

Mastering Ethereum: Building Smart Contracts And Dapps

Use this book to write an Ethereum Blockchain Smart Contract, test it, deploy it, and create a web application to interact with your smart contract. Beginning Ethereum Smart Contracts Programming is your fastest and most efficient means of getting started if you are unsure where to begin and how to connect to the Ethereum Blockchain. The book begins with a foundational discussion of blockchain and the motivation behind it. From there, you will get up close and personal with the Ethereum Blockchain, learning how to use an Ethereum client (geth) to connect to the Ethereum Blockchain to perform transactions such as sending Ethers to another account. You will learn about smart contracts without having to wade through tons of documentation. Author Lee's "learn-by-doing" approach will allow you to be productive and feel confident in your ability in no time. The last part of this book covers tokens, a topic that has taken the cryptocurrency market by storm. Sample code in Python, Solidity, and JavaScript is provided in the book and online. What You'll Learn Understand the basic premise of blockchain and "record keeping" in a peer-to-peer network Experience blockchain in action by creating your own blockchain using Python Know the foundation of smart contracts programming and how to deploy and test smart contracts Work on a case study to illustrate the use of blockchain Be familiar with tokens, and how to create and launch your own ICO digital token Write smart contracts that transact using tokens Who This Book Is For Those who want to get started quickly with Ethereum Smart Contracts programming. Basic programming knowledge and an understanding of Python or JavaScript is recommended.

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 Ethercast 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.

November 1745. After victory at the Battle of Gladsmuir, Charles Edward Stuart rules Scotland as prince regent. Across the border, in England, the regiments of King George are massing, intent on dislodging the prince from his throne in Edinburgh. The newly formed army of Scottish Jacobites take the initiative in the war. They invade England. To disguise their lack of numbers and ensure surprise, the prince's army marches through the border hills in three fast-moving columns. Lord Kilmarnock's regiment of horse grenadiers are ordered to carry out the cavalry duties that the gentlemen regiments will not undertake. They find themselves escorting the baggage and artillery train through hostile country. If they cannot rendezvous with the Jacobite army as planned, the prince will have no capacity to fight the coming campaign. Lord Kilmarnock has only a hundred and fifty horsemen for the task at hand. It is not enough. What ignoble wickedness is this? Patrick pointed the muzzle of his piece towards the sack of caltrops by the ford. It is the wickedness of war. It is the madness of folly! Patrick thrust his smoking carbine into its holster. He drew out his rapier and held the blade low. A soldier should fight with honor. Fight with honor! Is that why your gallant prince declines battle and flees into the mountains? Veres Ulster accent was heavy with contempt. The two men faced each other, a pistol shot apart. The grey gelding flared its nostrils and stamped its foot on the road. Patrick placed his hand on the animal's neck to calm its keenness. Aye, we are retreating, true enough. But before we depart, I will see that the crows gorge themselves on your flesh! Test your mettle if you have the courage. The Irishman brandished his musket in the air causing sunlight to glint off the steel of the bayonet. But before you face my fury, prepare yourself first to face the wrath of God. There is surely enough room in hell for the both of us!

Written by security experts at the forefront of this dynamic industry, this book teaches state-of-the-art smart contract security principles and practices. Smart contracts are an innovative application of blockchain technology. Acting as decentralized custodians of digital assets, they allow us to transfer value and information more effectively by reducing the need to trust a third party. By eliminating the need for intermediaries, smart contracts have the potential to massively scale the world economy and unleash the potential for faster and more efficient solutions than traditional systems could ever provide. But there's one catch: while blockchains are secure, smart contracts are not. Security vulnerabilities in smart contracts have led to over \$250 million USD in value to be lost or stolen. For smart contract technology to achieve its full potential, these security vulnerabilities need to be addressed. Written by security experts at the forefront of this dynamic industry, this book teaches state-of-the-art smart contract security principles and practices. Help us secure the future of blockchain technology and join us at the forefront today!

