

# Guest Editorial: Big Media Data: Understanding, Search, and Mining (Part 2)

Jingdong Wang, Guo-Jun Qi, N. Sebe, and Charu C. Aggarwal

---

◆

**B**IG media data is a new research area, and has been attracting a lot of research interests in both industry and academia. In the first part of this special issue, we have introduced three papers on large scale similar image search, image search quality improvement, and semi-supervised multi-label image annotation. This second part of this special issue includes two examples on large scale visual retrieval. The contributions cover two themes: visual semantic relationship learning and large scale indexing.

The first paper is “Learning Visual Semantic Relationships for Efficient Visual Retrieval” by R. Hong, Y. Yang, M. Wang, and X.-H. Hua. The authors study the problem of establishing the relationship between concepts using the large scale click data from commercial image search engine. Five specific relationships are defined, and the classification model is built using the textual and visual features to classify the five relationships. The representative power is justified from its application to image tag augmentation. The augmented image tags are further transformed to binary codes, which shows superior performance for content-based image retrieval.

In their paper “Robust Discrete Spectral Hashing for Large-Scale Image Semantic Indexing,” Y. Yang, F. Shen, H. T. Shen, H. Li, and X. Li present an unsupervised hashing approach, robust discrete spectral hashing, for large-scale semantic indexing. The approach simultaneously learns the discrete hash codes and the hash functions within a unified model. To adapt to different noise levels, a flexible loss function with nonlinear kernel embedding is introduced. Extensive experiments on large-scale semantic search over real-world image datasets demonstrate the superiority of the proposed approach.

The authors would like to extend their thanks to the authors and the reviewers for their efforts. They also thank the staff of the *IEEE Transactions on Big Data* and especially Kathy Santa Maria and Leigh Ann Testa for their help and guidance throughout the publication process.

Jingdong Wang  
Guo-Jun Qi  
Nicu Sebe  
Charu C. Aggarwal  
*Guest Editors*

---

For information on obtaining reprints of this article, please send e-mail to: [reprints@ieee.org](mailto:reprints@ieee.org), and reference the Digital Object Identifier below.  
Digital Object Identifier no. 10.1109/TBDATA.2016.2518904