1. Record Nr.   UNINA9910887807603321

   Autore   Hou Lu

   Titolo   Blockchain-Based Internet of Things / / by Lu Hou, Lingyi Han, Kan
                        Zheng

   Pubbl/distr/stampa   Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024

   ISBN   3-031-70303-0

   Edizione   [1st ed. 2024.]

   Descrizione fisica   1 online resource (93 pages)

   Collana   SpringerBriefs in Computer Science, , 2191-5776

   Altri autori (Persone)   HanLingyi
                            ZhengKan

   Disciplina   005.824
                        005.74

   Soggetti   Blockchains (Databases)
                        Cooperating objects (Computer systems)
                        Data protection - Law and legislation
                        Blockchain
                        Cyber-Physical Systems
                        Privacy

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Nota di contenuto   Introduction -- Architecture of BIoT -- Transaction Migration Scheme
                        for BIoT -- Lightweight Consensus Mechanism for BIoT -- Prototype
                        Implementation of BIoT -- Conclusion and Outlook.

   Sommario/riassunto   This book focuses on the integration of blockchain technology for IoT
                        systems, exploring the methodologies behind each component of the
                        system to bolster the data security and protect privacy. It also
                        discusses the essential algorithms necessary for the efficient
                        implementation of blockchain in IoT systems to provide security and
                        privacy. With the advancement of Internet of Things (IoT), ensuring data
                        security and privacy has become a critical concern due to the
                        significant economic value associated with IoT data. This book presents
                        algorithms that encompass the processes, starting with the generation
                        of a block containing IoT data to the finalization of the consensus.
                        These algorithms provide realistic methods for effectively integrating
                        blockchain into IoT systems. The primary objective is to thoroughly
                        examine the process of integrating decentralization paradigm into a

conventional centralized system to address persistent problems. This book is appropriate for advanced-level students in computer science and electrical engineering, who are studying relevant subjects such as the Internet of Things, blockchain, wireless communications and artificial intelligence. Researchers and professionals working in blockchain-based IoT or equivalent fields will want to purchase this book as well.