

Supplemental Material: Deep Retinal Image Understanding (ID #398)

This document contains more qualitative examples, at a bigger size to be easier to observe:

- **Pages 1-2:** DRIVE qualitative examples of blood vessel segmentation.
- **Pages 3-4:** STARE qualitative examples of blood vessel segmentation.
- **Pages 5-6:** DRIONS-DB qualitative examples of optic disc segmentation. DRIU results are plotted in blue, human annotation 1 in green (used as gold standard) and human annotation 2 in cyan.
- **Pages 7-9:** RIM-ONE qualitative examples of optic disc segmentation. DRIU results are plotted in blue, human annotation 1 in green (used as gold standard) and human annotation 2 in cyan.

1 DRIVE qualitative examples

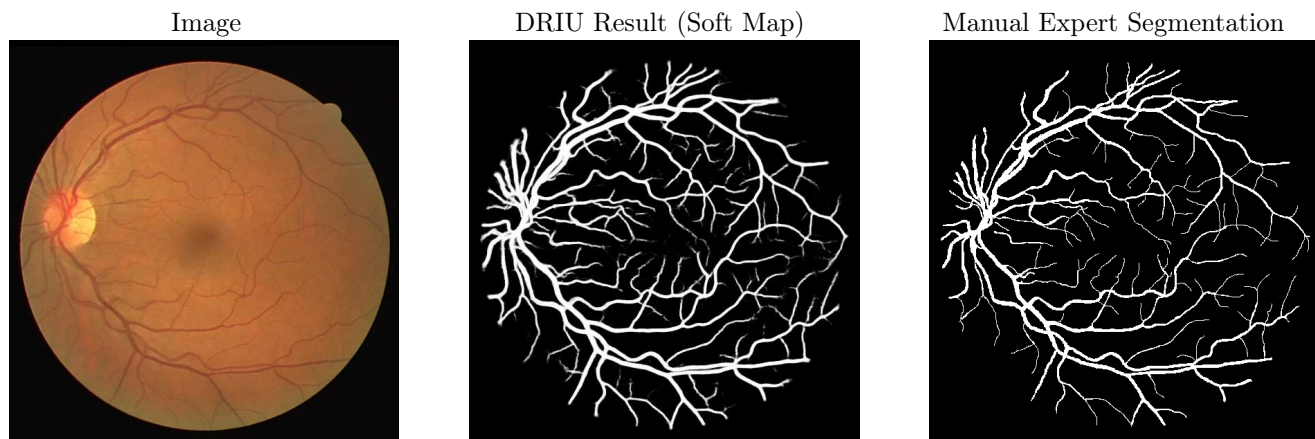


Image: 01_test, Region F measure: 0.776

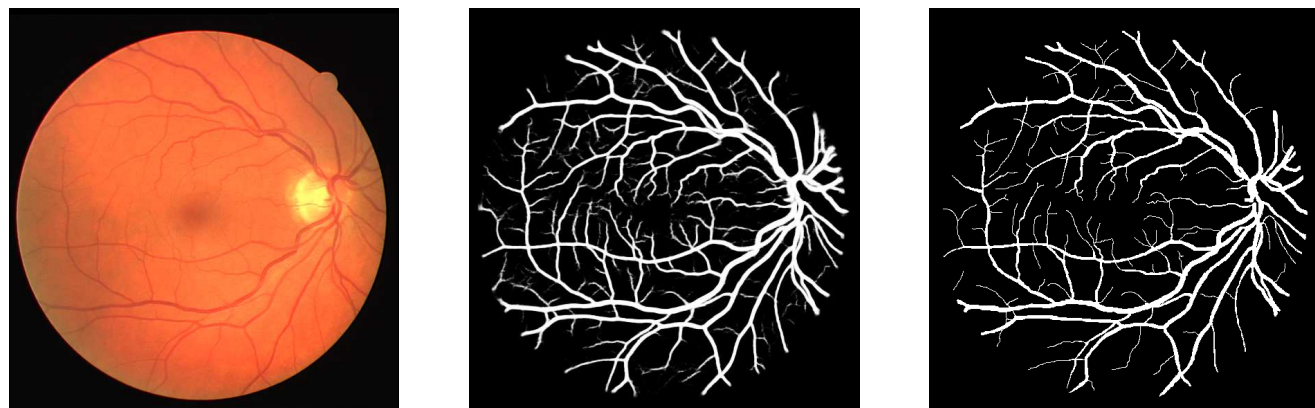


Image: 02_test, Region F measure: 0.823

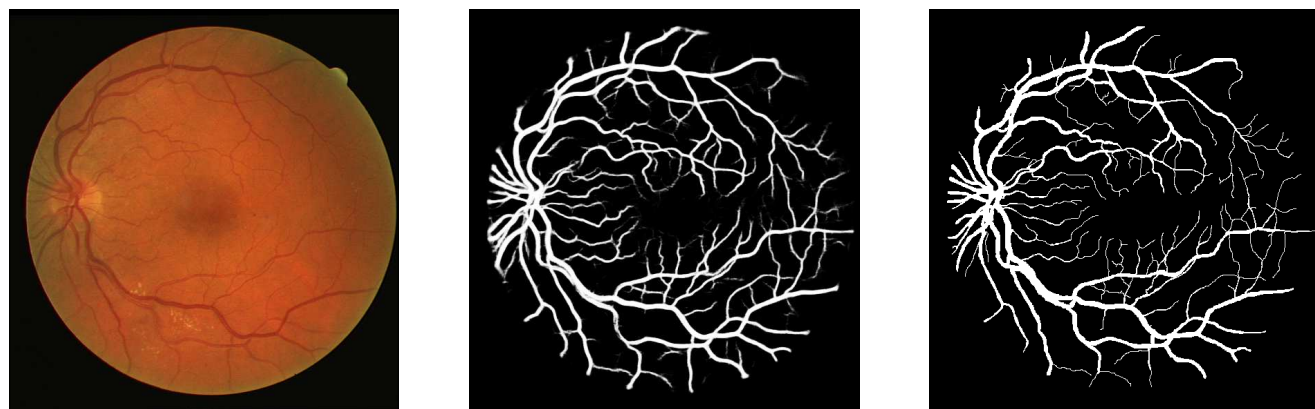
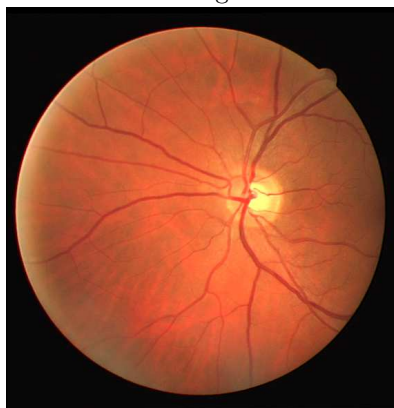
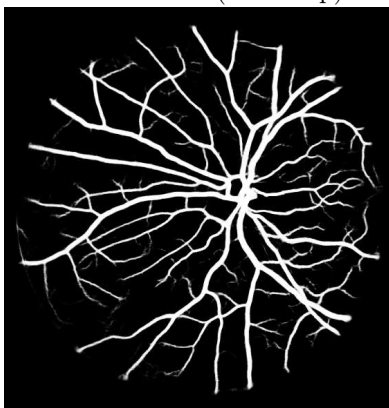


Image: 03_test, Region F measure: 0.838

Image



DRIU Result (Soft Map)



