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# Crypto Github Pages

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PROCEEDINGS OF THE 21ST CONFERENCE ON FORMAL METHODS IN COMPUTER-AIDED DESIGN - FMCAD 2021  
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## CURTIS NOBLE

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*From Traditional Fault Tolerance to Blockchain Apress*

Dive into a secure future Professionals look to Ethereum as a blockchain-based platform to develop safe applications and conduct secure transactions. It takes a knowledgeable guiding hand to understand how Ethereum works and what it does — and Ethereum For Dummies provides that guidance. Written by one of the leading voices in the blockchain community and best selling author of Blockchain For Dummies, this book demystifies the workings of Ethereum and shows how it can enhance security, transactions, and investments. As an emerging application of blockchain technology, Ethereum attracts a wide swath of professionals ranging from financial pros who see it as a way to enhance their business, security analysts who want to conduct secure transactions, programmers who build apps that employ the Ethereum blockchain, or investors interested in cashing in on the rise of cryptocurrency. Ethereum For Dummies offers a starting point to all

members of this audience as it provides easy-to-understand explanation of the tools and techniques of using Ethereum. Understand the fundamentals of Ethereum Build smart contracts Create decentralized applications Examine public and private chains If you need to get a grip on one of the biggest applications of blockchain technology, this book makes it easier.

**PROCEEDINGS OF THE 21ST CONFERENCE ON FORMAL METHODS IN COMPUTER-AIDED DESIGN - FMCAD 2021** O'Reilly Media

Learn to develop blockchain-based distributed ledgers and deploy a Hyperledger Fabric network with concrete exercises and examples Key FeaturesUpdated with the latest features and additions that come with Hyperledger Fabric 2Write your own smart contracts and services using Java and JavaScript on a Hyperledger Fabric networkDive into real-world blockchain challenges such as integration and scalabilityBook Description Blockchain with Hyperledger Fabric - Second Edition is a refreshed and extended version of the successful book on practical Hyperledger Fabric blockchain development. This edition includes many new chapters, alongside comprehensive updates and additions to the existing ones. Entirely reworked for Hyperledger Fabric version 2, this

edition will bring you right up to date with the latest in blockchain. Using a real-world Trade Finance and Logistics example, with working code available on GitHub, you'll really understand both how and why Hyperledger Fabric can be used to maximum effect. This book is your comprehensive guide and reference to explore and build blockchain networks using Hyperledger Fabric version 2. This edition of the book begins by outlining the evolution of blockchain, including an overview of relevant blockchain technologies. Starting from first principles, you'll learn how to design and operate a permissioned blockchain network based on Hyperledger Fabric version 2. You will learn how to configure the main architectural components of a permissioned blockchain network including Peers, Orderers, Certificate Authorities, Channels, and Policies. You'll then learn how to design, develop, package, and deploy smart contracts, and how they are subsequently used by applications. This edition also contains chapters on DevOps, blockchain governance, and security, making this your go-to book for Hyperledger Fabric version 2. What you will learnDiscover why blockchain is a technology and business game changerSet up blockchain networks using Hyperledger Fabric version 2Understand how to create decentralized applicationsLearn how to

integrate blockchains with existing systems Write smart contracts and services quickly with Hyperledger Fabric and Visual Studio Code Design transaction models and smart contracts with Java, JavaScript, TypeScript, and Golang Deploy REST gateways to access smart contracts and understand how wallets maintain user identities for access control Maintain, monitor, and govern your blockchain solutions Who this book is for This book is designed in such a way that professionals from different areas including business leaders, technology leaders, blockchain application developers, and even beginners can benefit from it.

*Blockchain for Enterprise* IBM Redbooks

We are in an ever-changing and fast-paced world that is entrenched in technological innovation. But how is technology and science impacting our society? How does it affect our interactions with these products and ultimately with each other? How is society shaping the types of technologies we are advancing? Critical Issues Impacting Science, Technology, Society (STS), and Our Future compiles theory and research from the confluence of a variety of disciplines to discuss how scientific research and technological innovation is shaping society, politics, and culture, and predicts what can be expected in the future. While highlighting topics including political engagement, artificial intelligence, and wearable technology, this book is ideally designed for policymakers, government officials, business managers, computer engineers, IT specialists, scientists, and professionals and researchers in the science, technology, and humanities fields.

