

## **Blockchain Technology Principles And Applications Ssrn**

Role of Blockchain Technology in IoT Applications, Volume 115 in the Advances in Computers series, reviews the latest information on this topic that promises many applications in human life. According to forecasts made by various market research/survey agencies, there will be around 50 Billion connected devices (IoT) by 2020. Updates in this new release include chapters on the Technical Aspects of Blockchain and IoT, Integrated Platforms for Blockchain-Enablement, Intersections Between IoT and Distributed Ledger, Blockchain and Artificial Intelligence: How and Why Combining These Two Groundbreaking Technologies, Blockchain Applications in Health Care and Opportunities and Advancements Due to New Information Technology Frameworks, and more. Explores blockchain technology research trends in secured device to device communication Includes updates on secure vehicular communication (VANET) using blockchain technology Provides the latest on secure IoT communication using blockchain technology Presents use cases of blockchain technology in healthcare, the food chain, ERP and other emerging areas

This book constitutes the refereed conference proceedings of the 2nd International Workshop on Cryptocurrencies and Blockchain Technology, CBT 2018, and the 13th International Workshop on Data Privacy Management, DPM 2018, on conjunction with the 23rd European Symposium on Research in Computer Security, ESORICS 2018, held in Barcelona, Spain, in September 2018. From the CBT Workshop 7 full and 8 short papers out of 39 submissions are included. The selected papers cover aspects of identity management, smart contracts, soft- and hardforks, proof-of-works and proof of stake as well as on network layer aspects and the application of blockchain technology for secure connect event ticketing. The DPM Workshop received 36 submissions from which 11 full and 5 short papers were selected for presentation. The papers focus on challenging problems such as translation of high-level business goals into system level privacy policies, administration of sensitive identifiers, data integration and privacy engineering.

This book presents new communication and networking technologies, an area that has gained significant research attention from both academia and industry in recent years. It also discusses the development of more intelligent and efficient communication technologies, which are an essential part of current day-to-day life, and reports on recent innovations in technologies, architectures, and standards relating to these technologies. The book includes research that spans a wide range of communication and networking technologies, including wireless sensor networks, big data, Internet of Things, optical and telecommunication networks, artificial intelligence, cryptography, next-generation networks, cloud computing, and natural language processing. Moreover, it focuses on novel solutions in the context of communication and networking challenges, such as optimization algorithms, network interoperability, scalable network clustering,

multicasting and fault-tolerant techniques, network authentication mechanisms, and predictive analytics.

The business world needs to follow developments in the areas of accounting, auditing and finance in order to be able to adapt to globalization, technological advances and changing human needs. This book explores current issues in accounting, auditing and finance from a scientific point of view, and makes various suggestions for their solutions. In this context, the contributions here take into account the latest developments in the field and utilise a wide range of resources. The reader will learn about participation banks, audit risk, financial manipulation, forensic accounting, accounting errors, the effects of blockchain technologies, electronic finances, efficient markets hypothesis, integrated reporting, production costs, Islamic banking, enterprise risk management systems, and TAS16.

This book discusses blockchain technology and its potential applications in digital government and the public sector. With its robust infrastructure and append-only record system, blockchain technology is being increasingly employed in the public sector, specifically where trustworthiness and security are of importance. Written by leading scholars and practitioners, this edited volume presents challenges, benefits, regulations, frameworks, taxonomies, and applications of blockchain technology in the public domain. Specifically, the book analyzes the implementation of blockchain technologies in the public sector and the potential reforms it would bring. It discusses emerging technologies and their role in the implementation of blockchain technologies in the public sector. The book details the role of blockchain in the creation of public value in the delivery of public sector services. The book analyzes effects, impacts, and outcomes from the implementation of blockchain technologies in the public sector in select case studies. Providing up-to-date information on important developments regarding blockchain in government around the world, this volume will appeal to academics, researchers, policy-makers, public managers, international organizations, and technical experts looking to understand how blockchain can enhance public service delivery.

