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Special Issue Reprint

## Advances in Retinal Image Processing

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Visual impairment is a primary global challenge in the present era. Lack of awareness, shortage of resources, and a shortage of trained personnel can lead to several retinal disorders, which, in turn, can lead to blindness or severe visual impairment. The human retina is examined through non-invasive procedures such as fundus photography, optical coherence tomography, and fluorescein angiography. From these retinal images, ophthalmologists visually analyze and identify retinal abnormalities associated with various retinal disorders. Automated retinal image analysis is of utmost importance for diagnosing and grading, as well as for monitoring the progression or regression of the disease after surgical and therapeutic intervention. State-of-the-art devices such as portable OCT and smartphone cameras have simplified the acquisition of retinal images to some extent. However, the ever-increasing blind population and the availability of massive computational resources have spurred the urgent need to develop automated retinal imaging applications. The gamut of cutting-edge technologies, such as Artificial Intelligence and deep learning, could be a gateway to resolving these challenges. The domains of retinal image enhancement and registration, multimodal analysis, and multiple disorder detection are in the limelight of retinal imaging. The nine articles in this Special Issue highlight the advancement of retinal imaging applications. The articles in this Special Issue were selected and organized to provide readers with a delightful experience in comprehending the state-of-the-art progress in retinal image processing applications.



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