Metaheuristic Computation

Call for Papers

Metaheuristic Computation is one of the most important emerging technologies of recent times. Over the last years, there has been exponential growth of research activity in this field. Despite the fact that the concept itself has not been precisely defined, metaheuristic methods have become the standard term that encompasses several stochastic, population-based and system-inspired approaches.

Metaheuristic schemes use as inspiration our scientific understanding of biological, natural or social systems, which at some level of abstraction can be represented as optimization processes. They intend to serve as general-purpose easy-to-use optimization techniques capable of reaching globally optimal or at least nearly optimal solutions. There exist some common features clearly appear in most of the metaheuristic approaches, such as the use of diversification to force the exploration of regions of the search space, rarely visited until now, and the use of intensification or exploitation, to investigate thoroughly some promising regions. Another common feature is the use of memory to archive the best solutions encountered. Due to their robustness, metaheuristic techniques are well-suited options for industrial and real-world tasks. They do not need gradient information and they can operate on each kind of parameter space (continuous, discrete, combinatorial, or even mixed variants). Essentially, the credibility of metaheuristic algorithms relies on their ability to solve difficult, real-world problems reaching a better performance in terms of accuracy and robustness.

This special issue aims to provide a collection of high-quality research articles that address broad challenges in both theoretical and application aspects of metaheuristic algorithms. We invite colleagues to contribute original research articles as well as review articles that will stimulate the continuing effort on metaheuristic approaches to solving problems in different domains. In the special issue, the contributions are mainly divided into two groups: (A) Foundations, improvements or hybrid approaches and (B) applications. Potential topics for this special issue include, but are not limited to:

(A) Foundations, improvements or hybrid approaches:
- Analysis or comparison of metaheuristic methods single or multi-objective.
- New stochastic search strategies
- Enhanced versions of existent metaheuristic schemes single or multi-objective.
- New metaheuristic techniques generated through the combination of different paradigms.

(B) Applications:
- In communications
- In control processes
- In decision Making
- In signal and Image processing
- In Power systems

Contributions for this Special Issue are collected through an open call. All submissions will be reviewed by 3 different reviewers, according to the journal peer-review policy. Submitted papers must be unpublished and not submitted anywhere else for publication. Please submit your contribution via the online submission systems at https://mc.manuscriptcentral.com/exsy.

Important Dates:

Manuscript Due, **1 June 2020**
First Round of Reviews, **1 September 2020**
Publication Date, **15 November 2020**

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