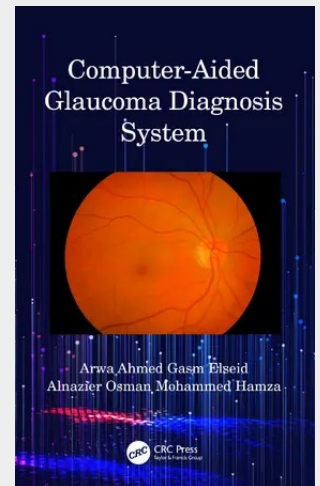


Computer-Aided Glaucoma Diagnosis System

Glaucoma is the second leading cause of blindness globally. Early detection and treatment can prevent its progression to avoid total blindness. This book discusses and reviews current approaches for detection and examines new approaches for diagnosing glaucoma using CAD system. Computer-Aided Glaucoma Diagnosis System, Chapter 1 provides a brief introduction of the disease and current methodology used to diagnose it today. Chapter 2 presents a review of the medical background of the disease, followed by a theoretical and mathematical background used in fundus image processing. Chapter 3 is a literature review about segmentation and feature extraction. Chapter 4 describes the formulation of the proposed methodology. In Chapter 5, the results of optic disc and optic cup segmentation algorithm are presented, the feature extraction and selection method, experimental results and performance evaluations of the classifier are given. Chapter 6 presents the conclusions and discussion of the future potential for the diagnostic system. This book is intended for biomedical engineers, computer science students, ophthalmologists and radiologists looking to develop a reliable automated computer-aided diagnosis system (CAD) for detecting glaucoma and improve diagnosis of the disease. Key Features - Discusses a reliable automated computer-aided diagnosis system (CAD) for detecting glaucoma and presents an algorithm that detects optic disc and optic cup - Assists ophthalmologists and researchers to test a new diagnostic method that reduces the effort and time of the doctors and cost to the patients - Discusses techniques to reduce human error and minimize the miss detection rate and facilitate early diagnosis and treatment - Presents algorithms to detect cup and disc color, shape features and RNFL texture features Dr. Arwa Ahmed Gasm Elseid is an assistant professor, Department of Biomedical Engineering, Sudan University of Science and Technology, Khartoum, Sudan. Dr. Alnazier Osman Mohammed Hamza is professor of Medical Imaging, College of Engineering, Sudan University of Sciences and Technology, Khartoum, Sudan.



Auf Anfrage

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