Abstract

Course Timetable Problem (CTTP) is considered as a multiassignments problem. This problem occurs during the assignment of a set of events (courses, subjects and teachers) to specific number of appointments (timeslots, days and rooms) under a set of hard and soft constraints. In this paper, the proposed algorithm is represented for solving the CTTP based on the combination of Genetic Algorithms (GA) and Hill Climbing Optimization (HCO). The proposed algorithm is tested over two stages. The first stage is used to discover the fittest mutation out of 16 mutation functions. So, the Relative Percentage Deviation (RPD) is described as a comparison method to discover the best mutation function for solving the CTTP. The second stage is considered to measure the effectiveness and efficiency of the proposed algorithm over 5 datasets namely hddt benchmark. The results show that the proposed algorithm is able to generate good and optimal solutions when compared against other approaches from literature.


Index Terms

Computer Science

Algorithms

Keywords

Course Timetable Problem, Genetic Algorithms, Hill Climbing Optimization, Metaheuristics