*Grokking Bitcoin* Firenze University Press

Ethereum represents the gateway to a worldwide, decentralized computing paradigm. This platform enables you to run decentralized applications (DApps) and smart contracts that have no central points of failure or control, integrate with a payment network, and operate on an open blockchain. With this practical guide, Andreas M. Antonopoulos and Gavin Wood provide everything you need to know about building smart contracts and DApps on Ethereum and other virtual-machine blockchains. Discover why IBM, Microsoft, NASDAQ, and hundreds of other organizations are experimenting with Ethereum. This essential guide shows you how to develop the skills necessary to be an innovator in this growing and exciting new industry. Run an Ethereum client, create and transmit basic transactions, and program smart contracts Learn the essentials of public key cryptography, hashes, and digital signatures Understand how "wallets" hold digital keys that control funds and smart contracts Interact with Ethereum clients programmatically using JavaScript libraries and Remote Procedure Call interfaces Learn security best practices, design patterns, and anti-patterns with real-world examples Create tokens that represent assets, shares, votes, or access control rights Build decentralized applications using multiple peer-to-peer (P2P) components

*Profits in the Stock Market* IBM Redbooks

Learn how to use Solidity and the Ethereum project – second only to Bitcoin in market capitalization. Blockchain protocols are taking the world by storm, and the Ethereum project, with its Turing-complete scripting language Solidity, has rapidly become a front-runner. This book presents the blockchain phenomenon in context; then situates Ethereum in a world pioneered by Bitcoin. See why professionals and non-professionals alike are honing their skills in smart contract patterns and distributed application development. You'll review the fundamentals of programming and networking, alongside its introduction to the new discipline of crypto-economics. You'll then deploy smart contracts of your own, and learn how they can serve as a back-end for JavaScript and HTML applications on the Web. Many Solidity tutorials out there today have the same flaw: they are written for "advanced" JavaScript developers who want to transfer their skills to a blockchain environment. Introducing Ethereum and Solidity is accessible to technology professionals and enthusiasts of all levels. You'll find exciting sample code that can move forward real world assets in both the academic and the corporate arenas. Find out now why this book is a powerful gateway for creative technologists of all types, from concept to deployment. What You'll Learn See how Ethereum (and other cryptocurrencies) work Compare distributed apps (dapps) to web apps Write Ethereum smart contracts in Solidity Connect Ethereum smart contracts to your HTML/CSS/JavaScript web applications Deploy your own dapp, coin, and blockchain Work with basic and intermediate smart contracts Who This Book Is For Anyone who is curious about Ethereum or has some familiarity with computer science Product managers, CTOs, and experienced JavaScript programmers Experts will find the advanced sample projects in this book rewarding because of the power of Solidity

*Distributed Computing to Blockchain* BPB Publications

An expert guide to implementing fast, secure, and scalable decentralized applications that work

with thousands of users in real time Key Features Implement advanced features of the Ethereum network to build powerful decentralized applications Build smart contracts on different domains using the programming techniques of Solidity and Vyper Explore the architecture of Ethereum network to understand advanced use cases of blockchain development Book Description Ethereum is one of the commonly used platforms for building blockchain applications. It's a decentralized platform for applications that can run exactly as programmed without being affected by fraud, censorship, or third-party interference. This book will give you a deep understanding of how blockchain works so that you can discover the entire ecosystem, core components, and its implementations. You will get started by understanding how to configure and work with various Ethereum protocols for developing dApps. Next, you will learn to code and create powerful smart contracts that scale with Solidity and Vyper. You will then explore the building blocks of the dApps architecture, and gain insights on how to create your own dApp through a variety of real-world examples. The book will even guide you on how to deploy your dApps on multiple Ethereum instances with the required best practices and techniques. The next few chapters will delve into advanced topics such as, building advanced smart contracts and multi-page frontends using Ethereum blockchain. You will also focus on implementing machine learning techniques to build decentralized autonomous applications, in addition to covering several use cases across a variety of domains such as, social media and e-commerce. By the end of this book, you will have the expertise you need to build decentralized autonomous applications confidently. What you will learn Apply scalability solutions on dApps with Plasma and state channels Understand the important metrics of blockchain for analyzing and determining its state Develop a decentralized web application using React.js and Node.js Create oracles with Node.js to provide external data to smart contracts Get to grips with using Etherscan and block explorers for various transactions Explore web3.js, Solidity, and Vyper for dApps communication Deploy apps with multiple Ethereum instances including TestRPC, private chain, test chain, and mainnet Who this book is for This book is for anyone who wants to build fast, highly secure, and transactional decentralized applications. If you are an Ethereum developer looking to perfect your existing skills in building powerful blockchain applications, then this book is for you. Basic knowledge of Ethereum and blockchain is necessary to understand the concepts covered in this book.

