

## Guest Editorial: Smart Image and Video Analytics

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Published online: 5 August 2016

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Image and video analytics is an important computer vision technology with the aim of making sense of image and video content in order to ultimately understand ubiquitous and rich source of information. It has been used in diverse multimedia applications, including visual surveillance, healthcare, smart cities, and security. These has led to a massive research effort devoted to research challenges in the development of image and video analytics for processing, analyzing, and interpreting the multimedia data. The aim of this special issue is to consolidate the state-of-the-art and the main challenges in image and video analytics.

This special issue received 32 high-quality submissions from over 10 countries. All submitted papers were peer-reviewed by independent reviewers. In the end, only 13 papers were finally included in this special issue.

The first part of this special issue consists of six papers in area of image analytics. Liu and Kavakli ([10.1007/s11042-015-3025-3](https://doi.org/10.1007/s11042-015-3025-3)) discussed the fundamentals of *principle component analysis* (PCA) in details and its various extensions and applications in computer vision. Zheng et al. ([10.1007/s11042-015-2966-x](https://doi.org/10.1007/s11042-015-2966-x)) proposed to recover the 3D information of the solid geometric object from single line drawing image taken from the geometric books, which would be used to help the users better present and understand the solid geometric object on their mobile devices. Belalia et al. ([10.1007/s11042-015-3026-2](https://doi.org/10.1007/s11042-015-3026-2)) proposed a new region-based image retrieval approach using shape adaptive discrete cosine transform. At a bottom level, local features are constructed from the coefficients of quantized block transforms for each region. Yang et al. ([10.1007/s11042-015-3079-2](https://doi.org/10.1007/s11042-015-3079-2)) proposed an image tempering detection approach by extracting the standard deviation of noise, relative frequency lacunarity, relative frequency mean, and relative frequency variance of the image, followed by a machine learning approach. Tan et al. ([10.1007/s11042-015-3160-x](https://doi.org/10.1007/s11042-015-3160-x)) studied the interactive image matting and proposed a novel method using sparse manual clicks. Huang and Luo ([10.1007/s11042-015-](https://doi.org/10.1007/s11042-015-)

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3024-4) proposed a graphical model termed as local-space-constraint linear discriminant analysis for image classification.

The second part of this special issue consists of seven papers in area of video analytics. Liang et al. (10.1007/s11042-015-2952-3) proposed a novel video super-resolution reconstruction algorithm based on correlation learning and spatio-temporal nonlocal similarity. Wang et al. (10.1007/s11042-015-3078-3) incorporated foreground feature saliency concept into the background modelling, and proposed a foreground saliency-based background-weighted histogram scheme for target representation and tracking. Du and Liu (10.1007/s11042-015-2990-x) provided a comprehensive review on the flame detection in computer vision with focus on the color space-based approaches. Mstafa and Elleithy (10.1007/s11042-015-3060-0) proposed a novel video steganographic method based on Kanade-Lucas-Tomasi tracking using Hamming codes and spatio-temporal distribution of local features for action recognition in videos. Chen et al. (10.1007/s11042-015-3008-4) proposed to use the Lie Algebraized Gaussians to represent spatial-temporal distribution of local features for action recognition. Yu et al. (10.1007/s11042-015-3051-1) presented a framework to automatically replant timestamps for panorama video surveillance. Zeng et al. (10.1007/s11042-015-2997-3) proposed an efficient perceptual sensitivity-based rate control method for high efficiency video coding based on the human visual system observation that the region with less perceptual sensitivity can tolerate more distortion.

We close by thanking authors for their submissions, reviewers for their constructive comments, Prof. Borko Furht, Editor-in-Chief of MTAP, and all publishing staffs for guiding us through the whole process.



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