Manual Expert Segmentation

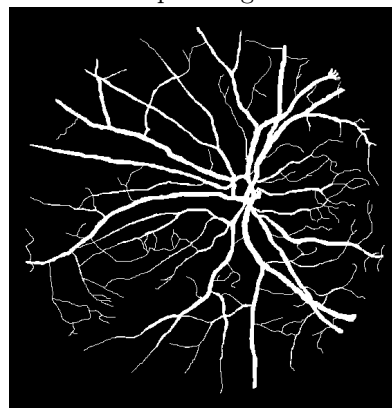


Image: 04_test, Region F measure: 0.851

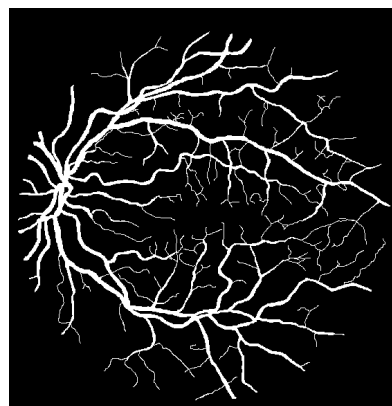
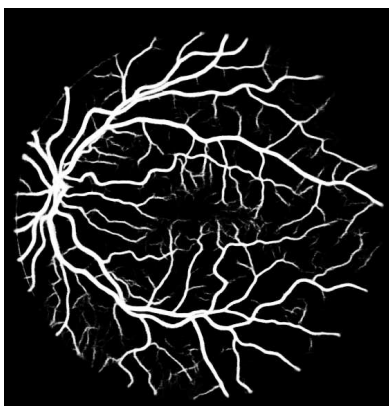


Image: 05_test, Region F measure: 0.848

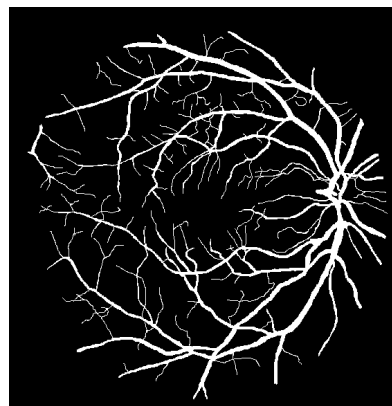
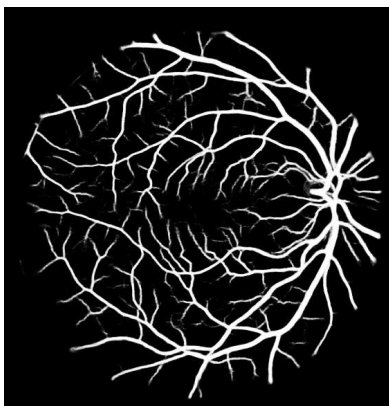