The recent surge of interest in "digital transformation" is changing the business landscape and posing several challenges, both organizational and sectoral. This transformation involves the application of digital technology in all aspects of business, and enables organizations to create new products and services, and to find more efficient ways of doing business. Moreover, the digital transformation is happening within and across organizations of all types and in every industry, producing a disruptive innovation that can break down the barriers between people and organizations, and help create more adaptive processes. In the information age, it is imperative for organizations to develop IT-related capabilities that allow them to leverage the potential of digital technologies. Due to the pervasive effects of this transformation on processes, firms and industries, both scholars and practitioners are interested in better understanding the key

mechanisms behind the emergence and evolution of the digital business transformation. This book presents a collection of research papers focusing on the relationships between technologies (e.g., digital platforms, AI, blockchain, etc.), processes (e.g., decision-making, co-creation, financial, compliance, etc.), and organizations (e.g., smart organizations, digital ecosystems, Industry 4.0, collaborative networked organizations, etc.), which have been categorized into three major areas: organizing, managing and controlling. It also provides critical insights into how the digital transformation is enhancing organizational processes and firms performance through an exploration and exploitation of internal resources, and through the establishment of external connections and linkages. The plurality of views offered makes this book particularly relevant for users, companies, scientists, and governments. The content of the book is based on a selection of the best papers (original double-blind peer-reviewed contributions) presented at the annual conference of the Italian chapter of the AIS, which was held in Naples, Italy in September 2019.

This book constitutes the refereed proceedings of the Second CCF China Blockchain Conference, CBCC 2019, held in Chengdu, China, in October 2019. The 16 revised full papers presented were carefully reviewed and selected from 112 submissions. The papers deal with research results and development activities in all aspects of blockchain science and technology.

This book focuses on the fundamentals of blockchain technology along with the means and methods of its integration with Internet of Things (IoT). The book allows the reader to have a deeper understanding of blockchain technology, IoT and various application areas wherein both technologies can be implemented. The book serves the purpose of providing knowledge about the fundamentals of blockchain and IoT to a common reader along with allowing a research scholar to identify some futuristic problem areas that emerge from the convergence of both technologies. Furthermore, the authors discuss relevant application areas such as smart city, e-healthcare, smart travel, etc. throughout the course of the book. The book also talks through a few case studies illustrating the implementation and benefits of using blockchain and IoT. Provides a comprehensive view of blockchain technology and its integration with IoT; Facilitates in having a valuable understanding of various application areas pertaining to blockchain and IoT; Assists the reader in exploring new research areas wherein blockchain and IoT can find their applicability based upon their list of benefits.

The blockchain revolution has drastically impacted global economics and the strategic practices within different industries. Cryptocurrency specifically has forever changed the face of business and the implementation of business online. While innovative, people are still in the early stages of building and developing blockchain technology and its applications, and it is critical that researchers and practitioners obtain a better understanding of this global phenomenon. Architectures and Frameworks for Developing and Applying Blockchain Technology is an essential reference source that presents the technological foundation, recent research findings, developments, and

critical issues associated with blockchain technology from both computer science and social science perspectives. Featuring topics such as artificial intelligence, digital economy, and network technology, this book is ideally designed for academics, researchers, industry leaders, IT consultants, engineers, programmers, practitioners, government officials, policymakers, and students.

