Multi-Scale Segmentation of Retinal Blood Vessels based on Linear Tracking Method

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Abstract— **Described in the text of a vascular retinal image segmentation and extraction of network algorithms, known as multi-scale single-channel linear tracking (MSLTA). Retinal fundus imaging is widely used for eye examinations. The acquired images provide a unique view on the eye vasculature. The analysis of the vasculature has a high importance especially for detecting cardiovascular diseases. We present a multiscale algorithm for automatic retinal blood vessel segmentation, which is considered as a requirement for the diagnosis of vascular diseases. This algorithm from the select part of a seed pixel in the image began tracking, tracking pixels that meet the criteria in the process gives a higher confidence level. After the end of the track to quantify confidence in all points matrix acquired after the initial network of blood vessels, then median filtering, blood vessels to this network are repaired and noise reduction.**

Keywords - **Vessel segmentation, multi scale, linear tracking algorithm.**