

Special Issue on
Learning Binary Representation for Computer Vision Applications

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In the big data era, the volume of data has been dramatically enlarged than before. The traditional representation of data or feature learning algorithms may not work well or be computationally inapplicable for large-scale tasks, such as image retrieval and object recognition. It is desirable to develop new, efficient data representation or feature learning/indexing techniques, which can be easily performed with big data and achieve promising performance in the related tasks. In most recent years, the data-dependent hashing or compact binary code learning techniques have attracted broad research interests in computer vision, due to the high efficiency of storage and pairwise comparison with the Hamming distance. Benefiting from the nature of binary codes, these methods can well help perform various vision tasks (e.g., retrieval, classification), especially the ones with large-scale data. Recently, the binary representation learning techniques have been shown to achieve promising performance in various applications in computer vision, such as image retrieval, object recognition, and classifier training.

This special issue will focus on the most recent progress on binary representation learning or data-dependent hashing methods for various visual tasks with large-scale data, such as content-based image/video classification, image retrieval/classification, image annotation, multimedia processing, and visual semantic analysis. This special issue will also target related fast feature extraction or representation learning techniques, which can well handle large-scale visual tasks. The primary objective of this special issue fosters focused attention on the latest research progress in this interesting area.

The special issue seeks for original contribution of work, which addresses the challenges from the binary code learning and the related fast representation learning algorithms for large-scale data.

Potential topics include but are not limited to the following:

- ▶ Novel locality sensitive hashing algorithms
- ▶ Large-scale indexing algorithms
- ▶ Learning based or data-dependent hashing/indexing methods
- ▶ Visual recognition (e.g., detection, categorization, indexing, matching, segmentation, and grouping) with binary code learning or hashing techniques
- ▶ Biometrics with binary representation learning
- ▶ Binary codes learning for visual classification/detection/retrieval/tracking
- ▶ Novel applications of hashing or binary representation learning
- ▶ Deep learning techniques for binary representation learning
- ▶ Fast feature extraction methods for visual data
- ▶ Fast learning algorithms for visual representation
- ▶ Big data, large scale methods
- ▶ Music/audio information retrieval

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

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