基于云遗传算法的阈值图像分割法

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摘　要：提出了一种基于云遗传算法的阈值图像分割法.该算法将图像分割最佳阈值选取问题转化为遗传算法的寻优问题，根据正态隶属云期望曲线方程的特点将云模型引入遗传算法中，采用 X 条件云发生器算法产生交叉概率和变异概率，避免在寻找最佳阈值的过程中陷入局部最优解.实验结果表明，该算法在收敛速度有很大提高，且得到的阈值范围相比于传统遗传算法更加稳定.

关键词：云模型；遗传算法；图像分割；最大间类方差法

Threshold Image Segmentation Method Based on Cloud Genetic Algorithm

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Abstract：Thresholding image segmentation based on the cloud-model-based genetic algorithm was proposed. The algorithm selection put the best threshold value image segmentation problem is converted into the optimization problem of genetic algorithm. According to the characteristics of normal membership cloud expected curve equation，the cloud model is introduced into the genetic algorithm. The X-conditional cloud generator for the normal cloud model is used as cross probability and mutation probability in this hybrid genetic algorithm，Avoid the genetic algorithm's falling into local optimization. The experimental results show that the range of the thresholds is more stable than traditional genetic algorithm and it less time consuming and better satisfies the request of real-time processing in image segmentation.

Key words：cloud model；genetic algorithms；image segmentation；OTSU

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