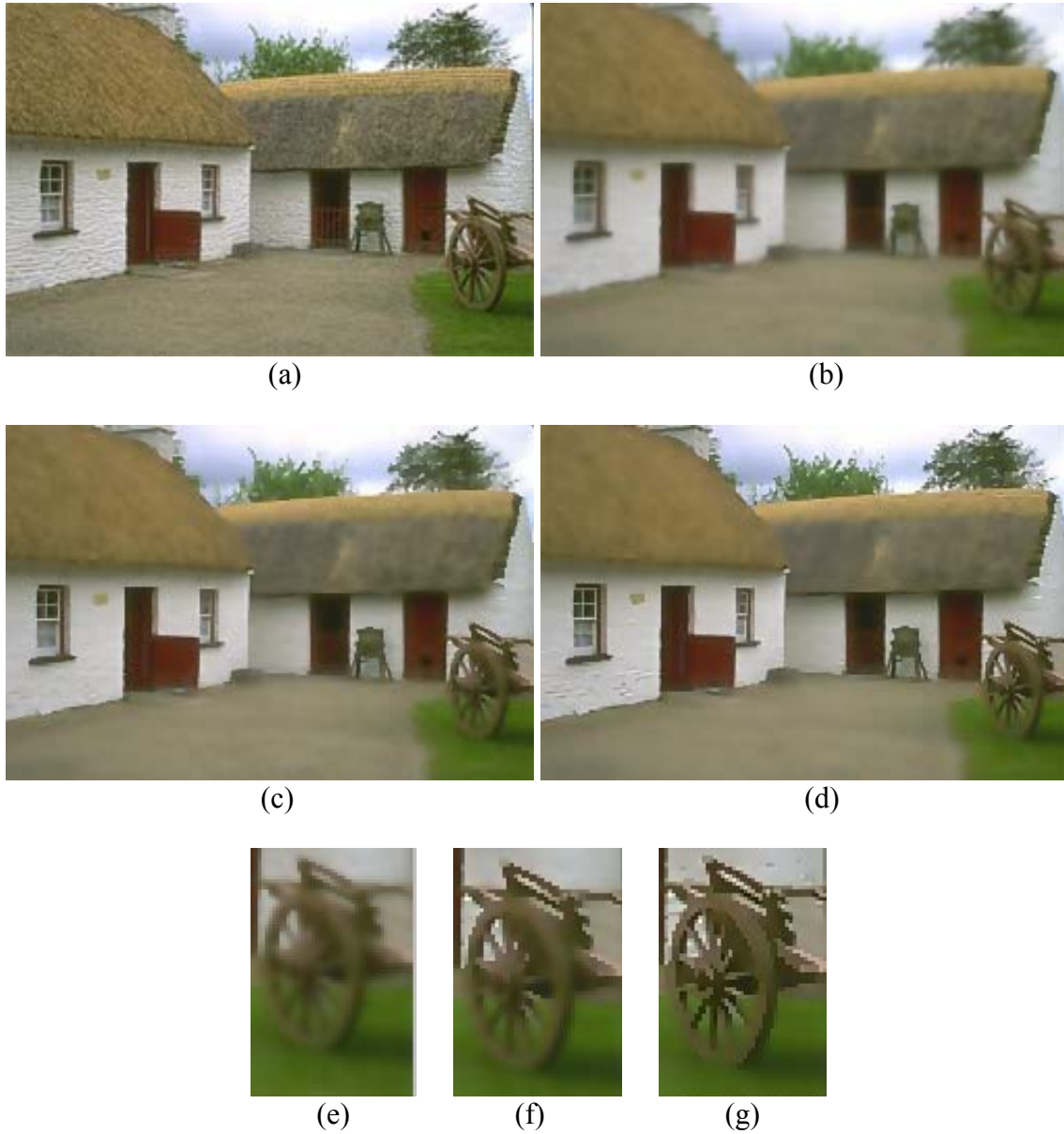


Figure 6. Smoothing results when the anisotropic diffusion is applied. (a) Original Image. (b) Standard PM algorithm ( $k=40$ , no iterations 5). (c) FAB – no gradient boosting ( $k_1=40$ ,  $k_2=80$ ). (d) FAB-gradient boosted ( $k_1=40$ ,  $k_2=80$ ). (e-g) Close-up details for the results depicted in (b), (c) and (d) respectively.

