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IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS FOR VIDEO TECHNOLOGY
Special Issue on Augmented Video

Merging computer-generated content with real world visual data is one of the main challenges in fields like augmented reality or visual effects and is increasingly important in broadcasting, gaming, medical, maintenance and learning applications. Augmented reality has had a significant impact in both research and industry (primarily due to new devices like smart phones, tablets and AR glasses), but as of today, most applications merely superimpose information and objects relevant to the displayed content instead of aiming at a seamless integration of augmentation content. On the other hand, there is a large body of work targeting realistic insertion of CGI content among the visual effects community but this mainly focuses on offline movie-production workflows with often intensive manual interaction.

This special issue aims at providing readers with the latest developments and emerging technologies that drive the convergence of these fields towards realistic composition of real and computer-generated video data. It addresses novel ideas for the seamless fusion of content for high-quality applications within e.g. augmented reality, telepresence, broadcast, gaming, or video rendering. This poses several challenges regarding the analysis of scene and sensor properties like structure, motion, illumination, color, blur, noise, etc. for plausible synthesis and fusion of different content. In addition, this special issue covers content adaptation targeting immersive visualization on novel output devices like 3D displays and projections, AR and VR glasses as well as holograms and head-up displays.

Topics of interest include, but are not limited to:

- High-quality augmented reality
- Immersive telepresence
- Object and scene relighting
- Scene estimation and reconstruction
- Estimation of environmental lighting
- Accurate tracking and registration
- Efficient and dense visual SLAM
- Realistic human characters
- Modelling and animation
- Image- and video-based rendering
- Non-linear and interactive videos
- Free viewpoint video
- Enhanced compositing of video and CG content
- Sensing with new devices like Kinect, TOF, plenoptic cameras
- Content adaptation for novel output devices

Important Dates

Initial Paper Submission:	October 2, 2015
Initial Paper Decision:	December 1, 2015
Revised Paper Submission:	January 1, 2016
Revised Paper Decision:	March 1, 2016
Publication Date:	September 2016

Manuscript submissions and reviewing process

Submission of a paper to CSVT is permitted only if the paper has not been submitted, accepted, published, or copyrighted in another journal. Papers that have been published in conference and workshop proceedings may be submitted for consideration to CSVT provided that (i) the authors cite their earlier work; (ii) the papers are not identical; and (iii) the journal publication includes novel elements (*e.g.*, more

comprehensive experiments). For submission information, please consult the IEEE CSVT Information for Authors: http://tcsvt.polito.it/authors.html.

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