

Blockchain Smart Contracts Land Registry Real Estate

The proposed conference with an objective to provide opportunities to academicians, researchers and industry representatives nationally and globally to present their work in the identified areas. The interactions among the presenters, juries and audience will help strengthen the technology innovation and to formulate solutions to the challenges of the society.

This book presents articles from the International Conference on Blockchain Technology (IC-BCT) 2019, held in Mumbai, India, and highlights recent advances in the field. It brings together researchers and industry practitioners to show case their ideas linked to business case studies, and provides an opportunity for engineers, researchers, startups and professionals in the field of Blockchain technology to further collaboration.

This book constitutes the thoroughly refereed proceedings of the 12th International Conference on e-Infrastructure and e-Services for Developing Countries, AFRICOMM 2020, held in Ebène City, Mauritius, in December 2020. Due to COVID-19 pandemic the conference was held virtually. The 20 full papers were carefully selected from 90 submissions. The papers are organized in four thematic sections on dynamic spectrum access and mesh networks; wireless sensing and 5G networks; software-defined networking; Internet of Things; e-services and big data; DNS resilience and performance. .

This key textbook examines the financial growth and success of digital assets in the contemporary economy. As digital assets and other blockchain applications mature, and regulatory authorities work hard to keep pace, three leading attorneys in the field invite students to consider the legal frameworks pertinent to regulating this new method of exchange. In this, the first textbook of its kind, the authors explore the growth of smart contracts, the application of securities laws to token sales, the regulation of virtual currency businesses, the taxation of digital assets and the intersection of digital assets and criminal law.

Since Bitcoin appeared in 2009, the digital currency has been hailed as an Internet marvel and decried as the preferred transaction vehicle for all manner of criminals. It has left nearly everyone without a computer science degree confused: Just how do you “mine” money from ones and zeros? The answer lies in a technology called blockchain, which can be used for much more than Bitcoin. A general-purpose tool for creating secure, decentralized, peer-to-peer applications, blockchain technology has been compared to the Internet itself in both form and impact. Some have said this tool may change society as we know it. Blockchains are being used to create autonomous computer programs known as “smart contracts,” to expedite payments, to create financial instruments, to organize the exchange of data and information, and to facilitate interactions between humans and machines. The technology could affect governance itself, by supporting new organizational structures that promote more democratic and participatory decision making. Primavera De Filippi and Aaron Wright acknowledge this potential and urge the law to catch up. That is because disintermediation—a blockchain’s greatest asset—subverts critical regulation. By cutting out middlemen, such as large online operators and multinational corporations, blockchains run the risk of undermining the capacity of governmental authorities to supervise activities in banking, commerce, law, and other vital areas. De Filippi and Wright welcome the new possibilities inherent in blockchains. But as Blockchain and the Law makes clear, the technology cannot be harnessed productively without new rules and new approaches to legal thinking.

This book provides a comprehensive view of blockchain business models, governance structure, technology landscape, and architecture considerations. It will speed up your understanding and concept development for distributed ledgers.

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.

Innovative as it is, the blockchain technology is getting more and more attention and an increasing number of applications have emerged. This book elaborates on both the design thinking ideas and technical details in blockchain and smart contracts to help readers delve into the conceptual framework and understand why blockchain is designed as such and how it makes the current system decentralized yet effective. Having this understanding lays the ground for further analysis of blockchain-based solutions and innovative fintech applications. Topics covered in this book include blockchain structure, blockchain ecosystem, design thinking for blockchain, smart contract, fintech and financial services, solution-based problem solving, fintech valuation, and current issues faced such as privacy protection and solution selection, with the aid of real-life examples and hands-on exercises. Blockchain and Smart Contracts serves as a valuable guide for researchers and practitioners who have interests in the blockchain, smart contract, fintech innovation and applications, design thinking, and technical details. This book is particularly written for anyone who has no technical background and is searching for an initiation into the deep end of blockchain. Those with business, finance and economic interests will find this interesting and easy to digest.

