Parallel Genetic Algorithms for Graph Coloring Problem using Message Passing Paradigm

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Abstract

This paper describes some experiments with Parallel Genetic Algorithms (PGA) implementations for Graph Coloring Problem. Master-slave model and migration model are under consideration with Message Passing Paradigm being used as a parallelization tool. Performances of selected implementations during computer experiments for standard DIMACS graph colouring instances are compared. Finally, the influence of various models’ parameters (i.e. number of processors used, migration ratio etc.) on PGA’s efficiency is discussed.