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"Experimentos com a Segmentação Bayesiana de Imagens"

Segmentation, or labeling, is a fundamental task in image processing, for which different approaches have been devised. Here we consider the Bayesian approach, which treats the images as sets of random variables, and leads to an optimization problem.

We have implemented and evaluated three metaheuristics for Bayesian segmentation, Game Strategy, Simulated Annealing and Microcanonical Optimization (MO), with the main goal of assessing the latter's performance. Microcanonical Optimization has been considered both in its traditional form, and in a new, recently proposed version. MO proved very competitive, leading to the best overall segmentations in three or more classes. The performance of the new version was less satisfactory.