Artificial Intelligence, Autonomous Systems, Big Data Processing, Biomedical Technologies, Biotechnology, Building Technologies, Chemical, Biological, Radiological and Nuclear Defense, Criminal and Forensic Science, Cognitive Systems, Current Issues and Challenges in Innovation, Environmental Chemistry and Toxicology, Fuel Cell and Water Splitter, Geographic Information System, Green Energy and Green Technology, Grid and Cloud Computing, Intellectual Property Rights, Intelligent Communications and Networks, Laser and Photonic, Lean Manufacturing Technologies, Machine Learning Technologies, Material Technologies and Secondary Process, Microfluidics, Nanotechnology and Material Sciences, Nano and MicroElectro Mechanical Systems, Nuclear Science and Techniques, Polymer Science, Recycling Technologies, Simulation Technologies, Smart Grid, Space Application, Terahertz Spectroscopy and Applications, Weapon and Ammunition Systems , Unmanned Aerial Vehicle, Virtual Reality

There is a broad consensus amongst law firms and in-house legal departments that next generation “Legal Tech” – particularly in

the form of Blockchain-based technologies and Smart Contracts – will have a profound impact on the future operations of all legal service providers. Legal Tech startups are already revolutionizing the legal industry by increasing the speed and efficiency of traditional legal services or replacing them altogether with new technologies. This on-going process of disruption within the legal profession offers significant opportunities for all business. However, it also poses a number of challenges for practitioners, trade associations, technology vendors, and regulators who often struggle to keep up with the technologies, resulting in a widening regulatory “gap.” Many uncertainties remain regarding the scope, direction, and effects of these new technologies and their integration with existing practices and legacy systems. Adding to the challenges is the growing need for easy-to-use contracting solutions, on the one hand, and for protecting the users of such solutions, on the other. To respond to the challenges and to provide better legal communications, systems, and services Legal Tech scholars and practitioners have found allies in the emerging field of Legal Design. This collection brings together leading scholars and practitioners working on these issues from diverse jurisdictions. The aim is to introduce Blockchain and Smart Contract technologies, and to examine their on-going impact on the legal profession, business and regulators.

Focusing on different tools, platforms, and techniques, *Blockchain and the Smart City: Infrastructure and Implementation* uses case studies from around the world to examine blockchain deployment in diverse smart city applications. The book begins by examining the fundamental theories and concepts of blockchain. It looks at key smart cities’ domains such as banking, insurance, healthcare, and supply chain management. It examines Using case studies for each domain, the book looks at payment mechanisms, fog/edge computing, green computing, and algorithms and consensus mechanisms for smart cities implementation. It looks at tools such as Hyperledger, Ethereum, Corda, IBM Blockchain, Hydrachain, as well as policies and regulatory standards, applications, solutions, and methodologies. While exploring future blockchain ecosystems for smart and sustainable city life, the book concludes with the research challenges and opportunities academics, researchers, and companies in implementing blockchain applications. Independently organized chapters for greater readability, adaptability, and flexibility Examines numerous issues from multiple perspectives and academic and industry experts Explores both advances and challenges of cutting-edge technologies Coverage of security, trust, and privacy issues in smart cities

The convergence of various fields of technology is changing the fabric of society. Big data and data mining, Internet of Things, artificial intelligence and blockchains are already affecting business models and leading to a social and economic transformations that have been dubbed by the fourth industrial revolution. Focusing on the framework of intellectual property rights, the contributions to this book analyse how the technical background of this massive transformation affects intellectual property law and policy and how intellectual property is likely to change in order to serve the society. Well-known authorities in intellectual property law offer in-depth chapters on the roles in this revolution of such concepts and actualities as the following: power and role of data as the raw material of the revolution; artificial inventors and creators; trade marks in the dimension of avatars and fictional game characters; concept of inventive step change where the person skilled in the art is virtual; data rights versus intellectual property rights; transparency in the context of big data; interrelations of data, technology transfer and antitrust; self-executable and ‘smart’ contracts; redefining the balance among exclusive rights, development, technology transfer and contracts; and proprietary information versus the public domain. The chapters also provide complete analyses of how big data changes decision-making processes, how sustainable development requires redefinition, how technology transfer is re-emerging as technology diffusion and how the role of contracts and blockchain as instruments of monitoring and enforcement are being defined. Offering the first in-depth legal commentary and analysis of this highly topical issue, the book approaches the fourth industrial revolution from the perspectives of technical background, society and law. Its authoritative analysis of how the data-driven economy influences innovation and technology transfer is without peer. It will be welcomed by practicing lawyers in intellectual property rights and competition law, as well as by academics, think tanks and policymakers.

