

Applications of Artificial Intelligence in Building Development

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Message from the Guest Editors

Dear Colleagues,

In a world powered by artificial intelligence (AI), many urban and building solutions are undergoing a transformative revolution. Cities are increasingly becoming more efficient, sustainable, and liveable.

AI empowers urban managers and policymakers, ultimately fostering the development of resilient and thriving cities. AI is an indispensable ally in today's architectural, engineering, and construction landscape, providing transformative support across the entire building lifecycle, which ensures buildings stay dynamic, efficient, and sustainable throughout their entire lifecycle. AI aids architects in creating visually appealing and structurally sound designs, streamlines construction operations, enhances safety, and improves efficiency.

This Special Issue explores AI's profound impact on urban development, city planning, building design, construction, maintenance, and energy efficiency. It offers a glimpse into a future wherein AI guides us towards more sustainable, efficient, and remarkable cities and structures.

Guest Editors



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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.

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