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Mini Project Marker Detection Scheme

The marker detection scheme, named angle.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 by finding the average position relative to the center of the camera and then finding the phi values using the FOV values. If the marker has a position, calculations of the angle begin, if the marker is to the right of the camera, it outputs 0^o, if it is at the top, it outputs 90^o, and so forth, following the unit circle.