

Paper Submission

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Choose "Automated Design and Adaptation" as the article type when submitting.

Important Dates:

Submission deadline: Oct. 1, 2016

Notification of first review:
December 1, 2016

Resubmission: January 20, 2017

Final acceptance notification:
February 20, 2017

Genetic Programming and Evolvable Machines

~Call for Papers~

Special Issue on Automated Design and Adaptation of Heuristics for Scheduling and Combinatorial Optimisation

Scheduling and combinatorial optimisation problems appear in many practical applications in production and service industries and have been the research interest of researchers from operations research and computer science. These problems are usually challenging in terms of both complexity and dynamic changes, which requires the development of innovative solution methods. Although the research in this field has made a lot of progress, designing effective algorithms/heuristics for scheduling and combinatorial optimisation problems is still a hard and tedious task. In the last decade, there has been a growing interest in applying computational intelligence (particularly evolutionary computation) techniques to help facilitate the design of scheduling algorithms and many state-of-the-art methods have been developed.

This special issue aims to present the most recent advances in scheduling and combinatorial optimisation with a special focus on automated heuristic design and self-adaptive algorithms. This includes (1) offline approaches to automatically discover new and powerful algorithms/heuristics for scheduling and combinatorial optimisation problems, and (2) online approaches which allow scheduling algorithms to self-adapt during the solving process. We encourage papers employing variable-length representations for scheduling algorithms. Here are a number of potential techniques which are highly relevant to this special issue:

- Hyper-heuristics for heuristic/operator selection
- Hyper-heuristics for generating new operators and algorithms
- Memetic algorithms
- Genetic programming
- Evolutionary design of heuristics
- Self-adaptive evolutionary algorithms
- Machine learning-based meta-heuristics
- Learning classifier systems
- Scheduling or optimisation of algorithms and machines

Topics of interest include, but are not limited to:

- Production scheduling
- Timetabling
- Vehicle routing
- Grid/cloud scheduling
- 2D/3D strip packing
- Space/resource allocation
- Automated heuristic design
- Innovative applications of scheduling and combinatorial optimisation
- Web service composition
- Wireless networking state location allocation
- Airport runway scheduling
- Project scheduling
- Traffic control

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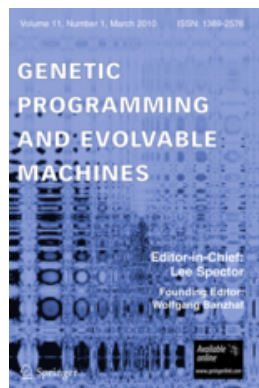
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ISSN: 1389-2576 (print)
1573-7632 (electronic)

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