

# IVMSP 2020

IEEE 14th Image, Video,  
and Multidimensional  
Signal Processing  
Workshop

23-26 June 2020  
Nafplio, Greece



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## Image, Video and Point Cloud Coding in the Deep Learning Era

### SPECIAL SESSION

### Call for Papers

The 2020 IEEE 14<sup>th</sup> Image, Video, and Multidimensional Signal Processing Workshop (IVMSP 2020) will be held in June 23-26, 2020 in Nafplio, the capital of the first Hellenic Republic (Greece). It will bring together leading experts from academia and industry to share the most recent and exciting advances in image, video, and multidimensional signal processing and analysis.

The revolutionary advancements experienced in machine learning methods over the last few years, have influenced many and diverse fields within information science. In fact, model-based approaches that used to be the main research focus in various fields, are being surpassed by data-driven machine learning based methods. Image, video and point cloud encoding constitutes one more such field, where machine learning approaches are paving the way of progress.

Various approaches have emerged that utilise machine learning for the efficient encoding of images. Different types of neural networks, such as convolutional, recurrent autoencoders targeting different regions of the rate-distortion curve, have emerged. On the other hand, the theory of compressed sensing and the associated dictionary learning methods constitute another example on the use of machine learning approaches to the compression of images.

The aim of this Special Session is to host original papers and reviews on recent research advances and novel machine learning methods for extending the encoding schemes beyond the state-of-the-art.

Welcomed submissions would be falling in the following wide range of topics::

- Compression, Transmission, Storage, Retrieval
- Deep learning architectures and pipelines; Dictionary learning; Reinforcement learning; Interpretable learning; Incremental learning
- Image, video and point cloud compression for AR/VR systems
- Image, video and point cloud compression for Autonomous Vehicles
- Light field and holographic imaging
- Medical Image and Video Compression
- Multi-View, Stereoscopic, 360 and 3D Compression
- Visual Quality Assessment

### PAPER SUBMISSION

The language of the Workshop is English. Prospective authors are invited to submit full-length papers (up to 4 pages for technical content including figures, tables, references and one optional 5<sup>th</sup> page containing only references). IEEE templates for the paper format, and "no show" policy apply. Authors should indicate one or more of the above listed categories that best describe the topic of the paper. Submitted papers will be peer-reviewed by at least two experts in the field. To maximize visibility and impact as early as possible, all accepted papers will be published in IEEE Xplore through Open Preview and will be freely accessible and downloadable in final format beginning one month before the Workshop. In addition to the technical program, a social program will be offered to the participants and their companions. It will provide an opportunity to meet colleagues and friends against a backdrop of outstanding natural beauty and rich cultural heritage in one of the best-known international tourist destinations.

### SPECIAL SESSION ORGANISERS

- Prof. Enkelejda Kasneci, University of Tübingen, Germany
- Prof. Konstantinos Moustakas, University of Patras, Greece
- Prof. Gjergji Kasneci, University of Tübingen, Germany
- Prof. Kyriakos Sgarbas, University of Patras, Greece

### IMPORTANT DATES

- Submission of full papers – April 2, 2020
- Notification of acceptance – April 20, 2020
- Author advance registration – May 2, 2020
- Camera-ready paper submission – May 2, 2020

