Regularization by the Linear Functional Strategy with Multiple Kernels

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Abstract

The choice of the kernel is known to be a challenging and central problem of kernel based supervised learning. Recent applications and significant amount of literature have shown that using multiple kernels (the so-called Multiple Kernel Learning (MKL)) instead of a single one can enhance the interpretability of the learned function and improve the performances. Some authors also note that MKL is in some sense equivalent to a multi-penalty regularization. However, a comparison of existing MKL-algorithms shows that though there may not be large differences in terms of accuracy, there is difference between MKL-algorithms in complexity as given by the training time, for example. In this talk we present a promising approach for training the MKL-machine by the linear functional strategy, which is either faster or more accurate than previously known ones.

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