1. Scope:

With the development of mobile Internet and personal devices, we are witnessing an explosive growth of video data on the Web. This has encouraged the research of video analysis. Compared to the trimmed videos in the open benchmark datasets, most of the real-world videos are unconstrained. Firstly, as captured under different conditions, unconstrained videos usually have large intra-class differences. Secondly, as captured by different devices and people, unconstrained videos may own more variants in quality. The success of hand-crafted descriptors lies in the simultaneously incorporating spatial description of each frame and temporal consistency of successive frames. Recently, researchers have tried to learn video representations from deep ConvNets, where the promising progresses were obtained owing to the breakthrough in the appropriately pooling or encoding of temporal information of video sequences in the deep neural networks. As the visual content and temporal consistency of unconstrained videos are more complex, there are still challenges in video analysis and practical applications.

This special issue serves as a forum for researchers all over the world to discuss their works and recent advances in video feature learning and its applications in real world applications. Both state-of-the-art works, as well as benchmark datasets and literature reviews, are welcome for submission. This special issue seeks to present and highlight the latest developments on practical methods of unconstrained video analysis. Papers addressing interesting real-world applications are especially encouraged. Topics of interest include, but are not limited to,

- Feature learning by multi-cue fusion for unconstrained video analysis
- Pooling the spatial-temporal layers in deep ConvNets
- End-to-end integration of RNN and CNN for video feature learning
- Effective feature learning for video captioning
- Ad hoc feature learning for video event detection
- Adapt un-labeled videos for robust feature learning
- Transfer feature learning for video analysis
- Spatial-temporal hashing and indexing for large-scale video retrieval
- Unconstrained video benchmark for the evaluation of future learning
- Real-world applications of unconstrained video analysis with future learning, e.g., event detection, action recognition, retrieval, summarization, synthesis, and video-to-language captioning.
2. Submission Guideline:

Submitted papers should present original, unpublished work, relevant to one of the topics of the Special Issue. All submitted papers will be evaluated on the basis of relevance, significance of contribution, technical quality, scholarship, and quality of presentation, by at least three independent reviewers. It is the policy of the journal that no submission, or substantially overlapping submission, be published or be under review at another journal or conference at any time during the review process.

Authors should prepare their manuscript according to the Instructions for Authors available from the online submission page of the journal of Multimedia Tools and Applications at springer.com.

Notes: when submitting your manuscript, at the step of “Select Article Type”, please choose this special issue ‘1086 – Spatial-Temporal Learning for Unconstrained Video Analysis’.

3. Important Dates:

- Paper Submission: December 15, 2017
- First Notification: February 15, 2018
- Revised Manuscript: March 15, 2018

4. Guest Editors

- Yahong Han, School of Computer Science and Technology, Tianjin University, Tianjin, China, Email: yahong@tju.edu.cn
- Liqiang Nie, School of Computer Science and Technology, Shandong University, Jinan, China, Email: nieliqiang@sdu.edu.cn
- Fei Wu, College of Computer Science and Technology, Zhejiang University, Hangzhou, China, Email: wufei@cs.zju.edu.cn