The Internet of Money Volume Two

Blockchain By Example

Ethereum Cookbook

Mastering Ethereum

With Case Studies and Code Samples in Solidity

Unlocking Digital Cryptocurrencies

The future will be increasingly distributed. As the publicity surrounding Bitcoin and blockchain has shown, distributed technology and business models are gaining popularity. Yet the disruptive potential of this technology is often obscured by hype and misconception. This detailed guide distills the complex, fast moving ideas behind blockchain into an easily digestible reference manual, showing what's really going on under the hood. Finance and technology pros will learn how a blockchain works as they explore the evolution and current state of the technology, including the functions of cryptocurrencies and smart contracts. This book is for anyone evaluating whether to invest time in the cryptocurrency and blockchain industry. Go beyond buzzwords and see what the technology really has to offer. Learn why Bitcoin was fundamentally important in blockchain's birth Learn how Ethereum has created a fertile ground for new innovations like Decentralized Finance (DeFi), Non-Fungible Tokens (NFTs) and Flash Loans Discover the secrets behind cryptocurrency prices and different forces that affect the highly volatile cryptocurrency markets Learn how cryptocurrencies are used by criminals to carry out nefarious activities Discover how enterprise and governments are leveraging the blockchain including Facebook Understand the challenges of scaling and forking a blockchain Learn how different blockchains work Learn the language of blockchain as industry terms are explained

Learn about cryptography and cryptocurrencies, so you can build highly secure, decentralized applications and conduct trusted in-app transactions. Key Features Get to grips with the underlying technical principles and implementations of blockchain Build powerful applications using Ethereum to secure transactions and create smart contracts Explore cryptography, mine cryptocurrencies, and solve scalability issues with this comprehensive guide Book Description A blockchain is a distributed ledger that is replicated across multiple nodes and enables immutable, transparent and cryptographically secure record-keeping of transactions. The blockchain technology is the backbone of cryptocurrencies, and it has applications in finance, government, media and almost all other industries. Mastering Blockchain, Second Edition has been thoroughly updated and revised to provide a detailed description of this leading technology and its implementation in the real world.

This book begins with the technical foundations of blockchain technology, teaching you the fundamentals of distributed systems, cryptography and how it keeps data secure. You will learn about the mechanisms behind cryptocurrencies and how to develop applications using Ethereum, a decentralized virtual machine. You will also explore different other blockchain solutions and get an introduction to business blockchain frameworks under Hyperledger, a collaborative effort for the advancement of blockchain technologies hosted by the Linux Foundation. You will also be shown how to implement blockchain solutions beyond currencies, Internet of Things with blockchain, blockchain scalability, and the future scope of this fascinating and powerful technology. What you will learn

Master the theoretical and technical foundations of the blockchain technology
Understand the concept of decentralization, its impact, and its relationship with blockchain technology
Master how cryptography is used to secure data - with practical examples
Grasp the inner workings of blockchain and the mechanisms behind bitcoin and alternative cryptocurrencies
Understand the theoretical foundations of smart contracts
Learn how Ethereum blockchain works and how to develop decentralized applications using Solidity and relevant development frameworks
Identify and examine applications of the blockchain technology - beyond currencies
Investigate alternative blockchain solutions including Hyperledger, Corda, and many more
Explore research topics and the future scope of blockchain technology

Who this book is for This book will appeal to those who wish to build fast, highly secure, transactional applications. It targets people who are familiar with the concept of blockchain and are comfortable with a programming language.

