

Adaptation through nature-inspired algorithms

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Artificial Intelligence is strongly related to the ability of algorithms to solve different types of problems. For a given problem, an algorithm could have various architectures, involving different aspects: parameters, functions and structure (as a sequence of functions). The performance of an algorithm, related to the solution quality and to the search complexity, has to be improved by optimising and adapting its design to the problem to be solved.

Several results obtained by a research focused on the development of adapted learning methods able to solve various real-world problems will be presented. The adaptation takes place at the level of information representation (through different fusion methods) or/and at the level of learning algorithms by using different nature-inspired optimisation algorithms (especially, Evolutionary Algorithms).