Abstract

Effective image segmentation remains a challenging process as it constitutes a critical step to higher level image processing applications such as pattern recognition. In this paper, we present bio-inspired formulation to perform unsupervised image segmentation. Specifically, we used the Quantum PSO, the hybrid Gravitational PSO algorithm, a cooperative gravitational approach and the bees approach as powerful global classifiers to optimize the partition of image data into homogenous regions. The segmentation accuracy based on the bees’ algorithm has the highest accuracy.
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Index Terms

Computer Science

Image Processing
Keywords

Image segmentation  Quantum PSO  the Gravitational search algorithm  cooperative coevolution  the bees algorithm