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EENG 350 - Lab Group 10
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8 October 2021

<p align="center">Mini Project Marker Detection Scheme</p>

Two marker detection schemes were created since the requirements of the project were somewhat unclear. The first, named angle.py, changes the angle depending on what color is seen by the center of the camera. The colors red, green, blue, and yellow correspond to the angles 0°, 90°, 180°, and 270°, respectively. The Python script does this by setting the boundaries in an array, taking a picture, keeping the center ~10% of the image, and converting these center pixels to HSV. Then, a for loop goes through the array of color boundaries and applies a mask to the center pixels using the boundary values and the HSV image. If the average value of the masked image is nonzero, the angle corresponding to the color found is printed.

The second detection scheme, named angle1.py, changes the angle depending on where a yellow marker is seen. It does this by taking a picture, converting it to HSV, applying a mask, doing some morphological transformations to smooth the marker, and converting the image to grayscale. Then, the position of the marker within the image is calculated. If the marker has a position, the horizontal and vertical angles from the center of the camera are calculated, and if the marker is to the right of the camera, it outputs 0°, if it is at the top, it outputs 90°, and so forth.