Discover the advanced features of Solidity that will help you write high-quality code and develop secure smart contracts with the latest ERC standards
Key Features Delve into Solidity and understand control structures, function calls, and variable scopes
Explore tools for developing, testing, and debugging your blockchain applications
Learn advanced design patterns and best practices for writing secure smart contracts

Book Description Solidity is among the most popular and contract-oriented programming languages used for writing decentralized applications (DApps) on Ethereum blockchain. If you're looking to perfect your skills in writing professional-grade smart contracts using Solidity, this book can help. You will get started with a detailed introduction to blockchain, smart contracts, and Ethereum, while also gaining useful insights into the Solidity programming language. A dedicated section will then take you through the different Ethereum Request for Comments (ERC) standards, including ERC-20, ERC-223, and ERC-721, and demonstrate how you can choose among these standards while writing smart contracts. As you approach later

chapters, you will cover the different smart contracts available for use in libraries such as OpenZeppelin. You'll also learn to use different open source tools to test, review and improve the quality of your code and make it production-ready. Toward the end of this book, you'll get to grips with techniques such as adding security to smart contracts, and gain insights into various security considerations. By the end of this book, you will have the skills you need to write secure, production-ready smart contracts in Solidity from scratch for decentralized applications on Ethereum blockchain. What you will learn Test and debug smart contracts with Truffle, Ganache, Remix, and MetaMask Gain insights into maintaining code quality with different tools Get up to speed with ERC standards such as ERC-20 and ERC-721 Become adept at using design patterns while writing smart contracts Use MultiSignature (MultiSig) wallets and improve the security of contracts Use Oracle services to fetch information from outside the blockchain Who this book is for This book is for developers and data scientists who want to learn Ethereum, blockchain, and Solidity to write smart contracts and develop production-ready code. Basic knowledge of Solidity is assumed.

Join the technological revolution that's taking the financial world by storm. Mastering Bitcoin is your guide through the seemingly complex world of bitcoin, providing the knowledge you need to 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 revised and expanded second edition provides essential detail to get you started. Bitcoin, the first successful decentralized digital currency, is still in its early stages and yet it's already spawned a multi-billion-dollar global economy open to anyone with the knowledge and passion to participate. Mastering Bitcoin provides the knowledge. You simply supply the passion. The second edition includes: A broad introduction of bitcoin and its underlying blockchain—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 New developments such as Segregated Witness, Payment Channels, and Lightning Network A deep dive into blockchain applications, including how to combine the building blocks offered by this platform into higher-level applications User stories, analogies, examples, and code snippets illustrating key technical concepts Implement advanced blockchain applications using Ethereum-supported tools, services, and protocols

Intermediate Projects for Solidity Developers

Building Blockchain Projects

Building Smart Contracts and DApps: Building Smart Contracts and DApps

A Comprehensive Introduction

Learn Ethereum

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.

The Lightning Network (LN) is a rapidly growing second-layer payment protocol that works on top of Bitcoin to provide near-instantaneous transactions between two parties. With this practical guide, authors Andreas M. Antonopoulos, Olaoluwa Osuntokun, and Rene Pickhardt explain how this advancement will enable the next level of scale for Bitcoin, increasing speed and privacy while reducing fees. Ideal for developers, systems architects, investors, and entrepreneurs looking to gain a better understanding of LN, this book demonstrates why experts consider LN a critical solution to Bitcoin's scalability problem. You'll learn how LN has the potential to support far more transactions than today's financial networks. This book examines: How the Lightning

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Network addresses the challenge of blockchain scaling The Basis of Lightning Technology (BOLT) standards documents The five layers of the Lightning Network Protocol Suite LN basics, including wallets, nodes, and how to operate one Lightning payment channels, onion routing, and gossip protocol Finding paths across payment channels to transport Bitcoin off-chain from sender to recipient

