1. Record Nr. UNINA9910919818503321

Autore	Ardakani Saeid Pourroostaei
Titolo	Digital Twin Computing for Urban Intelligence / / edited by Saeid Pourroostaei Ardakani, Ali Cheshmehzangi
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	9789819784837 9789819784820
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (261 pages)
Collana	Urban Sustainability, , 2731-6491
Altri autori (Persone)	CheshmehzangiAli
Disciplina	910
Soggetti	Environmental geography Artificial intelligence Sustainability Integrated Geography Artificial Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Embracing the Digital Twin Paradigm for Urban Sustainability -- Towards Sustainable Urban Rooftop Solar Energy Planning through Spatial Digital Twins Paradigm: A Systematic Literature Review -- Creating a Foundation for Spatial Digital Twins in Data-Scarce Regions through Open-Source Solutions -- Fusion of Digital Twin, Internet-of-Things and Artificial Intelligence for Urban Intelligence -- Building Resilient Smart Cities: The Role of Digital Twins and Generative AI in Disaster Management Strategy.
Sommario/riassunto	Digital Twin Computing for Urban Intelligence focuses on new and ongoing discourses in interdisciplinary research and practice in urban system and smart city development pathways. It approaches digital twin fundamentals and principals including theoretical foundations, conceptualisations, strategies and services/patterns to define and adapt digital twin solutions for urban applications - mainly sustainability. This book highlights promising case studies and outlines digital twin design models and system architecture by examining key digital twin deployment practices such as data analysis, decision making, and service automation in the line with intelligent urban

planning. It also emphasises on DT technologies such as cloud computing, AI, IoTs, and smart virtualisation and outlines the key benefits of the DT solutions in urban applications - mainly control and planning. This book is intended for a wide range of audiences, including interested layperson audiences, undergraduate and graduate students in university, and researchers. The key benefits of this book are: 1- To introduce the theoretical principles and fundamentals of DT computing for urban intelligence. 2- To present the state-of-the-art DT technologies in urban planning and control. 3- To describe the practical deployment process of DT computing solutions for urban sustainability and intelligence.