1. Record Nr. UNINA9910647218803321

Titolo	Security and Privacy in Blockchains and the IoT / / edited by Christoph Stach
Pubbl/distr/stampa	[Place of publication not identified] : , : MDPI - Multidisciplinary Digital Publishing Institute, , 2023
ISBN	3-0365-6252-4
Descrizione fisica	1 online resource (166 pages)
Disciplina	005.74
Soggetti	Blockchains (Databases)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	About the Editor vii -- Preface to "Security and Privacy in Blockchains and the IoT" ix -- Christoph Stach Special Issue on Security and Privacy in Blockchains and the IoT Reprinted from: Future Internet 2022, 14, 317, doi:10.3390/fi14110317 1 -- Bander Alzahrani and Nikos Fotiou Securing SDN-Based IoT Group Communication Reprinted from: Future Internet 2021, 13, 207, doi:10.3390/fi13080207 5 -- Lijun Wei, Yuhan Yang, Jing Wu, Chengnian Long and Yi-Bing Lin A Bidirectional Trust Model for Service Delegation in Social Internet of Things Reprinted from: Future Internet 2022, 14, 135, doi:10.3390 /fi14050135 15 -- Dennis Przytarski, Christoph Stach, Cl´ementine Gritti and Bernhard Mitschang Query Processing in Blockchain Systems: Current State and Future Challenges Reprinted from: Future Internet 2022, 14, 1, doi:10.3390/fi14010001 31 -- Qian Qu, Ronghua Xu, Yu Chen, Erik Blasch and Alexander Aved Enable Fair Proof-of-Work (PoW) Consensus for Blockchains in IoT by Miner Twins (MinT) Reprinted from: Future Internet 2021, 13, 291, doi:10.3390/fi13110291 63 -- Yurika Pant Khanal, Abeer Alsadoon, Khurram Shahzad, Ahmad B. Al-Khalil, Penatiyana W. C. Prasad, Sabih Ur Rehman and Rafiqul Islam Utilizing Blockchain for IoT Privacy through Enhanced ECIES with Secure Hash Function Reprinted from: Future Internet 2022, 14, 77, doi: 10.3390/fi14030077 . 81 -- Pranav Gangwani, Alexander Perez-Pons, Tushar Bhardwaj, Himanshu Upadhyay, Santosh Joshi and Leonel Lagos Securing Environmental IoT Data Using Masked Authentication

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Sommario/riassunto

Data have become an immensely valuable resource. They are the key driver that puts the smart into smart services. This is fundamentally fueled by two technological achievements, namely the Internet of Things (IoT), which enables the continuous and comprehensive collection of all kinds of data, and blockchain technologies, which provide secure data management and exchange. In addition to those information security measures, data privacy solutions are also required to protect the sensitive data involved. In this book, eight research papers address security and privacy challenges when dealing with blockchain technologies and the IoT. Solutions are presented to the issue of how IoT group communication can be secured and how trust within IoT applications can be increased. In the context of blockchain technologies, approaches to enhance query-processing capabilities and efficiently apply a proof-of-work consensus protocol in IoT environments are introduced. Furthermore, how blockchain technologies can be used in IoT environments to control access to confidential IoT data as well as enable privacy-aware data sharing is discussed. Finally, two reviews offer an overview of the state-of-the-art in in-app activity recognition based on convolutional neural networks and the prospects for blockchain technology applications in ambient assisted living.