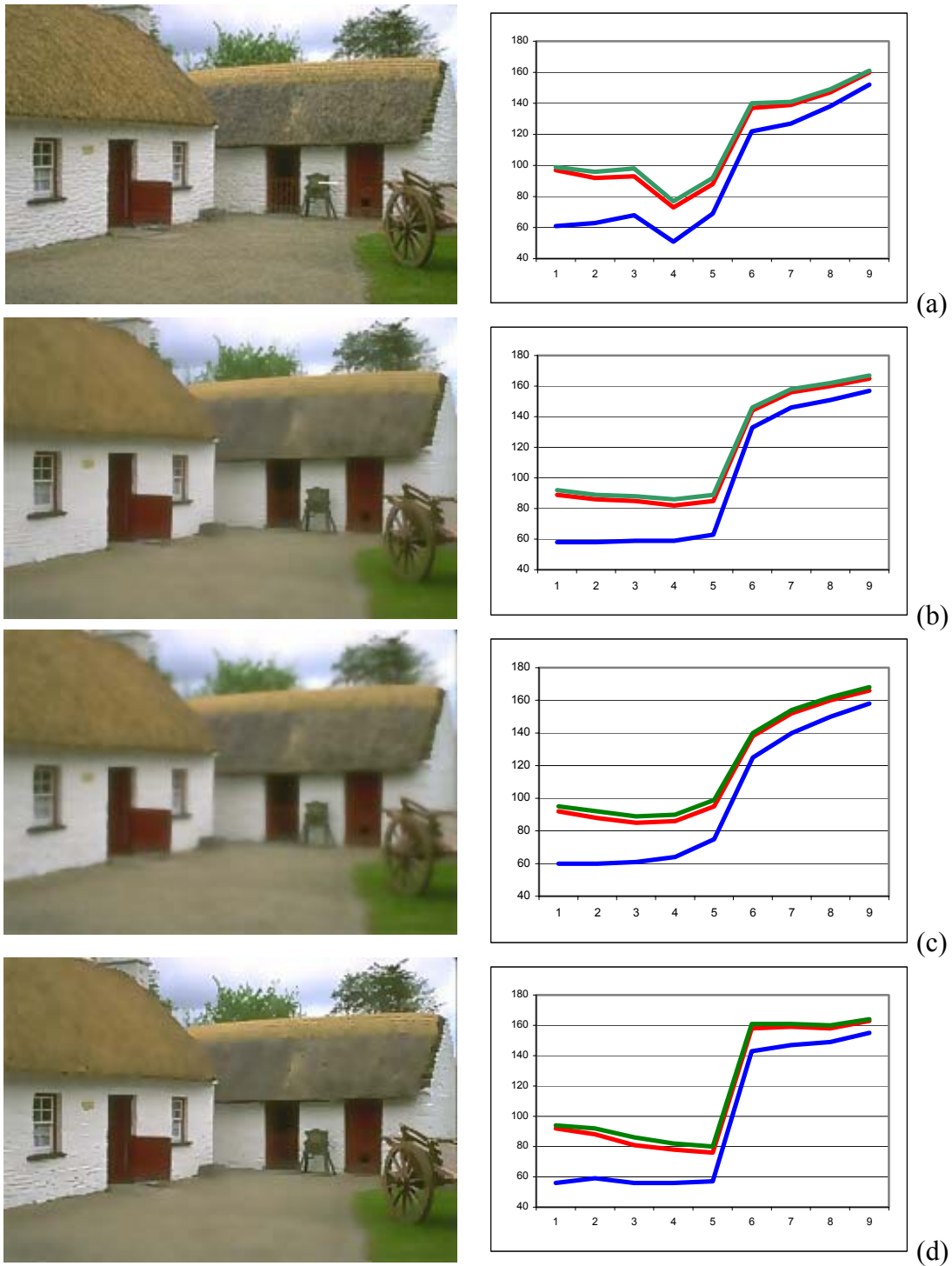


Figure 7. Analysis of the feature preservation. (a) Original image (the data plotted in these graphs is marked with a white line drawn in the chair area). (b) Bilateral filtering. (c) PM anisotropic diffusion. (d) Gradient boosted (GB) FAB-anisotropic diffusion. (For the graphs on the right hand side the  $x$ -axis depicts the pixel position on the white line, while on the  $y$ -axis are represented the pixel's RGB values).



(a)



(b)



(c)



(d)

Figure 8. Additional results – Natural image. (a) Original image. (b) Bilateral Filtering. (c) PM anisotropic diffusion. (d) Gradient boosted FAB-anisotropic diffusion.



