Special Issue

Applying Artificial Intelligence in Construction Management

Message from the Guest Editors

Artificial intelligence (AI) is revolutionizing the construction industry by integrating machine learning, robotics, and big data analytics to enhance efficiency, reduce costs, and improve safety. Construction management, a complex field involving project planning, resource allocation, risk management, and quality control, greatly benefits from AI-driven solutions. The key benefits of AI in construction management include enhanced accuracy in project scheduling and budgeting, increased worker safety through AI-driven monitoring systems, improved resource allocation and waste reduction, and faster construction timelines with AI-powered automation. However, the adoption of AI in construction management faces several challenges, including the limited availability of high-quality data, skill gaps, uncertainty in AI decision-making, and cybersecurity risks and data privacy concerns. Despite these challenges, the future of AI in construction management remains promising, with increasing advancements in AI-driven automation, robotics, and predictive analytics set to reshape the industry.

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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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