*Bitcoin and Cryptocurrency Technologies* Packt Publishing Ltd

Unravel the mysteries of blockchains Blockchain technologies are disrupting some of the world's biggest industries. Blockchain For Dummies provides a fast way to catch up with the essentials of this quickly evolving tech. Written by an author involved in founding and analyzing blockchain solutions, this book serves to help those who need to understand what a blockchain can do (and can't do). This revised edition walks you through how a blockchain securely records data across independent networks. It offers a tour of some of the world's best-known blockchains, including those that power Bitcoin and other cryptocurrencies. It also provides a glance at how blockchain solutions are affecting the worlds of finance, supply chain management, insurance, and governments. Get a clear picture of what a blockchain can do Learn how blockchains rule cryptocurrency and smart contracts Discover current blockchains and how each of them work Test blockchain apps Blockchain has become the critical buzzword in the world of financial technology and transaction security — and now you can make sense of it with the help of this essential guide.

*Real-World Cryptography* World Scientific

Pro Git (Second Edition) is your fully-updated guide to Git and its usage in the modern world. Git has come a long way since it was first developed by Linus Torvalds for Linux kernel development. It has taken the open source world by storm since its inception in 2005, and this book teaches you how to use it like a pro. Effective and well-implemented version control is a necessity for successful web projects, whether large or small. With this book you'll learn how to master the world of distributed version workflow, use the distributed features of Git to the full, and extend Git to meet your every need. Written by Git pros Scott Chacon and Ben Straub, Pro Git (Second Edition) builds on the hugely successful first edition, and is now fully updated for Git version 2.0, as well as including an indispensable chapter on GitHub. It's the best book for all your Git needs.

*Cryptocurrency All-in-One For Dummies* Academic Press

Understand the Ethereum platform to build distributed applications that are secured and decentralized using blockchain technology Key Features Build your own decentralized applications using real-world blockchain examples Implement Ethereum for building smart contracts and cryptocurrency applications with easy-to-follow projects Enhance your application security with blockchain Book Description Ethereum enables the development of efficient, smart contracts that

contain code. These smart contracts can interact with other smart contracts to make decisions, store data, and send Ether to others. Ethereum Projects for Beginners provides you with a clear introduction to creating cryptocurrencies, smart contracts, and decentralized applications. As you make your way through the book, you'll get to grips with detailed step-by-step processes to build advanced Ethereum projects. Each project will teach you enough about Ethereum to be productive right away. You will learn how tokenization works, think in a decentralized way, and build blockchain-based distributed computing systems. Towards the end of the book, you will develop interesting Ethereum projects such as creating wallets and secure data sharing. By the end of this book, you will be able to tackle blockchain challenges by implementing end-to-end projects using the full power of the Ethereum blockchain. What you will learn Develop your ideas fast and efficiently using the Ethereum blockchain Make writing and deploying smart contracts easy and manageable Work with private data in blockchain applications Handle large files in blockchain applications Ensure your decentralized applications are safe Explore how Ethereum development frameworks work Create your own cryptocurrency or token on the Ethereum blockchain Make sure your cryptocurrency is ERC20-compliant to launch an ICO Who this book is for This book is for individuals who want to build decentralized applications using blockchain technology and the power of Ethereum from scratch. Some prior knowledge of JavaScript is required, since most examples use a web frontend.

