Helpful Websites

GPIO Pinout for Pi
http://pinout.xyz/

GPIO Tutorial
https://pimylifeup.com/raspberry-pi-gpio/

Using GPIO pins on Pi
https://www.youtube.com/watch?v=9tActipVqIM

Serial Communication with Raspberry Pi
http://www.instructables.com/id/Raspberry-Pi-Arduino-Serial-Communication/?ALLSTEPS

I2C Communication with Raspberry Pi
https://oscarliang.com/raspberry-pi-arduino-connected-i2c/

image clipping

http://note.sonots.com/SciSoftware/haartraining.html

https://code.google.com/archive/p/imageclipper/

http://www.microsoft.com/en-us/download/details.aspx?id=5638

OpenCV

Official Website
http://opencv.org/

Install Guide for Python
http://www.pyimagesearch.com/2016/04/18/install-guide-raspberry-pi-3-raspbian-jessie-opencv-3/

Ubuntu Install Guide
http://www.askaswiss.com/2016/01/how-to-install-opencv-3-1-python-ubuntu-14-04.html

Install OpenCV for Python on PI
https://robertcastle.com/2014/02/installing-opencv-on-a-raspberry-pi/

Understanding Haar

http://docs.opencv.org/2.4/modules/objdetect/doc/cascade_classification.html#

http://makematics.com/research/viola-jones/

https://timvanoosterhout.wordpress.com/2015/10/08/recreating-a-haar-cascade-visualiser/

https://www.youtube.com/watch?v=c0twACIJYm8

https://github.com/Tubeliar/HAARCascadeVisualization/commit/143262e1946786a049f1fa7c73c26f67344d9192?diff=unified

Videos/Demos

Tracking Demo
https://www.youtube.com/watch?v=09JS7twPBsQ

Track camera movement
https://www.youtube.com/watch?v=yjA3UtwbD80&index=1&list=PLLXJw_uJtQLbVjq9sgrAVbnTzuFwfz9I8

Color Tracking
https://www.youtube.com/watch?v=IXyO2O-I2bs

https://www.youtube.com/watch?v=hQ-bpfdWQh8

Object Tracking
https://www.youtube.com/watch?v=X6rPdRZzgjg

Tracking Moving Targets
https://www.youtube.com/watch?v=By5CWHpuqNg

Tracking a Swimmer
https://www.youtube.com/watch?v=ylWAT1gxaQ8

Project Using OpenCV

Image tracking information
http://roboticssamy.blogspot.pt/

By Color

Gets colors from images
http://imagecolorpicker.com/en

Track movement (draw circles)
http://www.pyimagesearch.com/2015/09/21/opencv-track-object-movement/

Blob detection
https://www.learnopencv.com/blob-detection-using-opencv-python-c/

Get x,y coordinates from an object
http://www.pyimagesearch.com/2015/09/21/opencv-track-object-movement/

RGB to HSV
http://www.rapidtables.com/convert/color/rgb-to-hsv.htm

Official Auburn Colors
https://www.auburn.edu/template/colors.html

HSV vs RGB
https://dsp.stackexchange.com/questions/2687/why-do-we-use-the-hsv-colour-space-so-often-in-vision-and-image-processing

Filtering tutorial
https://pythonprogramming.net/color-filter-python-opencv-tutorial/

Other Ideas

Match contour of AU symbol. Use interpolation to find different sizes.

Use color tracking and cascade classifier. Filter out all orange and blue the run classifier detection on image with blac