This book discusses the various open issues of blockchain technology, such as the efficiency of blockchain in different domains of digital cryptocurrency, smart contracts, smart education system, smart cities, cloud identity and access, safeguard to cybersecurity and health care. For the first time in human history, people across the world can trust each other and transact over a large peer-to-peer networks without any central authority. This proves that, trust can be built not only by centralized institution but also by protocols and cryptographic mechanisms. The potential and collaboration between organizations and individuals within peer networks make it possible to potentially move to a global collaborative network without centralization. Blockchain is a complex social, economic and technological phenomenon. This questions what the established terminologies of the modern world like currency, trust, economics and exchange would mean. To make any sense, one needs to realize how much insightful and potential it is in the context and the way it is technically developed. Due to rapid changes in accessing the documents through online transactions and transferring the currency online, many previously used methods are proving insufficient and not secure to solve the problem which arises in the safe and hassle-free transaction. Nowadays, the world changes rapidly, and a transition flow is also seen in Business Process Management (BPM). The traditional Business Process Management holds good establishment last one to two decades, but, the internal workflow confined in a single organization. They do not manage the workflow process and information across organizations. If they do so, again fall in the same trap as the control transfers to the third party that is centralized server and it leads to tampering the data, and single point of failure. To address these issues, this book highlights a number of unique problems and effective solutions that reflects the state-of-the art in blockchain Technology. This book explores new experiments and yields promising solutions to the current challenges of blockchain technology. This book is intended for the researchers, academicians, faculties, scientists, blockchain specialists, business management and software industry professionals who will find it beneficial for their research work and set new ideas in the field of blockchain. This book caters research work in many fields of blockchain engineering, and it provides an in-depth knowledge of the fields covered.

**DIGITAL CITIES ROADMAP** This book details applications of technology to efficient digital city infrastructure and its planning, including smart buildings. Rapid urbanization, demographic changes, environmental changes, and new technologies are changing the views of urban leaders on sustainability, as well as creating and providing public services to tackle these new dynamics. Sustainable development is an objective by which the processes of planning, implementing projects, and development is aimed at meeting the needs of modern communities without compromising the potential of future generations. The advent of Smart Cities is the answer to these problems. Digital Cities Roadmap provides an in-depth analysis of design technologies that lay a solid foundation for sustainable buildings. The book also highlights smart automation technologies that help save energy, as well as various performance indicators needed

to make construction easier. The book aims to create a strong research community, to have a deep understanding and the latest knowledge in the field of energy and comfort, to offer solid ideas in the nearby future for sustainable and resilient buildings. These buildings will help the city grow as a smart city. The smart city has also a focus on low energy consumption, renewable energy, and a small carbon footprint. Audience The information provided in this book will be of value to researchers, academicians and industry professionals interested in IoT-based architecture and sustainable buildings, energy efficiency and various tools and methods used to develop green technologies for construction in smart cities.

This book constitutes the proceedings of the 17th IFIP International Conference on Distributed Applications and Interoperable Systems, DAIS 2017, held in Neuchâtel, Switzerland, in June 2017. The 11 papers presented together with 4 short papers in this volume were carefully reviewed and selected from 23 submissions. The papers are organized in topical sections on running system efficiently, storing data smartly, roaming in graph, building collaborative services, and making things safe.

The digital transition of our economies is now entering a phase of broad and deep societal impact. While there is one overall transition, there are many different sectoral transformations, from health and legal services to tax reports and taxi rides, as well as a rising number of transversal trends and policy issues, from widespread precarious employment and privacy concerns to market monopoly and cybercrime. They all are fertile ground for researchers, as established laws and regulations, organizational structures, business models, value networks and workflow routines are contested and displaced by newer alternatives. This Research Handbook offers a rich and interdisciplinary synthesis of some of the current thinking on the digital transformations underway.

As global communities are attempting to transform into more efficient and technologically-advanced metropolises, artificial intelligence (AI) has taken a firm grasp on various professional fields. Technology used in these industries is transforming by introducing intelligent techniques including machine learning, cognitive computing, and computer vision. This has raised significant attention among researchers and practitioners on the specific impact that these smart technologies have and what challenges remain. Applications of Artificial Intelligence for Smart Technology is a pivotal reference source that provides vital research on the implementation of advanced technological techniques in professional industries through the use of AI. While highlighting topics such as pattern recognition, computational imaging, and machine learning, this publication explores challenges that various fields currently face when applying these technologies and examines the future uses of AI. This book is ideally designed for researchers, developers, managers, academicians, analysts, students, and practitioners seeking current research on the involvement of AI in professional practices.

