



Friedrich Fraundorfer, Peter M. Roth, Fabian Schenk (eds.)

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Preface

The *24th Computer Vision Winter Workshop (CVWW 2019)*, taking place at Stift Vorau, Austria, was organized by the Institute of Computer Graphics and Vision at Graz University of Technology. The Computer Vision Winter Workshop is the annual meeting of computer vision research groups located in Graz, Ljubljana, Prague, and Vienna. The main goal of this workshop is to communicate fresh scientific ideas within these four groups and to provide conference experience to PhD students. However, the workshop is open to everyone, which can be seen from many international contributions and attendees.

After a double-blind full paper review process by an international programme committee, finally, seven original works have been accepted for publication. These have been presented at the workshop as oral presentations. In addition, we were happy that *Gabriel J. Brostow* (University College London) accepted our invitation and gave an invited talk on *Self-supervision for 3D Shape and Appearance Modeling*. The workshop programme was completed by 13 further oral presentations.

Finally, we are happy, that excellent work could be highlighted by an award sponsored by the *Austrian Computer Society (OCG)*.

Friedrich Fraundorfer, Peter M. Roth, and Fabian Schenk
Vorau, February 2019

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Keynote Talk

Self-supervision for 3D Shape and Appearance Modeling

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Abstract

A single glimpse is hardly enough to triangulate the 3D shapes of a scene. But many glimpses taken together, can give enough supervision to accomplish interesting tasks, such as depth from a single photo, volume from a single depth, and appearance of objects and scenes from novel viewing angles. In this talk, I will distill the main lessons we have learned recently, in attempting to a) design networks that understand "a bit" about 3D, and to b) train networks to predict depth, or volumes, or appearance, for several application domains. Some details matter, and the data itself is a key ingredient. There is still more exciting work to be done! This talk will cover equivariance, consistency losses, and some personal views on diversity in predictions.