AK Tech Training and Placements

Transform Dreams into Reality

2D and 3D vascular structures enhancement via improved veeselness filter and veesel enhancing diffusion

Vascular enhancement filtering is commonly practiced in medical imaging before the segmentation and centerline identification of vessels, which gives valuable pathological detail and is important for vessel quantification. In this work we establish a quick and precise vascular improvement filter technology, which includes two major steps: diffusion of the vessel and improved vessel filter-based on its own value ratio. This technique explores the Hessian matrix of the original images and construct the vessel filter based on the eigenvalues of the Hessian matrix. The new technique is evaluated on the public 2D retinal datasets quantitatively and qualitatively. Our method will perform better when compared to other existing works.

Domain: Image Processing / Image Enhancement
Technology: MATLAB