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Automated Segmentation of Retinal Layers from Optical Coherent Tomography Images Using Geodesic Distance

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Highlights

- Optical coherence tomography (OCT) is a powerful imaging modality used to image biological tissues to obtain structural and molecular information. OCT has become a well-established imaging modality and widely used by ophthalmologists for diagnosis of retinal and optical nerve diseases. One of the OCT imaging biomarkers for retinal and optical nerve disease diagnosis is the thickness of the retinal layers. Automated OCT image segmentation is therefore necessary to delineate the retinal boundaries. In this paper, we propose an algorithm for retinal layer segmentation based on a novel geodesic distance. The contribution of this research is twofold, clinically and technically: 1) providing a precise individual OCT segmentation system for clinical use; 2) introducing an OCT-speci

  c weight function into the geodesic distance framework. To the best of our knowledge, this is the

  rst work on 2D/3D OCT segmentation using geodesic distance.

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