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CSCI 431

October 14, 2022

***Conclusion:***

The filtering process started with reading in an image and turning it into a grayscale image. The starter code that was given to us has a majority of the code already there. All that was left for us to fill in was the filter computations and saving the result to im\_out. When actually writing the filter, I realized that it was not that bad overall. The bulk of the code was the inner two loops, where we had to actually go in and calculate the resulting matrix. To do so, we first had to make the adjusted row and column to get the actual values from the original matrix, then continuously multiply and add the result to a variable. After these two loops finish, that result gets added to the final im\_out matrix and the loops continue.

When going through and writing this block of code, I got relatively close in one of the first few attempts, however I noticed that the resulting image after Prof. Kinsman’s code ran was something that looked like an edge difference. I went back and looked back at my code and realized that I was never actually resetting the adjusted column value. This one single change allowed me to get the desired output. After running the code, the resulting image after using *imabsdiff()* was just a black screen, which means that the two images were identical. After this, I realized that most of convolution is just a glorified matrix computation with images. Overall, this assignment was not too bad, just had a small amount of moving parts to consider.