**Special Session Proposal for ICONIP 2017**

**Organizers**: Lei Zhang1 and Shenglan Liu2

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**Title:** Transfer Learning for Large-scale Domain Data

**Description of the special session:**

Transfer learning, domain adaptation and multi-task learning methods are emerging topics in machine learning, intelligent systems, computer vision and heterogeneous data analysis. Multi-source, heterogeneous and domain data is often caused by many factors such as sensing devices (e.g. image sensor parameters), sensing principle (e.g. angles or views), sensing environment (e.g. illumination), etc, such that the independent identical distribution (i.i.d.) of domain data is not satisfied. In vision applications, the (target) domain of interest contains very few labeled samples with limited knowledge, while an existing (auxiliary or source) domain is often available with a large number of labeled examples and useful knowledge but lying different distribution from target domain. This special session serves as a forum for researchers all over the world to discuss their works and recent advances in transfer learning and deep learning methods for large-scale domain data in AI applications.

**Scope and Topics of interest include, but are not limited to,**

* Transfer learning and deep learning for large-scale multimedia analysis
* Supervised/semi-supervised/un-supervised adaptation methods
* Transfer/cross-domain deep learning methods for multimedia analysis
* Multi-view/Multi-task transfer learning for vision analysis
* Heterogeneous data analysis
* Structured semantic transfer for multimedia understanding and retrieval
* Knowledge transfer based representation learning
* Cross-domain subspace learning for domain adaptation
* Sparse/low-rank representation for subspace transfer learning
* Face recognition/object recognition/image classification/action recognition

**Biographies**

**Organizer 1:**

**Lei Zhang** received his Ph.D degree in Circuits and Systems from the College of Communication Engineering, Chongqing University, Chongqing, China, in 2013. He was selected as a Hong Kong Scholar in China in 2013, and worked as a Post-Doctoral Fellow with The Hong Kong Polytechnic University, Hong Kong, from 2013 to 2015. He is currently a Professor/Distinguished Research Fellow with Chongqing University. He has authored more than 60 scientific papers in top journals, including the IEEE Transactions on Image Processing, the IEEE Transactions on Neural Networks and Learning Systems, the IEEE Transactions on Multimedia, the IEEE Transactions on Systems, Man, and Cybernetics: Systems, the IEEE Transactions on Instrumentation and Measurement, the IEEE Sensors Journal, Information Fusion, Sensors & Actuators B, and Analytica Chimica Acta. His current research interests include machine learning, pattern recognition, computer vision and intelligent systems. Dr. Zhang was a recipient of Outstanding Reviewer of Emerald, in 2016, Outstanding Doctoral Dissertation Award of Chongqing, China, in 2015, Hong Kong Scholar Award in 2014, Academy Award for Youth Innovation of Chongqing University in 2013 and the New Academic Researcher Award for Doctoral Candidates from the Ministry of Education, China, in 2012.

**Organizer 2:**

**Shenglan** **Liu** received the PhD degree in the School of Computer Science and Technology, Dalian University of Technology, China. Currently, he is working toward the Postdoc in Dalian University of Technology. His current research interests include pattern recognition, image retrieval and manifold learning. He has published papers on IEEE Transactions on Neural Networks, Neurcomputing, etc. He is also a TPC member of WCICA 2016, and IEEE CASE 2017.

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