

Assignment 5 – Due at noon March 1st

Tasks:

Apply vesselness filter and visualize the 3D results

Requirements:

1. Submit a report in PDF describing your method and results
2. Vasculature segmentation using vessel filtering (4 pts)
 - a. SimpleITK “ObjectnessMeasureImageFilter” (Frangi's vesselness)
 - b. Or any other implementation
 - c. Or your own implementation
3. Visualize the results in 3D (4 pts)
 - a. Use VTK for example
 - b. Or any other tool that you are familiar with
 - c. Or just write a few lines of code for very simple visualization
4. Discuss the effects of the parameters (2 pts)

The image to be used in the experiment is attached. The image is in MetaImage format, with header in text file mra.mhd and data in mra.raw. Many packages like SimpleITK supports reading *.mhd files. You may also use some utility tools like https://github.com/yanlend/mhd_utils to read directly.