

# **Call for Papers**

## **Special Issue of IEEE Trans. on Multimedia**

### **“Large-scale Multimedia Data Retrieval, Classification, and Understanding”**

#### **Aims and Scope:**

Today, large collections of multimedia data are explosively created in different fields and have attracted increasing interest in the multimedia research area. Large-scale multimedia data provide great unprecedented opportunities to address many challenging research problems, e.g., enabling generic visual classification to bridge the well-known semantic gap by exploring large scale data, offering a promising possibility for in-depth multimedia understanding, as well as discerning patterns and making better decisions by analyzing the large pool of data. Therefore, the techniques for large-scale multimedia retrieval, classification and understanding are highly desired. Simultaneously, the explosion of multimedia data puts urgent needs for more sophisticated and robust models and algorithms to retrieve, classify, and understand these data. For example, how is the large-scale multimedia data organized and how can it be managed to enable efficient browsing and retrieval? The researchers in this direction produce many hashing, indexing and quantization algorithms for high-dimensional data. Another challenge of interest is, how the traditional machine learning algorithms (proven efficient and effective in small-sized and low-dimensional data points) can be scaled up to millions and even billions of items with thousands of dimensionalities? This motivated the community to design parallel and distributed machine learning platforms, exploiting GPUs as well as developing practical algorithms. Besides, it is also important to exploit the commonalities and differences between different tasks, e.g., image retrieval and classification have much in common while different indexing methods evolve in mutual promotive relations.

#### **Topics of Interests:**

This special issue targets the researchers and practitioners from both academia and industry, and intends to explore how advanced multimedia analysis can be leveraged to address the challenges in large-scale data collections. It provides a forum to publish recent state-of-the-art research findings, methodologies, technologies and services in the large-scale multimedia research domain. We invite original and high quality submissions addressing all aspects of this field, which is closely related to large-scale multimedia retrieval, data management, classification, data mining for social media, and so on.

Topics of interest include, but are not limited to:

- Large-scale image matching with geometrical verification
- Generic object search from videos
- Hashing algorithms for large-scale multimedia retrieval
- Indexing algorithms for large-scale multimedia retrieval
- Compression techniques for large-scale multimedia retrieval
- Joint image retrieval and classification
- Joint object localization and recognition in images/videos
- Image annotation and classification with deep learning
- Clustering for large-scale multimedia data

- Knowledge mining from large-scale multimedia data
- Storyline summarization for large scale multimedia data
- Efficient optimization algorithms for large-scale learning
- Benchmark datasets for large-scale multimedia classification
- Algorithms and applications with large-scale social media
- Other applications of large scale multimedia data

### **Submission Guideline:**

Prospective authors should submit original manuscripts that have not appeared, nor are under consideration, in any other journal. Prospective authors are required to follow the Author's Guide for manuscript submission to the IEEE Transactions on Multimedia (TMM) at <http://www.signalprocessingsociety.org/tmm/tmm-author-info/>, and manuscripts should be submitted electronically through the online IEEE manuscript submission system at <http://mc.manuscriptcentral.com/tmm-ieee>. By submitting/resubmitting your manuscript to this transactions, you are acknowledging that you accept the rules established for publication of manuscripts, including agreement to pay all over-length page charges, color charges, and any other charges and fees associated with publication of the manuscript. Manuscripts (both 1-column and 2-column versions are required) should be submitted electronically through the online IEEE manuscript submission system at <http://mc.manuscriptcentral.com/tmm-ieee>. All the submitted papers will go through the same review process as that for the regular TMM paper submissions. Referees will consider originality, significance, technical soundness, clarity of exposition, and relevance to the special issue topics above.

### **Important Dates:**

- Paper Submission: December 5, 2016
- First Notification: February 20, 2017
- Revised Manuscript: March 15, 2017
- Notification of Acceptance: April 10, 2017
- Final Manuscript Due: April 24, 2017
- Publication Date: June 2017

### **Guest Editors:**

- Jingkuan Song, Columbia University, USA. [Jingkuan.song@columbia.edu](mailto:Jingkuan.song@columbia.edu)
- Herve Jegou, Facebook, France/USA. [hjegou@gmail.com](mailto:hjegou@gmail.com)
- Cees Snoek, University of Amsterdam, Netherlands. [cgmsnoek@uva.nl](mailto:cgmsnoek@uva.nl)
- Qi Tian, University of Texas at San Antonio, USA. [qitian@cs.utsa.edu](mailto:qitian@cs.utsa.edu)
- Nicu Sebe, University of Trento, Italy. [niculae.sebe@unitn.it](mailto:niculae.sebe@unitn.it)