Abstract

Traditional mathematical algorithms are incapable of solving real time engineering design problems because of its rigid procedure mainly due to discrete or random data and multi-objective functions in a problem. An optimization algorithm is a procedure which is executed iteratively by comparing various solutions till the optimum or a satisfactory solution is found. There are two population based Swarm inspired methods in computational intelligence areas: Ant colony optimization (ACO) and Particle swarm optimization (PSO). This paper made an attempt to evaluate their performance of these two swarm intelligence techniques. A real engineering application of bevel gear design optimization is considered and results are analyzed with respect to the context.

References

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Index Terms

Computer Science

Algorithms

Keywords

Ant Colony Optimization  Bevel Gear design  Multi Objective Optimization  Particle Swarm Optimization.