

Heuristic Space Diversity Management in a Meta-Hyper-Heuristic Framework

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Abstract

This paper introduces the concept of heuristic space diversity and investigates various strategies for the management of heuristic space diversity within the context of a meta-hyper-heuristic algorithm. Evaluation on a diverse set of floating-point benchmark problems show that heuristic space diversity has a significant impact on hyper-heuristic performance. The increasing heuristic space diversity strategies performed the best out of all strategies tested. Good performance was also demonstrated with respect to another popular multi-method algorithm and the best performing constituent algorithm.