Find out what Blockchain is, how it works, and what it can do for you Blockchain is the technology behind Bitcoin, the revolutionary 'virtual currency' that's changing the way people do business. While Bitcoin has enjoyed some well-deserved hype, Blockchain may be Bitcoin's most vital legacy. *Blockchain For Dummies* is the ideal starting place for business pros looking to gain a better understanding of what Blockchain is, how it can improve the integrity of their data, and how it can work to fundamentally change their business and enhance their data security. *Blockchain For Dummies* covers the essential things you need to know about this exciting technology's promise of revolutionizing financial transactions, data security, and information integrity. The book covers the technologies behind Blockchain, introduces a variety of existing Blockchain solutions, and even walks you through creating a small but working Blockchain-based application. Blockchain holds the promise to revolutionize a wide variety of businesses. Get in the know about Blockchain now with *Blockchain For Dummies* and be ready to make the changes to business that your colleagues and competitors will later wish they'd done. Discover ten ways Blockchain can change business Find out how to apply a Blockchain solution See how to make data more secure Learn how to work with vendors Filled with vital information and tips on how this paradigm-changing technology can transform your business for the better, this book will not only show you Blockchain's full potential, but your own as well!

Transactions in land and other real property differ between countries throughout Europe. The transaction procedures reflect formal rules, but they are also normalized through conventions and professional codes of conduct. This complex of technical, legal and economic issues was investigated from the point of view of transaction economics through an ESF-COST supported Action G9 ‘Modeling Real Property Transactions’. The research was performed between 2001 and 2005 by researchers mainly from university departments related to land surveying, real estate management, geo-information sciences and knowledge engineering. This book represents the final outcome of that study. A modeling approach was elaborated and tested on a number of countries (especially Sweden and Slovenia, for which the models are shown in this book in the Unified Modeling Language (UML)). The modeling approach leads to transparency and allows comparison. Nevertheless, the influence of the national and social contexts, and the different perspectives that can be taken, prevent a simple ranking of the studied procedures. For those planning or comparing transaction procedures or parts thereof, the book supplies a tested approach and methodology. But the book eventually warns of simplification in this field full of complex national institutional arrangements.

Cross-Industry Use of Blockchain Technology and Opportunities for the FutureIGI Global

Artificial intelligence (AI) is taking an increasingly important role in our society. From cars, smartphones, airplanes, consumer applications, and even medical equipment, the impact of AI is changing the world around us. The ability of machines to demonstrate advanced cognitive skills in taking decisions, learn and perceive the environment, predict certain behavior, and

process written or spoken languages, among other skills, makes this discipline of paramount importance in today's world. Although AI is changing the world for the better in many applications, it also comes with its challenges. This book encompasses many applications as well as new techniques, challenges, and opportunities in this fascinating area.

Trade has always been shaped by technological innovation. In recent times, a new technology, Blockchain, has been greeted by many as the next big game-changer. Can Blockchain revolutionize international trade? This publication seeks to demystify the Blockchain phenomenon by providing a basic explanation of the technology. It analyses the relevance of this technology for international trade by reviewing how it is currently used or can be used in the various areas covered by WTO rules. In doing so, it provides an insight into the extent to which this technology could affect cross-border trade in goods and services, and intellectual property rights. It discusses the potential of Blockchain for reducing trade costs and enhancing supply chain transparency as well as the opportunities it provides for small-scale producers and companies. Finally, it reviews various challenges that must be addressed before the technology can be used on a wide scale and have a significant impact on international trade.

