Domain Adaptation for Visual Classification

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Abstract

For cross-view action recognition and many real-world visual classification problems, one needs to recognize test data at a particular target domain of interest, while training data are collected at a different source domain. Without eliminating such domain differences, recognition of test data using classifiers trained in the source domain will not be expected to produce satisfactory performance. In this talk, I will introduce several domain adaptation approaches, which are able to learn a common feature space relating cross-domain data. In particular, our proposed method (among one of these approaches) not only aims at matching cross-domain data marginal distributions during adaptation, but also exploits the structure of target domain data and update class-conditional distributions accordingly. Experiments on various cross-domain visual classification tasks would verify the effectiveness and robustness of our proposed method.

Short Bio

Dr. Yi-Ren Yeh received his M.S. and Ph.D. degrees from the Department of Computer Science and Information Engineering, National Taiwan University of Science and Technology in 2006 and 2010, respectively. From August 2008 to May 2009, he was a visiting scholar of CyLab, Carnegie Mellon University, Pittsburgh, USA. He was a postdoctoral research fellow of the Research Center for Information Technology Innovation (CITI) at Academia Sinica and Intel-NTU Connected Context Computing Center at National Taiwan University from 2010 to 2013. He was an assistant professor of Department of Applied Mathematics at Chinese Culture University from 2013 to 2015. He joined Department of Mathematics at National Kaohsiung Normal University as an assistant professor from 2015. His research interests include machine learning, data mining, multimedia content analysis, and data analysis in IoT(Internet of Things).