*Introducing Ethereum and Solidity* John Wiley & Sons

Learning Bitcoin SV: The Original Bitcoin & Global Public Blockchain for Enterprise É KEY

FEATURESÉ - Get familiar with the working of the Bitcoin network, protocol, transactions, Smart contracts and the incentive models of Bitcoin. - Learn advanced concepts such as Metanet and Tokenized protocol. - Work with tools and utilities to build consumer and enterprise applications. -

Get a full explanation of cryptography and its math in Bitcoin. DESCRIPTIONÉÉ In 2008, Satoshi Nakamoto released a codebase and whitepaper for a network that came to be known as the Blockchain. It was the first successful attempt to create electronic money after decades of failed attempts across the world. However, the basis of its success is not just the digitalization of currency into electronic form, but its peer-to-peer node network and the public storage of all transactions in time-stamped blocks chained together called as Timechain in the whitepaper. It also introduces a non-trusted third party transaction processor, which replaces the current centralized trust-based systems. What happened next is history, and today, it is a multi-billion dollar industry across the world. Bitcoin Satoshi Vision Blockchain restored the original version of the Bitcoin protocol and it is now a thriving developer, business and enterprise ecosystem. É This book offers a practical deep dive into every aspect of the Bitcoin protocol. It includes the math behind the Cryptography and a detailed overview of the application-level protocol, which works on top of the Bitcoin Blockchain network. It also focuses on the core principles and fundamental concepts of Bitcoin to explain the constructs of a Blockchain type system. WHAT WILL YOU LEARNÉÉ - You will learn the internal workings of Bitcoin and get the ability to understand most blockchains that exist. - Create applications using bitcoin as a public registry and a data storage ledger.É - Create and store data on Blockchain as DAG. - Discover and get familiar with the advanced Application layer protocols. - Get familiar with the law and regulations applicable to Bitcoin. WHO THIS BOOK IS FORÉ This book is for anyone who is interested in exploring blockchain technology. It will appeal to Developers, Architects, Technology Managers and Executives who wish to build new or transform their existing applications to a blockchain based system to gain efficiencies in Cost, Scalability, Security and Robustness. É TABLE OF CONTENTSÉ 1. Bitcoin Protocol Overview : Origins and Concept 2. Economic model of Bitcoin and network structure for nodes 3. Cryptography and ECDSA Infrastructure 4. All about wallets 5. Transactions and Transaction Scripts 6. Miners and Nakamoto Consensus 7. Metanet Protocol : Data Structures on Blockchain 8. Bitcom and Other Application Protocols 9. Data Carrier Transactions : BitDB and Querying bitcoin as database 10. Planaria and other utilities 11. Real world Applications 12. Identity and Authentication on BitCoin : Paymail 13. Tokens and the Tokenized protocol for building real world utilities 14. Going into future : AI/ML, Big Data, IOT 15. BitCoin and Law

*Cryptocurrency Mining For Dummies* Health Research Books

This book constitutes the refereed proceedings of the 13th International Conference on Decision and Game Theory for Security, GameSec 2022, held in October 2022 in Pittsburgh, PA, USA. The 15 full papers presented were carefully reviewed and selected from 39 submissions. The papers are grouped thematically on: deception in security; planning and learning in dynamic environments; security games; adversarial learning and optimization; novel applications and new game models.



*Bitcoin and Lightning Network on Raspberry Pi* Packt Publishing Ltd

Compile and run Bitcoin full nodes, lightning nodes, and user-friendly web-apps that help abstract the complexities of Bitcoin. This book not only explains the tools and techniques to help readers build their own banks and banking apps, but it also tells a story. Starting with the origins of Bitcoin—what it is and why we need it—find out what its strengths and limitations are. Understand the nature of mining and why so much energy is put into it. The blockchain itself will be reviewed, as well, and compared to other options such as a normal SQL database or a simple spreadsheet. With this book, you can control Bitcoin wallets via RPC commands on a Raspberry Pi. Configure, compile, and run two implementation of the Lightning Network-compatible daemons: LND and c-lightning. And employ user-friendly web apps that abstract the complexities of Bitcoin/Lightning-Network. The Internet of Information is currently transitioning to the Internet of Things, which in turn may well be followed by the Internet of Value (or Money). However, there is no evolution without happy users and Bitcoin will never reach the same heights like the original internet without having offered “useful” and “easy to use” tools. Just like nobody would ever want to use UUCP to send messages via web the same applies to current cryptocurrency tools. These are hard to use and very unforgiving. But, the evolution doesn’t stop here and many easy-to-use tools are already available. We will meet some of them when building apps for the Lightning Network, a new technology running on top of Bitcoin’s blockchain that makes it possible to generate billions of transactions within a single second. What You’ll Learn Control Bitcoin wallets via console RPC commands Run two implementation of the Lightning Network compatible daemons Simplify the complexities of Bitcoin and the Lightning network with user-friendly web apps Who This Book Is For This book is for Makers familiar with the basics of Linux command line processes.

