Yinghuan Shi · Heung-Il Suk
Mingxia Liu (Eds.)

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Preface

The 9th International Workshop on Machine Learning in Medical Imaging (MLMI 2018) was held in Granada, Spain, on September 16, 2018, in conjunction with the 21st International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI).

In recent years, machine learning is playing an essential role in the medical imaging field, including computer-assisted diagnosis, image segmentation, image registration, image fusion, image-guided therapy, image annotation, and image database retrieval. With advances in medical imaging, new imaging modalities and methodologies, as well as new machine learning algorithms/applications, are taking center stage in medical imaging. Owing to large inter-subject variations and complexities, it is generally difficult to derive analytic formulations or simple equations to represent objects such as lesions and anatomy in medical images. Therefore, tasks in medical imaging require learning from patient data for heuristics and prior knowledge, in order to facilitate the detection/diagnosis of abnormalities in medical images.

The main aim of the MLMI 2018 workshop was to help advance scientific research within the broad field of machine learning in medical imaging. The workshop focused on major trends and challenges in this area, and presented works aimed to identify new cutting-edge techniques and their use in medical imaging. We hope that the MLMI workshop becomes an important platform for translating research from the bench to the bedside.

The range and level of submissions for this year's meeting were of very high quality. Authors were asked to submit full-length papers for review. A total of 82 papers were submitted to the workshop in response to the call for papers. Each of the 82 papers underwent a rigorous double-blinded peer-review process, with each paper being reviewed by at least two reviewers from the Program Committee, composed of 50 well-known experts in the field. Based on the reviewing scores and critiques, the 46 best papers (56%) were accepted for presentation at the workshop and chosen to be included in this Springer LNCS volume. The large variety of machine-learning techniques applied to medical imaging were well represented at the workshop.

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 MLMI 2018 attendees coming to Granada from all around the world.

August 2018

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