

# Abstract

In this work, new proposals to improve genetic algorithms are presented. In order to do that, a classic genetic algorithm (AGT), which was obtained from the literature for the solution of automatic clustering problem applied to a non-weighted directed graph, is used as the basis for the proposed adaptations.

The proposals for the improvement of AGT consider the accomplishment of modifications in its parameters and the insertion of new procedures to the algorithm. For each proposal, experimental results are presented, following its implementation and execution by using non-weighted directed graphs, which contain different amounts of nodes and edges.

Computational experiments were performed by using the proposals in an individual way or combinations of them, and show that the algorithms here proposed considerably improve the performance of AGT as regards the quality of the obtained solutions, demanding, on the average, similar or even smaller running times in comparison to those of the algorithm in the literature.