EG 3DOR 2019

Eurographics Workshop on 3D Object Retrieval

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Ioannis Pratikakis, Democritus University of Thrace and ATHENA Research Centre, Greece

Programme Chairs
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Preface

The aim of the 3DOR Workshop series is to stimulate researchers from different fields such as Computer Vision, Computer Graphics, Machine Learning, Cognitive Science and Human-Computer Interaction who are interested in 3D object retrieval, recognition and exploration, to present state-of-the-art work in the field or learn about it and participate in discussions. It provides a cross-fertilization that stimulate a broader forum of discussions on the next steps in this important research area.

3DOR 2019 is the 12th workshop in 3DOR series which is held on May 5-6, 2019 in Genoa, Italy in conjunction with Eurographics 2019, the 40th Annual Conference of the European Association for Computer Graphics (EG2019). It is organized and hosted by the Genoa branch of the Institute of Applied Mathematics and Information Technologies of the National Research Council (IMATI - CNR), Italy in cooperation with Eurographics (EG). We are pleased to welcome Mirela Ben-Chen (Center for Graphics and Geometric Computing, CS, Technion - Israel Institute of Technology) as invited keynote speaker. The workshop hosts two technical paper sessions, the 3D Shape Retrieval Contest (SHREC 2019) which contained 9 tracks, a session with the presentation of four European projects, and a panel discussion session. For the technical papers, we received 10 submissions, out of which 6 were accepted as long papers and 1 as short paper. All papers were evaluated in a blind process by at least three reviewers from our international program committee, consisting of 32 experts in the area. The papers comprise innovative results in many aspects of 3D Object Retrieval, including sketch-based 3DOR, model estimation for occluded objects, remeshing for 3DOR, robust 3D feature extraction, facial analysis for 3DOR, deep learning architectures and benchmarking for 3DOR. As in past editions, a special issue in the Computer & Graphics journal is planned based on extended versions of selected full papers. We would like to thank the IPC members for their efforts in reviewing, which helped us to create a high-quality and exciting program. We also thank the Eurographics Association for their continued support of this event, IMATI-CNR for its hosting, sponsorship and technical support, and of course Stefanie Behnke for her excellent support in managing the production of the workshop proceedings.

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Keynote

Non-isometric Shape Correspondence: Functional, Pointwise, and Everything in Between

Mirela Ben-Chen

Abstract

Shape correspondence is a cornerstone of many shape analysis applications. When the shapes are similar semantically, yet are very different geometrically, e.g. a cow and a giraffe, finding a correspondence between them is a difficult task. I will discuss recent approaches to the problem of non-isometric shape correspondence, focusing on the challenges and the main insights that helped us address them. I will additionally mention interesting open problems, and some stepping stones towards future directions.

Short Biography

Mirela Ben-Chen is an Associate Professor at the Center for Graphics and Geometric Computing of the Computer Science Department, at the Technion - Israel Institute of Technology. She received her Masters and PhD degrees in Computer Science from the Technion, and spent three years at Stanford University as a Fulbright Postdoctoral Scholar. Mirela is interested in modeling and understanding the geometry of shapes. She uses mathematical tools, such as discrete differential geometry, numerical optimization and harmonic analysis, for applications such as shape correspondence, browsing shape collections and fluid simulation on surfaces. She has received multiple best paper awards and the Science Prize of the German Technion Society.