Special Issue

AI in Construction: Automation, Optimization, and Safety

Message from the Guest Editors

Artificial Intelligence (AI) is transforming the AEC industry by boosting automation, optimization, and safety. It enhances efficiency, sustainability, and productivity while cutting project costs and risks. This Special Issue invites original research papers and systematic reviews exploring innovative applications of AI in construction. We encourage submissions addressing, but not limited to, the following topics:

- AI-driven automated inspection and defect detection.
- Computer vision and deep learning for structural health monitoring.
- Intelligent robotics and autonomous machinery for construction site monitoring.
- AI-based optimization for resource allocation and scheduling.
- Machine learning for predictive maintenance and lifecycle management.
- AI in building information modeling (BIM) and digital twin technologies.
- Enhancing construction safety and risk management using AI.
- AI-driven decision support systems in construction project management.
- Big data analytics and AI for sustainable and green construction.
- Integration of IoT and AI for smart construction site management.

Guest Editors

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Deadline for manuscript submissions

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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 15.1 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the second half of 2025).