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CS390S
Homework 3
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Homework 3 Report

Two Input Images:

Figure 1: face_dark.bmp

Figure 2: face_good.bmp

Two Output Images:

face dark.bmp Output

face good.bmp Output

The skin detection of face_good.bmp was almost flawless. It was able to easily differentiate the person's skin from the rest of the picture, except for the man's facial hair. It seems that it did not recognize his facial hair (mustache and part of his beard) and overwrote it as white.

However, the second one proved to be rather difficult to process, conceptually. At first, I was at a loss of how to differentiate the skin from the background. However, after reading the *Paper Survey on Skin Color Techniques*, I was able to find a hint in section 2.6, where they discuss uniform color systems. They

mentioned that using the nonlinear transformation of RGB to CIELUV helps to differentiate between colors.

Face Dark Luminance

After some discussion with classmates such as Dan Reuter, I was incited to investigate Luminance. I analyzed the histogram to find out if I could manipulate it to render correctly and I noticed a large spike present:
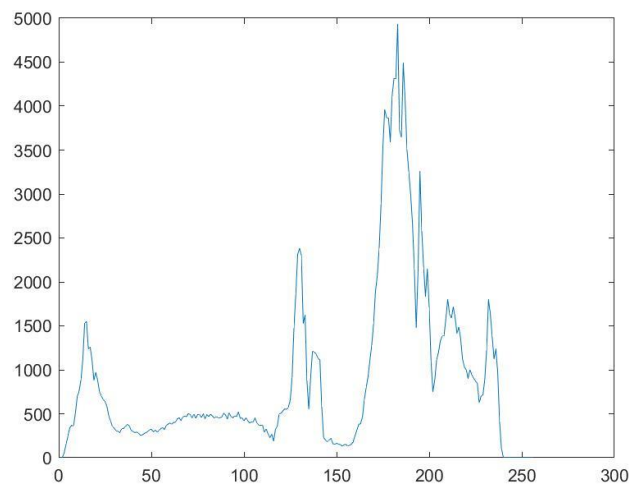
I assumed that if you could find the local minimum, you can block out any higher values to get a better evaluation of differentiating the skin. This was where my for loops came in, so I could properly find it. However, I encountered issues and I could not properly get it to detect. Currently, I am submitting my 80% completion, preparing to submit my final draft soon.