The Law of Obligations in Central and Southeast Europe examines the new codifications, reforms, and other recent developments in Central and Southeast Europe which have significantly modernized the law of obligations in the last two decades, focusing particularly on the legal systems of Poland, Czech Republic, Slovak Republic, Hungary, Slovenia, Croatia, Serbia, and Turkey. With chapters authored by prominent academics and promising young legal scholars, this book discusses the results of the modernizations and describes the legislative reforms of the law of obligations that are underway or are discussed and advocated for in the countries of Central and Southeast Europe. Divergences of the new civil codes and other legislative acts from earlier legal solutions are identified and the rationale behind these departures is analysed, as well as the introduction of the new legal institutes in the law of obligations in these parts of the world. The Introduction provides a concise country-by-country overview of the recodification, modernization, and reform of the law of obligations in Central and Southeast Europe. In Part I, chapters discuss the process of recodification in the Slovak Republic, Czech Republic, Poland, and Hungary, with focus on the main novelties in their contract and tort law. The chapters in Part II then discuss several, more specific legal institutes of the law of obligations, and other recent developments and contemporary challenges to the law of obligations in the Czech Republic, Slovenia, Croatia, Serbia, and Turkey. This book is of interest to legal scholars in the field of private law, as well as to students, practitioners, members of law reform bodies, and civil servants in Central and Southeast Europe, and beyond.

With its nuanced presentation of the theoretical and practical implications, this book expands our understanding of how property rights work in today's world.

This two-volume set (CCIS 1075 and CCIS 1076) constitutes the refereed proceedings of the Third International Conference on Advanced Informatics for Computing Research, ICAICR 2019, held in Shimla, India, in June 2019. The 78 revised full papers presented were carefully reviewed and selected from 382 submissions. The papers are organized in topical sections on computing methodologies; hardware; information systems; networks; software and its engineering. The product of a unique collaboration between academic scholars, legal practitioners, and technology experts, this Handbook is the first of its kind to analyze the ongoing evolution of smart contracts, based upon blockchain technology, from the perspective of existing legal frameworks - namely, contract law. The book's coverage ranges across many areas of smart contracts and electronic or digital platforms to illuminate the impact of new, and often disruptive, technologies on the law. With a mix of scholarly commentary and practical application, chapter authors provide expert insights on the core issues involving the use of smart contracts, concluding that smart contracts cannot supplant contract law and the courts, but leaving open the question of whether there is a need for specialized regulations to prevent abuse. This book should be read by anyone interested in the disruptive effect of new technologies on the law generally, and contract law in particular.

This book, written jointly by an engineer and artificial intelligence expert along with a lawyer and banker, is a glimpse on what the future of the financial services will look like and the impact it will have on society. The first half of the book provides a detailed yet easy to understand educational and technical overview of FinTech, artificial intelligence and cryptocurrencies including the existing industry pain points and the new technological enablers. The second half provides a practical, concise and engaging overview of their latest trends and their impact on the future of the financial services industry including numerous use cases and practical examples. The book is a must read for any professional currently working in finance, any student studying the topic or anyone curious on how the future of finance will look like.

This book is a practical guide to the evolving landscape of finance, highlighting how it's changing our relationship with money and how financial technology, together with macroeconomic and societal change, is rewriting the story of how business is done in developing economies. Financial services companies are trying to become more customer focused, but struggling to help huge customer segments, particularly in developing economies. Alternative financial models and tools are emerging, which are being embraced by consumers and incumbents. In large parts of the developing world, alternative services are leapfrogging traditional finance, meaning more and more people have access to finance without ever needing a bank. Meanwhile, the barriers around financial services companies are crumbling, as they become more reliant on integration with new providers and alternative types of service. Financial products can no longer be viewed in isolation, but as part of a service landscape that supports how people do life. This means rethinking how our businesses are designed, motivated and organised, and letting go of the old ways of thinking about supply and demand. With practical steps businesses and, in particular, financial services organisations need to take to participate in a global service ecosystem, this book will be of interest to financial professionals who work in banking, financial technology, and development finance.

The growth of Blockchain technology presents a number of legal questions for lawyers, regulators and industry

participants alike. Primarily, regulators must allow Blockchain technology to develop whilst also ensuring it is not being abused. This book addresses the challenges posed by various applications of Blockchain technology, such as cryptocurrencies, smart contracts and initial coin offerings, across different fields of law. Contributors explore whether the problems posed by Blockchain and its applications can be addressed within the present legal system or whether significant rethinking is required.

