



Structure-Based Evaluation Methodology for Curvilinear Structure Detection Algorithms

Xiaoyi Jiang, Martin Lambers, Horst Bunke

Department of Mathematics and Computer Science, University of
Münster, Germany

Computer Graphics Group, University of Siegen, Germany

Institute of Computer Science and Applied Mathematics, University of
Bern, Switzerland

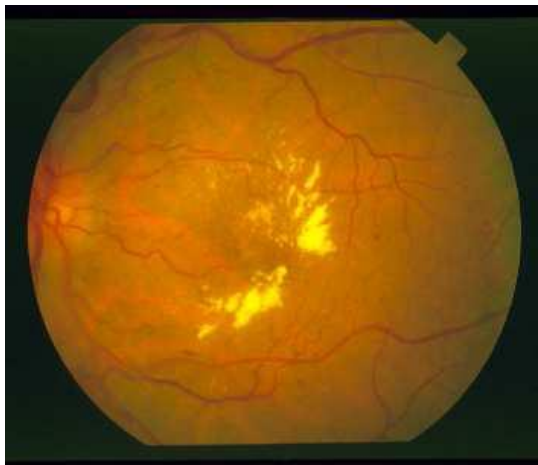
curvilinear structure

=

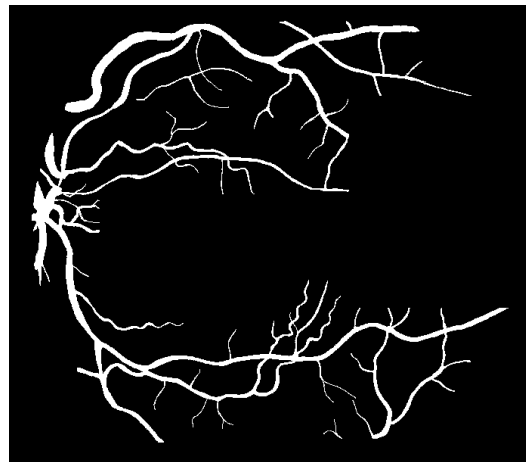
a line or a curve with some *width*

particularly in medical imaging, curvilinear structures are widely observed: blood vessels, bones, airway trees, and other thin structures.

Our example: [retinal vessel segmentation](#)



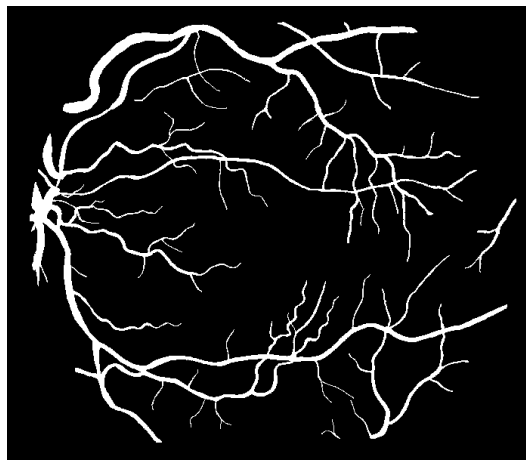
Retinal image



MS

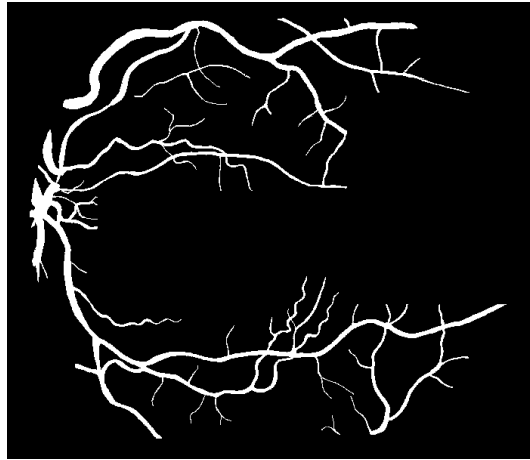


How to compare?

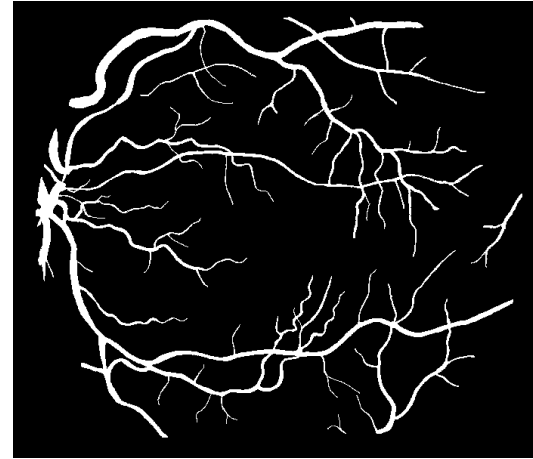


GT

~~Simple, widely used method: pixelwise comparison~~



MS



GT

Better structured based approach should be used!

I will tell you why and how at my poster