In recent years, the surge of blockchain technology has been rising due to its proven reliability in ensuring secure and effective transactions, even between untrusted parties. Its application is broad and covers public and private domains varying from traditional communication networks to more modern networks like the internet of things and the internet of energy crossing fog and edge computing, among others. As technology matures and its standard use cases are established, there is a need to gather recent

research that can shed light on several aspects and facts on the use of blockchain technology in different fields of interest. Enabling Blockchain Technology for Secure Networking and Communications consolidates the recent research initiatives directed towards exploiting the advantages of blockchain technology for benefiting several areas of applications that vary from security and robustness to scalability and privacy-preserving and more. The chapters explore the current applications of blockchain for networking and communications, the future potentials of blockchain technology, and some not-yet-prospected areas of research and its application. This book is ideal for practitioners, stakeholders, researchers, academicians, and students interested in the concepts of blockchain technology and the potential and pitfalls of its application in different utilization domains.

This book constitutes the proceedings of the 16th International Conference on Distributed Computing and Internet Technology, ICDCIT 2020, held in Bhubaneswar, India, in January 2020. The 20 full and 3 short papers presented in this volume were carefully reviewed and selected from 110 submissions. In addition, the book included 6 invited papers. The contributions were organized in topical sections named: invited talks; concurrent and distributed systems modelling and verification; cloud and grid computing; social networks, machine learning and mobile networks; data processing and blockchain technology; and short papers.

This book analyzes the effects of the latest technological advances in blockchain and artificial intelligence (AI) on business operations and strategies. Adopting an interdisciplinary approach, the contributions examine new developments that change the rules of traditional management. The chapters focus mainly on blockchain technologies and digital business in the "Industry 4.0" context, covering such topics as accounting, digitalization and use of AI in business operations and cybercrime. Intended for academics, blockchain experts, students and practitioners, the book helps business strategists design a path for future opportunities.

Digital transformation is a revolutionary technology that will play a vital role in major industries, including global governments. These administrations are taking the initiative to incorporate digital programs with their objective being to provide digital infrastructure as a basic utility for every citizen, provide on demand services with superior governance, and empower their citizens digitally. However, security and privacy are major barriers in adopting these mechanisms, as organizations and individuals are concerned about their private and financial data. Impact of Digital Transformation on Security Policies and Standards is an essential research book that examines the policies, standards, and mechanisms for security in all types of digital applications and focuses on blockchain and its imminent impact on financial services in supporting smart government, along with bitcoin and the future of digital payments. Highlighting topics such as cryptography, privacy management, and e-government, this book is ideal for security analysts, data scientists, academicians, policymakers, security professionals, IT professionals, government officials, finance professionals, researchers, and students.

This edited collection offers a number of contributions from leading scholars investigating Blockchain and its implications for business. Focusing on the transformation of the overall value chain, the sections cover the foundations of Blockchain, its drivers and barriers, business modelling and a range of examples from industry. Using a number of theoretical and methodological approaches, this innovative publication aims to further the cause of this ground-breaking technology and its use within information technology, supply chain and wider business management research.

This book presents 94 papers from the 2nd International Conference of Reliable Information and Communication Technology 2017 (IRICT 2017), held in Johor, Malaysia, on April 23–24, 2017. Focusing on the latest ICT innovations for data engineering, the book presents several hot research topics, including advances in big data analysis techniques and applications; mobile networks; applications and usability; reliable communication systems; advances in computer vision, artificial intelligence and soft computing; reliable health informatics and cloud computing environments, e-learning acceptance models, recent trends in knowledge management and software engineering; security issues in the cyber world; as well as society and information technology.

This book explores a number of important issues in the area of occupational safety and hygiene. Presenting both research and best practices for the evaluation of occupational risk, safety and health in various types of industry, it particularly focuses on occupational safety in automated environments, innovative management systems and occupational safety in a global context. The different chapters examine the perspectives of all those involved, such as managers, workers and OSH professionals. Based on selected contributions presented at the 16th International Symposium on Occupational Safety and Hygiene (SHO 2020), held on 6–7 April, 2020, in Porto, Portugal, the book serves as a timely reference guide and source of inspiration to OSH researchers, practitioners and organizations operating in a global context.

