27555 Research
Progress Report 3
Mar. 1, 2017

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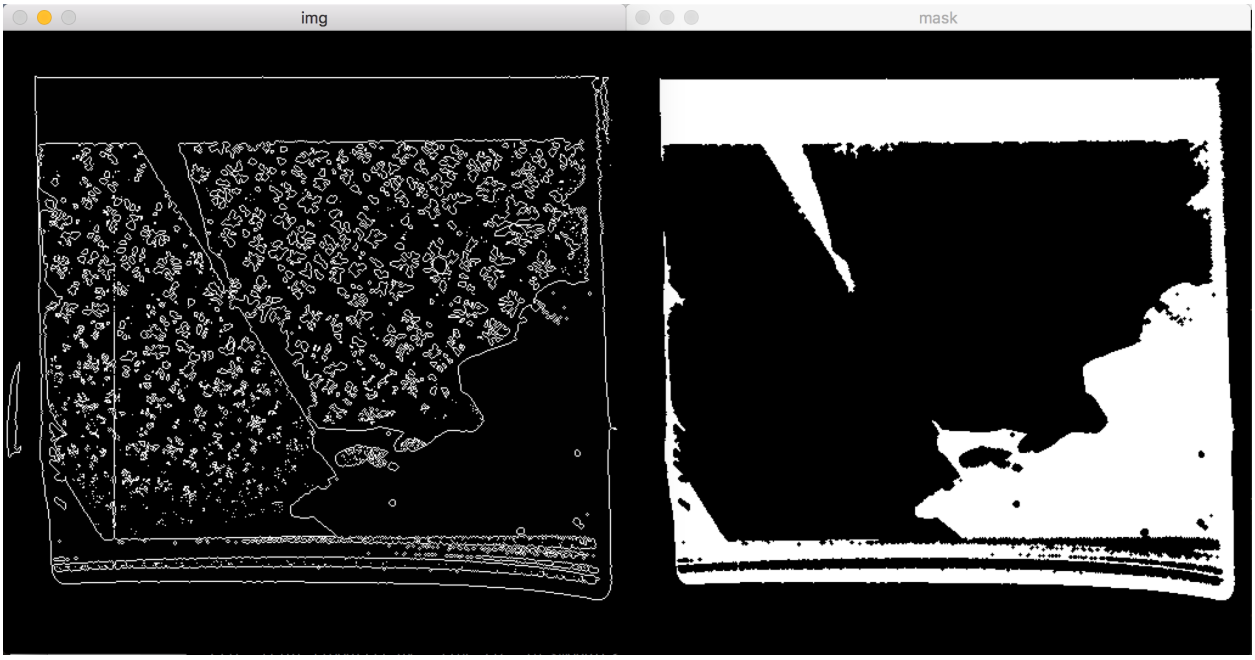
Goal: pick out twin boundary region, and apply a different threshold in that region, for higher contrast

Trials:

1. Mask

- **steps:**
  - First use binary threshold on the image, and draw all the contours;
  - use a currently hard-coded see position, do flood fill on the contours drawn;
- Results: a folder of masks;
- Other attemps: user-input for seed position;
  - redundant and impractical for a dataset of size 200.



