Some Penalty-based Constraint Handling Techniques with Ant Lion Optimizer for Solving Constrained Optimization Problems

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Abstract

In order to solve constraint optimization problems, constraints should be handled. The most common technique is penalty functions. Ant lion optimizer (ALO) is one of meta-heuristic algorithms which used to solve optimization problems. In this paper, the performance of ALO using different penalty-based methods (static penalty, dynamic penalty, and adaptive penalty) is compared and we make sensitivity analysis of tuning important parameters of penalty methods to show their effects on the performance of the penalty methods; six real engineering problems are used as a benchmark in this paper.

References

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Index Terms

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Keywords

Constrained optimization problems, ant lion optimizer, penalty functions, constraint handling.