Learn the most powerful and primary programming language for writing smart contracts and find out how to write, deploy, and test smart contracts in Ethereum. Key Features Get you up and running with Solidity Programming language Build Ethereum Smart Contracts with Solidity as your scripting language Learn to test and deploy the smart contract to your private Blockchain Book Description Solidity is a contract-oriented language whose syntax is highly influenced by JavaScript, and is designed to compile code for the Ethereum Virtual Machine. Solidity Programming Essentials will be your guide to understanding Solidity programming to build smart contracts for Ethereum and blockchain from ground-up. We begin with a brief run-through of blockchain, Ethereum, and their most important concepts or components. You will learn how to install all the necessary tools to write, test, and debug Solidity contracts on Ethereum. Then, you will explore the layout of a Solidity source file and work with the different data types. The next set of recipes will help you work with operators, control structures, and data structures while building your smart contracts. We take you through function calls, return types, function modifiers, and recipes in object-oriented programming with Solidity. Learn all you can on event logging and exception handling, as well as testing and debugging smart contracts. By the end of this book, you will be able to write, deploy, and test smart contracts in Ethereum. This book will bring forth the essence of writing contracts using Solidity and also help you develop Solidity skills in no time. What you will learn Learn the basics and foundational concepts of Solidity and Ethereum Explore the Solidity language and its uniqueness in depth Create new accounts and submit transactions to blockchain Get to know the complete language in detail to write smart contracts Learn about major tools to develop and deploy smart contracts Write defensive code using exception handling and error checking Understand Truffle basics and the debugging process Who this book is for This book is for

Get Free Mastering Ethereum: Building Smart Contracts And Dapps

anyone who would like to get started with Solidity Programming for developing an Ethereum smart contract. No prior knowledge of EVM is required.

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 Build blockchain-based cryptocurrencies, smart contracts, and DApps Decentralized Applications on the Ethereum Blockchain A Developer's Guide to Ethereum Build Your First Ethereum DApp Building on Ethereum

Ethereum Projects for Beginners

Blockchain technology has certainly been hyped over the past few years, but when you strip all of that away, what can actually do with it? This book is a collection of articles that provide an introduction to Ethereum, an open source platform that's based based on blockchain. It enables developers to build and deploy decentralized applications that can be relied on to work without fraud, censorship or interference from third parties. We start off by explaining what blockchain is and how it works, and also look at some potential practical applications for blockchain technology. We then move on to looking at the Ethereum platform specifically. Far more than just a cryptocurrency or smart contracts platform, Ethereum is becoming an entire ecosystem for building decentralized applications. This book contains: Blockchain: What It Is, How It Works, Why It's So Popular by Bruno Skvorc What is a Bitcoin Node? Mining versus Validation by Bruno Skvorc How the Lightning Network Helps Blockchains Scale by Bruno Skvorc The Top Nine Uses for Blockchain by Mateja Kendel Introduction to Ethereum: A Cryptocurrency with a Difference by Bruno Skvorc A Deep Dive into Cryptography by Bruno Skvorc 3 Bitcoin Alternatives Compared: Ethereum, Cardano and NEO by David Attard Compiling and Smart Contracts: ABI Explained by Mislav Javor Ethereum Wallets: Send and Receive Ether with MyEtherWallet by Bruno Skvorc Ethereum: How Transaction Costs are Calculated by Bruno Skvorc Proof of Stake vs Proof of Work by Bruno Skvorc Ethereum's Casper: Ghostbusting Proof of Stake Problems by Tonino Jankov Decentralized Storage and Publication with IPFS and Swarm by Tonino Jankov Ethereum Messaging: Explaining Whisper and Status.im by Tonino Jankov Ethereum: Internal Transactions & Token Transfers Explained by Bruno Skvorc BigchainDB: Blockchain and Data Storage by Chris Ward This book is for anyone interested in using the Ethereum platform for development. No prior knowledge of blockchain is assumed. 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. Learn how to take your existing knowledge of Ethereum and Solidity to the next level. Hone your development skills and become more familiar with the syntax of the Solidity language by working through well-tested, well-documented intermediate-level sample projects. You will begin by covering the basics of Ethereum, Solidity, and gaming theory. From there, you will move onto sample projects that use smart contract engineering to create fun casino-style games that you can deploy and test on your friends and colleagues with real ether. All games are provably fair and auditable, so that players know the house won't always win! Ideal for any reader with exposure to Ethereum, the techniques this book teaches are applicable to game developers, software engineers, web developers, and cryptocurrency enthusiasts. What You'll Learn Use various features and best practices for smart contract programming in Ethereum and Solidity Develop and deploy games of chance, similar to the kind you'd find in a casino Create fun, easy projects with Ethereum Integrate the Ethereum blockchain into games Who This Book Is For Entry-level programmers with some exposure to Ethereum; game developers, Blockchain and cryptocurrency enthusiasts looking to add Ethereum and Solidity development to their skill set; software engineers and Web developers

