Guest Editorial Preface

Special Issue on Heterogeneous Big Data Analytics and Cloud Computing (Part 2)

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The special issue on Heterogeneous Big Data Analytics and Cloud Computing features twelve papers that discuss latest research findings, methodology and challenges that exist in heterogeneous big data analytics and cloud computing. This issue (part 2) includes six papers that mainly study the methodologies and practices in big data analysis and retrieval.

Deep learning is an effective technique to deal with highly voluminous and unstructured big data. *Rojalina Priyadarshini and others* conduct an investigation into the efficacy of deep learning tools for big data analysis in health care.

Attractive structures extraction is a fundamental problem in many image analysis tasks. In a pertinent paper, Yiyang Wang and others present a novel nonuniform method to maintain the attractive structures of images while removing their meaningless details. A strategy based on proximal algorithm is also put forward to obtain fast convergence in practice.

Heterogeneous data from multiple sources embodies different feature spaces poses unique challenge on indexing and retrieval for large multimedia. In the paper - *Multimedia Feature Mapping and Correlation Learning for Cross-Modal Retrieval*, Xu Yuan and others utilize the convolutional neural networks and topic modal to obtain the high-level semantic feature of various modalities. To capture semantic correlations across modalities, a supervised learning algorithm based on kernel partial least squares is introduced. Finally, the joint model of different modalities is learnt by the training set.

The work *Speech Enhancement using Heterogeneous Information* by Yan Xiong, Fang Xu, Qiang Chen and Jun Zhang presents a new model-based multi-stream speech enhancement framework that utilizes the heterogeneous information from different kinds of sensors.

Haopeng Lei and others presents a sketch-based 3D model retrieval approach that make use of low-level visual feature to capture the search intention of the users. To gain a more descriptive and discriminative meaningful attribute representation, the authors take advantage of both pre-defined attributes and latent attributes.

In the work, *Design and Application of a Containerized Hybrid Transaction Processing and Data Analysis Framework* by Ye Tao, Xiaodong Wang and Xiaowei Xu, the authors design a hybrid development framework to offer greater scalability and flexibility of data analysis

and report, while keeping maximum compatibility and links to the legacy platforms on which transaction business logics run.

In conclusion, the special issue presents current developments in combination of cloud computing and automatic analysis techniques to deal with the challenges of cross-media integration, multi-scale analysis and processing of heterogeneous big data. It provides a basic and professional reference for future research in the field of big data analytics and cloud computing.

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