World Academy of Science, Engineering and Technology
International Journal of Computer and Information Engineering
Vol:10, No:04, 2016

Multi-Objective Random Drift Particle Swarm Optimization Algorithm Based on RDPSO and Crowding Distance Sorting

Authors : Yiqiong Yuan, Jun Sun, Dongmei Zhou, Jianan Sun

Abstract : In this paper, we presented a Multi-Objective Random Drift Particle Swarm Optimization algorithm (MORDPSO-CD) based on RDPSO and crowding distance sorting to improve the convergence and distribution with less computation cost. MORDPSO-CD makes the most of RDPSO to approach the true Pareto optimal solutions fast. We adopt the crowding distance sorting technique to update and maintain the archived optimal solutions. Introducing the crowding distance technique into MORDPSO can make the leader particles find the true Pareto solution ultimately. The simulation results reveal that the proposed algorithm has better convergence and distribution

Keywords : multi-objective optimization, random drift particle swarm optimization, crowding distance sorting, pareto optimal solution
Conference Title : ICGEC 2016 : International Conference on Genetic and Evolutionary Computation
Conference Location : London, United Kingdom
Conference Dates : April 22-23, 2016