



ALGORITHMES POUR LA DÉCISION EN ENTREPRISE

GAME THEORY AND ALGORITHMS

Lecturers: Joël PERRET LIAUDET, Philippe MICHEL

| Lecturers : 14.0 | TC : 4.0 | PW : 0.0 | Autonomy : 0.0 | Study : 10.0 | Project : 0.0 | Language : FR

Objectives

In this course, we show how to model some complex problems encountered in various domains (biology, politics, economics, design, ...) by dealing with non-standard optimization algorithms (heuristics, meta-heuristics) and game theory. On simple cases, we will illustrate these resolution processes.

Keywords : optimization algorithm, heuristics, game theory.

Programme

Complexity / Heuristics / Simulated annealing / Genetic algorithms / Ant system / Particule swarm optimization
Game Theory

Learning outcomes

- solve applied optimization problems - modeling and application via heuristic method - modeling and application via game theory

Independent study

Objectifs :

Méthodes :

Core texts

J. Dréo, A. Pérowski, P. Arry, E. Aillard , *MÉTAHEURISTIQUES POUR L'OPTIMISATION DIFFICILE* , Eyrolles, 2003
Colin et Camerer. *BEHAVIORAL GAME THEORY: EXPERIMENTS IN STRATEGIC INTERACTION* . , The Roundtable Series in Behavioral Economics, 2003

Assessment

- > Final mark = 50% Knowledge + 50% Know-how
- > Knowledge = final exam
- > Know-how = continuous assessment