In-App purchases represent an undeniably huge potential revenue stream for any game or application. Consider that Fortnite sold over 1 billion dollars worth of in-game purchases in less than a year from its inception. Most traditional game platforms are "walled gardens" where all the assets that gamers purchase come straight from the company who wrote the game. That's good for the company; they're the only source of magic swords. But for the players, frankly, it stinks. With Ethereum, those assets could live on the public blockchain and actually be owned by the users, who could sell or trade them like CryptoKitties or any other ERC-721 Non-fungible Token (NFT). When a player tires of a game after a year or two, she could sell all her assets to other players to recoup her investment. This is the vision behind the In-App Pro Shop, an application the author built and describes in detail in the book. The source code is available on GitHub, so you can download it and follow along, learning the Ethereum development ecosystem as you go. Any developer seeking to learn Ethereum smart contract development will have many of the same questions: What language(s) should I use? What blockchain tech stack do I need to get started? What framework(s) will I use to build the UI? What should the project structure look like? The answers to these questions lead to even more, and the options can seem overwhelming. This book covers most of them, as well as many of the the eventual problems you'll face once you're project is growing. For instance, what happens when your contract reaches the maximum size and can no longer be deployed? How can your contract get information from off the blockchain, like current Ethereum exchange rates? The author doesn't attempt to define every term or make this book a canonical reference to Ethereum development. The field is moving far too swiftly for that. Rather, he leads you through the decision points you'll encounter when you try to set up a project and grow it beyond trivial scope.

Foundations of Cryptocurrency and Blockchain Programming for Beginners

Programming Bitcoin

Mastering the Lightning Network

Write production-ready smart contracts for Ethereum blockchain with Solidity

Ethereum For Dummies

Building Ethereum DApps

"This book details the new economies created by a generation of bankless pioneers. It's the best introduction you could ask for." - Mariano Conti, Head of Smart Contracts at Maker Foundation "If I didn't know anything about DeFi and needed to learn from scratch, this book is where I'd start." - Felix Feng, CEO of TokenSets "This book makes it easy for beginners to get started with DeFi." - Hugh Karp, CEO of Nexus Mutual

How to DeFi: Beginner, Second Edition, is the 2021 updated version of How to DeFi (March 2020). DeFi is an ecosystem of decentralized applications that provide financial services built on top of distributed networks with no governing authority. By April 2021, DeFi applications have locked up over \$86 billion worth of cryptocurrencies in smart contracts. DeFi is expected to grow further in the coming years and is a key component in fulfilling Ethereum's lofty vision and ambition. You will learn about the various elements of DeFi such as decentralized stablecoins, decentralized exchanges, decentralized lending, decentralized derivatives, decentralized insurance and more. DeFi has been immensely popular throughout 2019 to 2021 and is showing no signs of slowing down. Use this book to stay ahead of the curve and learn how you can utilize various DeFi applications to better understand the changes that will disrupt the traditional financial sector. In this book, you will discover: - What is DeFi and their differences with traditional finance - What is Ethereum and its role in DeFi - Step-by-step guides in using the various DeFi applications - Real-life use cases of DeFi and how you too can earn from opportunities within the space

With simple, yet concise explanations and guides, it has never been easier for you to understand and get started with the various DeFi applications.

In this book we'll walk through the creation of a complete distributed application (DApp) based on the Ethereum platform. We'll be building The Neverending Story , a crowdsourced choose-your-own-adventure story with crowd curation and community censorship. This book is for anyone interested in using the Ethereum platform for development. It's advised that you read The Developer's Guide to Ethereum before reading this book if you are not familiar with blockchain technology.

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.