*Cryptocurrency Mining For Dummies* Oxford University Press

Implement blockchain principles in your choice of domain using Ethereum Key FeaturesBuild permissioned enterprise-grade blockchain applications from scratchImplement Blockchain-as-a-Service to enterprises in terms of deployment and securityAchieve privacy in blockchains using proxy re-encryption algorithmsBook Description The increasing growth in blockchain use is enormous, and it is changing the way business is done. Many leading organizations are already exploring the potential of blockchain. With this book, you will learn to build end-to-end enterprise-level decentralized applications and scale them across your organization to meet your company’s needs. This book will help you understand what DApps are and how the blockchain ecosystem works, via real-world examples. This extensive end-to-end book covers every blockchain aspect for business and for developers. You will master process flows and incorporate them into your own enterprise. You will learn how to use J.P. Morgan’s Quorum to build blockchain-based applications. You will also learn how to write applications that can help communicate enterprise blockchain solutions. You will learn how to write smart contracts that run without censorship and third-party interference. Once you’ve grasped what a blockchain is and have learned about Quorum, you will jump into building real-world practical blockchain applications for sectors such as payment and money transfer, healthcare, cloud computing, supply chain management, and much more. What you will learnLearn how to set up Raft/IBFT Quorum networksImplement Quorum’s privacy and security featuresWrite, compile, and deploy smart contractsLearn to interact with Quorum using the web3.js JavaScript libraryLearn how to execute atomic swaps between different networksBuild a secured Blockchain-as-a-Service for efficient business processesAchieve data privacy in blockchains using proxy re-encryptionWho this book is for This book is for innovators, digital transformers, and blockchain developers who want to build end-to-end, decentralized applications using the blockchain technology. If you want to scale your existing blockchain system across the enterprise, you will find this book useful, too. It adopts a practical approach to solving real problems in enterprises using a blend of theory and practice.

*Decision and Game Theory for Security* Springer

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Want to join the technological revolution that’s taking the world of finance by storm? Mastering Bitcoin is your guide through the seemingly complex world of bitcoin, providing the requisite knowledge to help you participate in the internet of money. Whether you’re building the next killer app, investing in a startup, or simply curious about the technology, this practical book is essential reading. Bitcoin, the first successful decentralized digital currency, is still in its infancy and it’s already spawned a multi-billion dollar global economy. This economy is open to anyone with the knowledge and passion to participate. Mastering Bitcoin provides you with the knowledge you need (passion not included). This book includes: A broad introduction to bitcoin—ideal for non-technical users, investors, and business executives An explanation of the technical foundations of bitcoin and cryptographic currencies for developers, engineers, and software and systems architects Details of the bitcoin decentralized network, peer-to-peer architecture, transaction lifecycle, and security principles Offshoots of the bitcoin and blockchain inventions, including alternative chains, currencies, and applications User stories, analogies, examples, and code snippets illustrating key technical concepts

**Blockchain For Dummies** Simon and Schuster

Blockchain has emerged as a disruptive technology in the areas of trading assets and sharing information. It has the capability to transform many industries, professions, and aspects of life. The focus of this IBM® Redbooks® publication is to help developers build blockchain solutions and use IBM Blockchain Platform to start, test, and move applications into production. This publication covers some blockchain for business use cases. It also describes how to get started in defining, developing, and deploying a Hyperledger Composer business network to Hyperledger Fabric, both locally on a workstation and remotely on the IBM Blockchain Starter Plan.A fund clearing business network is used as an example scenario for blockchain and this source code is available for download, testing, and use. The Redpaper contains detailed information on how we put it together and more, so grab a copy of it via the download link on this page as well. This paper is part one of a series of papers and educational materials. Later materials will describe how to use IBM Blockchain Platform to test and scale your business network, to integrate more completely with a COBOL business application running in IBM CICS®, and to manage changes to your business network in a production environment.

*Building Blockchain Projects* Princeton University Press

The book is aimed to foster knowledge based on Blockchain technology highlighting on the framework basics, operating principles and different incarnations. The fundamental problems encountered in existing blockchain architectures and means for removing those would be covered. It would also touch upon blockchain based IoT systems and applications. The book covers applications and use cases of blockchain technology for industrial IoT systems. In addition, methods for inducing computational intelligence into existing blockchain frameworks thereby thwarting most of the limitations are also discussed. The readers would benefit from the rich technical content in this rapidly emerging field thereby enabling a skilled workforce for the future.

