Software project scheduling using the Hyper-Cube ant colony optimization algorithm [Programiranje ra?unarskog projekta primjenom Hyper-Cube algoritma za optimizaciju kolonije mrava]

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This paper introduces a proposal of design of Ant Colony Optimization algorithm paradigm using Hyper-Cube framework to solve the Software Project Scheduling Problem. This NP-hard problem consists in assigning tasks to employees in order to minimize the project duration and its overall cost. This assignment must satisfy the problem constraints and precedence between tasks. The approach presented here employs the Hyper-Cube framework in order to establish an explicitly multidimensional space to control the ant behaviour. This allows us to autonomously handle the exploration of the search space with the aim of reaching encouraging solutions.

Ant Colony Optimization

Hyper-Cube

Scheduling

Software Project Management

Algorithms

Ant colony optimization

Artificial intelligence

Computational complexity

Geometry

Project management

Scheduling

Ant Colony Optimization algorithms

Hyper-cubes

Multi-dimensional space

Problem constraints

Project duration

Search spaces

Software project management

Software Project Scheduling

Optimization