

基于选择性聚类集成的图像目标分类方法

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摘 要: 传统集成学习算法是对所有个体分类器进行组合决策, 由于无法反映个体分类器的差异性, 不能有效提高集成分类器的识别率. 为此, 提出基于互信息(Normalized Mutual Information ,NMI)的个体分类器差异性度量方法, 利用匈牙利算法对个体分类器的标记向量进行匹配, 在此基础上提出基于成分数据的 AP (Affinity Propagation)聚类集成算法作为选择性集成策略. 在遥感图像上分别与经典算法做比较实验, 结果表明此算法在分类性能上具有一定的优越性.

关键词: 聚类集成; 匈牙利算法; 近邻传播; 图像目标分类

Image Target Classification Method Based on

Selective Cluster Aggregation

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Abstract: The traditional ensemble learning algorithm was a combination of the individual classifiers, which couldn't reflect the differences of individual classifiers and effectively improve the recognition rate of ensemble classifier. A measurement method based on Normalized Mutual Information was proposed, and the Hungarian algorithm was used to match the labeled vectors of individual classifiers. On the basis of that, a AP (Affinity Propagation) clustering integrated strategy was proposed based on component data. Compared with the classical algorithm on the remote sensing image, the results showed that the proposed algorithm has certain advantages in classification performance.

Key words: cluster aggregation; Hungarian algorithm; affinity propagation; image target classification

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