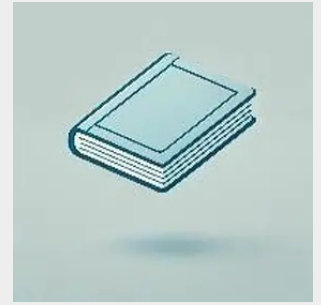


## Advances in Hyper-Heuristics

The field of hyper-heuristics has been developing rapidly over the years with a number of new advancements in the field. The book firstly examines the different levels of generality that can be attained by a hyper-heuristic and provides a standardization for hyper-heuristics. The book investigates a further level of generality in hyper-heuristics across discrete and continuous optimization. The concept of learning within hyper-heuristics is then reviewed. The use of hyper-heuristics for the automated design of machine learning and search algorithms as well as the automated design of hyper-heuristics and hybrid hyper-heuristics is examined. An overview of the use of approaches not previously employed by hyper-heuristics, such as neural networks, is given. Recent trends in computational intelligence, namely, transfer learning and explainable artificial intelligence, are reported in the context of hyper-heuristics. Recent applications of hyper-heuristics in areas such multi-objective optimization and search-based software engineering are also presented.

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