Special sessions

Metaheuristic-Driven Optimization in Deep Learning: Bridging the Gap for Enhanced Performance (MODL)

5th international conference on "Modelling, Computation and Optimization in Information Systems and Management Sciences"
MCO 2025
June 4 - 6, 2025, Metz, France
https://mco2025.event.univ-lorraine.fr/

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General description of the special session

Deep learning has revolutionized various fields, yet challenges such as hyperparameter tuning, model architecture design, and optimization persist. Metaheuristics, inspired by nature and heuristic problem-solving strategies, provide robust tools for addressing these challenges. This special session aims to explore the integration of metaheuristics in deep learning to achieve more efficient, scalable, and interpretable solutions. It invites contributions that demonstrate innovative frameworks, applications, and theoretical advancements at the intersection of these two domains.

Session topics:

1. Neural architecture search using metaheuristics.
2. Optimization of deep learning training processes with evolutionary algorithms.
3. Hybrid frameworks combining metaheuristics and deep reinforcement learning.
4. Applications of swarm intelligence in deep learning.
5. Metaheuristic strategies for pruning, quantization, and model compression.
6. Multi-objective optimization in deep learning using metaheuristic approaches.
7. Real-world case studies and benchmarks demonstrating the effectiveness of metaheuristic integration.

Submission

Submissions are open at https://mco2025.event.univ-lorraine.fr/page/submission
(Select the track "Special Session - MODL")

Important dates:

March 09, 2025	Deadline for the paper submission
March 24, 2025	Notification of paper acceptance/rejection
April 15, 2025	Abstract submission deadline

April 17, 2025	Abstract acceptance/rejection notification