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# Graph Learning in Medical Imaging

First International Workshop, GLMI 2019  
Held in Conjunction with MICCAI 2019  
Shenzhen, China, October 17, 2019  
Proceedings

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ISSN 0302-9743

ISSN 1611-3349 (electronic)

Lecture Notes in Computer Science

ISBN 978-3-030-35816-7

ISBN 978-3-030-35817-4 (eBook)

<https://doi.org/10.1007/978-3-030-35817-4>

LNCS Sublibrary: SL6 – Image Processing, Computer Vision, Pattern Recognition, and Graphics

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# Preface

The First International Workshop on Graph Learning in Medical Imaging (GLMI 2019) was held in Shenzhen, China, on October 17, 2019, in conjunction with the 22nd International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2019).

Graph object provides an effective tool to model and analyze interconnectivity. Recently, the community has witnessed a growing need and interest to represent medical imaging data as graphs. Graph-based methods have been widely applied to brain connectivity analysis, image segmentation, image registration, image fusion, image-guided therapy, image annotation, image retrieval, computer-aided diagnosis, etc. The main scope of this workshop was to help advance the scientific research within the broad field of graph learning in medical imaging. This workshop focused on major trends and challenges in this area and presented works aiming to identify new advanced techniques and their application in medical imaging. Topics of interest included, but were not limited to, graph-based methods (e.g., complex network analysis, graph mining, graph learning, graph embeddings, kernel methods for structured data, probabilistic and graphical models for structured data, spectral graph methods, machine learning in the context of graphs) with their applications to medical image analysis, brain connectivity analysis, computer-aided diagnosis, multi-modality fusion, image reconstruction, image retrieval, big medical imaging data analytics, molecular imaging, digital pathology, etc.

Along with the great advances in graph learning, a large number of papers (41 in total) were submitted and underwent a rigorous double-blinded peer-review process, with each paper being reviewed by at least 2 reviewers from the Program Committee, composed of 25 experts in the fields. Based on the reviewing scores and critiques, the 21 best papers were finally accepted (acceptance rate: 51.22%) for presentation at the workshop and chosen to be included in this Springer LNCS volume.

We are grateful to all the Program Committee members for reviewing the submitted papers and giving constructive comments and critiques and to all the authors making the workshop very fruitful and successful.

September 2019

Daoqiang Zhang  
Luping Zhou  
Biao Jie  
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