Implement decentralized blockchain applications to build scalable Dapps Key Features Understand the blockchain ecosystem and its terminologies Implement smart contracts, wallets, and consensus protocols Design and develop decentralized applications using Bitcoin, Ethereum, and Hyperledger Book Description The Blockchain is a revolution promising a new world without middlemen. Technically, it is an immutable and tamper-proof distributed ledger of all transactions across a peer-to-peer network. With this book, you will get to grips with the blockchain ecosystem to build real-world projects. This book will walk you through the process of building multiple blockchain projects with different complexity levels and hurdles. Each project will teach you just enough about the field's leading technologies, Bitcoin, Ethereum, Quorum, and Hyperledger in order to be productive from the outset. As you make your way through the chapters, you will cover the major challenges that are associated with blockchain ecosystems such as scalability, integration, and distributed file management. In the concluding chapters, you'll learn to build blockchain projects for business, run your ICO, and even create your own cryptocurrency. Blockchain by Example also covers a range of projects such as Bitcoin payment systems, supply chains on Hyperledger, and developing a Tontine Bank Every is using Ethereum. By the end of this book, you will not only be able to tackle common issues in the blockchain ecosystem, but also design and build reliable and scalable distributed systems. What you will learn Grasp decentralized technology fundamentals to master blockchain principles Build blockchain projects on Bitcoin, Ethereum, and Hyperledger Create your currency and a payment application using Bitcoin Implement decentralized apps and supply chain systems using Hyperledger Write smart contracts, run your ICO, and build a Tontine decentralized app using Ethereum Implement distributed file management with blockchain Integrate blockchain into existing systems in your organization Who this book is for If you are keen on learning how to build your own blockchain decentralized applications from scratch, then this book is for you. It explains all the basic concepts required to develop intermediate projects and will teach you to implement the building blocks of a blockchain ecosystem.

Solidity Programming Essentials

Fundamentals of Smart Contract Security

Over 100 recipes covering Ethereum-based tokens, games, wallets, smart contracts, protocols, and Dapps

Building Smart Contracts and DApps

Programming the Open Blockchain

A beginner's guide to build smart contracts for Ethereum and blockchain

Mastering Blockchain, Third Edition is the blockchain bible to equip you with extensive knowledge of distributed ledgers, cryptocurrencies, smart contracts, consensus algorithms, cryptography and blockchain platforms such as Ethereum, Bitcoin, and many more.

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)

An expert guide to implementing fast, secure, and scalable decentralized applications that work with thousands of users in real time Key FeaturesImplement advanced features of the Ethereum network to build powerful decentralized applicationsBuild smart contracts on different domains using the programming techniques of Solidity and VyperExplore 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 learnApply scalability solutions on dApps with Plasma and state channelsUnderstand the important metrics of blockchain for analyzing and determining its stateDevelop a decentralized web application using React.js and Node.jsCreate oracles with Node.js to provide external data to smart contractsGet 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.

Explore the blockchain-based decentralized platform and understand how Ethereum works with Dapps examples Key Features Explore the Ethereum ecosystem and understand the latest research on the platform Build decentralized apps (Dapps) using smart contracts and Ethereum with the help of practical examples Learn to make your decentralized applications fast and highly secure Book Description Ethereum is a blockchain-based, decentralized computing platform that allows running smart contracts. This book provides a basic overview of how Ethereum works, its ecosystem, mining process, and the consensus mechanism. It also demonstrates a step-by-step approach for building decentralized applications. This book begins with the very basics of Blockchain technology. Then it dives deep into the Ethereum architecture, framework and tools in its ecosystem. It also provides you an overview of ongoing research on Ethereum, for example, Layer 1 and 2 scaling solution, Stablecoin, ICO/STO/IEO, etc. Next, it explains Solidity language in detail, and provides step-by-step instructions for designing, developing, testing, deploying, and monitoring decentralized applications. In addition, you will learn how to use Truffle, Remix, Infura, Metamask, and many other Ethereum technologies. It will also help you develop your own cryptocurrency by creating ERC20, and ERC721 smart contracts from scratch. Finally, we explain private blockchains, and you learn how to interact with smart contracts through wallets. What you will learn Understand the concepts of blockchain and cryptocurrency Master Ethereum development tools such as Truffle, Remix IDE and Infura Delve into smart contract development Develop DApps frontend using Node.js, React.js, and Web3js API Learn Etherscan and other tools to secure and monitor smart contracts Develop and debug smart contracts by working with Remix Apply Truffle suite to compile, migrate, and unit test smart contracts Explore smart contracts such as ERC20 token and decentralized digital market Who this book is for This book is for all developers and architects who want to explore Ethereum blockchain fundamentals and get started with building real-world decentralized applications. Knowledge of an object-oriented programming language such as JavaScript will be useful but not mandatory.