Image: 06_test, Region F measure: 0.860

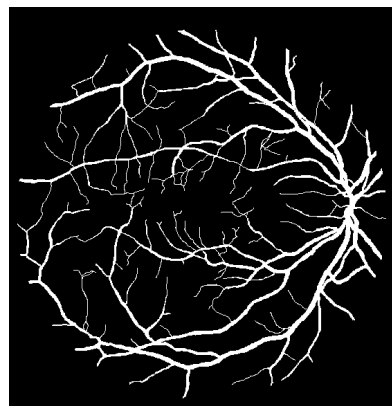


Image: 07_test, Region F measure: 0.874

2 STARE qualitative examples

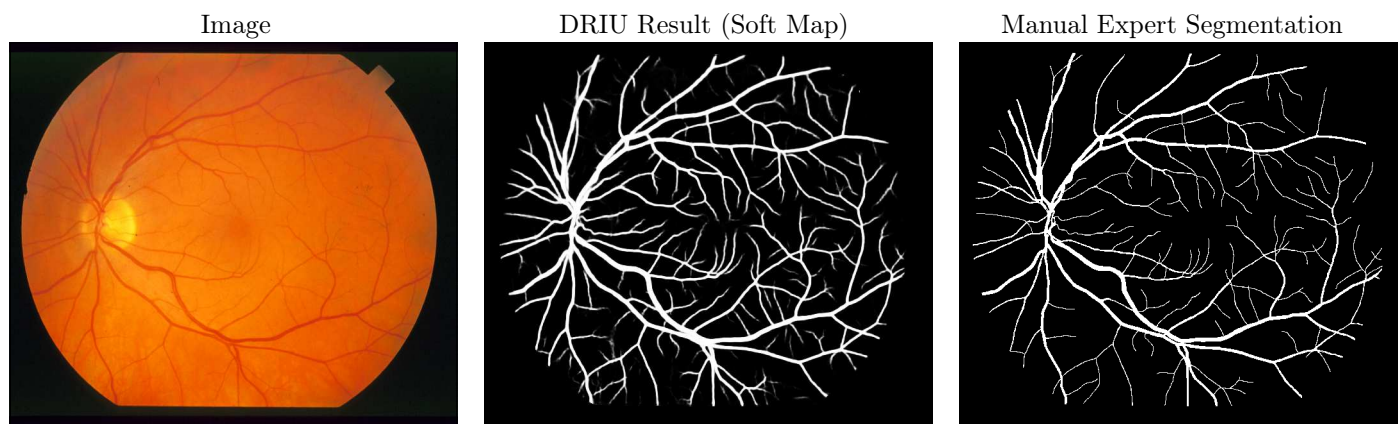


Image: im0162, Region F measure: 0.835

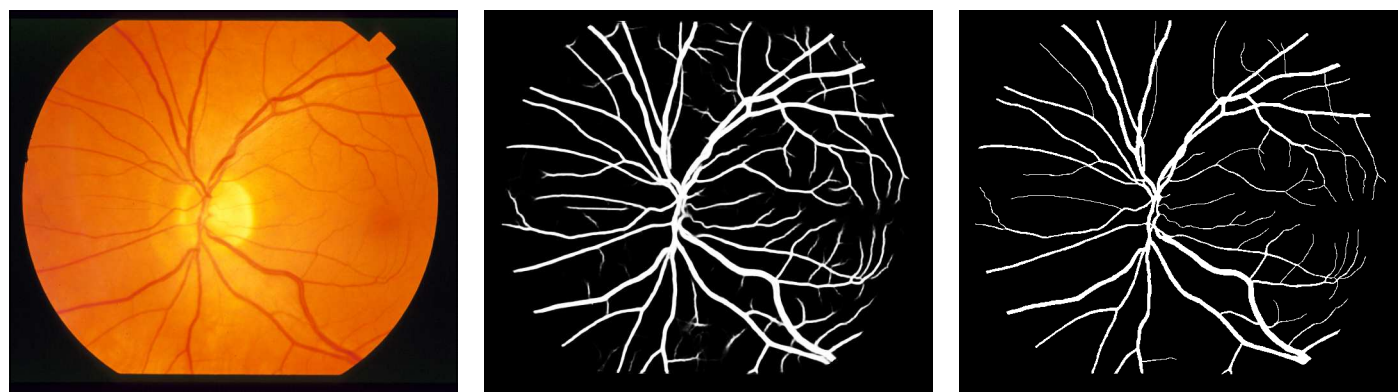


Image: im0163, Region F measure: 0.865

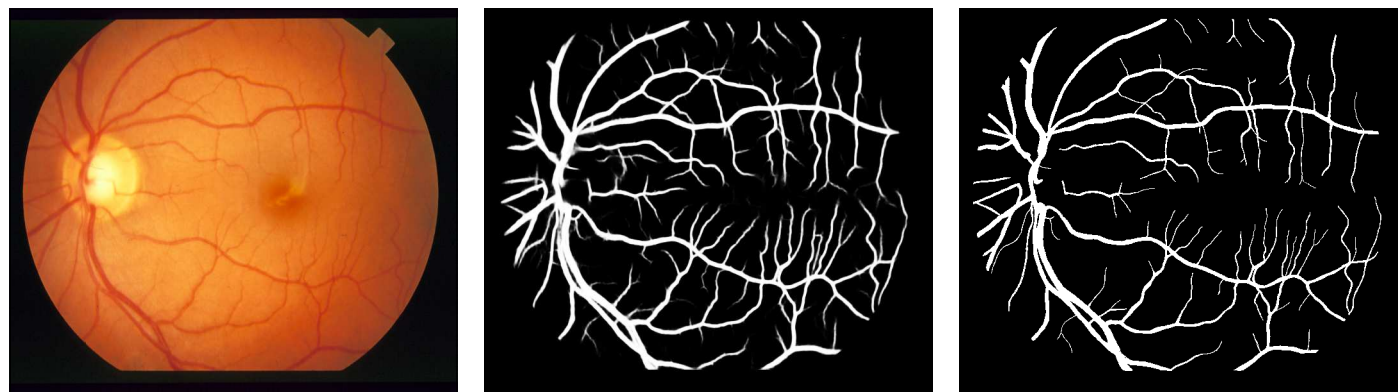


Image: im0235, Region F measure: 0.861

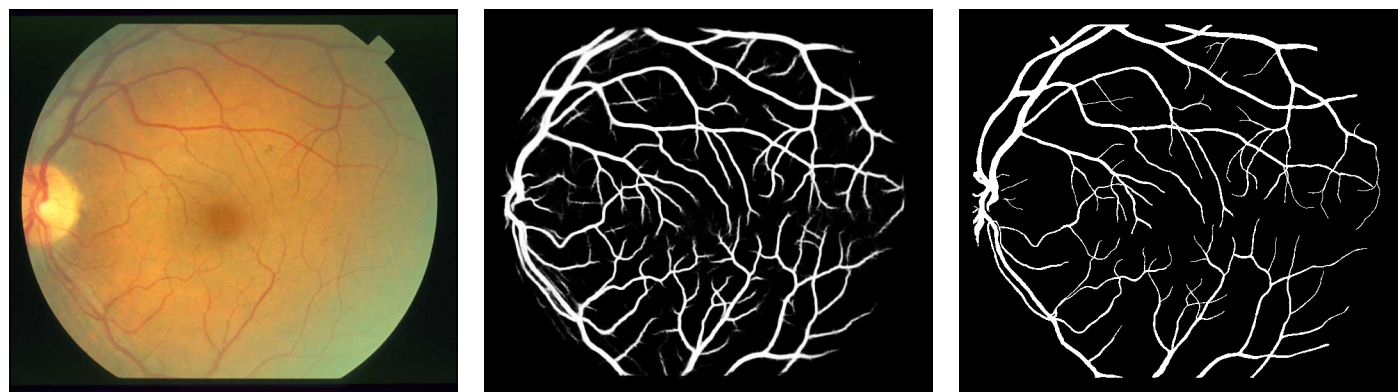


Image: im0239, Region F measure: 0.814

Image



DRIU Result (Soft Map)



Manual Expert Segmentation

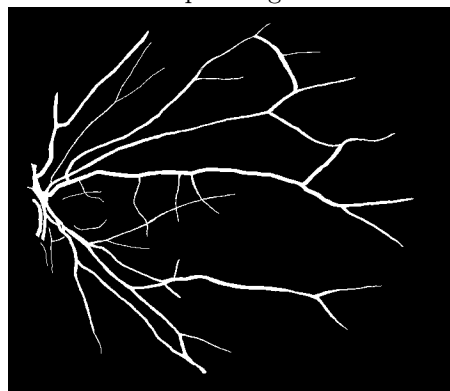


Image: im0291, Region F measure: 0.819

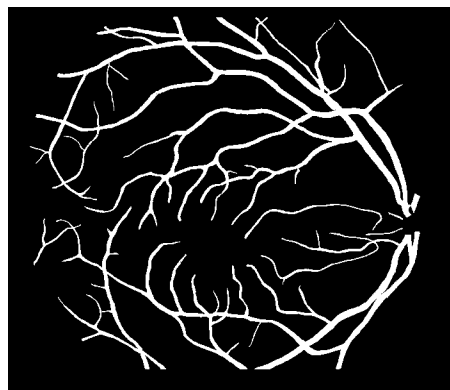
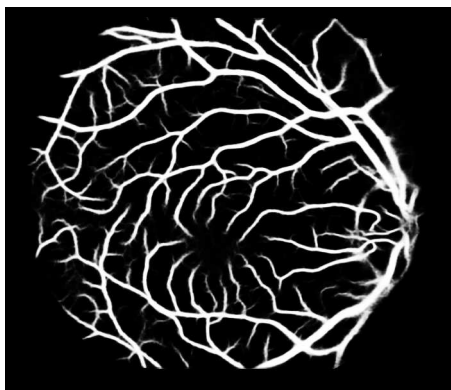


Image: im0240, Region F measure: 0.835

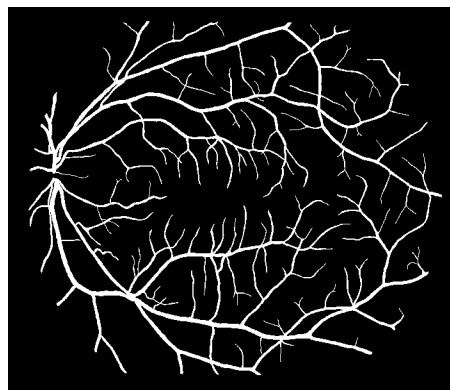
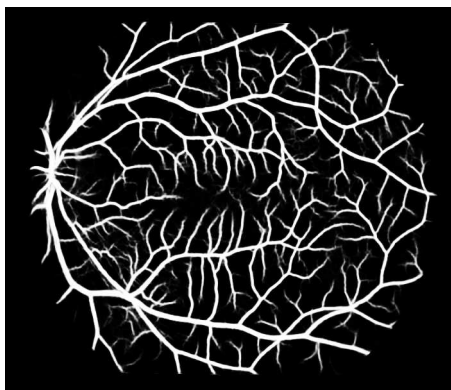


Image: im0255, Region F measure: 0.856

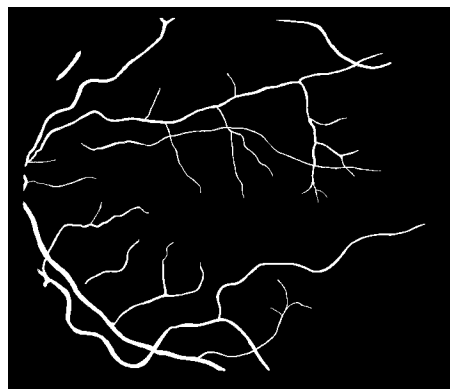
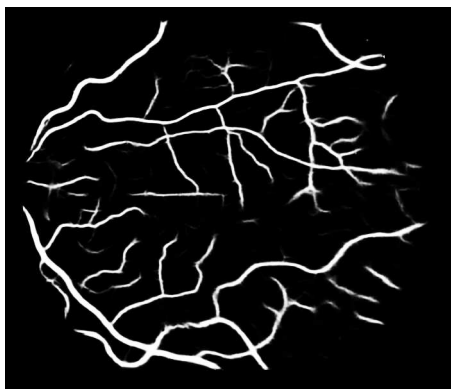
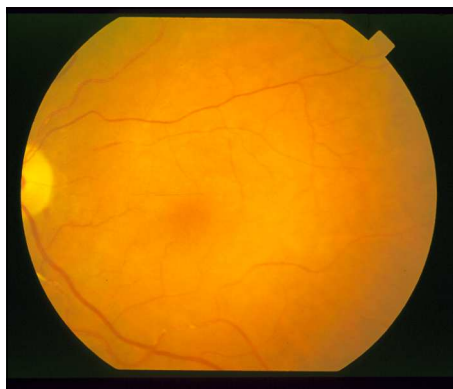


