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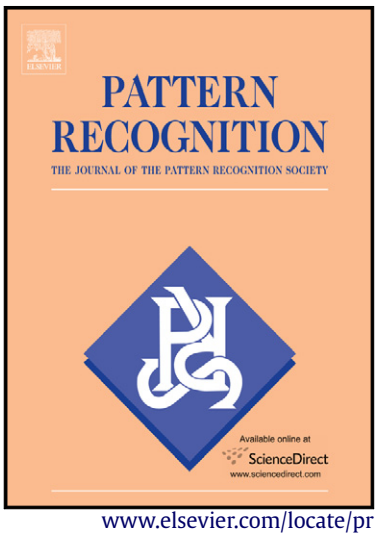

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PII: S0031-3203(14)00190-3
DOI: http://dx.doi.org/10.1016/j.patcog.2014.05.005
Reference: PR5111

To appear in: *Pattern Recognition*

Received date: 15 May 2013
Revised date: 31 March 2014
Accepted date: 5 May 2014

Cite this article as: Yanting Lu, Liantao Wang, Jianfeng Lu, Jingyu Yang, Chunhua Shen, Multiple kernel clustering based on centered kernel alignment, *Pattern Recognition,* http://dx.doi.org/10.1016/j.patcog.2014.05.005

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Multiple Kernel Clustering Based on Centered Kernel Alignment

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Abstract

Multiple kernel clustering (MKC), which performs kernel-based data fusion for data clustering, is an emerging topic. It aims at solving clustering problems with multiple cues. Most MKC methods usually extend existing clustering methods with a multiple kernel learning (MKL) setting. In this paper, we propose a novel MKC method that is different from those popular approaches. Centered kernel alignment—an effective kernel evaluation measure—is employed in order to unify the two tasks of clustering and MKL into a single optimization framework. To solve the formulated optimization problem, an efficient two-step iterative algorithm is developed. Experiments on several UCI datasets and face image datasets validate the effectiveness and efficiency of our MKC algorithm.

Keywords: Clustering, data fusion, multiple kernel learning, centered kernel alignment

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