

The 7th International Conference on Data-Driven Optimization of Complex Systems

August 19-21, 2025 Taiyuan, China www.ic-docs.org

DOCS 2025

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The 7th International Conference on Data-driven Optimization of Complex Systems (DOCS 2025) warmly invites submissions from researchers, practitioners, and academics in the expansive field related to data-driven optimization of complex systems. We encourage interested authors to submit previously unpublished contributions from a broad range of including but not limited to the following.

- ◆ **Data-driven Learning:** Deep learning, reinforcement learning, transfer learning, self-supervised learning, distributed and federated machine learning, trustworthy machine learning, generative models, large language models (LLMs), automated verification of LLMs, coordination between small and large models, AI for science and engineering, AI for education and society, AI for art, secure AI;
- ◆ **Data-driven Optimization and Decision Making:** Data-driven optimization algorithms, Bayesian optimization, neural combinatorial optimization, large-scale and multi-objective optimization, integration of machine learning and optimization, data-driven decision paradigm, intelligent scheduling, reinforcement learning for combinatorial optimization, distributed and federated optimization, industrial and manufacturing system analysis, and decision-making; diffusion models for optimization, LLM-assisted optimization;
- ◆ **Data-driven Modeling and Control:** Learning and adaptive control, robust control, intelligent control, optimization-based and optimal control, model predictive control, fault detection and identification, hybrid intelligent systems, neural control, fuzzy logic control, networked control, industrial automation, intelligent transportation systems, environmental monitoring and control, intelligent manufacturing systems, green communication systems;
- ◆ **Big Data Analysis and Application:** Big data storage and mining, data coordination, integration and processing, big data analytics and metrics, theory and methods of multi-source big data fusion, data base management systems, big data service, big data-oriented cloud computing technology, privacy preserving big data analysis, visual city data analysis, intelligent transportation data analysis, healthcare data analysis, bioinformatics.

Important Dates

Paper Submission Deadline: June 22, 2025 **Notification of Acceptance: July 15, 2025**
Camera-Ready Submission: July 22, 2025 **Early Bird Registration: July 20, 2025**

Special Session

Application Deadline: April 30, 2025

Faculty members applying for the Special Session (SS) of DOCS 2025, please send the SS topic, abstract, and organizer information (including name, institution, and email) to: liuqiqi@westlake.edu.cn.

For every 5 papers accepted in each Special Session, the registration fee for one person will be waived.

Submission

Authors are invited to submit full-length papers (nominal paper length is 6-8 A4 pages) by the submission deadline through the online submission system. Special session organizers are also invited to enlist at least 6 papers with cohesive topics to form special sessions. The submission of a paper implies that the paper is original and has not been submitted under review or is not copyright protected elsewhere and will be presented by an author if accepted. All submitted papers will be refereed by experts in the field based on the criteria of originality, significance, quality, and clarity. The authors of accepted papers will have an opportunity to revise their papers and take consideration of the referees' comments and suggestions. The use of artificial intelligence (AI)-generated text in an article shall be disclosed in the acknowledgements section of any paper submitted to an IEEE Conference or Periodical. The sections of the paper that use AI-generated text shall have a citation to the AI system used to generate the text. Accepted papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore's scope and quality requirements. Selected high-quality papers will be invited to be submitted to journal special issues after a substantial extension.