Image: im0319, Region F measure: 0.756

3 DRIONS-DB qualitative examples

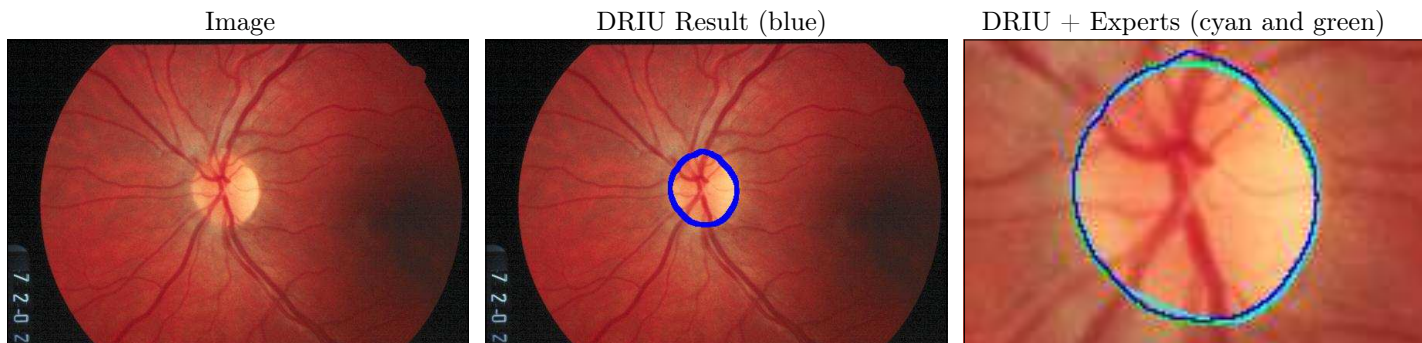


Image: image_061, Region F measure: 0.979 , Boundary error: 0.873 pixels

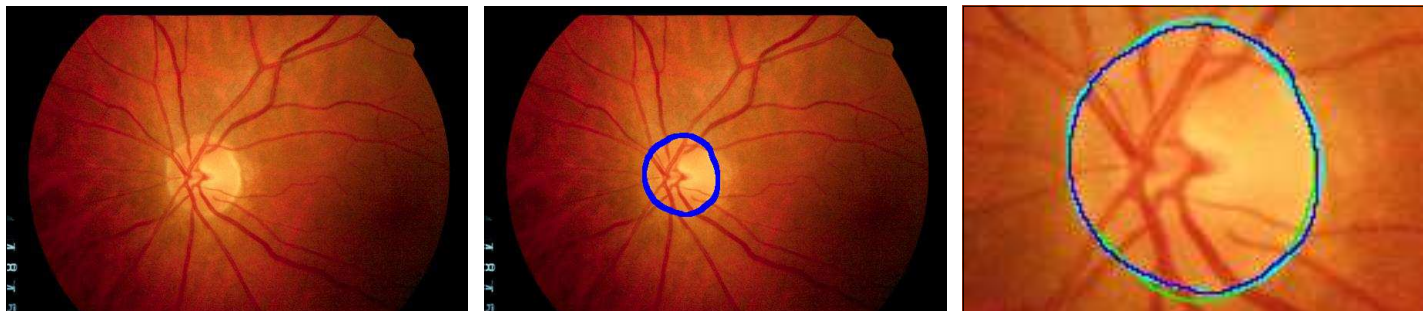


Image: image_069, Region F measure: 0.971 , Boundary error: 1.254 pixels

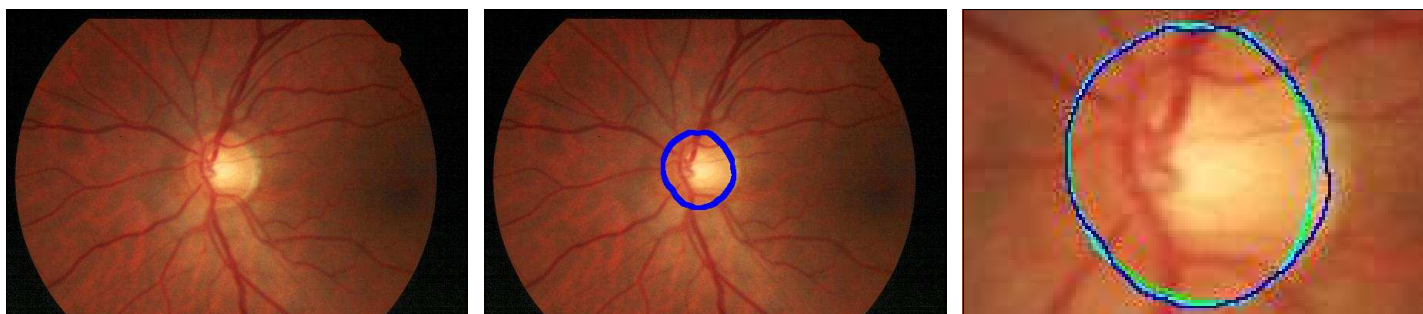


Image: image_076, Region F measure: 0.967 , Boundary error: 1.224 pixels

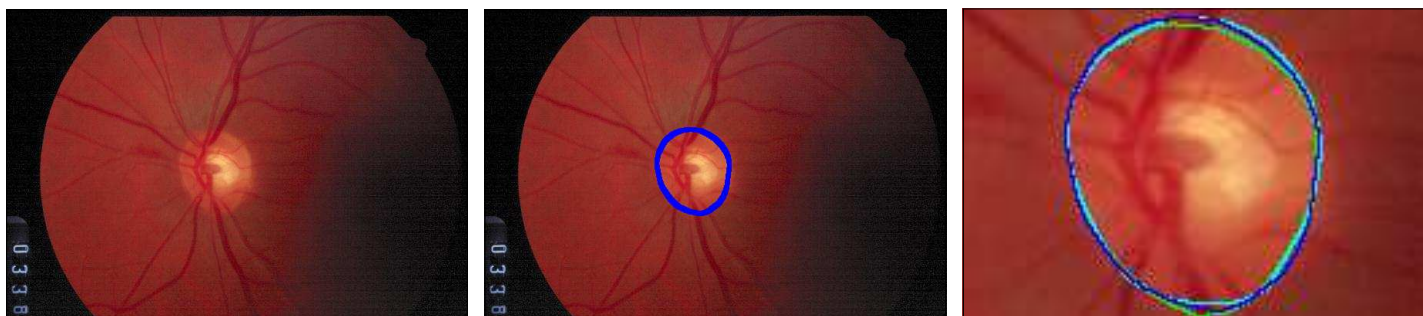


