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TEE 461 Image Processing

Project 1 Proposal

For my project I would like to create an app that loads an image and image and displays it. The user will be able to adjust three sliders Brightness/Darkness, Contrast, and Sharpness. The modified graph will be displayed on the app with a comparison to the identity line. The modified image output will also be displayed on the app. Finally, the user will be able to save the newly modified image to a specified directory for later use.

The Brightness/Darkness slider will use the standard equation used from class. Gamma (γ)will be varied depending on the placement of the slider.

The Contrast slider will use a shifted arctangent function to modify the image. The more the slider is increased the greater the contrast curve will be. The less the contrast slider the closer to the identity line the modified image will be.

The Sharpness slider will be used to increase sharpness using the edge detection filter used in class. As the slider moves the edge detection filter will be multiplied by a larger or smaller scalar value that is added to the original image. The sharpen kernel will allow for sharpening in vertical, horizontal, and diagonal directions.

Small changes may occur to the app layout as the project progresses but updated will be provided and discussed to ensure the final product still meets the requirements for this assignment. Overall I would like my app to allow the user to adjust these three categories to manipulate the image uploaded.