(a)



(b)

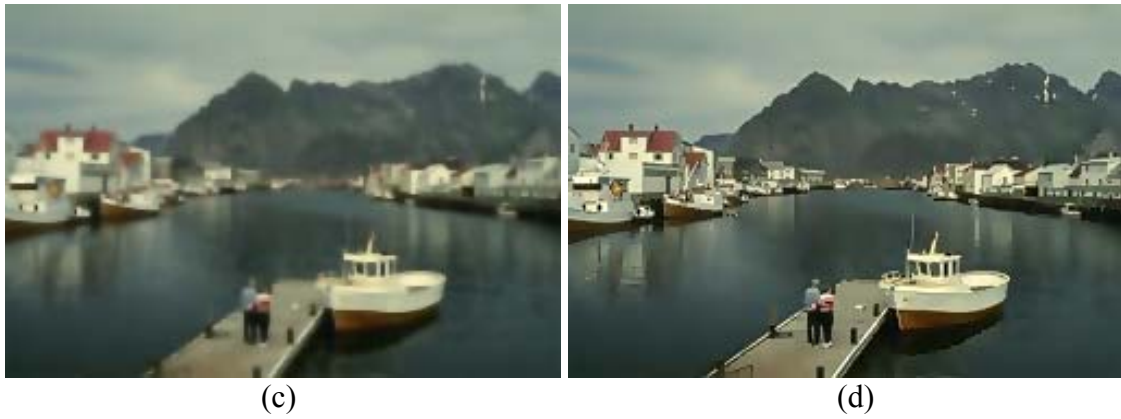


Figure 9. Additional results – Natural image. (a) Original image. (b) Bilateral Filtering. (c) PM anisotropic diffusion. (d) Gradient boosted (GB) FAB-anisotropic diffusion.

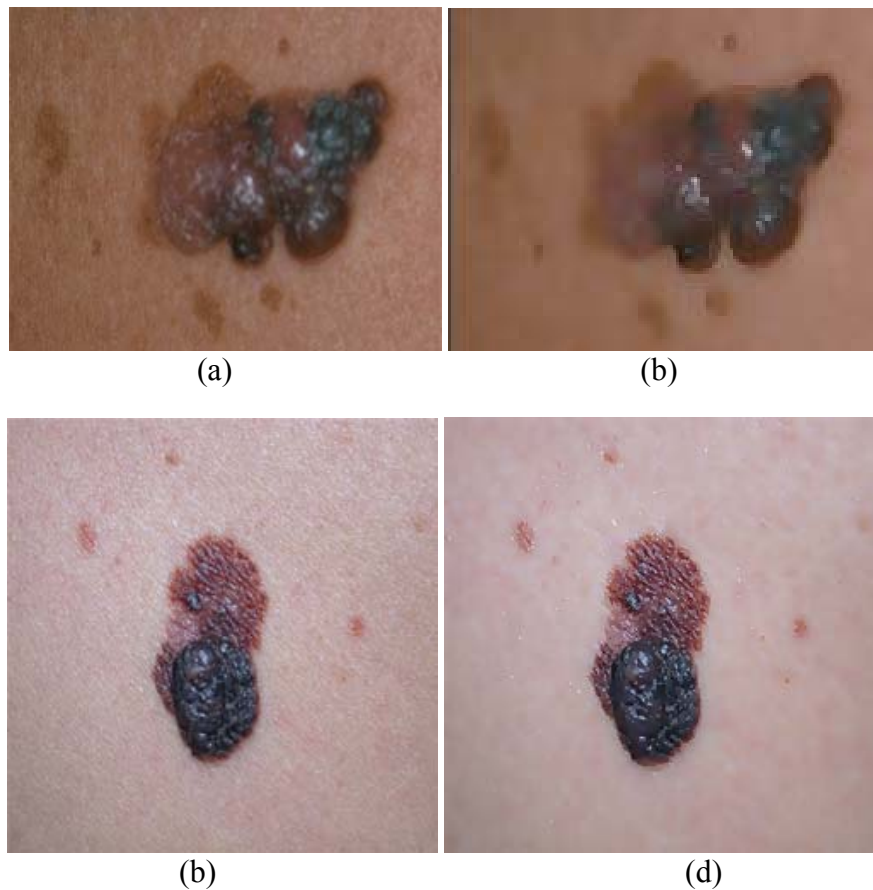


Figure 10. Additional results used in our evaluation. (a) and (c) represent original medical images. (b) and (d) are the images obtained after the gradient boosted (GB) FAB-anisotropic diffusion technique is applied.