

# GRIP Pipeline

1. Camera stream input,  
brightness of the camera can be  
changed to show targets better.
2. HSV (Hue Saturation Value)  
thresholds. Only pixels with hue,  
saturation and values  
in-between the defined range  
are displayed.
3. Find Contours - edges of  
objects are discovered.

4. Filter contours - objects are filtered by

- a. Min area
- b. Min perimeter
- c. Min/Max Width
- d. Min/Max Height
- e. Solidity “how concrete and object is”
- f. Min/max vertices
- g. Min/max object ratio: width vs height

5. Export contours report to

NetworkTables, includes:

- a. Area

- b. centerX, centerY

- c. Width, height

- d. Solidity

6. Python code generated. On

vision processor (raspberryPi),

we take these reports and find

distance to the target and angle

offset.