Digital Image Processing
Homework 5

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Overview

The goal of this assignment was to detect a face in an image. This goal was to be accomplished through the following parts:

- My own attempt at skin detection
- The implementation of image opening/closing

Procedure and Analysis

This is the image I chose to use for face detection.

The image is very high resolution, so I had to crop the image a bit. I should have tried face detection on the entire image to try and detect the other faces as well, but the image was very large, so to save time, I cropped it for just my face.

Using my own skin detection, the results were horrible! I tried the same technique that I used for the skin detection assignment (HW3).

You can see that there are a lot of false positives that showed up in the final result. It did a good job detecting most of my skin, but it also failed to detect a lot of the neck area and also detected my shirt, phone, controller, and background. So this result was bad. I opted to use Dr. Jiang's approach instead.

Using Dr. Jiang's approach and some image opening/closing, this was a much better result.

You can see that some of the background leaked into the result (around my ears) and some of my hair also got into the result, but overall, this is a much better result.

<u>Conclusion</u>

This homework was a good assignment because it was additional practice for skin detection. I'm more nervous for the face recognition project, but if I spend enough time with it, I'll be okay.