

Special sessions

Optimization and Machine Learning

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/>

Organizer: **Yi-Shuai Niu**
Email: niuyishuai@bimsa.cn

General description of the special session

This special session will serve as a platform to explore and discuss the latest advancements at the intersection of optimization techniques and machine learning. With the growing complexity of real-world challenges, the integration of these fields has demonstrated profound potential in enhancing AI technologies and decision-making processes, improving computational efficiency, and solving large-scale problems across diverse applications.

This session will bring together researchers, practitioners, and industry experts to present innovative theories, methodologies, and applications. Participants will have the opportunity to exchange ideas, foster collaborations, and address pressing questions that drive both academic and industrial innovation.

Session topics:

The special session will focus on, but not be limited to, the following topics:

- **Optimization Algorithms for Machine Learning:** Development and analysis of optimization methods tailored for machine learning models.
- **Machine Learning for Optimization Problems:** Application of machine learning techniques to solve hard optimization problems.
- **Parallel and Distributed Computing:** Scalability of optimization methods in parallel and distributed training.
- **Hybrid Approaches:** Synergies between traditional optimization techniques and modern machine learning algorithms.
- **Interpretable and Fair Machine Learning:** Methods to ensure fairness, transparency, and interpretability in machine learning systems through optimization.

- **Optimization under Uncertainty:** Robust and stochastic optimization in machine learning models and applications.
- **Various Applications:** Resource allocation and scheduling, renewable energy and sustainable development, health and biomedical research, AI-driven autonomous systems, financial investment and risk assessment, natural language processing, computer vision, and so on.

Submission

Submissions are open at <https://mco2025.event.univ-lorraine.fr/page/submission>

(Select the track “Special Session - Optimization and Machine Learning”)

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