Image: image_086, Region F measure: 0.974 , Boundary error: 1.096 pixels

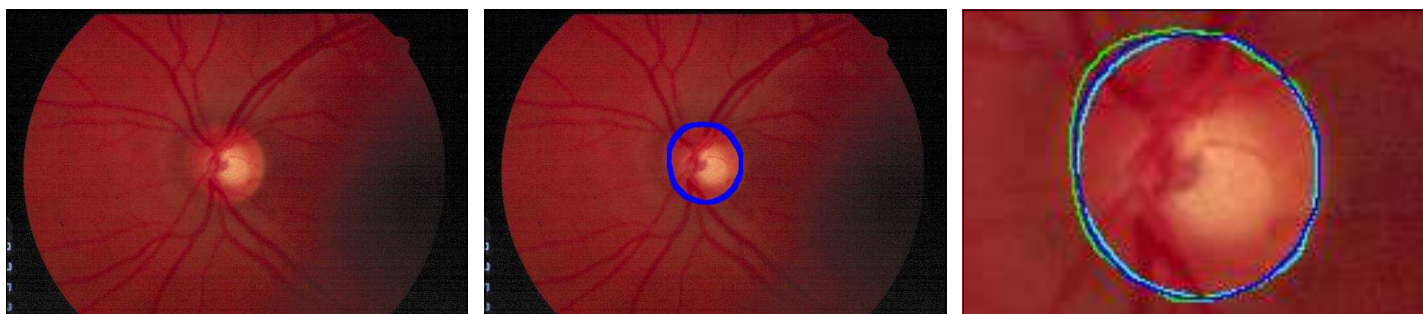


Image: image_090, Region F measure: 0.972 , Boundary error: 1.295 pixels

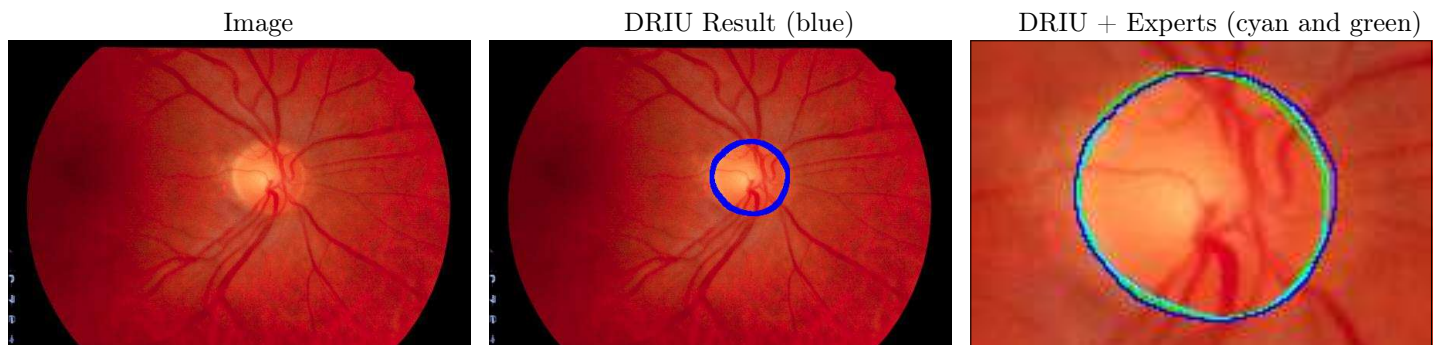


Image: image_095, Region F measure: 0.957 , Boundary error: 1.802 pixels

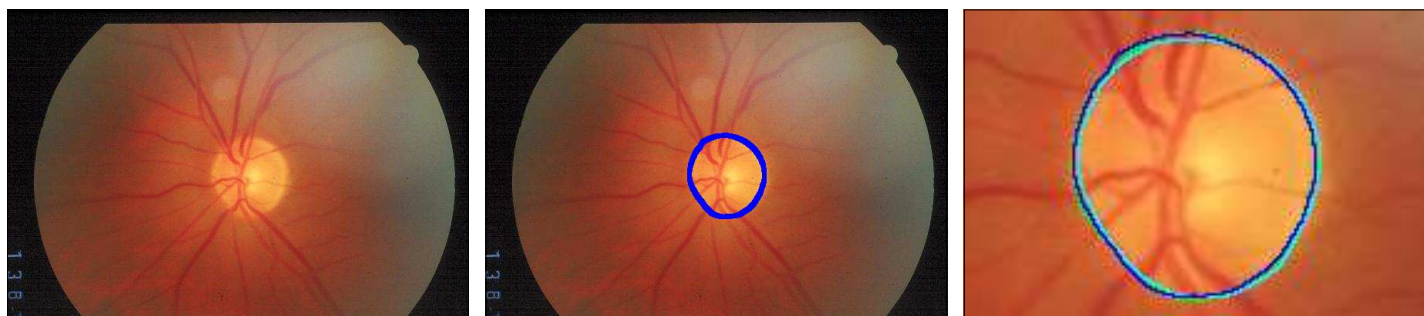


Image: image_102, Region F measure: 0.986 , Boundary error: 0.654 pixels

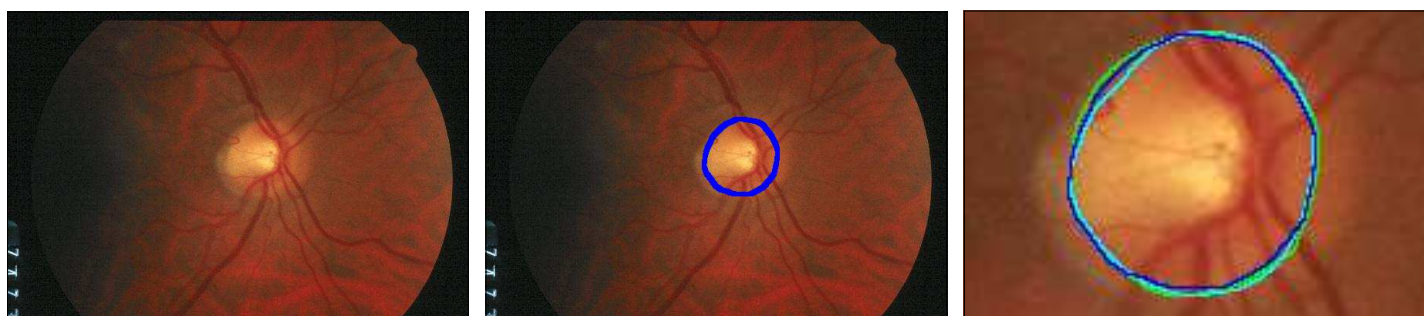


