

Call for Papers: IEEE Communications Magazine Special Issue on “Advances in Visual Content Analysis and Adaptation for Multimedia Communications”

Background

Modern multimedia communication applications such as mobile television, video telephony, streaming and gaming over wired and wireless networks have had different economic success and societal impact to-date. Such successes depend, to a large extent, on their abilities to surpass technical challenges related to visual content adaptation and delivery, which rely on solutions provided by visual content analysis. On the other hand, current communications networks consist of channels with various throughputs, quality of services (QoS) and protocols, and heterogeneous terminals with wide range of capabilities, accessibilities and user preferences. The rapidly increasing gap between the richness of multimedia content and the variations of the channels and terminals urges the development of techniques for universal multimedia content access, which heavily relies on the visual analysis tools to understand the data from all perspectives including network conditions, terminal capabilities, coding and transmission efficiencies and user preferences. Therefore, to effectively improve the usability, efficiency and robustness of multimedia communications in general and visual content access, adaptation and delivery in particular, visual analysis and processing methods must be able to provide automatic or semi-automatic solutions for:

- * High accuracy content segmentation and representation
- * Adapting or transcoding data for various channels and terminals
- * Scalability across the visual content
- * Content-aware robust coding and transmissions

Scope of contributions

The goal of this special issue is to collate and disseminate recent and relevant contributions in the area of visual content analysis including content representation, understanding, access, adaptation, protection and transmission, with focus on their impact on visual communication systems. Tutorial papers are solicited that cover the topics including but not limited to:

- * Channel-aware visual content adaptation
 - Visual content repurposing
 - Visual content transcoding
 - Visual content protection

- * Terminal-aware visual content adaptation
 - Object segmentation and tracking
 - Model-based and object-based representations
 - Layered and scalable representations

* Visual content access and delivery

- Resource-efficient content-aware adaptation and transmission policies
- Robust content-based coding and transmissions
- Content-adaptive cross-layer system design and optimization

* Applications

- Video game repurposing for wireless transmission
- Video content indexing and retrieval for mobile appliances
- Visual analysis for mobile broadcasting

Schedule:

Full article submission:	April 1, 2006
Acceptance/rejection/revision:	July 1, 2006
Final manuscript due:	September 1, 2006
Publication date:	January 1, 2007

Submission of the papers:

For manuscript submission, the authors should follow the IEEE Communications Magazine guidelines under "Information for Authors" at http://www.comsoc.org/pubs/commag/sub_guidelines.html

Manuscripts should be submitted through Manuscript Central at <http://commag-ieee.manuscriptcentral.com/>. Please select "January 2007/Advances in Visual Content Analysis and Adaptation for Multimedia Communications" in the drop down menu.

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