

## Users guide for macula segmentation prototype

The algorithms are testing a model-based macula localization, and 15 different methods to refine the results of the localization. To run the method, at the moment a gold standard is necessary. The best results are provided by applying a distance transformation after the initial model fitting. (lines 175-184 in optimized)

Can be started using 2 functions:

`maculaDetectionEval.m`  
`maculaDetectionEvalOptimized.m`

Both of them are starting the same test with the difference of running time. Optimized reads the images only once and is less redundant. Usually the optimized have to be used, since it is faster and more user-friendly. A single localization can started using the “`maculaDetection.m`”.

Inputs:

(Changing parameters is done by changing the sourcecode)

`visualization`(line 7 in optimized): sets if a visualization of the progress is shown

`nrOfParabolaPoints`(line 8 in optimized): Nr. Of points used in fitting a parabola onto the vessel tree

`imageDirectory` (line 20 in optimized): sets the directory where the input images have to be stored.

`vesselDirectory`(lines 21-24 in optimized): sets the directory where the vessel segmented images have to be stored.(here we can set gold standard or generated segmentation results)

`maskDirectory`(line 26 in optimized): containing image masks: to mask out regions out of interest (for example black background)

For the above images the file format is set in lines 27-33

`gs_xlsdata`(line 74 in optimized): the gold standard data to compare to, in this example it is read from an .xls file (provided to our HRF database on the website)