Advances in Multimedia

Special Issue on
Visual Analytics and Deep Learning for Advanced Multimedia Computing

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This special issue focuses on presenting the state-of-the-art visual analysis and deep learning methods that are both essentially developed for solving important problems in the multimedia domain. Visual analytics is an emerging research realm that focuses on data exploration and analytics with an integration of visualization, understanding, and interactions in which potential methods are using data mining and machine learning techniques to perform analytics. However, performing data content analytics and understanding require effective multimedia data features which are able to capture complex multimedia content such as images, audios, text, and user-generated data with domain-specific knowledge. Recent progress on deep learning creates a new era, placing advanced multimedia computing on a more rigorous foundation with data-dependent learned representations to model the multimodal data and the cross-media interactions.

This special issue aims to provide a central forum for researchers with different background and from the diverse fields of engineering and computing to present recent advancements in deep learning research that directly concerns the multimedia community. Recent progress on visual analytics creates new opportunities for understanding and making sense of large-scale dynamic, heterogeneous multimedia data through analytical reasoning facilitated by deep learning methodologies. On the other hand, deep learning has successfully designed effective algorithms that can build deep data-dependent representations to simulate how human brains perceive and understand complex multimedia information, ranging from low-level signals to high-level data. This special issue will introduce the readership to the innovations in visual analytics augmented with deep understanding for multimedia and provide a spotlight and further direction on an emerging and promising area of research within the multimedia community.

Potential topics include but are not limited to the following:

- Visual analytics of multimedia sources, such as texts, audio, speech, and music data; images and videos; spatial-temporal data; social media, social and web multimedia data; health-care data
- Deep learning for multimedia content analysis, recommendation, cross-media analysis, knowledge transfer, and information sharing
- Efficient training and inference methods for multimedia deep networks
- Visual multimedia analysis techniques for multimedia search and retrieval; multimedia indexing; object detection, tracking, and clustering; surveillance and semantic analysis; outlier detection in multimedia
- Performance evaluation and benchmark datasets

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/am/vada/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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