A New Biological Operator in Genetic Algorithm for Class Scheduling Problem

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Abstract

This paper describes an innovative approach to solve Class Scheduling problem which is a constraint combinatorial NP hard problem. From the wonders of natural evolution, an important phenomenon of RNA interference induced silencing complex (RISC) can be used as Interference Induced Silencing operator and it is incorporated into the Genetic Algorithm to solve any practical problems like Class Scheduling problem. The aim of this research is to create an automated system for class scheduling problem using Genetic Algorithm to the extent by a new biologically inspired operator, Interference Induced Silencing (IIS) operator that it can be used to set the instant specific preferences to generate the effective time table with the probabilistic operators like crossover and mutation. The framework of the fitness function has considered the hard constraints and the soft constraints. The results were proved to be efficient than the simple Genetic algorithm.

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Index Terms
- Computer Science
- Algorithms

Keywords
- Class Scheduling Problem
- Genetic Algorithm
- Interference Induced Silencing
- Preference Settings
- Swap Mutation
- Hard Constraint and Soft Constraint