

A timetabling applied case solved with ant colony optimization

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This research presents an applied case of the resolution of a timetabling problem called the University course Timetabling problem (UCTP), the resolution technique used is based in Ant Colony Optimization metaheuristic. Ant Colony Optimization is a Swarm Intelligence technique which is inspired from the foraging behavior of real ant colonies. We propose a framework to solve the University course Timetabling problem effectively. We show the problem and the resolution design using this framework. First we tested our proposal with some competition instances, and then compare our results with other techniques. The results show that our proposal is feasible and competitive with other techniques. To evaluate this framework in practice way, we build a real instance using the case of the school of Computer Science Engineering of the Pontifical Catholic University of Valparaíso and the Department of Computer Engineering at Playa Ancha University. © Springer International Publishing Switzerland 2015.

Ant Colony Optimization

Swarm Intelligence

University Course Timetabling Problem

Algorithms

Artificial intelligence

Optimization

Scheduling

Social networking (online)

Computer engineering

Computer science engineering

Foraging behaviors

Resolution techniques

Swarm Intelligence

Swarm intelligence techniques

Timetabling problem

University course timetabling-problems

Ant colony optimization