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Multiscale Multimodal Medical Imaging

First International Workshop, MMMI 2019
Held in Conjunction with MICCAI 2019
Shenzhen, China, October 13, 2019
Proceedings

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Preface

In 2019, the First International Workshop on Multiscale Multimodal Medical Imaging (MMMI 2019), a workshop held in conjunction with International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2019), took place in Shenzhen, China. It was organized by the Massachusetts General Hospital and Harvard Medical School, the University of Southern California, and Peking University.

In the field of medical imaging, the use of more than one imaging modality (i.e. multimodal) or analyzing images at a different scale (i.e. multiscale) on the same target has become a growing field, as more advanced techniques and devices have become available. Various analyzes using multiscale/multimodal medical imaging and computer-aided detection systems have been developed, with the premise that additional modalities/scales can encompass abundant information which is different and complementary to each other. Facing the growing amount of data available from multiscale/multimodal medical imaging facilities, a variety of new methods for the image analysis have been developed so far. The MMMI workshop aims to move forward the state of the art in multiscale/multimodal medical imaging, including both algorithm development, implementation of methodology, and experimental studies. The workshop also aims to facilitate more interactions between researchers in the field of medical image analysis and the field of machine learning, especially in machine learning methods for data fusion and multisource learning.

The MMMI workshop took place at the InterContinental Hotel Shenzhen in Shenzhen, China, on October 13, 2019. It attracted more than 50 registered attendees from international communities of computer scientists, imaging physics, radiologists, and clinical physicians, who presented works covering a wide range of medical imaging modalities and applications. Novel techniques and insights for multiscale/multimodal medical images analysis, as well as empirical studies involving the application of multiscale/multimodal imaging for clinical use were presented. MMMI 2019 received a total of 18 submissions, which were reviewed by 29 independent reviewers. All submissions underwent a double-blind peer-review process, with each submission being reviewed by at least two independent reviewers and one Program Committee member. Based on the review scores and comments, 13 papers were accepted for presentation at the workshop and for inclusion in this Springer LNCS volume.

We greatly appreciate all the author's contributions to this workshop. We would like to thank all the Program Committee members for handling the submissions with professional judgements and constructive comments. We also thank our sponsors for the financial supports of the Best Paper Awards and Student Paper Awards.

October 2019

Quanzheng Li
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