An authoritative introduction to the exciting new technologies of digital money Bitcoin and Cryptocurrency Technologies provides a comprehensive introduction to the revolutionary yet often misunderstood new technologies of digital currency. Whether you are a student, software developer, tech entrepreneur, or researcher in computer science, this authoritative and self-contained book tells you everything you need to know about the new global money for the Internet age. How do Bitcoin and its block chain actually work? How secure are your bitcoins? How anonymous are their users? Can cryptocurrencies be regulated? These are some of the many questions this book answers. It begins by tracing the history and development of Bitcoin and cryptocurrencies, and then gives the conceptual and practical foundations you need to engineer secure software that interacts with the Bitcoin network as well as to integrate ideas from Bitcoin into your own projects. Topics include decentralization, mining, the politics of Bitcoin, altcoins and the cryptocurrency ecosystem, the future of Bitcoin, and more. An essential introduction to the new technologies of digital currency Covers the history and mechanics of Bitcoin and the block chain, security, decentralization, anonymity, politics and regulation, altcoins, and much more Features an accompanying website that includes instructional videos for each chapter, homework problems, programming assignments, and lecture slides Also suitable for use with the authors' Coursera online course Electronic solutions manual (available only to professors)

The concept of smart cities has spurred research and development in the domain of smart innovation i e sensor technology, data analytics, energy efficient planning and development, and decision making Sensor technology is applicable in several domains of engineering, such as Civil Engineering, Electrical Engineering, Mechanical Engineering, where the development of sensors is pioneered by the Electronics Engineering Such sensors are applicable in and for environmental audit and pollution monitoring, understanding of structural health e g bridges, dams and tectonic movements, efficient planning and monitoring of sensor networks through data analytics in the spatial and temporal domains and monitoring of engines related to performance, temperature and wear and tear The aim of the conference is to bring together the experts on separate disciplines and encourage multi disciplinary research, and work on techniques and algorithms for the development of regions with special requirements

The second volume of 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 and its sustainability, social and legal applications. It features a variety of use cases, from tourism to healthcare. 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 includes high-quality research papers presented at the Fourth International Conference on Innovative Computing and Communication (ICICC 2021), which is held at the Shaheed Sukhdev College of Business Studies, University of Delhi, Delhi, India, on February 20–21, 2021. Introducing the innovative works of scientists, professors, research scholars, students and industrial experts in the field of computing and communication, the book promotes the transformation of fundamental research into institutional and industrialized research and the conversion of applied exploration into real-time applications.

Learn quick and effective techniques for developing blockchain-based distributed ledgers with ease Key Features Discover why blockchain is a game changer in the technology landscape Set up blockchain networks using Hyperledger Fabric Write smart contracts at speed with Hyperledger Composer Book Description Blockchain and Hyperledger are open source technologies that power the development of decentralized applications. This Learning Path is your helpful reference for exploring and building blockchain networks using Ethereum, Hyperledger Fabric, and Hyperledger Composer. Blockchain Development with Hyperledger will start off by giving you an overview of blockchain and demonstrating how you can set up an Ethereum development environment for developing, packaging, building, and testing campaign-decentralized applications. You'll then explore the de facto language Solidity, which you can use to develop decentralized applications in Ethereum. Following this, you'll be able to configure Hyperledger Fabric and use it to build private blockchain networks and applications that connect to them. Toward the later chapters, you'll learn how to design and launch a network, and even implement smart contracts in chain code. By the end of this Learning Path, you'll be able to build and deploy your own decentralized applications by addressing the key pain points encountered in the blockchain life cycle. This Learning Path includes content from the following Packt products: Blockchain Quick Start Guide by Xun (Brian) Wu and Weimin Sun Hands-On Blockchain with Hyperledger by Nitin Gaur et al. What you will learn Understand why decentralized applications are necessary Develop and test a decentralized application with Hyperledger Fabric and Hyperledger Composer Write and test a smart contract using Solidity Design transaction models and chain code with Golang Deploy the Composer REpresentational State Transfer (REST) Gateway to access Composer transactions Maintain, monitor, and manage your blockchain solutions Who this book is for This Learning Path is designed for blockchain developers who want to build decentralized applications and smart contracts from scratch using Hyperledger. Basic familiarity with or exposure to any programming language will be useful to get started with this course.

