This work is an implementation done by A. Perez-Rovira of our paper:

- A. Perez-Rovira, K. Zutis, J.P. Hubschman and E. Trucco, "***Improving vessel segmentation in ultra-wide field-of-view retinal fluorescein angiograms***". 33rd International IEEE EMBS Conference (EMBC), Boston (USA). 2011.

Important note: *You are free to use this software for research purposes, but you should not redistribute it without our consent. In addition, we expect you to include adequate citations and acknowledgments whenever you present or publish results that are based on it.*

This work uses the SteerableJ implementation provided by the authors of:
M. Jacob, M. Unser, "Design of Steerable Filters for Feature Detection Using Canny-Like Criteria," IEEE Transactions on Pattern Analysis and Machine Intelligence, vol. 26, no. 8, pp. 1007-1019

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1. In order to use the software, you need to add the following files into the **static classpath** for Java (i.e. add manually to **classpath.txt**):

<direxory>\vesselSegmentation_UWFV_FA\ij.jar
<direxory>\vesselSegmentation_UWFV_FA\ijtools.jar
<direxory>\vesselSegmentation_UWFV_FA\steerablej.jar

2. If you experience **java heap memory problems**, edit (or crete) a **java.opt**s file in the bin/win64 folder of your MATLAB containing the following line:
-Xmx768m

Alternatively, in MATLAB menu (after version 2010a), **File** -> **Preferences** -> **General** -> **Java Heap Memory**. And increase the value at least to 768Mb.

3. Edit the parameters on the **getVesSegmentationConfiguration**.m file. Specially the **ODd** parameter. This value MUST be the approximate diameter of the Optic Disc on your data set.

4. Run the segmentation by calling
segmentVessels(image);

- or -

configuration = **getVesSegmentationConfiguration** (<optic disc diameter in pixels>);
segmentVessels(image, configuration) ;