Intelligent Decision Technologies

Proposal for Special Issue
"Application of Metaheuristic Algorithms in Machine Learning and Artificial Intelligence Paradigms"

Aim and Scope:

Many important problems require optimization. Metaheuristic algorithms is a higher-level procedure or heuristic designed to find, generate, or select a heuristic that may provide a sufficiently good solution to an optimization problem, especially with incomplete or imperfect information or limited computation capacity. Metaheuristics sample a set of solutions which is too large to be completely sampled. Metaheuristics may make few assumptions about the optimization problem being solved, and so they may be usable for a variety of problems. Machine learning, artificial intelligence and its learning, adaption paradigms are providing an effective solution in engineering applications. It encompasses an artificial neural network, reasoning, evolutionary algorithms, artificial immune systems, DNA computing, and quantum computing, among others. These techniques will be more helpful to human intelligence for handling uncertainty and subjective vagueness in the decision making process. The new frontier research era development of machine learning and artificial intelligence paradigms with reference to data analytics and optimization has played a significant role in various research streams. Consequently, the fast developments of computer science research have raised the need for in-depth convergence of the role of metaheuristic algorithms in machine learning and artificial intelligence computing paradigms. Moreover, applying metaheuristic algorithms in machine learning and artificial intelligence system for data analytics and engineering applications is feasible and sound.

The aim of this special issue is to integrate the role of metaheuristic algorithm in machine learning and artificial intelligence computing paradigms, advanced data analytics, and optimization opportunities to bring more awareness on applicability and usefulness of various engineering applications. Further, it is imperative to note that the role of metaheuristic algorithms have not been investigated much in machine learning and artificial intelligence computing paradigms and its prediction. Furthermore, there are many intertwined noteworthy issues that need to be addressed in the context of machine learning and artificial intelligence system. Obviously, these challenges are creating immense opportunities for researchers. Hence, primary aim of this special issue is to disseminate the application of meta-heuristic algorithms in machine learning and artificial intelligence approaches/models and its related branches such as evolutionary computation, neural networks, artificial immune systems, swarm intelligence, and so on for various engineering systems. We cordially invite investigators to contribute their original research articles, with an emphasis on real-life applications, as well as review articles that will stimulate further activities in this area and improve our understanding of the key scientific problems.

Topics of Interest:

We seek original and high quality submissions related to one or more of the following topics:

- Theoretical analysis of the search mechanism through metaheuristic algorithm in machine learning.
- Metaheuristic algorithm for adaptation and tuning of the control parameters of machine learning (deep learning).
- Metaheuristic algorithm and machine learning techniques (e.g., Deep Learning) with cognitive knowledge acquisition frameworks for engineering systems.

- Metaheuristic algorithms for parallel machine learning and deep learning approach for engineering applications.
- Metaheuristic algorithm for deep randomized Neural Networks for engineering applications.
- Nature-Inspired smart hybrid systems for Innovative healthcare systems, services and applications.
- Artificial Immune Systems modelling for image classification.
- Metaheuristic algorithms and machine learning for predictive modelling of complex diseases.
- Hybrid machine learning and metaheuristic algorithms for engineering applications.

Submission Instruction: For manuscript submission follow the instruction given at http://www.iospress.nl/journal/intelligent-decision-technologies/. Also, each paper submission should have "Special Issue Metaheuristic Algorithms" at the time of submission only. Please direct your queries to profharimohanpandey@gmail.com

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Important Date:
August 30, 2017: Paper submission open

Nov 30, 2017: Deadline for paper submission.

March 10, 2018: First-round decision notification

April 10, 2018: Revised submission due

May 30, 2018: Second-round decision notification

June 30, 2018: Final decision notification

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