Special Issue

Big Data and Machine/Deep Learning in Construction

Message from the Guest Editor

The use of big data and machine/deep learning in the field of construction has rapidly gained momentum in recent years, offering unprecedented opportunities to improve efficiency, safety and sustainability. This Special Issue aims to bring together cutting-edge research and innovative applications that harness the power of big data and machine/deep learning in the construction domain. We invite researchers, practitioners and industry experts to submit high-quality original research and review articles that address, but are not limited to, the following topics:

- Detection of objects, hazards and defects at construction sites;
- Semantic segmentation of construction scenes;
- Building information modeling (BIM);
- Sustainable construction practices;
- Energy efficiency in construction;
- Data-driven decision making in construction;
- Monitoring and quality control of construction processes;
- Predictive construction-related maintenance;
- Smart construction equipment;
- Construction project management and resource optimization;
- Construction risk management;
- AI-enabled wearable technology in construction.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).