The Pragmatic Guide to Driving Value and Disrupting Markets with Blockchain "Blockchain's potential to transform businesses has generated a tremendous amount of excitement across industries. However, it can be difficult for decision makers to develop a practical approach to blockchain for their specific business requirements. By identifying and clearly describing the value of blockchain for enterprises, as well as the processes required to harness blockchain to achieve business objectives, Blockchain for Business presents a startlingly concise yet comprehensive roadmap for business leaders. This book is an excellent resource for anyone looking to leverage blockchain to transform their business." — Dr. Won-Pyo Hong, President & CEO of Samsung SDS "Much has been written about blockchain in the past few years: what it is and what it is not (at various levels of detail), as well as the technology's long-term strategic value for companies, industries, and economies. However, what we've been missing is a practical, operational, 'how to' set of steps for creating, implementing, and operating a blockchain-based solution. This book aims to fill that gap. It's an invaluable tool for anyone ready to take the plunge and start taking advantage of this remarkable technology." —Irving Wladawsky-Berger, research affiliate, MIT; columnist, WSJ CIO Journal; VP Emeritus, IBM "I will never be able to adequately express how useful this book will be to my class. In addition the great chapters on cybersecurity, I loved the Integration Models, especially 'Coexistence with Systems of Record.' Legacy integration with Blockchain is a critical barrier, and you nailed it!" —Thomas Doty, JD, LL.M. - Adjunct Professor, University of New Hampshire Law Blockchain enables enterprises to reinvent processes and business models and to pursue radically disruptive applications. Blockchain for Business is a concise, accessible, and pragmatic guide to both the technology and the opportunities it creates. Authored by three experts from IBM's Enterprise Blockchain practice, it introduces industry-specific and cross-industry use cases, and reviews best-practice approaches to planning and delivering blockchain projects. With a relentless focus on real-world business outcomes, the authors reveal what blockchain can do, what it can't do yet, and where it's headed. Understand five elements that make blockchain so disruptive: transparency, immutability, security, consensus, and smart contracts Explore key use cases: cross-border payments, food and drug safety, provenance, trade finance, clinical trials, land

registries, and more See how trusted blockchain networks are facilitating entirely new business models Compare blockchain types: permissioned, permissionless, private, public, federated, and hybrid Anticipate key technical, business, regulatory, and governance challenges Build blockchain financial models, investment rubrics, and risk frameworks Organize and manage teams to transform blockchain plans into reality Whether you're a senior decision maker, technical professional, customer, or investor, Blockchain for Business will help you cut through the hype and objectively assess blockchain's potential in your business. Register your product for convenient access to downloads, updates, and/or corrections as they become available.

This book showcases new empirical findings on the conceptualization, design, and evaluation of land management interventions and addresses two crucial aspects: how and under which conditions such interventions are responsible, and how such interventions can be supported by smart technologies. Responsible and Smart Land Management Interventions is for all types of actors in land management. Although primarily based on cases from Africa, it addresses land management issues from practical and theoretical perspectives relevant for land managers worldwide. It brings the discourse up to date and helps all practitioners designing new policies and those looking for new instruments to do so. Aimed at land academics, including students, teachers, and researchers, as well as practitioners, including those working within international organizations, donor organizations, NGOs, and land independent consultants, this book Delivers innovative methodologies for land management for professionals involved in land administration projects Explores land management from a geodetic and spatial planning perspective Includes real cases, empirical data, and analysis in contemporary and alternative land management developments in Africa Addresses important land issues which contribute to national development and achieving United Nations' SDGs Discusses contemporary research findings related to societal needs in land administration which are equally valid for non-African contexts Acts as a new teaching resource for land management and land administration courses, and land-related disciplines in geodesy, human geography, development studies, and environmental planning

