UAV Team 11-3-14

Resources:

- <https://www.mathworks.com/products/datasheets/pdf/computer-vision-system-toolbox.pdf>

- <http://www.mathworks.com/help/vision/examples/automatically-detect-and-recognize-text-in-natural-images.html?refresh=true>

- <http://www.mathworks.com/help/vision/examples/object-detection-in-a-cluttered-scene-using-point-feature-matching.html#btt5qyu>

- <http://web.engr.oregonstate.edu/~sinisa/courses/OSU/CS556/lectures/Code.pdf>

Computer Vision Toolbox

- Corner Detection

- look at "harris operator" and "shi and tomasi"

- I = corner(<image>, ‘

- Blob Detection

- MSER (Maximally stable extermal regions)

- method of blob detection

- finds correspondences b/w image elements with different viewpoints

- can be used to find regions of similar intensities



*SURF (left), MSER (center), and corner detection (right) with Computer Vision System Toolbox. Using the same image,*

*the three different feature types are detected and results are plotted over the original image.*

- Edge Detection

- using Canny Edge Detector

- very fast and efficient

- Feature Detection

- SURF

-robust local feature detector

- also fast and efficient algorithm

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-Look at Gaussian Blur/Filter

-Also look at video stabilization through interest points RANSAC method

- <http://en.wikipedia.org/wiki/RANSAC>

-Working on trying examples (detecting and recognizing tests and object detection in a cluttered space) and applying to test UAV images.