Image: image_106, Region F measure: 0.973 , Boundary error: 1.224 pixels

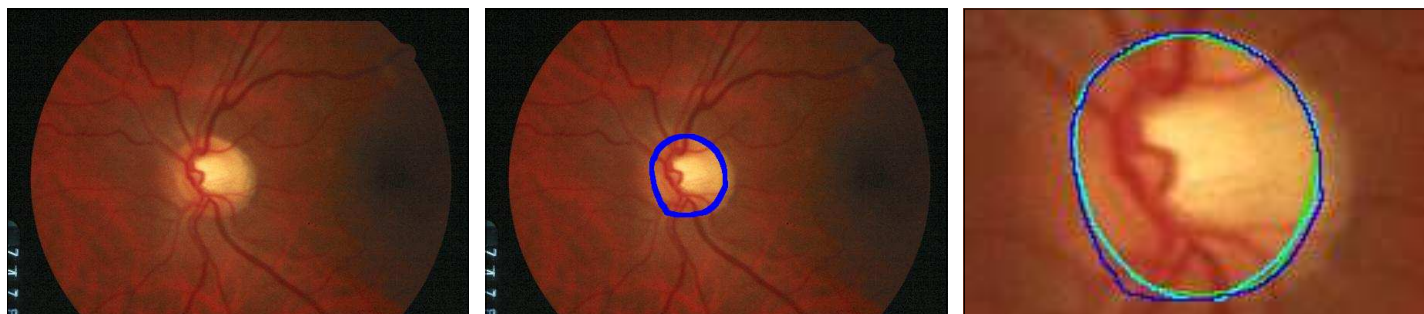


Image: image_108, Region F measure: 0.961 , Boundary error: 1.811 pixels

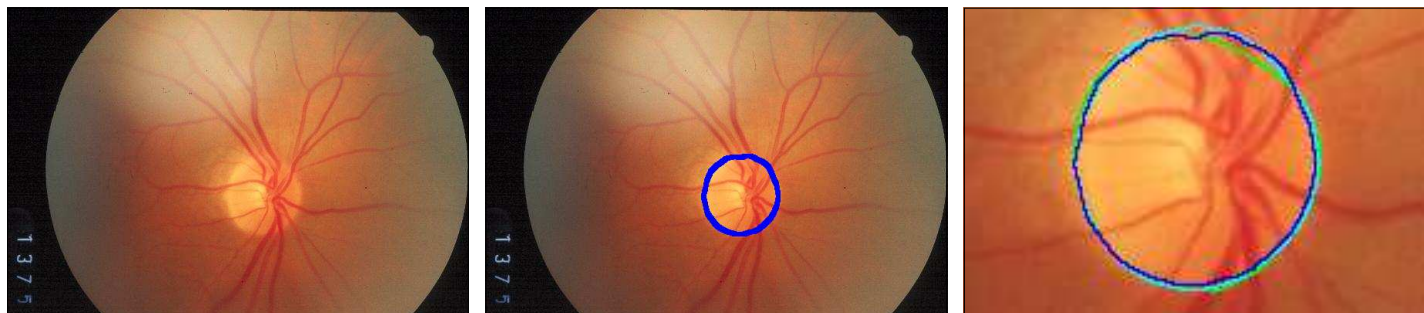


Image: image_110, Region F measure: 0.968 , Boundary error: 1.416 pixels

4 RIM-ONE qualitative examples

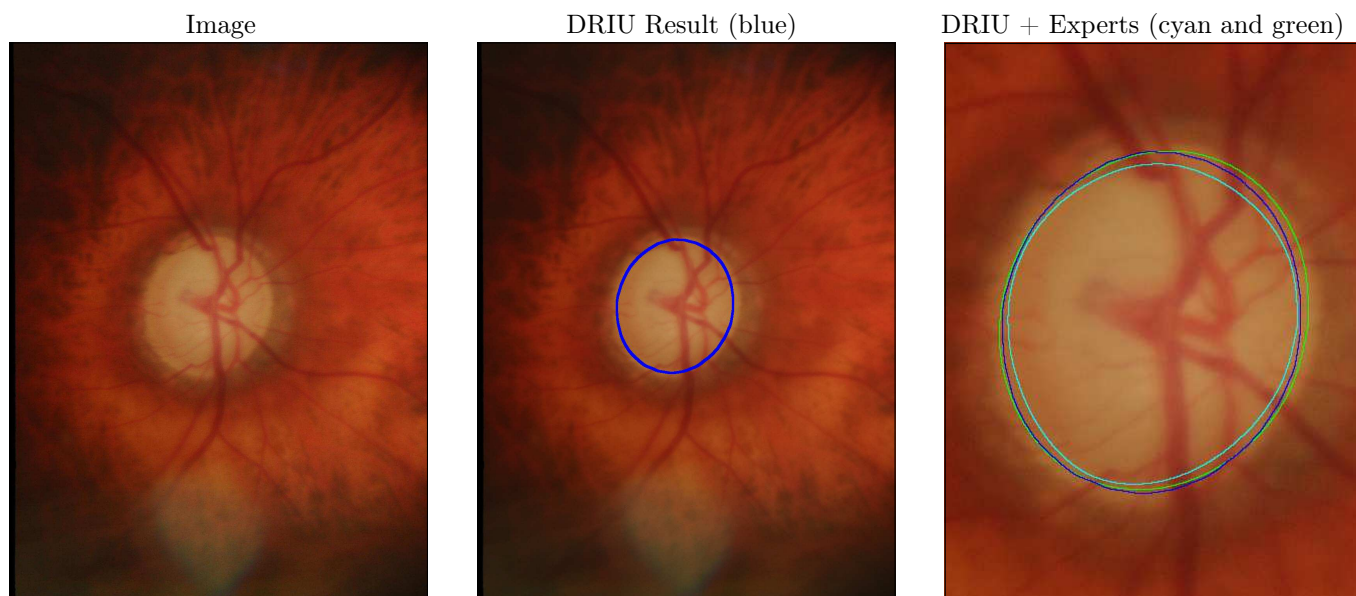


Image: G-2-R, Region F measure: 0.979 , Boundary error: 2.708 pixels

