



UNIVERSIDAD DE GRANADA

TVG

Practica 3

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Gradient Computation

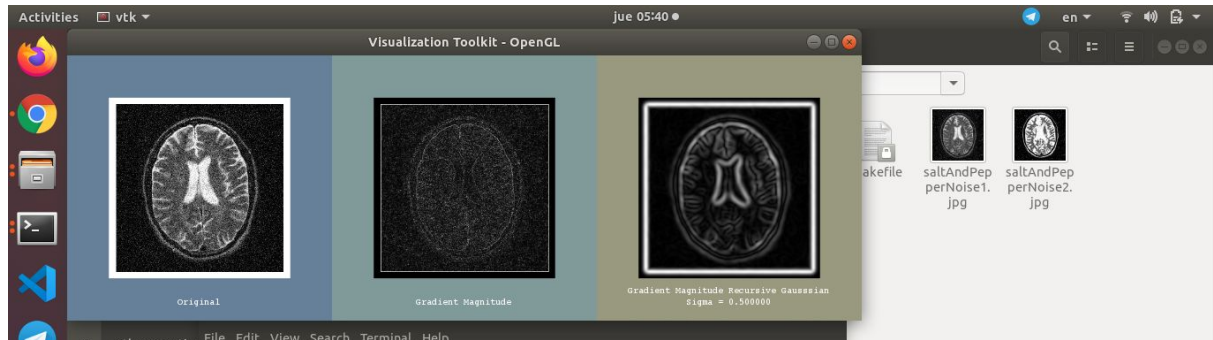
Salt and Pepper Noise 1



Salt and Pepper Noise 2



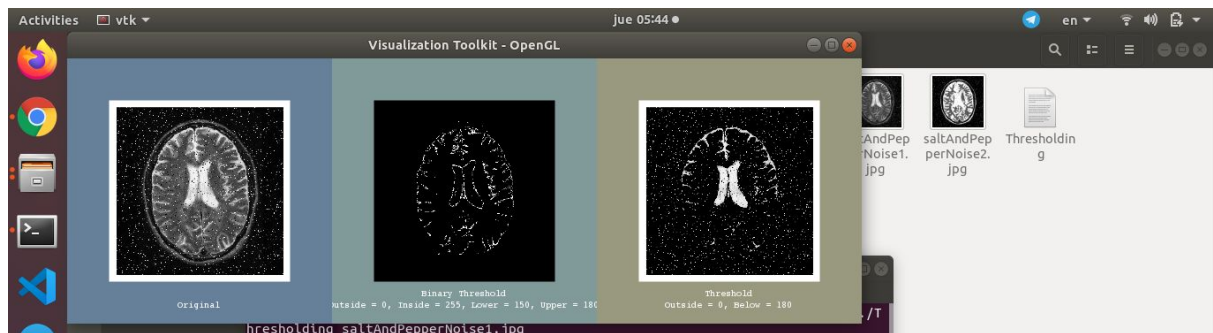
Gaussian Noise



We see how applying gradient detection on images with unfiltered noise can give bad results that can be saved a bit using a recursive Gaussian computation.