Leverage the power of Hyperledger Fabric to develop Blockchain-based distributed ledgers with ease Key Features Write your own chaincode/smart contracts using Golang on hyperledger network Build and deploy decentralized applications (DApps) Dive into real world blockchain challenges such as integration and scalability Book Description Blockchain and Hyperledger technologies are hot topics today. Hyperledger Fabric and Hyperledger Composer are open source projects that help organizations create private, permissioned blockchain networks. These find application in finance, banking, supply chain, and IoT among several other sectors. This book will be an easy reference to explore and build blockchain networks using Hyperledger technologies. The book starts by outlining the evolution of blockchain, including an overview of relevant blockchain technologies. You will learn how to configure Hyperledger Fabric and become familiar with its architectural components. Using these components, you will learn to build private blockchain networks, along with the applications that connect to them. Starting from principles first, you'll learn to design and launch a network, implement smart contracts in chaincode and much more. By the end of this book, you will be able to build and deploy your own decentralized applications, handling the key pain points encountered in the blockchain life cycle. What you will learn Discover why blockchain is a game changer in the technology landscape Set up blockchain networks using basic Hyperledger Fabric deployment Understand the considerations for creating decentralized applications Learn to integrate business networks with existing systems Write Smart Contracts quickly with Hyperledger Composer Design transaction model and chaincode with Golang Deploy Composer REST Gateway to access the Composer transactions Maintain, monitor, and govern your blockchain solutions Who this book is for The book benefits business leaders as it provides a comprehensive view on blockchain business models, governance structure, and business design considerations of blockchain solutions. Technology leaders stand to gain a lot from the detailed discussion around the technology landscape, technology design, and architecture considerations in the book. With model-driven application development, this guide will speed up understanding and concept development for blockchain application developers. The simple and well organized content will put novices at ease with blockchain concepts and constructs.

Handbook of Research on Blockchain Technology presents the latest information on the adaptation and implementation of Blockchain technologies in real world business, scientific, healthcare and biomedical applications. The book's editors present the rapid advancements in existing business models by applying Blockchain techniques. Novel architectural solutions in the deployment of Blockchain comprise the core aspects of this book. Several use cases with IoT, biomedical engineering, and smart cities are also incorporated. As Blockchain is a relatively new technology that exploits decentralized networks and is used in many sectors for reliable, cost-effective and rapid business transactions, this book is a welcomed addition on existing knowledge. Financial services, retail, insurance, logistics, supply chain, public sectors and biomedical industries are now investing in Blockchain research and technologies for their business growth.

Blockchain prevents double spending in financial transactions without the need of a trusted authority or central server. It is a decentralized ledger platform that facilitates verifiable transactions between parties in a secure and smart way. Presents the evolution of blockchain, from fundamental theories, to present forms Explains the concepts of blockchain related to cloud/edge computing, smart healthcare, smart cities and Internet of Things (IoT) Provides complete coverage of the various tools, platforms and techniques used in blockchain Explores smart contract tools and consensus algorithms Covers a variety of applications with real world case studies in areas such as biomedical engineering, supply chain management, and tracking of goods and delivery

Explore the Ethereum ecosystem step by step with extensive theory, labs, and live use cases. This book takes you through BlockChain concepts; decentralized applications; Ethereum's architecture; Solidity smart contract programming with examples; and testing, debugging, and deploying smart contracts on your local machine and on the cloud. You'll cover best practices for writing contracts with ample examples to allow you to write high-quality contracts with optimal usage of fuel. In later chapters, Ethereum for Architects and Developers covers use cases from different business areas, such as finance, travel, supply-chain, insurance, and land registry. Many of these sectors are explained with flowcharts, diagrams, and sample code that you can refer to and further enhance in live projects. By the end of the book, you will have enough information to use Ethereum to create value for your business processes and build foolproof data storage for smoother execution of business. What You Will Learn Discover key BlockChain concepts Master the architecture, building blocks, and ecosystem of Ethereum Develop smart contracts from scratch Debug, test, and deploy to test Take advantage of Ethereum in your business area Who This Book Is For BlockChain developers and architects wanting to develop decentralized Ethereum applications or learn its architecture.

