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Shape in Medical Imaging

International Workshop, ShapeMI 2020
Held in Conjunction with MICCAI 2020
Lima, Peru, October 4, 2020
Proceedings


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Preface

This volume contains the proceedings of the International Workshop on Shape in Medical Imaging (ShapeMI 2020), held virtually in conjunction with the 23rd International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2020), on October 4, 2020, in Lima, Peru. ShapeMI 2020 is a continuation of the previous MICCAI ShapeMI 2018, SeSAMI 2016, and SAMI 2015 workshops, as well as the Shape Symposium 2015 and 2014.

Shape and geometry processing methods have been receiving significant attention as they are applicable in various fields from medical image computing to paleontology, anthropology, and beyond. While imaging is the primary mechanism to acquire visual information, the underlying structures are usually 3D geometric shapes, which often represent continuous or time-varying phenomena. 3D shape models, therefore, better describe anatomical structures than voxels in a regular grid and can have a higher sensitivity to local variations or early disease/drug effects relative to traditional image-based markers such as the volume of a structure. Therefore, shape and spectral analysis, geometric learning and modeling algorithms, as well as application-driven research are the focus of the ShapeMI workshop.

In ShapeMI, we strive to collect and present original methods and applications related to shape analysis and processing in medical imaging. The workshop provides a venue for researchers working in shape modeling, analysis, statistics, classification, geometric learning, and their medical applications to present recent research results, to foster interaction, and to exchange ideas. As a single-track workshop, ShapeMI also features excellent keynote speakers, technical paper presentations, and state-of-the-art software methods for shape processing.

We thank all the contributors for making this workshop such a huge success. We thank all authors who shared their latest findings, as well as the Program Committee members who contributed quality reviews in a very short time. We especially thank our keynote speakers, who kindly accepted our invitation and enriched the workshop with their excellent presentations: Ross Whitaker (Professor at The University of Utah, USA), Aasa Feragen (Professor at Technical University of Denmark, Denmark), and Stefan Sommer (Professor at University of Copenhagen, Denmark). We sincerely hope to meet you all in person at our next ShapeMI workshop.

October 2020

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