IEEE Transactions on Industrial Informatics
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for Special Section on
Artificial Intelligence in Logistics Systems

Theme: A great variety of technical approaches have been utilized in the modern digitalized logistics systems that significantly improve the functionality and the corresponding quality of logistics service, when they are considered within the digitalized and networked value stream and the supply chain. Despite these accomplishments, the logistics system still faces grand challenges on structure and functionality as data and information source for the digital thread, on time efficiency, economic cost and safety risk. In recent years, artificial intelligence (AI) has been adopted to facilitate the monitoring, operation and decision in the logistics field inspired by the success in various other domains. These techniques provided high-quality solutions to the problems that have long been the bottlenecks in the logistics industry. Furthermore, the deployment of Industry 4.0 compliant technologies and solutions, of Internet-of-Things and cloud computing enables the collection, transmission, storage and processing of large-scale data from logistics operations including warehousing, transportation, distribution and delivery, thereby offering the advances such as supporting complex analysis and online estimation of the system state. In addition, the advances of sensory technologies facilitated by Edge-computing enable efficient data acquisition from many different sources such as images, videos, locations, times and various other measurements. Based on this infrastructure, AI technology can be conveniently leveraged to improve the functionality, time efficiency of operation, reduce the economic costs, identify the potential safety risk, etc. This special issue aims to further explore prospective applications of AI technologies in logistics industry, including: 1) proposing new solutions to address grand challenges that are critical to the quality of logistics, 2) tackling the new challenges in modern digitalized and networked logistics systems, 3) investigating inter-disciplinary usage of AI and other technologies in the logistics domain, when it is integrated within the digitalized value stream and networked supply chain.

This special section will focus on (but not limited to) the following topics:

- Risk assessment/management in logistics systems,
- New solutions to classic logistics operation problems (e.g., VRP, FLS, etc.),
- Computer vision in logistics and transportation,
- Robotics in logistics applications,
- Autonomous driving for logistics transportation/delivery,
- AI for logistics systems simulation,
- Cyber security for logistics systems,
- Data analytics for logistics operations,
- Smart supply chain management,
- Smart warehousing,
- Smart customer service,
- Predictive maintenance and diagnosis analysis in logistics systems,
- Digitalized and Networked Logistics Systems,
- Logistics Systems as AI-supported Node in the Digital Thread

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Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Regular manuscript length is 8 pages.

Note: The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

Timetable: Deadline for manuscript submissions   **January 30, 2022**
Expected publication date (tentative)   September   2022

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