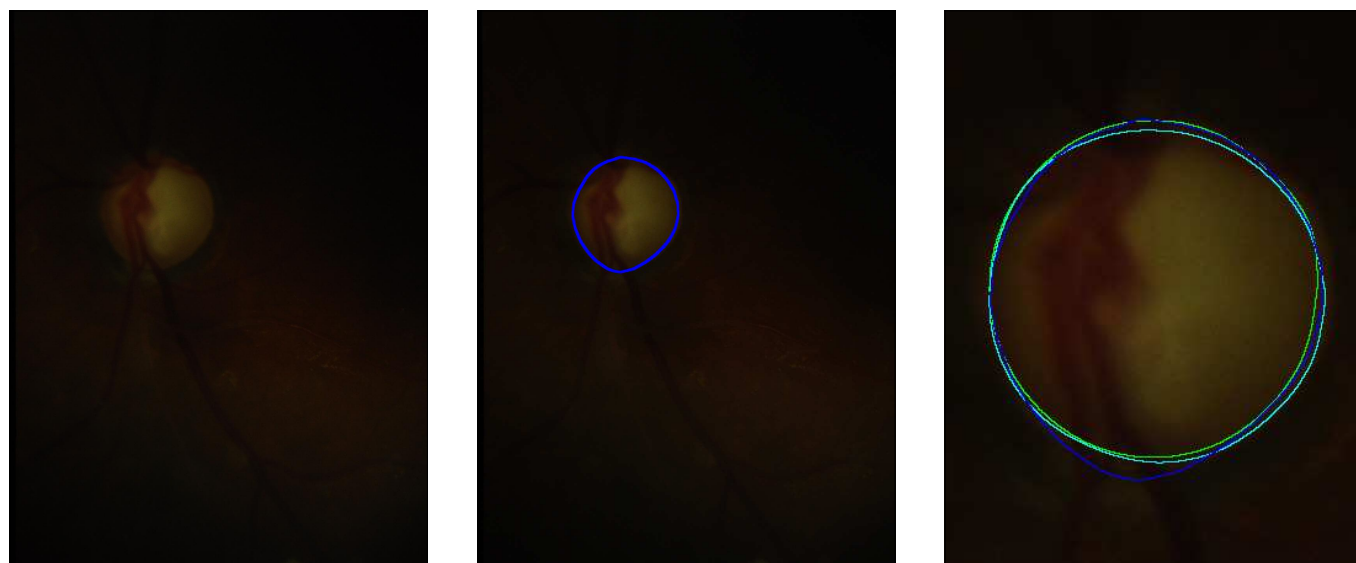


Image: G-22-L, Region F measure: 0.970 , Boundary error: 3.672 pixels

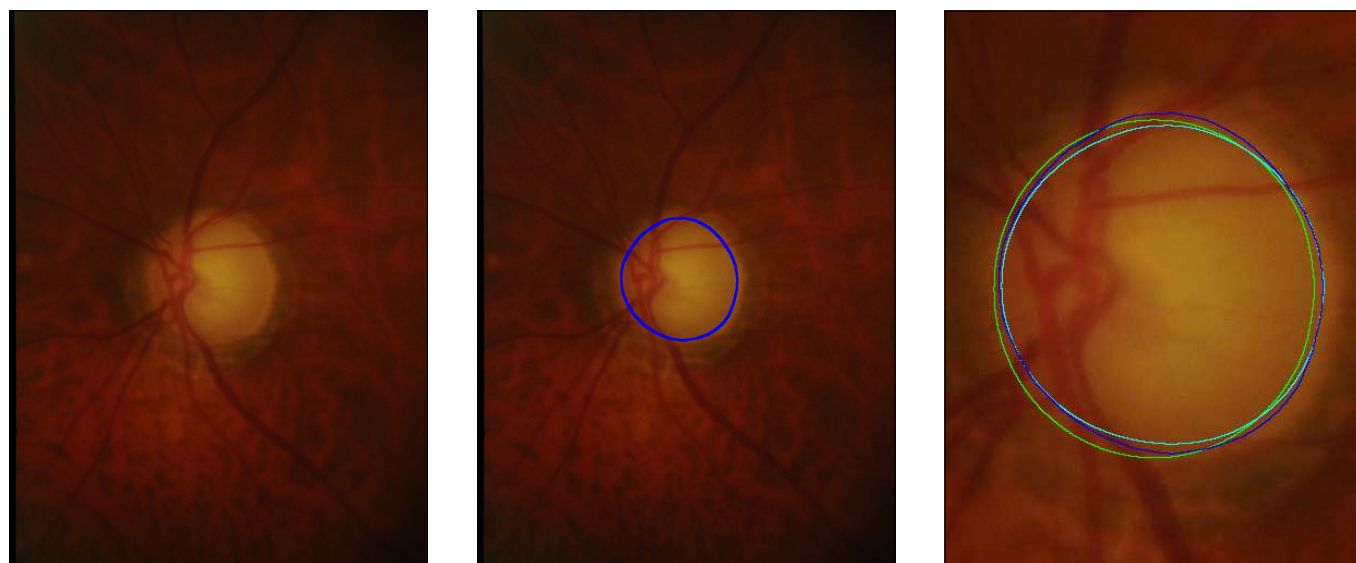


Image: G-25-L, Region F measure: 0.957 , Boundary error: 6.335 pixels

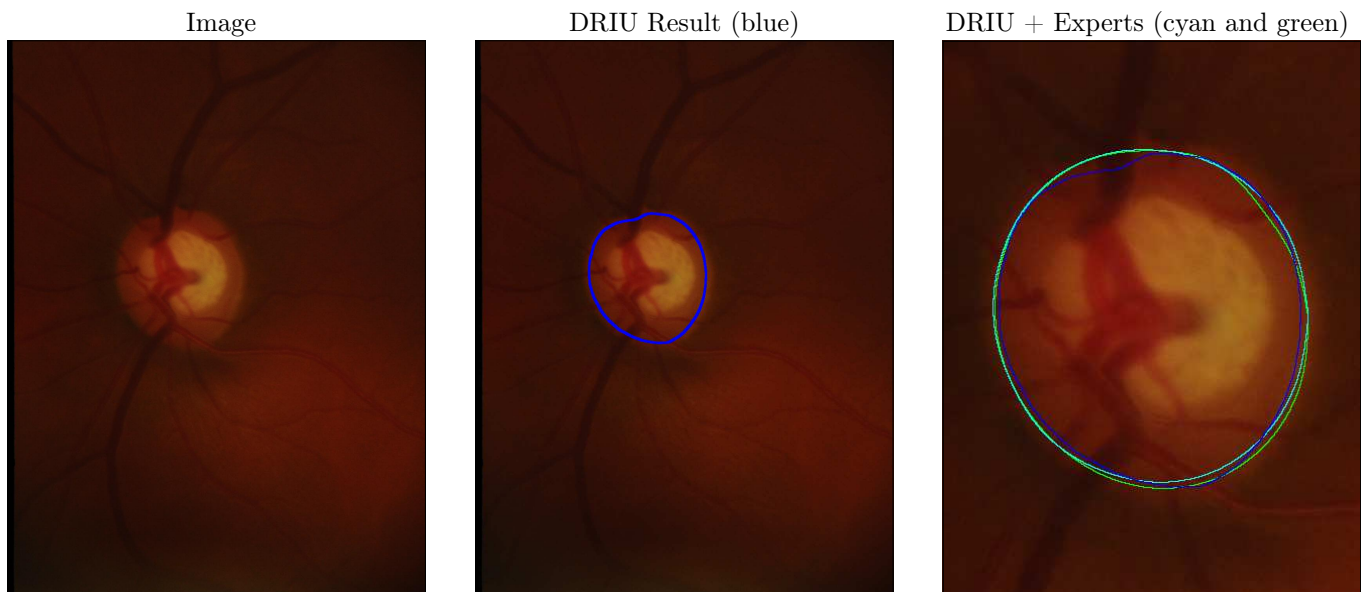


Image: N-51-L, Region F measure: 0.968 , Boundary error: 4.880 pixels

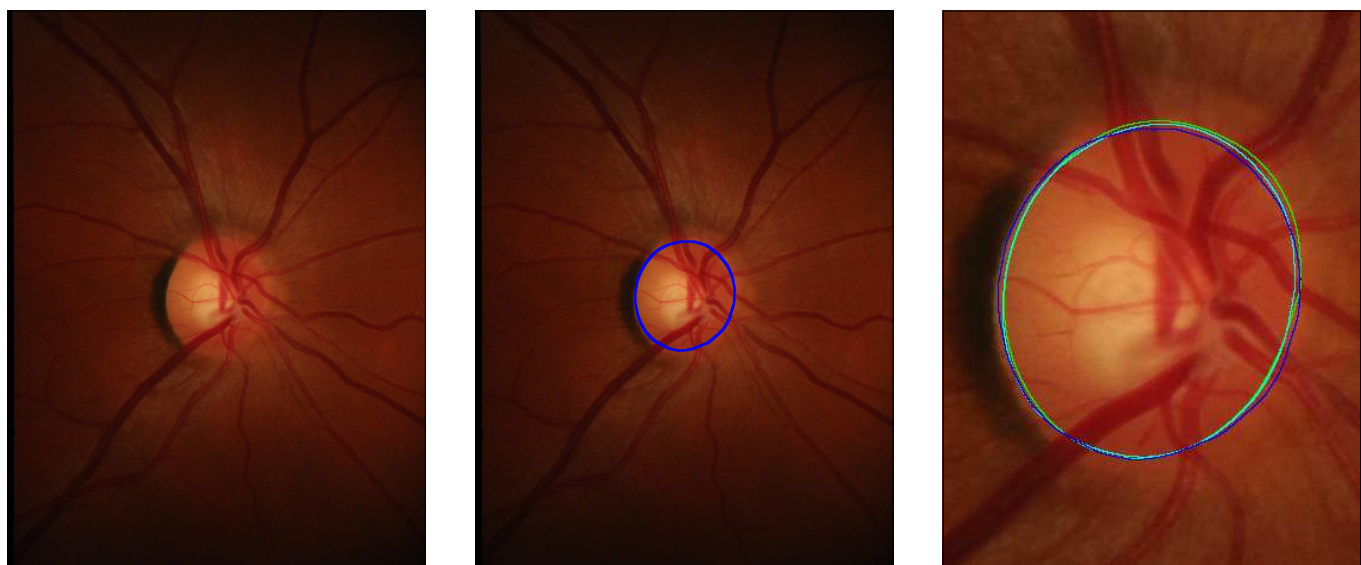


Image: N-18-R, Region F measure: 0.969 , Boundary error: 4.058 pixels

