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Digital Image Analysis of Retinal Fundus Images in Age-Related Macular Degeneration

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Abstract

Digital Image Analysis and Pattern Recognition methods were applied to fundus photographs and fluorescein angiograms of a patient with age-related macular degeneration taken before and after laser photocoagulation treatment. These analysis techniques provide contrast and brightness enhancement (interactive manipulations), direct comparison of several images in various stages of the disease (image registration), and the extraction of essential retinal structures (blobdetection by image pyramids, edge detection).

Keywords: age-related macular degeneration, retinal fundus images, laser photocoagulation, digital image analysis, image pyramids, image registration

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