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人工智能

多重核线性判别分析及其权值优化

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摘要： 为了提高非线性分类精度，借鉴在支持向量机(SVM)框架下发展起来的多重核学习方法，针对基于核的线性判别分析(KLDA)构造多重核。进而，使用拉格朗日乘子法优化最大边缘准则(MMC)，提出了多重核权值优化算法。在FERET和CMU PIE人脸图像库上的实验表明，与基于单个核的LDA相比，多重核线性判别分析能够达到更高的分类性能。

关键词： 多重核 核线性判别分析 最大边缘准则 权值优化 拉格朗日乘子法 multi-kernel Kernel Linear Discriminant Analysis (KLDA) Margin Maximization Criterion (MMC) weight optimization method of Lagrange multipliers

Multiple kernel discriminant analysis with optimized weight

Abstract: In order to enhance the accuracy of nonlinear classification, the multiple kernel learning method developed under the framework of Support Vector Machine (SVM) was referred to. The authors constructed a multi-kernel for kernel-based Linear Discriminant Analysis (LDA). Moreover, a weight optimization scheme for the multi-kernel was proposed by maximizing the Margin Maximization Criterion (MMC) based on the method of Lagrange multipliers. The experiments on the FERET and CMU PIE face database show that multiple kernel discriminant analysis can achieve higher classification performance, compared with single-kernel-based LDA.

Keywords:

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