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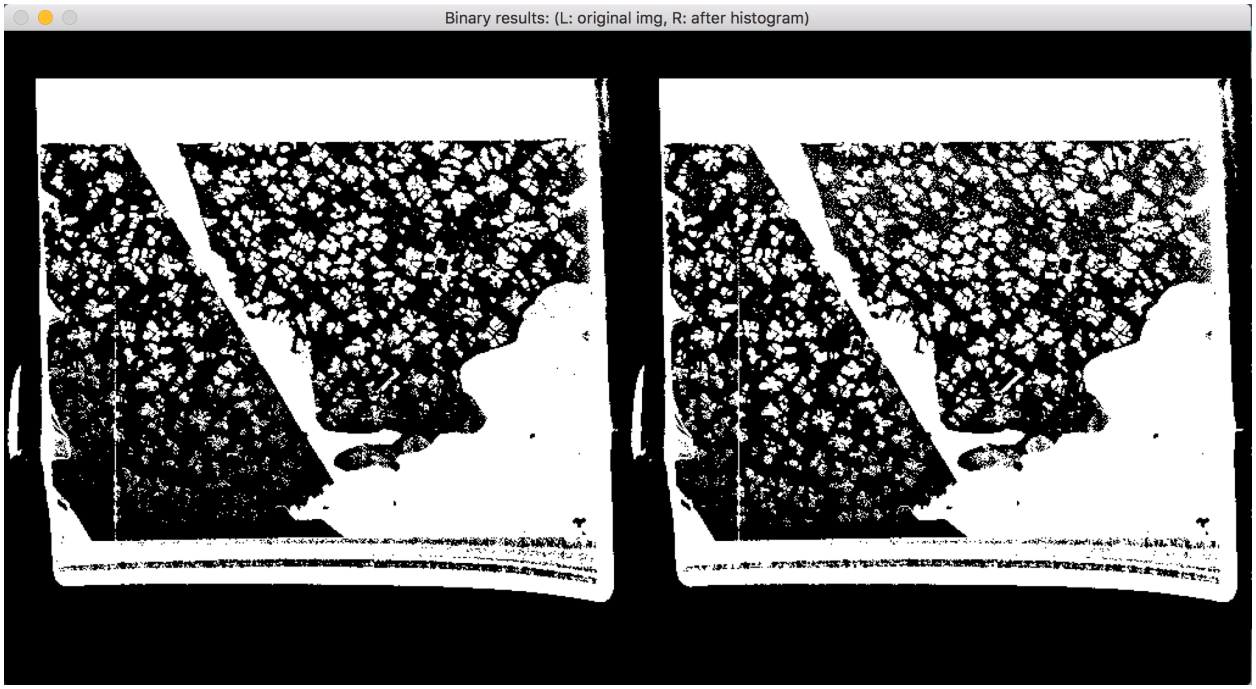
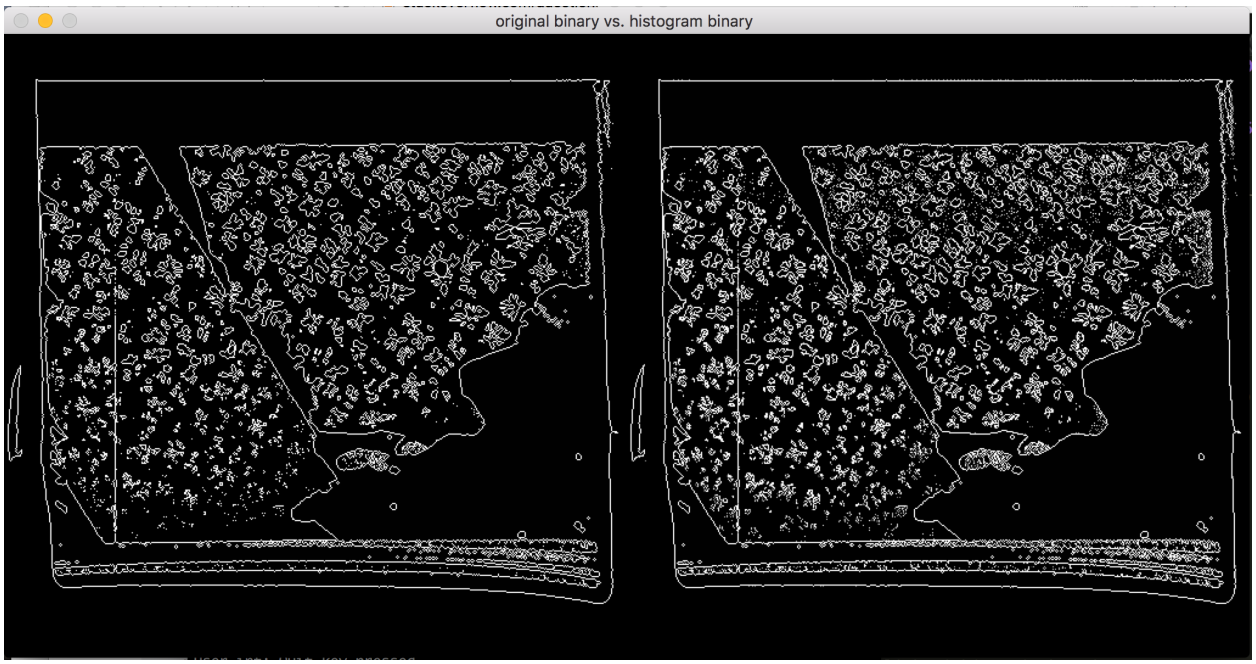
2. Histogram equalization on the entire image;
Method: Experimenting binary thresholding results before and after histogram equalization

Conclusion: no obvious advantage for using histogram equalization shown in find contours, in non-twin regions;

Next Step: run histogram equalization only within the twin region.





