Article

Encouraging Eco-Innovative Urban Development

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Abstract: This article explores the intertwining connections among artificial intelligence, machine learning, digital transformation, and computational sustainability, detailing how these elements jointly empower citizens within a smart city framework. As technological advancement accelerates, smart cities harness these innovations to improve residents' quality of life. Artificial intelligence and machine learning act as data analysis powerhouses, making urban living more personalized, efficient, and automated, and are pivotal in managing complex urban infrastructures, anticipating societal requirements, and averting potential crises. Digital transformation transforms city operations by weaving digital technology into every facet of urban life, enhancing value delivery to citizens. Computational sustainability, a fundamental goal for smart cities, harnesses artificial intelligence, machine learning, and digital resources to forge more environmentally responsible cities, minimize ecological impact, and nurture sustainable development. The synergy of these technologies empowers residents to make well-informed choices, actively engage in their communities, and adopt sustainable lifestyles. This discussion illuminates the mechanisms and implications of these interconnections for future urban existence, ultimately focusing on empowering citizens in smart cities.

Keywords: smart cities; artificial intelligence; machine learning; digital transformation; computational sustainability; logic programming; the laws of thermodynamics; entropy