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Multimodal Learning for Clinical Decision Support

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Preface

On behalf of the organizing committee, we welcome you to the proceedings of the Eleventh Workshop on Multimodal Learning and Fusion Across Scales for Clinical Decision Support (ML-CDS 2021), which was held virtually at MICCAI 2021 in Strasbourg, France. This year's edition reflects a confluence of two workshops, namely, Multimodal Learning for Clinical Decision Support, which has been running for the last 10 years at MICCAI, and Multiscale Multimodal Medical Imaging, which was held at MICCAI 2019. Overall, the goal of this series of workshops has been to bring together medical image analysis and machine learning researchers with clinicians to tackle the important challenges of acquiring and interpreting multimodality medical data at multiple scales for clinical decision support and treatment planning, and to present and discuss latest developments in the field.

The previous workshops on this topic have been well-received at MICCAI, specifically Lima (2020), Shenzen (2019), Granada (2018), Quebec City (2017), Athens (2016), Munich (2015), Nagoya (2013), Nice (2012), Toronto (2011), and London (2009). Continuing on the momentum built by these workshops, this year's edition focused on integrating diagnostic imaging, pathology imaging, and genomic datasets for diagnosis and treatment planning, treating clinical decision support on a holistic basis.

The workshop received a total of 16 submissions. 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, 10 papers were accepted for presentation at the workshop, which are included in this Springer LNCS volume. We would like to thank the authors for their submissions and all the Program Committee members for handling the submissions with professional judgement and constructive comments.

With less than 5% of medical image analysis techniques translating to clinical practice, workshops on this topic have helped raise the awareness of our field to clinical practitioners. The approach taken in the workshop is to scale it to large collections of patient data exposing interesting issues of multimodal learning and its specific use in clinical decision support by practicing physicians. The ultimate impact of these methods can be judged when they begin to affect treatment planning in clinical practice.

We hope that you enjoyed the program we assembled and, for those readers who were able to participate in the workshop, the discussion on the topics of the papers and the panel.

October 2021

Tanveer Syeda-Mahmood
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