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Ophthalmic Medical Image Analysis

9th International Workshop, OMIA 2022
Held in Conjunction with MICCAI 2022
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Preface

The 9th International Workshop on Ophthalmic Medical Image Analysis (OMIA 2022) was held on September 22, 2022, in conjunction with the 25th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI). This will be the first MICCAI conference hosted in Southeast Asia. Due to COVID-19, this year it took place as a hybrid (virtual + in-person) conference.

Age-related macular degeneration, diabetic retinopathy, and glaucoma are the main causes of blindness in both developed and developing countries. The cost of blindness to society and individuals is huge, and many cases can be avoided by early intervention. Early and reliable diagnosis strategies and effective treatments are therefore a world priority. At the same time, there is mounting research on the retinal vasculature and neuro-retinal architecture as a source of biomarkers for several high-prevalence conditions like dementia, cardiovascular disease, and, of course, complications of diabetes. Automatic and semi-automatic software tools for retinal image analysis are being used widely in retinal biomarkers research, and increasingly percolating into clinical practice. Significant challenges remain in terms of reliability and validation, number and type of conditions considered, multi-modal analysis (e.g., fundus, optical coherence tomography, scanning laser ophthalmoscopy), novel imaging technologies, and the effective transfer of advanced computer vision and machine learning technologies, to mention a few. The workshop addressed all these aspects and more, in the ideal interdisciplinary context of MICCAI.

This workshop aimed to bring together scientists, clinicians, and students from multiple disciplines in the growing ophthalmic image analysis community, such as electronic engineering, computer science, mathematics, and medicine, to discuss the latest advancements in the field. A total of 33 full-length papers were submitted to the workshop in response to the call for papers. All submissions were double-blind peer-reviewed by at least three members of the Program Committee. Paper selection was based on methodological innovation, technical merit, results, validation, and application potential. Finally, 20 papers were accepted at the workshop and chosen to be included in this Springer LNCS volume.

We are grateful to the Program Committee for reviewing the submitted papers and giving constructive comments and critiques, to the authors for submitting high-quality papers, to the presenters for excellent presentations, and to all the OMIA 2022 attendees from all around the world.

August 2022

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