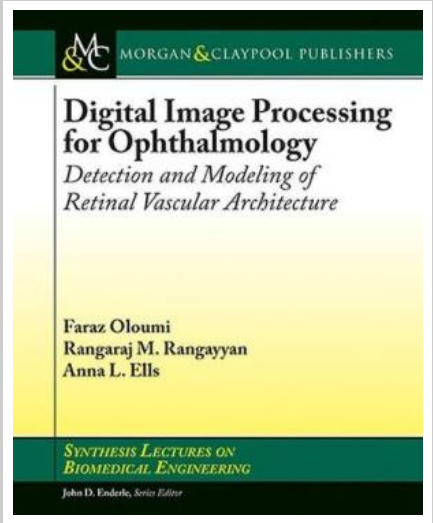

Digital Image Processing for Ophthalmology: Detection and Modeling of Retinal Vascular Architecture

By Faraz Oloumi, Rangaraj M. Rangayyan, Anna L. Ells

Morgan Claypool Publishers, United States, 2014. Paperback. Book Condition: New. 235 x 190 mm. Language: English . Brand New Book. The monitoring of the effects of retinopathy on the visual system can be assisted by analyzing the vascular architecture of the retina. This book presents methods based on Gabor filters to detect blood vessels in fundus images of the retina. Forty images of the retina from the Digital Retinal Images for Vessel Extraction (DRIVE) database were used to evaluate the performance of the methods. The results demonstrate high efficiency in the detection of blood vessels with an area under the receiver operating characteristic curve of 0.96. Monitoring the openness of the major temporal arcade (MTA) could facilitate improved diagnosis and optimized treatment of retinopathy. This book presents methods for the detection and modeling of the MTA, including the generalized Hough transform to detect parabolic forms. Results obtained with 40 images of the DRIVE database, compared with hand-drawn traces of the MTA, indicate a mean distance to the closest point of about 0.24mm. This book illustrates applications of the methods mentioned above for the analysis of the effects of proliferative diabetic retinopathy and retinopathy of prematurity on retinal vascular architecture.

Reviews

Extremely helpful to any or all category of individuals. It really is rally fascinating throgh studying time period. I am just quickly could possibly get a pleasure of reading a composed ebook.

-- ***Lawrence Keeling***

This publication may be worthy of a read through, and a lot better than other. It is among the most incredible book we have read through. Your daily life period will be change when you total reading this article publication.

-- ***Garett Baumbach***