This book focuses on the core areas of computing and their applications in the real world. Presenting papers from the Computing Conference 2020 covers a diverse range of research areas, describing various detailed techniques that have been developed and implemented. The Computing Conference 2020, which provided a venue for academic and industry practitioners to share new ideas and development experiences, attracted a total of 514 submissions from pioneering academic researchers, scientists, industrial engineers and students from around the globe. Following a double-blind, peer-review process, 160 papers (including 15 poster papers) were selected to be included in these proceedings. Featuring state-of-the-art intelligent methods and techniques for solving real-world problems, the book is a valuable resource and will inspire further research and technological improvements in this important area.

This book highlights recent research on bio-inspired computing and its various innovative applications in information and communication technologies. It

presents 51 high-quality papers from the 11th International Conference on Innovations in Bio-Inspired Computing and Applications (IBICA 2020) and 10th World Congress on Information and Communication Technologies (WICT 2020), which was held online during December 16-18, 2019. As a premier conference, IBICA--ICT brings together researchers, engineers and practitioners whose work involves bio-inspired computing, computational intelligence and their applications in information security, real-world contexts, etc. Including contributions by authors from 25 countries, the book offers a valuable reference guide for all researchers, students and practitioners in the fields of Computer Science and Engineering. As we enter the Industrial Revolution 4.0, demands for an increasing degree of trust and privacy protection continue to be voiced. The development of blockchain technology is very important because it can help frictionless and transparent financial transactions and improve the business experience, which in turn has far-reaching effects for economic, psychological, educational and organizational improvements in the way we work, teach, learn and care for ourselves and each other. Blockchain is an eccentric technology, but at the same time, the least understood and most disruptive technology of the day. This book covers the latest technologies of cryptocurrencies and blockchain technology and their applications. This book discusses the blockchain and cryptocurrencies related issues and also explains how to provide the security differently through an algorithm, framework, approaches, techniques and mechanisms. A comprehensive understanding of what blockchain is and how it works, as well as insights into how it will affect the future of your organization and industry as a whole and how to integrate blockchain technology into your business strategy. In addition, the book explores the blockchain and its with other technologies like Internet of Things, big data and artificial intelligence, etc.

This book is a collection of papers presented at the International Workshop on New Approaches for Multidimensional Signal Processing (NAMSP 2020), held at Technical University of Sofia, Sofia, Bulgaria, during 09–11 July 2020. The book covers research papers in the field of N-dimensional multicomponent image processing, multidimensional image representation and super-resolution, 3D image processing and reconstruction, MD computer vision systems, multidimensional multimedia systems, neural networks for MD image processing, data-based MD image retrieval and knowledge data mining, watermarking, hiding and encryption of MD images, MD image processing in robot systems, tensor-based data processing, 3D and multi-view visualization, forensic analysis systems for MD images and many more.

This book analyses state-of-the-art techniques in business process management as drivers of advanced entrepreneurship, financial management, supply chain management, and sustainability management. The role of management in a rapidly-changing environment and the use of innovative methods and techniques to address and solve key management problems are also explored.

Historically, technological change has had significant effect on the locus of administrative activity, cost of carrying out administrative tasks, the skill sets needed by officials to effectively function, rules and regulations, and the types of interactions citizens have with their public authorities. Next generation Public Sector Innovation will be “Government 3.0” powered by innovations related to Open and big data, administrative and business process management,

Internet-of-Things and blockchains for public sector innovation to drive improvements in service delivery, decision and policy making and resource management. This book provides fresh insights into this transformation while also examining possible negative side effects of the increasing openness of governments through the adoption of these new innovations. The goal is for technology policy makers to engage with the visions of Government 3.0 . Researchers should be able to critically examine some of the innovations described in the book as the basis for developing research agendas related to challenges associated with the adoption and use of some of the associated technologies. The book serves as a rich source of materials from leading experts in the field that enables Public administration practitioners to better understand how these new technologies impact traditional public administration paradigms. The book is suitable for graduate courses in Public Sector Innovation, Innovation in Public Administration, E-Government and Information Systems. Public sector technology policy makers, e-government, information systems and public administration researchers and practitioners should all benefit from reading this book.

