

New Trends in Blockchain Technology

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When someone mentions the word blockchain, we find ourselves thinking of words such as *decentralization* and *smart contracts*. In a blockchain network, citizens of the world can come and develop new transactional relations free from intermediaries. Smart contracts running on a blockchain are used to ensure secure automated transactions, and cryptocurrencies can be used in automated payments. An automated transaction means less friction between the parties involved in the transaction. This means that there will be more individuals who choose to expand the contact they have with the people they meet on the internet. One can pay for the goods and services they enjoy and be paid for goods and services they have offered others. This would allow us to move around the world with the wealth we have earned. Nations can stay independent, suffering less from predatory finance from hegemonic countries. More harmonious relations can blossom among different people.

With these ideas in mind, this Special Issue was prepared, and invitations were given out to eminent blockchain researchers, software developers, and entrepreneurs. Currently, blockchain technology is obviously not yet mature. Innovations are needed in many aspects that address the oracle problems, the blockchain scalability issue, and security against various attack vectors, just to name a few. For a faster adoption into society, blockchain technology requires new applications which touch upon the lives of the people.

Eleven research teams responded to the calls for papers of this Special Issue on New Trends in Blockchain Technology, and it is our great pleasure to announce that eleven articles have been published in this book. Specifically, there are eight research and three review articles. Many research topics are covered in this book, but briefly put they are as follows: a blockchain use case for accessing electronic health records [1]; supply chain management systems [2,3]; contract management and timely payments in the construction industry [4]; security risks of blockchain-based supply chain management systems [5]; blockchain-based electronic-bidding systems [6]; utilizing CPU controls to achieve a higher blockchain performance [7]; and analyzing the possibility of profitable double-spending attacks and using this new knowledge to prevent such attacks [8]. The three review articles cover the blockchain scalability issue [9], the oracle problems in DeFi applications [10], and using blockchains for workflow management in construction [11].

It is exciting to introduce such a good mix of technologies and new applications from diverse backgrounds in a single book. This book will be of tremendous value to the global blockchain community.

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