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A STUDY OF COMBINED GENETIC ANT ALGORITHM FOR CONTINUOUS DOMAIN

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Abstract

Ant colony optimization is an innovation of swarm intelligence. It is a heuristic biological modeling method which proposes the technique for processing multiple tasks in parallel for global searching. It mimics the behavior of ant colony. Genetic algorithms are searching techniques which are based on technicalities for the natural selection process. Basic inspiration for this algorithm is survival of fittest, stronger tends to adjust and survive while weaker tends to die out. Multiple solutions can be obtained using ant algorithm and genetic algorithm individually. But the results obtained from genetic algorithms are less accurate and the speed of ant algorithm is very slow. To overcome these problems a combined genetic ant algorithm is proposed. This algorithm is used to solve the problem of distribution of pheromone in continuous domain. Combined genetic ant algorithm has faster convergence and better optimization performance than individual genetic and ant algorithm. Also an idea to use fuzzy rules is proposed with the help of different literature survey.

Keywords : Ant Colony Optimization (ACO); Genetic concepts; Continuous function; Fuzzy rules.