Special Issue

Industrial IoT-Enabled Modeling and Optimization for the Process Industry—2nd Edition

Message from the Guest Editors

The application of intelligence in manufacturing has emerged as a compelling topic. Industrial IoT represents the core of smart manufacturing through integrating advanced sensing, communication, and data mining technologies. With the development of artificial intelligence (AI) techniques, including machine learning (ML), reinforcement learning (RL), and large language models (LLMs), the integration of Industrial IoT into AI has shown great potential in addressing these challenges. AI techniques have greatly facilitated the modeling and optimization of manufacturing processes but also involve a number of challenges, e.g., how to integrate mechanism knowledge into industrial big data in the modeling of industrial processes and how to deal with multiple and coupled objectives in the optimization of the production process. Possible topics include, but are not limited to, the following:

- Industrial IoT-enabled process modeling;
- Process monitoring and fault diagnosis;
- Industrial process optimization;
- Production and logistics optimization;
- Smart manufacturing;
- ML applications in smart manufacturing;
- LLM applications in smart manufacturing.

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Editor-in-Chief

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