Abstract

This paper presents a modified artificial bee colony for solving the container loading problem because the cost can be reduced by increasing the space utilization ratio. This problem is solved in a two-phased Modified Artificial Bee Colony Optimization (MABCO) and a Wall-building approach. In the first phase, MABCO with its probabilistic decision rule is used to construct a sequence of boxes. The boxes are then arranged into a container with the Wall-building heuristic in the second phase. The nectar information feedback of MABCO using neighborhood updating rule helps to improve the solutions. Computational experiments were conducted on benchmark data set and the results obtained from the proposed approach are shown to be comparable with other methods from the literatures.

References

A Modified Artificial Bee Colony for Solving the Container Loading Problem

- Seow, V, H, Majid, Z, A, Yap. Ant Colony Optimization for Container Loading Problem,
A Modified Artificial Bee Colony for Solving the Container Loading Problem


Index Terms

Computer Science  
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Keywords

Packing problem; Container loading; Bee colony; Wall-building; Meta-heuristic