The book presents the proceedings of four conferences: The 26th International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'20), The 18th International Conference on Scientific Computing (CSC'20); The 17th International Conference on Modeling, Simulation and Visualization Methods (MSV'20); and The 16th International Conference on Grid, Cloud, and Cluster Computing (GCC'20). The conferences took place in Las Vegas, NV, USA, July 27-30, 2020. The conferences are part of the larger 2020 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'20), which features 20 major tracks. Authors include academics, researchers, professionals, and students. Presents the proceedings of four conferences as part of the 2020 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'20); Includes the research tracks Parallel and Distributed Processing, Scientific Computing, Modeling, Simulation and Visualization, and Grid, Cloud, and Cluster Computing; Features papers from PDPTA'20, CSC'20, MSV'20, and GCC'20.

With new technologies constantly being created, implemented, and sold, it is a robust opportunity for companies to hop on board with the latest digital trends. With the business world undergoing rapid changes and advancements in current times, the transformation process has been rapid and the disruptions significant. This has created a culture of innovation and a plethora of available business opportunities, especially when focused on Central Asia, Southeast Asia, and East Asia. Along with these innovative technologies and new opportunities in the business world comes challenges and trends within the Asian region that require more attention and advanced research to fully understand this digital transformation era and the resulting impacts, challenges, and solutions. The Handbook of Research on Disruptive Innovation and Digital Transformation in Asia addresses key topics for understanding business opportunities in Asia, covering a variety of challenges and nations in the Asian region from technological disruption and innovation to connectivity and economic corridors in Asia, Islamic finance and tourism, and more. Due to its innovative topics and approaches, geographical focus, and methodologies, the chapters provide readers with a unique value in bringing new perspectives to understanding emerging businesses and challenges in Asia. This book is ideal for professors in academia, deans, students, politicians, policymakers, corporate heads of firms, senior general managers, managing directors, information technology directors and managers, and researchers.

Blockchain technology is a powerful, cost-effective method for network security. Essentially, it is a decentralized ledger for storing all committed transactions in trustless environments by integrating several core technologies such as cryptographic hash, digital signature and distributed consensus mechanisms.

This book explores the concepts and techniques of IoT, AI, and blockchain. Also discussed is

the possibility of applying blockchain for providing security in various domains. The specific highlight of this book is focused on the application of integrated technologies in enhancing data models, better insights and discovery, intelligent predictions, smarter finance, smart retail, global verification, transparent governance, and innovative audit systems. The book allows both practitioners and researchers to share their opinions and recent research in the convergence of these technologies among academicians and industry people. The contributors present their technical evaluation and compare it with existing technologies. Theoretical explanation and experimental case studies related to real-time scenarios are also included. This book pertains to IT professionals, researchers and academicians working on fourth revolution technologies. Explains how blockchain can significantly increase data privacy and security while boosting accuracy and integrity in IoT generated data and AI processed information; Gives insight into blockchain's numerous potential applications, starting with recent technologies that give users control over sharing and privacy; Shows readers how to employ blockchain in IoT and AI, helping them to understand what they can and cannot do with blockchain.

Blockchain is a technology that transcends cryptocurrencies. There are other services in different sectors of the economy that can benefit from the trust and security that blockchains offer. For example, financial institutions are using blockchains for international money transfer, and in logistics, it has been used for supply chain management and tracking of goods. As more global companies and governments are experimenting and deploying blockchain solutions, it is necessary to compile knowledge on the best practices, strategies, and failures in order to create a better awareness of how blockchain could either support or add value to other services. *Cross-Industry Use of Blockchain Technology and Opportunities for the Future* provides emerging research highlighting the possibilities inherent in blockchain for different sectors of the economy and the added value blockchain can provide for the future of these different sectors. Featuring coverage on a broad range of topics such as data privacy, information sharing, and digital identity, this book is ideally designed for IT specialists, consultants, design engineers, cryptographers, service designers, researchers, academics, government officials, and industry professionals.

