



A REVIEW OF ARTIFICIAL FISH SWARM OPTIMIZATION METHODS AND APPLICATIONS

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Submitted: Jan. 10, 2012

Accepted: Feb. 9, 2012

Published: mar. 1, 2012

Abstract- The Swarm Intelligence is a new and modern method employed in optimization problems. The Swarm Intelligence method is based on the en masse movement of living animals like birds, fishes, ants and other social animals. Migration, seeking for food and fighting with enemies are

social behaviors of animals. Optimization principle is seen in these animals. The Artificial Fish Swarm Optimization (AFSA) method is one of the Swarm Intelligence approaches that works based on the population and stochastic search. Fishes show very intelligently social behaviors. This algorithm is one of the best approaches of the Swarm Intelligence method with considerable advantages like high convergence speed, flexibility, error tolerance and high accuracy. this paper review the AFSA algorithm, its evolution stages from the start point up to now, improvements and applications in various fields like optimization, control, image processing, data mining, improving neural networks, networks, scheduling, and signal processing and so on. Also, various methods combining the AFSA with other optimization methods like PSO, Fuzzy Logic, Cellular Learning Automata or intelligent search methods like Tabu search, Simulated Annealing , Chaos Search and etc.

Index terms: Artificial Fish Swarm Optimization, Swarm Optimization, Natural Computing.