

ARCAI 2024 Special Session “Data Science, AI Applications, and Safe & Security for Large Scale and Complex Systems”

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Call for Papers:

The systems such as industrial process systems and transportation systems have common characteristics, including are large-scale, multimodal, nonlinear, spatiotemporal, and distributed, and so on. And such systems can be abstracted as topological networks with numerous interwoven nodes. Usually, large-scale complex systems that meet the above characteristics play an important role in the national economy and society. Therefore, nowadays, the following issues have become hot topics in the study of large-scale complex systems: 1) How to fully mine the large amount of data generated by the systems, deeply explore internal characteristics and laws by artificial intelligence, and then improve the cognitive level of the system; 2) How to utilize the acquired models and knowledge to ensure system functional safety, information security, and model security. This special session mainly provides a communication platform for scholars studying data science, AI applications, and safe & security for large-scale complex systems.

The topics of this session are listed but not restricted to the following ones:

- Time series data prediction and soft sensor for large-scale complex systems
- Fault detection, classification, and traceability by data driven methods
- State safety control of complex systems
- Attack/Defense strategies for model security

Accepted and presented papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore’s scope and quality requirements and indexed by EI Compendex and Scopus. Selected papers will be invited to SCI Journal Special Issues.