

CP467: Assignment 2 Report Content

1. When comparing the Average and Gaussian are practically the same. The Sobel method is very different when compared. The high level implementation has a nearly full black background where the edges are highlighted. There appears to be a darkened gradient from the top of the image to the bottom and the bottom of the image appears to be much noisier. My low-level implementation still contains the same grayscale background that the original image has however it added noise all over the image. The center of the image (the man's face) has extremely jagged edges. I think that this comes from my algorithm having far too low of a threshold when compared to the OpenCV implementation. This leads to a lot of "bleed through" of the original background and unneeded noise throughout the image.
2. The Canny and Marr-Hildreth results varied quite a bit. My Canny result image had a much lower threshold leading to a lot more edges being detected. My Marr-Hildreth detection was very insensitive with an almost fully black output. Only the sharpest edges of the image were detected. The Marr-Hildreth differs from the Canny output significantly because it is the Laplacian algorithm that is applied to Gaussian smoothing. This finds the edges with the most rapid intensity change. Therefore the algorithms themselves are contributing more to the output difference than the actual parameters
3. The algorithm for adjacent pixels found far more regions in the Canny edge detection image and represents the original input image far better. The other output that had the Marr-Hildreth applied to it only detached the most rapid intensity changes to it only captured the stand of the camera.