**Architecture for Blockchain Applications** Apress

Handbook of Blockchain, Digital Finance, and Inclusion, Volume 2: ChinaTech, Mobile Security, and Distributed Ledger emphasizes technological developments that introduce the future of finance. Descriptions of recent innovations lay the foundations for explorations of feasible solutions for banks and startups to grow. The combination of studies on blockchain technologies and applications, regional financial inclusion movements, advances in Chinese finance, and security issues delivers a grand perspective on both changing industries and lifestyles. Written for students and practitioners, it helps lead the way to future possibilities. Explains the practical consequences of both technologies and economics to readers who want to learn about subjects related to their specialties Encompasses alternative finance, financial inclusion, impact investing, decentralized

consensus ledger and applied cryptography Provides the only advanced methodical summary of these subjects available today

*Handbook of Blockchain, Digital Finance, and Inclusion, Volume 2* Springer Nature

Dive into Bitcoin technology with this hands-on guide from one of the leading teachers on Bitcoin and Bitcoin programming. Author Jimmy Song shows Python programmers and developers how to program a Bitcoin library from scratch. You’ll learn how to work with the basics, including the math, blocks, network, and transactions behind this popular cryptocurrency and its blockchain payment system. By the end of the book, you’ll understand how this cryptocurrency works under the hood by coding all the components necessary for a Bitcoin library. Learn how to create transactions, get the data you need from peers, and send transactions over the network. Whether you’re exploring Bitcoin applications for your company or considering a new career path, this practical book will get you started. Parse, validate, and create bitcoin transactions Learn Script, the smart contract language behind Bitcoin Do exercises in each chapter to build a Bitcoin library from scratch Understand how proof-of-work secures the blockchain Program Bitcoin using Python 3 Understand how simplified payment verification and light wallets work Work with public-key cryptography and cryptographic primitives

*Blockchain with Hyperledger Fabric* O’Reilly Media

This book introduces all the technical features that make up blockchain technology today. It starts with a thorough explanation of all technological concepts necessary to understand any discussions related to distributed ledgers and a short history of earlier implementations. It then discusses in detail how the Bitcoin network looks and what changes are coming in the near future, together with a range of altcoins that were created on the same base code. To get an even better idea, the book shortly explores how Bitcoin might be forked before going into detail on the Ethereum network and cryptocurrencies running on top of the network, smart contracts, and more. The book introduces the Hyperledger foundation and the tools offered to create private blockchain solutions. For those willing, it investigates directed acyclic graphs (DAGs) and several of its implementations, which could solve several of the problems other blockchain networks are still dealing with to this day. In Chapter 4, readers can find an overview of blockchain networks that can be used to build solutions of their own and the tools that can help them in the process.

*Cryptofinance: A New Currency For A New Economy* Packt Publishing Ltd

Less than a decade after the Financial Crisis, we are witnessing the fast emergence of a new financial order driven by three different, yet interconnected, dynamics: first, the rapid application of technology - such as big data, machine learning, and distributed computing - to banking, lending, and investing, in particular with the emergence of virtual currencies and digital finance; second, a disintermediation fuelled by the rise of peer-to-peer lending platforms and crowd investment which challenge the traditional banking model and may, over time, lead to a transformation of the way both retail and corporate customers bank; and, third, a tendency of de-bureaucratisation under which new platforms and technologies challenge established organisational patterns that regulate finance and manage the money supply. These changes are to a significant degree driven by the development of blockchain technology. The aim of this book is to understand the technological and business potential of the blockchain technology and to reflect on its legal challenges. The book mainly focuses on the challenges blockchain technology has so far faced in its first application in the areas of virtual money and finance, as well as those that it will inevitably face (and is partially already facing, as the SEC Investigative Report of June 2017 and an ongoing SEC securities fraud investigation show) as its domain of application expands in other fields of economic activity such as smart contracts and initial coin offerings. The book provides an unparalleled critical analysis of the disruptive potential of this technology for the economy and the legal system and contributes to current thinking on the role of law in harvesting and shaping innovation.