Learn to Build Web Applications on top of the Ethereum Blockchain

Ethereum: Tools & Skills

Mastering Blockchain Programming with Solidity

Ethereum for Web Developers

How to DeFi: Beginner

Bitcoin and Cryptocurrency Technologies

Learn Solidity And How To Create Smart Contracts With This Book! For the past couple of years, there hasn't been a bigger breakthrough in the IT world than the one that Blockchain technology has made. The extremely fast growth of the industry, market and the technology itself leads to an enormous shortage of

programmers that truly understand the blockchain. Along with the blockchain, smart contracts have emerged and with them - Solidity. The idea of this book is to give you the easiest and best practices in becoming a blockchain developer. We will be focusing on the smart contracts development with Solidity in the Ethereum ecosystem. You will learn to create your first smart contracts in the Ethereum blockchain even if you are a complete beginner and you know nothing about programming or Solidity. I will show you the online IDE Remix to create your first smart contracts and we will go through all the features that Solidity provides us as a programming language. In this book you will learn the following: We'll learn the essentials of the Ethereum blockchain. How to make and protect our wallets as well as mastering Metamask as our main Ethereum wallet in the creation of our smart contracts. We will go through the basic and advanced concepts of the Solidity language. We learn in depth how you can build your own smart contracts and test them out instantly in Remix. I will teach you how to use Metamask as your Ethereum wallet and I will give you security advice that will keep your crypto assets secure. You will have assignments that will help you out understand the material better with actual practice and not only passive consumption. After you finish this course you will fall in love with Solidity, Ethereum ecosystem and the smart contract's creation.

The general consensus is that BlockChain is the next disruptive technology, and Ethereum is the flagship product of BlockChain 2.0. However, coding and implementing business logic in a decentralized and transparent environment is fundamentally different from traditional programming and is emerging as a major challenge for developers. This book introduces readers to the Solidity language from scratch, together with case studies and examples. It also covers advanced topics and explains the working mechanism of smart contracts in depth. Further, it includes relevant examples that shed new light on the forefront of Solidity programming. In short, it equips readers with essential practical skills, allowing them to quickly catch up and start using Solidity programming. To gain the most from the book, readers should have already learned at least one object-oriented programming language

Mine Ether, deploy smart contracts, tokens, and ICOs, and manage security vulnerabilities of Ethereum
Key Features Build end-to-end decentralized Ethereum apps using Truffle, Web3, and Solidity Explore various solution-based recipes to build smart contracts and foolproof decentralized applications Develop decentralized marketplaces from scratch, build wallets, and manage transactions Book Description
Ethereum and Blockchain will change the way software is built for business transactions. Most industries

