

# The 4th International Conference on Data-driven Optimization of Complex Systems

October 28-30, 2022, Chengdu, Sichuan, China



## Call for Papers

Sponsor: Sichuan University

Organizer: Business School, Sichuan University,

State Key Laboratory of Synthetical Automation for Process Industries

Co-sponsors: Chinese Association of Automation, University of Electronic Science and Technology of China, Northeastern University, and Chinese Association for Artificial Intelligence

Technical co-sponsor: IEEE Industrial Electronics Society, and IEEE Computational Intelligence Society

The 4th International Conference on Data-driven Optimization of Complex Systems (DOCS'2022) will be held on October 28-30, 2022 in Chengdu, China. DOCS'2022 aims to provide a high-level international forum for innovative academics and industrial experts in the related fields of data-driven optimization and its application to complex systems. The goal of the conference is to promote research and in data-driven optimization, learning and control, and their applications to complex systems, and establish a forum for academia and industrial practitioners around the world to share ideas and present their recent research advances. The conference will be featured by tutorials, workshops, plenary speeches given by world-leading researchers, regular sessions with a broad coverage, and special sessions focusing on popular and emerging topics. We warmly invite you to participate in DOCS'2022 and look forward to seeing you in Chengdu!

### Call for Papers and Special Sessions

Authors are warmly invited to contribute high-quality papers to [DOCS'2022](#). In addition, interested researchers are encouraged to propose special sessions within the technical scopes of the conference to [docs2022@126.com](mailto:docs2022@126.com) and <https://cms.amss.ac.cn/index.php>. Special sessions aim to bring together researchers to present research findings on focused topics. For details, please visit the conference website: <https://docs2022.github.io/>

### Topics

Technical topics of the conference include, but are not limited to, the following areas:

#### **Data-driven machine learning**

Dynamic big data machine learning methods and techniques, deep learning, neural architecture search, reinforcement learning, statistical relational learning, transfer learning, self-supervised learning, distributed and federated machine learning, trustworthy machine learning

#### **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

#### **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

### Paper 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. Accepted full-length papers approved by the conference review team will be included in IEEE Xplore Digital Library and will be indexed by EI. Selected high-quality papers will be invited to be submitted to journal special issues after a substantial extension.

### Important Dates

Special session proposals deadline..... January 15, 2022  
Paper submission deadline..... May 31, 2022  
Notification of acceptance..... June 30, 2022  
Camera-ready copy and author registration..... July 30, 2022



### Honorary General Chairs

Yanrong Li, Sichuan University

Tianyou Chai, Northeastern University

### General Chairs

Yaochu Jin, Bielefeld University

Jiuping Xu, Sichuan University

Zhang Yi, Sichuan University

### Organizing Chairs

Xiuping Zheng, Northeastern University

Dujuan Wang, Sichuan University

Tao Yang, Northeastern University

### Program Chairs

Kay Chen Tan, The Hong Kong Polytechnic University

Mengjie Zhang, Victoria University of Wellington

Jinliang Ding, Northeastern University

Wenli Du, East China University of Science and Technology

Huchuan Lu, Dalian University of Technology

Jun Luo, Chongqing University

Jiancheng Lv, Sichuan University

Ling Wang, Tsinghua University

Chunhua Yang, Central South University

Zhigang Zeng, Huazhong University of Science and Technology

### Technical Program Chairs

Yew-Soon Ong, Nanyang Technological University

Jonathan E. Fieldsend, University of Exeter

Barbara Hammer, Bielefeld University

Yuhui Shi, Southern University of Science and Technology

Honggui Han, Beijing University of Technology

Yuzhe Li, Northeastern University

Biao Luo, Central South University

Yang Tang, East China University of Science and Technology

Handing Wang, Xidian University

Peng Yi, Tongji University

Yunqiang Yin, University of Electronic Science and Technology of China

Wenwu Yu, Southeastern University

Deming Yuan, Nanjing University of Science and Technology

Ye Yuan, Huazhong University of Science and Technology

Xingyi Zhang, Anhui University

Chunhui Zhao, Zhejiang University

Shen Yin, Norwegian University of Science and Technology

### Invited Sections Chairs

Wei Dai, China University of Mining and Technology

Weinan Gao, Florida Institute of Technology

Hua Geng, Tsinghua University

Tieshan Li, University of Electronic Science and Technology of China

Jing Liang, Zhengzhou University

Jing Liu, Xidian University

Qiang Liu, Northeastern University,

Jiahui Qin, University of Science and Technology of China

Guanghui Wen, Southeast University

Weiguo Xia, Dalian University of Technology

Hao Luo, Harbin Institute of Technology

Xinlei Yi, KTH Royal Institute of Technology

Jinhui Zhang, Beijing University of Technology

Shanying Zhu, Shanghai Jiao Tong University

### Publicity Chairs

Ziyang Meng, Tsinghua University

Zhengguang Wu, Zhejiang University

Yi Liu, Zhejiang University of Technology

### Publications Chairs

Ran Cheng, Southern University of Science and Technology

Chaoli Sun, Taiyuan University of Technology

### Financial Chairs

Chun-Yi Su, Concordia University

Wenjun Ye, Concordia University

### Registration Chairs

Haiming Liang, Sichuan University

Jinxi Zhang, Northeastern University

### Local Arrangements Chairs

Rui Qiu, Sichuan University

Pengyu Yan and Wei Yan, University of Electronic Science and Technology of China