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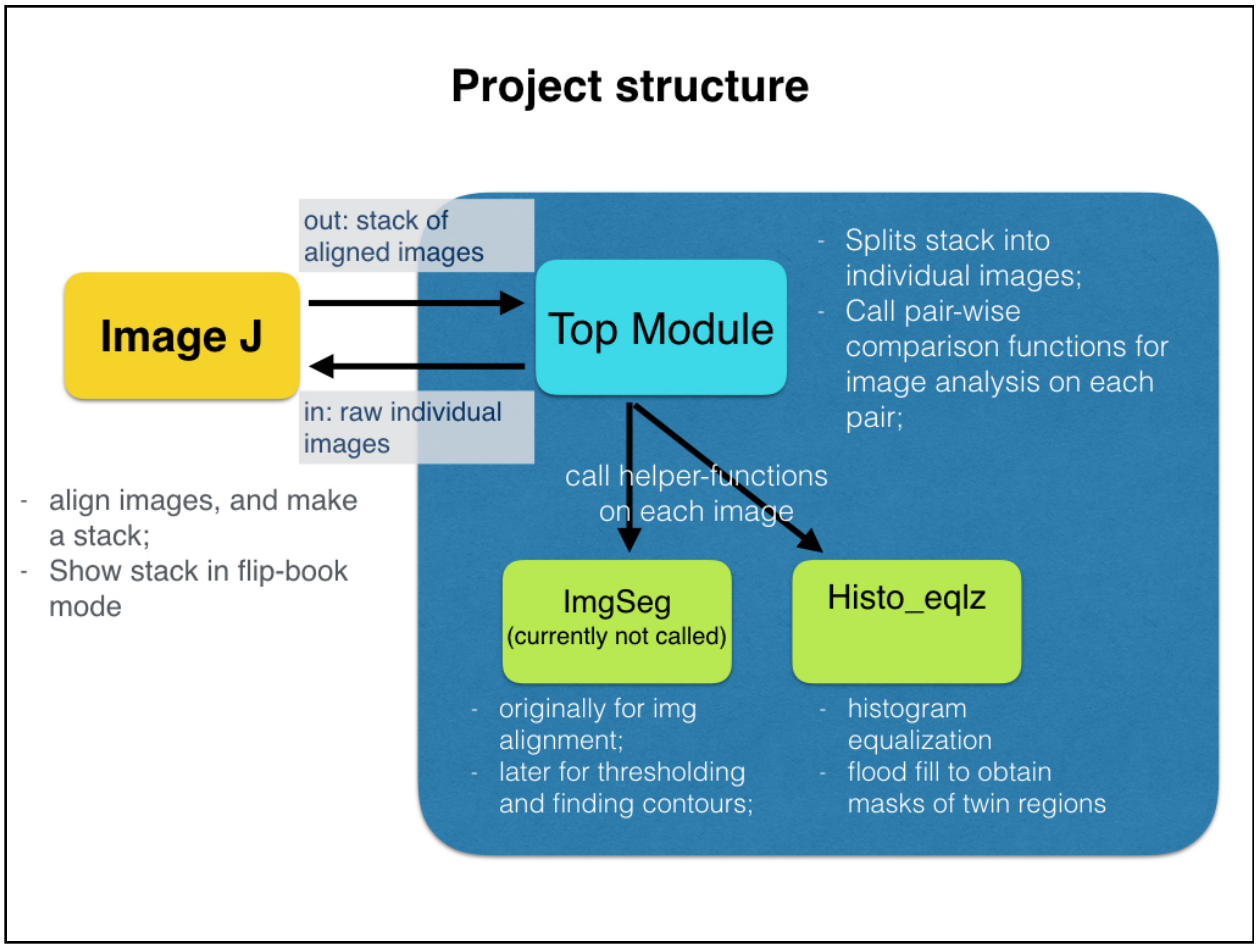
Update to the project structure;



Next steps:

- [optional] optimize the masks, so it's selecting exclusively the
- Run histogram equalization in the twin regions, and then binary threshold;
- Run binary threshold in non-twin regions;
- Piece up the two sections of the image (namely, twin and non-twin regions);

- Perhaps write a function to check accuracy of alignment (compare the edges in 3D sense);