EVOLUTIONARY SCHEDULING AND COMBINATORIAL OPTIMIZATION

Su Nguyen, Yi Mei and Mengjie Zhang

Evolutionary scheduling and combinatorial optimisation (ESCO) is an important research area at the interface of artificial intelligence (AI) and operations research (OR). ESCO has attracted the attentions of researchers over the years due to its applicability and interesting computational aspects. Evolutionary Computation (EC) techniques are suitable for these problems since they are highly flexible in terms of handling constraints, dynamic changes, and multiple conflicting objectives. With the growth of new technologies and business models, researchers in this field have to continuously face with new challenges, which required innovated solution methods.

This special session focuses on both practical and theoretical aspects of Evolutionary Scheduling and Combinatorial Optimization. Examples of evolutionary methods include genetic algorithm, genetic programming, evolutionary strategies, ant colony optimisation, particle swarm optimisation, evolutionary based hyper-heuristics, memetic algorithms.

We welcome the submissions of quality papers that effectively use the power of EC techniques to solve hard and practical scheduling and combinatorial optimization problems. Papers with rigorous analyses of EC techniques and innovative solutions to handle challenging issues in scheduling and combinatorial optimisation problems are also highly encouraged.

Topics

- Production scheduling
- Timetabling
- Vehicle routing
- Project scheduling
- Airport runway scheduling
- Transport scheduling

- Grid/cloud scheduling
- Evolutionary scheduling with Big Data
- Web service composition
- Wireless networking state location allocation
- Project scheduling
- 2D/3D strip packing
- Space allocation
- Multi-objective scheduling
- Multiple interdependent decisions
- Automated heuristic design
- Innovative applications of evolutionary scheduling and combinatorial optimisation