Call for Papers
IEEE Journal on Emerging and Selected topics in Circuits and Systems
Special Issue on Content-aware Visual Systems: Analysis, Streaming and Retargeting

With the burgeoning diversity of new consumer electronics devices for mobile communications or home entertainment (e.g. smart phones, notebooks, tablets, and HDTV), it is increasingly important for visual media to adaptively stream to and appropriately display on various devices against inevitable resource constraints, including time-varying bandwidth, limited power and different resolution of terminal screens. This problem has become more serious with the explosion of image and video content on the web.

One unique characteristic of visual media is that the semantics of the media content play key role throughout a visual system. Therefore, the design of content-aware visual systems has become increasingly important. Content-aware design should be involved from acquisition of initial visual signals, to transport of media data, and to rendering of visual contents. Among these processes, visual content analysis is the base for such system. Based on the analysis results, content-aware video error-resilient coding and transmission can be developed to improve the QoS provision for video streaming, and content-aware video retargeting can also adaptively display image/video on screens with different spatial/temporal resolutions and arbitrary aspect ratios.

This special issue solicits novel contributions and breaking results on all aspects of content-aware visual systems in analysis, streaming, and adaptation. We invite original research articles addressing applications, algorithms, architecture, implementation and prototyping in content-aware visual systems. Potential topics of interest include, but are not limited to:

- ✧ Visual attention analysis
- ✧ Saliency detection for image/video
- ✧ Video content analysis
- ✧ Content-aware image/video coding
- ✧ Content-aware error resiliency scheme
- ✧ Content-aware resource allocation for video streaming
- ✧ Content-aware packet scheduling for video streaming
- ✧ Content-aware discrete/continuous visual media retargeting
- ✧ Real-time optimization for content-aware visual systems
- ✧ Quality assessment for content-aware visual systems
- ✧ Image/video benchmark dataset for content-aware visual systems
- ✧ Interactive, immersive and, 3D image/video retargeting
- ✧ Single-frame and multi-frame super-resolution
- ✧ Circuits design in content-aware visual systems
- ✧ Multiprocessor system for content-aware visual processing
- ✧ Prototyping in content-aware visual systems
- ✧ On-board processing for content-aware visual systems

Prospective authors should submit PDF versions of their papers following the instructions provided on the JETCAS web-site: http://jetcas.polito.it/general.html. Submitted manuscripts should not have been previously published nor should they be currently under consideration for publication elsewhere. Manuscripts will undergo a peer review process according to the standard IEEE publication policy.

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Important Dates:

Paper submission :	Sept. 1, 2013
First round of reviews completed:	Nov. 15, 2013
Revised manuscripts due:	Dec. 8, 2013
Notification of acceptance:	Dec. 22, 2013
Final manuscripts due date:	Jan. 2, 2014
Targeted Issue date:	Mar., 2014