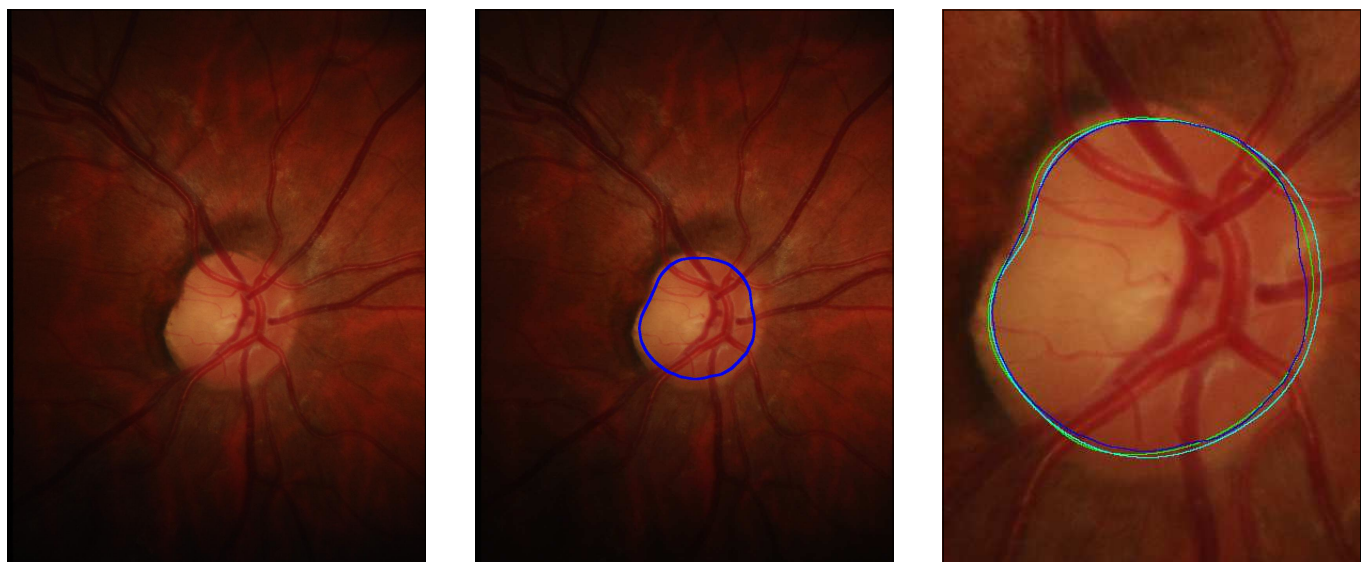


Image: N-32-R, Region F measure: 0.977 , Boundary error: 3.105 pixels

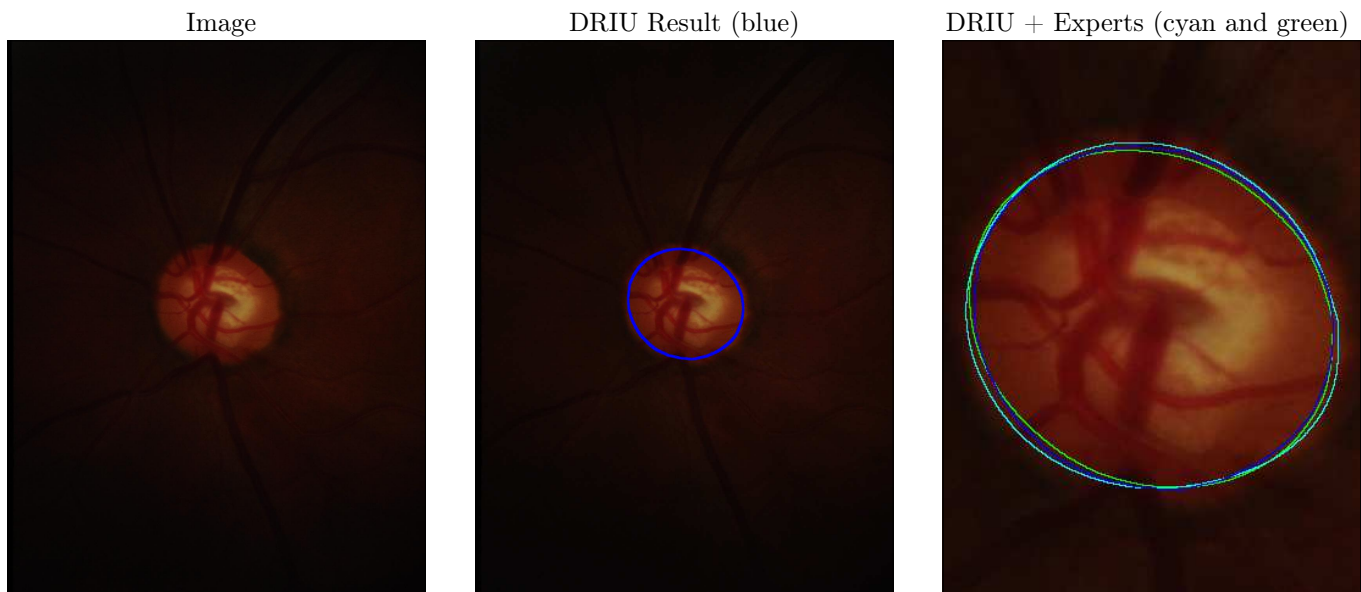


Image: S-9-L, Region F measure: 0.981 , Boundary error: 2.580 pixels

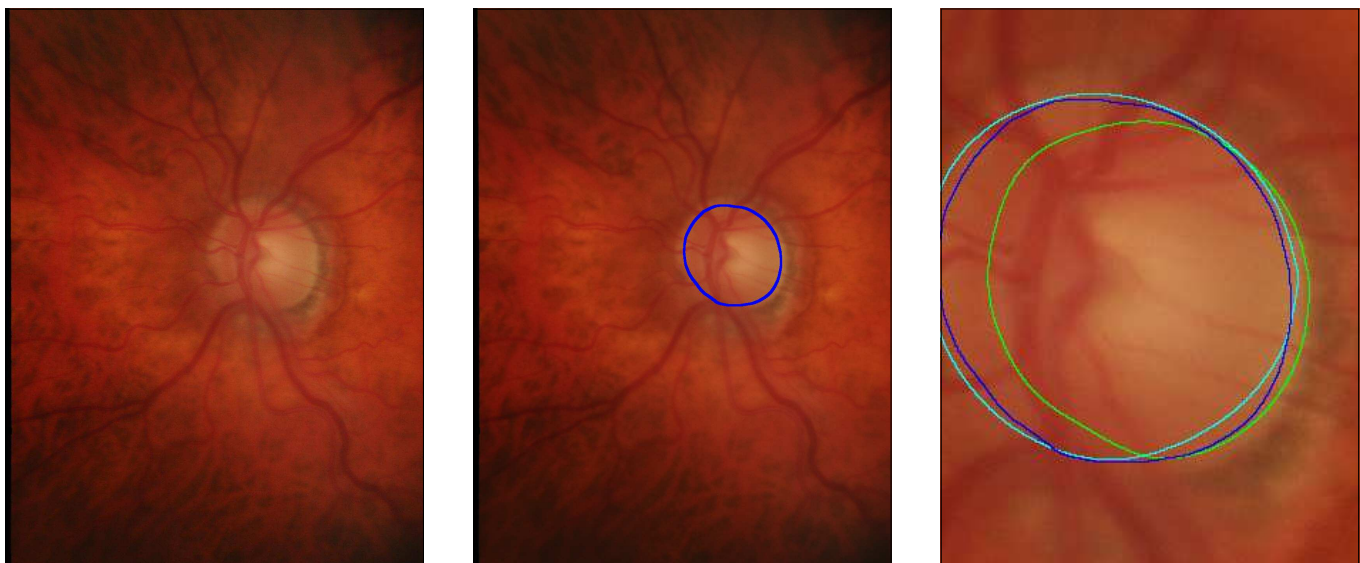


Image: S-34-L, Region F measure: 0.860 , Boundary error: 17.264 pixels

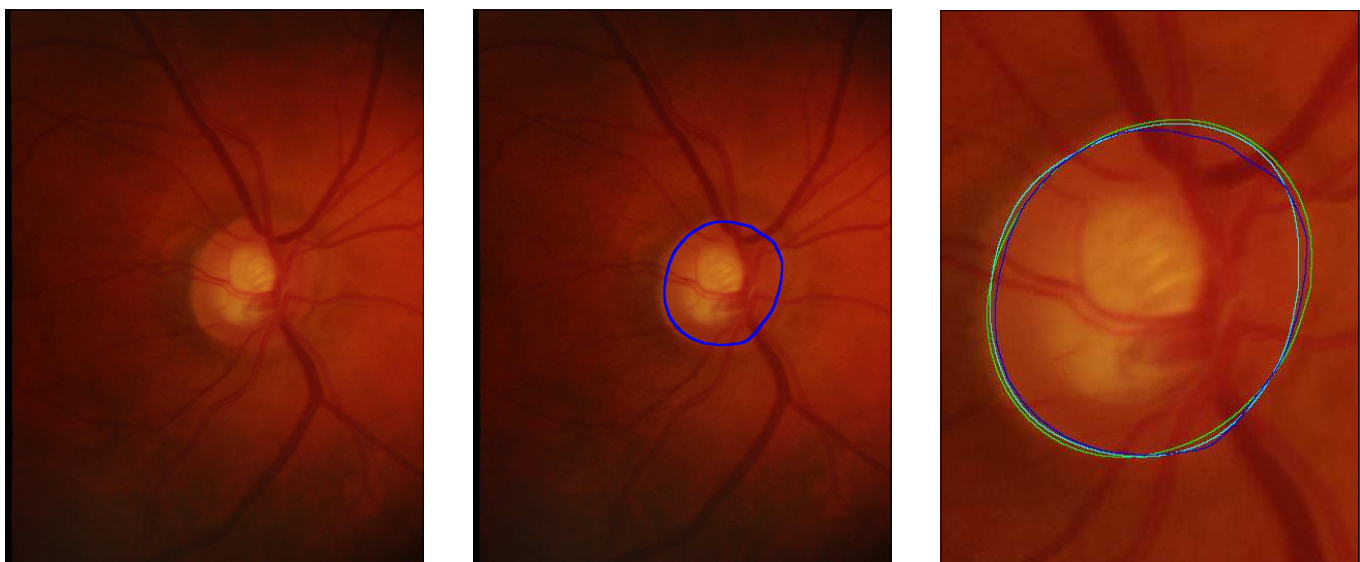


Image: S-35-R, Region F measure: 0.961 , Boundary error: 5.381 pixels