Special Session on

AI-Driven Metaheuristic Algorithms for Optimization:
Recent Contributions in Theory, Methods, and Applications

in conjunction with

23rd International Conference on Intelligent Systems Design and Applications (ISDA)

December 11-13, 2023

Website: http://www.mirlabs.org/isda2023

Hybrid Mode – Online & Offline Onsite

Onsite Venues: **http://mirlabs.org/isda23/venue2.php**

Objectives and Scope

The term "optimization" refers to the process of choosing the option that is optimal with respect to certain criteria. It conducts research in a variety of scientific fields, including mathematicians, statistics, and engineering, as well as management, economics, ecology, psychology, bioinformatics, and education, in various applications such as Project Planning, Vehicle Routing Problems, Logistics and Supply Chain Management, Systems and Control, Scheduling, IoT, and cloud computing. Optimizing processes help businesses achieve their maximum potential by weighing the benefits of all feasible courses of action against the associated risks. Therefore, the AI-Driven Metaheuristic Algorithms for optimization are interesting research areas that are open for discussion in depth.

In recent years, several innovative AI-driven metaheuristic algorithms, collectively known as Intelligent Optimization Algorithms (IOAs), have been developed to intelligently tackle complex issues in optimization problems. The algorithms are created by combining metaheuristics with other forms of Artificial Intelligence (AI), such as Fuzzy Logic, Artificial Neural Networks, Deep Learning, and Reinforcement Learning. Sequential/parallel hybridizations of the population- and solution-based metaheuristics provide a promising approach to enhancing the search process's exploration-exploitation balance.

The goal of this Special Session is to gather recent theoretical and methodological advances in AI-driven metaheuristic algorithms proposed to solve optimization problems and their applications.

Subtopics:

The topics include, but are not limited to:

- AI-Driven Metaheuristics with multiple local search operators
- AI-Driven Metaheuristic for Just-in-Time problems
- AI-Driven Metaheuristics for resource allocation problems
- AI-Driven Metaheuristics for logistics and supply chain management
- AI-Driven Metaheuristics for cleaner production and manufacturing

- AI-Driven Metaheuristics for sustainable and renewable energy systems
- AI-Driven Metaheuristics for signal/image processing
- AI-Driven Metaheuristics for economics and business intelligence
- AI-Driven Metaheuristics for Vehicle Routing Problem
- AI-Driven Metaheuristics Decision Support Systems
- AI-Driven Metaheuristics for Planning and Scheduling

Paper publications
- Proceedings will be published in Lecture Notes in Networks and Systems, Springer (https://www.springer.com/series/15179)
- Indexed by SCOPUS, INSPEC, WTI Frankfurt eG, zbMATH, SCImago
- Papers maximum length is 10 pages
- Papers must be formatted according to Springer format (Latex/word) available at: https://www.springer.com/de/authors-editors/book-authors-editors/manuscriptpreparation/5636#c3324
- Submission Link: http://www.mirlabs.org/isda23/submission.php

Important Dates
Paper submission due: **September 30, 2023**
Notification of paper acceptance: **October 31, 2023**
Registration and Final manuscript due: **November 10, 2023**
Conference Date: **December 13-15, 2023**

Special Session Chair(s)

- Prof. Ajith Abraham, Machine Intelligence Research Labs, USA
- Dr. Seyedsaeid Mirkamali, Department of Computer Engineering and IT, Payame Noor University (PNU), Tehran, Iran
- Dr. Ali Asghar Rahmani Hosseinabadi, Department of Computer Science, University of Regina, Canada

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