Thresholding

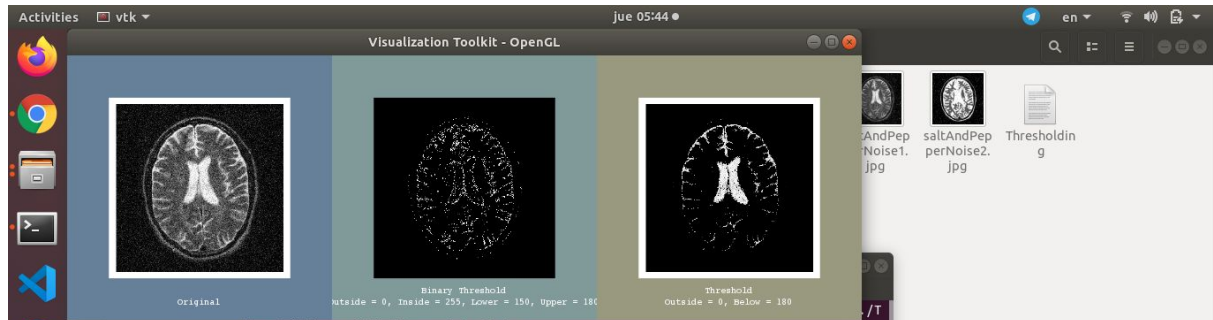
Salt and Pepper Noise 1



Salt and Pepper Noise 2



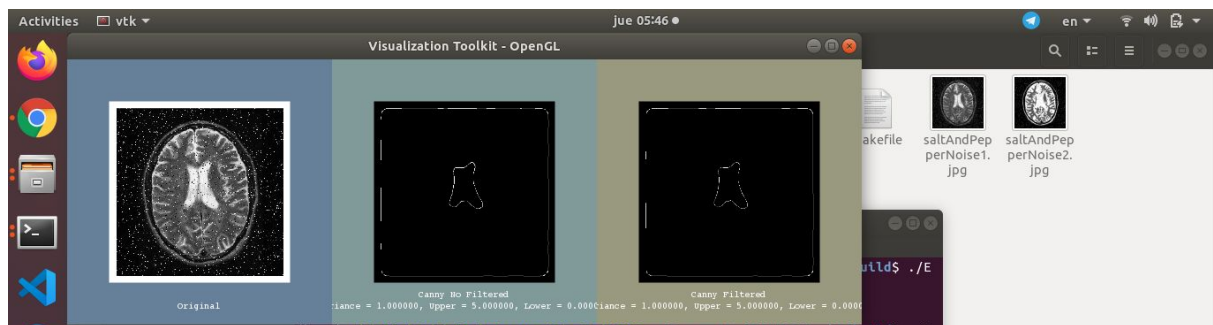
Gaussian Noise



Thresholding is a rough approximation to segmentation, in this case we see two orientations or binary with a minimum and maximum value or basic with an iso-surface value from which to consider. We also observe how it would be necessary to apply a filter before carrying out this first segmentation.

Edge Detection

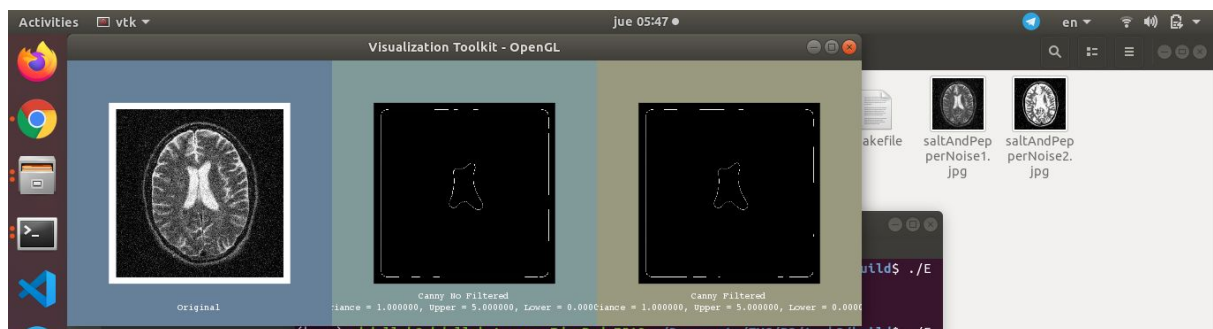
Salt and Pepper Noise 1



Salt and Pepper Noise 2



Gaussian Noise



Like the previous filters, it is seen that it is necessary to filter before. On the right, the edges detected on an image previously filtered with a median filter and on the left without it, are observed. It is seen as it affects in the images with noise type salt and pepper and even in the last image where there is no noise. You can also see the importance of the parameters. In the image without noise with a variance of 1 it was enough to have a good result, but in the images with noise it was necessary to lower this value up to ten times.