This book gathers selected papers presented at the 2020 World Conference on Information Systems and Technologies (WorldCIST'20), held in Budva, Montenegro, from April 7 to 10, 2020. WorldCIST provides a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences with and challenges regarding various aspects of modern information systems and technologies. The main topics covered are A) Information and Knowledge Management; B) Organizational Models and Information Systems; C) Software and Systems Modeling; D) Software Systems, Architectures, Applications and Tools; E) Multimedia Systems and Applications; F) Computer Networks, Mobility and Pervasive Systems; G) Intelligent and Decision Support Systems; H) Big Data Analytics and Applications; I) Human-Computer Interaction; J) Ethics, Computers & Security; K) Health Informatics; L) Information Technologies in Education; M) Information Technologies in Radiocommunications; and N) Technologies for Biomedical Applications.

This book presents the proceedings of the 2020 International Conference on Intelligent Systems Applications in Multi-modal Information Analytics, held in Changzhou, China, on June 18–19, 2020. It provides comprehensive coverage of the latest advances and trends in information technology, science and engineering. It addresses a number of broad themes, including data mining, multi-modal informatics, agent-based and multi-

agent systems for health and education informatics, which inspire the development of intelligent information technologies. The contributions cover a wide range of topics such as AI applications and innovations in health and education informatics; data and knowledge management; multi-modal application management; and web/social media mining for multi-modal informatics. Outlining promising future research directions, the book is a valuable resource for students, researchers and professionals, and a useful reference guide for newcomers to the field.

This book is mostly intended for students. If you can use a programming language, this book will teach you how cryptographic currencies work, how to use them, and how to develop software that works with them. The first few chapters are also suitable as an in-depth introduction to blockchain and bitcoin for noncoders—those trying to understand the inner workings of bitcoin and cryptocurrencies. If you can use a programming language, this book will teach you how smart contract blockchains work, how to use them, and how to develop smart contracts and decentralized applications with them. I also covered an in-depth introduction to Ethereum for noncoders.

This book presents state-of-the-art research on artificial intelligence and blockchain for future cybersecurity applications. The accepted book chapters covered many themes, including artificial intelligence and blockchain challenges, models and applications, cyber threats and intrusions analysis and detection, and many other applications for smart cyber ecosystems. It aspires to provide a relevant reference for students, researchers, engineers, and professionals working in this particular area or those interested in grasping its diverse facets and exploring the latest advances on artificial intelligence and blockchain for future cybersecurity applications.

This book is a compendium of the proceedings of the International Conference on Big Data and Cloud Computing. It includes recent advances in the areas of big data analytics, cloud computing, internet of nano things, cloud security, data analytics in the cloud, smart cities and grids, etc. This volume primarily focuses on the application of the knowledge that promotes ideas for solving the problems of the society through cutting-edge technologies. The articles featured in this proceeding provide novel ideas that contribute to the growth of world class research and development. The contents of this volume will be of interest to researchers and professionals alike.

The book aims to showcase the basics of both IoT and Blockchain for beginners as well as their integration and challenge discussions for existing practitioner. It aims to develop understanding of the role of blockchain in fostering security. The objective of this book is to initiate conversations among technologists, engineers, scientists, and clinicians to synergize their efforts in producing low-cost, high-performance, highly efficient, deployable IoT systems. It presents a stepwise discussion, exhaustive literature survey, rigorous experimental analysis and discussions to demonstrate the usage of blockchain technology for securing communications. The book evaluates, investigate, analyze and outline a set of security challenges that needs to be addressed in the near future. The book is designed to be the first reference choice at research and development centers, academic institutions, university libraries and any institutions interested in exploring blockchain. UG/PG students, PhD Scholars of this fields, industry technologists, young entrepreneurs and researchers working in the field of blockchain technology are the primary audience of this book.

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