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Report #2

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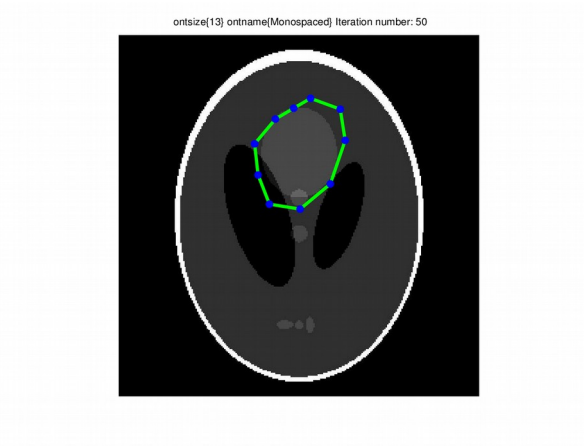
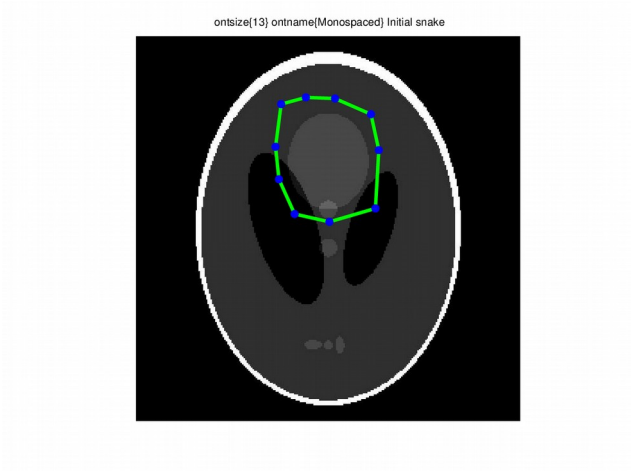
Snake:

- We use “main.m” to run the greedy snake algorithm.
- All functions are well commented to explain our implementation.
- getImgEnrg.m >> get image energy by applying gaussian kernel then calculate gradinet in x, y
- getModulo.m >> calculate index to form closed curve.
- showSanke.m >> plot snake contour in image.
- getAvgDist >> calculate averge distance (d) .
- GreedySnake.m >> this actual algorithm that take alpha, beta, gamma, and return the control points.
- chainCode.m >> take points of contour and calculate the chain code of these points.

After Snake



before snake



Canny Edge Detector:

- The Process of Canny edge detection algorithm can be broken down to 5 different steps:
- Apply Gaussian filter to smooth the image in order to remove the noise.
- Find the intensity gradients of the image.
- Apply non-maximum suppression to get rid of spurious response to edge detection.
- Apply double threshold to determine potential edges.
- Track edge by hysteresis: Finalize the detection of edges by suppressing all the other edges that are weak and not connected to strong edges.

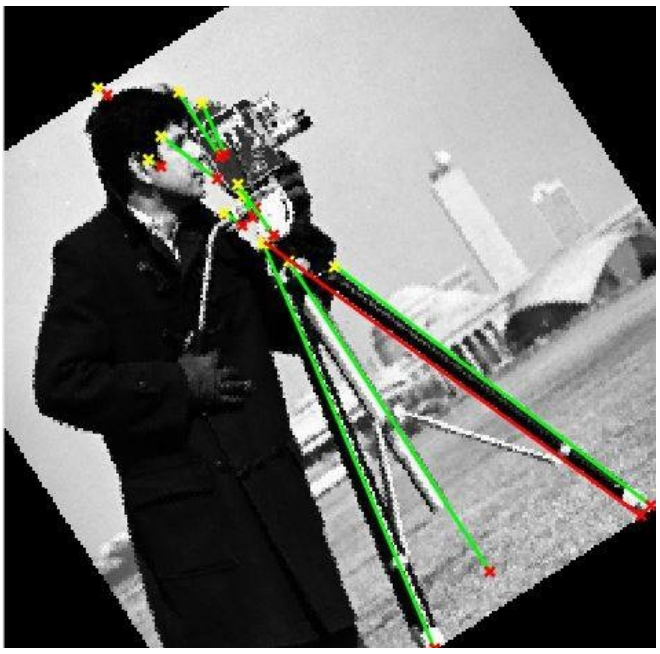
After

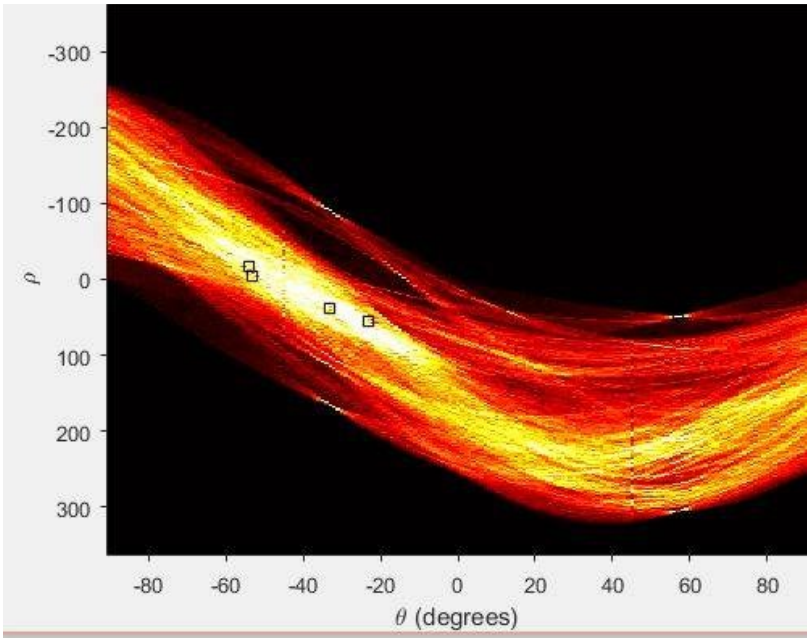
Before

Hough Transform:

- Find the edges in the image.
- Compute the Hough transform of the binary image returned by Canny.
- start voting for each point.
- Display the transform, H, returned by the hough function.
- Find the peaks in the Hough transform matrix, H, using the houghpeaks.
- Superimpose a plot on the image of the transform that identifies the peaks.

Lines:





Circles:

- Under Development