



# Pattern Recognition CALL FOR PAPERS

## Special Issue on “Discriminative Feature Learning from Big Data for Visual Recognition”

### 1. Scope

Computer vision has been successfully used in real-world recognition problems, where state-of-the-art recognition algorithms focus on training the classifier or the regressor from large training sets. Feature extraction is critical for the final performance, especially in the age of big-data, as it both reduces the required computational load, as well as regularizes the learning problem onto a smaller subset of input features. However, most of current prevalent features are hand-crafted, such as SIFT, HOG and LBP, and their performance often relies on supervised learning. These hand-crafted features are not adaptive and usually involve a lot of engineering work to develop. In addition, supervised learning often requires a large amount of labeled data, which is an expensive and laborious task and sometimes even infeasible. In contrast, unlabeled data are cheap and easy to obtain because a large amount of them can be easily collected from the Internet. The growing popularity of visual big data from online photo/video-sharing and social media websites, such as Flickr, Picasa, Facebook, Google images and YouTube, are available. Hence, techniques to automatically learn feature representations from big data in an unsupervised/semi-supervised way, with limited labeled data, are desirable. Besides, the large amount of visual data also challenges conventional feature learning approaches, in terms of how the feature learning algorithms can be scalable and efficient. This special issue aims to solicit recent state-of-the-art achievements from both industry and academia on how to effectively learn discriminative visual features from big data for visual recognition. Of particular interest are submissions in (but not limited to) the following areas:

- 1) Sparse representation and its related applications
- 2) Dictionary learning and its related applications

- 3) Deep learning and its related applications
- 4) Matrix factorization and its related applications
- 5) Nonlinear embeddings and its related applications
- 6) Binary code learning and its related applications
- 7) Submodularity-based feature selection and its related applications

## 2. Submission Guideline

### Important Dates:

- Paper submission due: Aug. 10, 2014
- First notification: Oct. 30, 2014
- Revision: Dec. 30, 2014
- Final decision: Jan. 30, 2015
- Publication date: Spring 2015 (tentative)

### Submission Details:

All submissions for this special issue are required to follow the same format as regular full-length Pattern Recognition papers. The submission website for this special issue is located at: <http://ees.elsevier.com/pr/>. Please ensure to select 'SI : DFL from Big data' as the 'Article Type'. Please pay attention to the [special issue webpage](#) for further updates.

## 3. Guest Editors

- Dr. Zhuolin Jiang, Noah's Ark Research Lab, Huawei (zhuolinumd@gmail.com)
- Dr. Zhe Lin, Adobe Research, USA (zlin@adobe.com)
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