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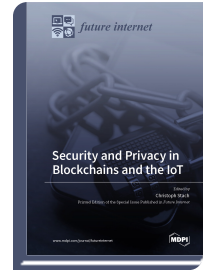
Security and Privacy in Blockchains and the IoT

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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.



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