

论文与报告

## 用于图像分割的并行自适应层次化网络模型

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摘要

本文提出了一种新的用于图象分割的并行自适应层次化网络模型,该网络模型由并行局部特征提取与区域生成层、自适应统计聚类层和依据全局分布特性引导的决策层组成.各层次间的通讯由网络的协作机制来实现.该网络通过自适应非参数聚类方法,将局部灰度特征与全局随机场分布特征相结合,实现了非监督的图象分割.文中给出了该模型应用于室外自然景物的分割结果.实验表明,即使在自然景物环境变化的情况下,也能得到正确的分割结果.

关键词 [自适应图像分割](#) [并行计算](#) [统计聚类](#)

分类号

## A Parallel Adaptive Hierarchical Network Model for Image Segmentation

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Abstract

This paper describes a new parallel adaptive hierarchical network model for image segmentation. The model consists of a layer for extracting local features and forming region in a parallel recursive way, a layer for adaptive statistical clustering, and a layer for making decision under the guidance of global distribution features. The communication between these layers is realized by means of cooperation mechanism. With the automatic non-parameter clustering method, the un-supervised image segmentation is completed by integrating the local gray feature with the global random distribution features. The model has been applied to the adaptive segmentation of outdoor natural scene image. Even though in the case of different environment, the experimental result is rather satisfactory.

Key words [Adaptive image segmentation](#) [parallel computation](#) [statistical clustering](#)

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