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 addresses challenges that new technologies and the big data revolution pose to existing regulatory and legal frameworks. The volume discusses issues such as blockchain and its implications for property transactions and taxes, three (or four) dimensional title registration, land use and urban planning in the age of big data, and the future of property rights in light of these changes. The book brings together an interdisciplinary collection of chapters that revolve around the potential influence of disruptive technologies on existing legal norms and the future development of real estate markets. The book is divided into five parts. Part I presents a survey of the current available research on blockchain and real estate. Part II provides a background on property law for the volume, grounding it in fundamental theory. Part III discusses the changing landscapes of property rights while Part IV debates the potential effects of blockchain on land registration. Finally the book concludes with Part V, which is devoted to new technological applications relevant to real estate. Providing an interdisciplinary perspective on emerging technologies that have the potential to disrupt the real estate industry and the regulation of it, this book will appeal to a broad audience, consisting of scholars, policy-makers, practitioners, and students, interested in real estate, law, economics, blockchain, and technology policy.

Become an Ethereum Blockchain developer using a blend of concepts and hands-on implementations Key Features Understand the Ethereum Ecosystem and its differences from its rich cousin Bitcoin Explore the Solidity programming language and smart contract optimizations Get a developer's perspective of Blockchain-as-a-technology with exposure to common challenges faced while building decentralized applications Book Description Ethereum is a public, blockchain-based distributed computing platform featuring smart contract functionality. This book is your one-stop guide to blockchain and Ethereum smart contract development. We start by introducing you to the basics of blockchain. You'll learn about hash functions, Merkle trees, forking, mining, and much more. Then you'll learn about Ethereum and smart contracts, and we'll cover Ethereum virtual machine (EVM) in detail. Next, you'll get acquainted with DApps and DAOs and see how they work. We'll also delve into the mechanisms of advanced smart contracts, taking a practical approach. You'll also learn how to develop your own cryptocurrency from scratch in order to understand the business behind ICO. Further on, you'll get to know the key concepts of the Solidity programming language, enabling you to build decentralized blockchain-based applications. We'll also look at enterprise use cases, where you'll build a decentralized microblogging site. At the end of this book, we discuss blockchain-as-a-service, the dark web marketplace, and various advanced topics so you can get well versed with the blockchain principles and ecosystem. What you will learn Know how to build your own smart contracts and cryptocurrencies Understand the Solidity language Find out about data types, control structure, functions, inheritance, mathematical operations, and much more See the various types of forks and discover how they are related to Ethereum Get to know the various concepts of web3.js and its APIs so you can build client-side apps Build a DAO from scratch and acquire basic knowledge of DApps on Ethereum Be guided through the project so you can optimize EVM for smart contracts Build your own decentralized applications (DApps) by taking a practical approach Who this book is for If you want to know the ins and outs of the Ethereum network and build your own decentralized applications, then this book is what you need! This book is for anyone who is interested in blockchain and wants to become an Ethereum developer. It's ideal for existing Ethereum developers who want to develop Ethereum using smart contracts. Basic knowledge of cryptography is expected but is not mandatory.

Can blockchain solve your biggest business problem? While the world is transfixed by bitcoin mania, your competitors are tuning out the noise and making strategic bets on blockchain. Your rivals are effortlessly tracking every last link in their supply chains. They're making bureaucratic paper trails obsolete while keeping their customers' data safer and discovering new ways to use this next foundational technology to sustain their competitive advantage. What should you be doing with blockchain now to ensure that your business is poised for success? "Blockchain: The Insights You Need from Harvard Business Review" brings you today's most essential thinking on blockchain, explains how to get the right initiatives started at your company, and prepares you to seize the opportunity of the coming blockchain wave. Business is changing. Will you adapt or be left behind? Get up to speed and deepen your understanding of the topics that are shaping your company's future with the Insights You Need from Harvard Business Review series. Featuring HBR's smartest thinking on fast-moving issues--blockchain, cybersecurity, AI, and more--each book provides the foundational introduction and practical case studies your organization needs to compete today and collects the best research, interviews, and analysis to get it ready for tomorrow. You can't afford to ignore how these issues will transform the landscape of business and society. The Insights You Need series will help you grasp these critical ideas--and prepare you and your company for the future.

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