have been looking to leverage these new technologies to gain efficiencies and create new business models and opportunities. The Ethereum Cookbook covers various solutions such as setting up Ethereum, writing smart contracts, and creating tokens, among others. You'll learn about the security vulnerabilities, along with other protocols of Ethereum. Once you have understood the basics, you'll move on to exploring various design decisions and tips to make your application scalable and secure. In addition to this, you'll work with various Ethereum packages such as Truffle, Web3, and Ganache. By the end of this book, you'll have comprehensively grasped the Ethereum principles and ecosystem. What you will learn Efficiently write smart contracts in Ethereum Build scalable distributed applications and deploy them Use tools and frameworks to develop, deploy, and test your application Use block explorers such as Etherscan to find a specific transaction Create your own tokens, initial coin offerings (ICOs), and games Understand various security flaws in smart contracts in order to avoid them Who this book is for The Ethereum Cookbook is for you if you are a software engineer, Blockchain developer, or research scientist who wants to build smart contracts, develop decentralized applications, and facilitate peer-to-peer transaction. It is assumed that you are familiar with Blockchain concepts and have sound knowledge of JavaScript.

Distributed ledgers, decentralization and smart contracts explained About This Book Get to grips with the underlying technical principles and implementations of blockchain. Build powerful applications using Ethereum to secure transactions and create smart contracts. Explore cryptography, mine cryptocurrencies, and solve scalability issues with this comprehensive guide. Who This Book Is For This book appeals to those who wish to build fast, highly secure, transactional applications. This book is for those who are familiar with the concept of blockchain and are comfortable with a programming language. What You Will Learn Master the theoretical and technical foundations of blockchain technology Fully comprehend the concept of decentralization, its impact and relationship with blockchain technology Experience how cryptography is used to secure data with practical examples Grasp the inner workings of blockchain and relevant mechanisms behind Bitcoin and alternative cryptocurrencies Understand theoretical foundations of smart contracts Identify and examine applications of blockchain technology outside of currencies Investigate alternate blockchain solutions including Hyperledger, Corda, and many more Explore research topics and future scope of blockchain technology In Detail Blockchain is a distributed database that enables permanent, transparent, and secure storage of data. The blockchain technology is the backbone of cryptocurrency – in fact, it's the shared public ledger upon which the entire

Bitcoin network relies – and it's gaining popularity with people who work in finance, government, and the arts. Blockchain technology uses cryptography to keep data secure. This book gives a detailed description of this leading technology and its implementation in the real world. This book begins with the technical foundations of blockchain, teaching you the fundamentals of cryptography and how it keeps data secure. You will learn about the mechanisms behind cryptocurrencies and how to develop applications using Ethereum, a decentralized virtual machine. You will explore different blockchain solutions and get an exclusive preview into Hyperledger, an upcoming blockchain solution from IBM and the Linux Foundation. You will also be shown how to implement blockchain beyond currencies, scalability with blockchain, and the future scope of this fascinating and powerful technology. Style and approach This comprehensive guide allows you to build smart blockchain applications and explore the power of this database. The book will let you quickly brush up on the basics of the blockchain database, followed by advanced implementations of blockchain in currency, smart contracts, decentralization, and so on.

A developer's guide to creating decentralized applications using Bitcoin, Ethereum, and Hyperledger

Introducing Ethereum and Solidity

Beginning Ethereum Smart Contracts Programming

With Solidity and React

Tales of the Jacobite Grenadiers

Mastering Blockchain

Mastering 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. 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 About the Author Andreas M. Antonopoulos is a critically acclaimed bestselling author, speaker, and educator, and one of the world's foremost Bitcoin and open blockchain experts. Andreas makes complex subjects accessible and easy to understand. He's well-known for delivering electric talks that take blockchain's complex issues out of

the abstract and into the real world. Gavin Wood is co-founder and former CTO of Ethereum and inventor of the Solidity contract-oriented language. He is also founder and president of Web3 Foundation, founder and CTO of Parity Technologies, and advisor and founder of organizations including Grid Singularity, Blockchain Capital, Polychain Capital and Melonport.

"The Internet of Money Volume Two: a collection of talks" is the spectacular sequel to the cult classic and best seller "The Internet of Money Volume One: a collection of talks" by Andreas M. Antonopoulos. Volume Two contains 11 more of his most inspiring and thought-provoking talks, including: Introduction to Bitcoin; Blockchain vs Bullshit; Fake News, Fake Money; Currency Wars; Bubble Boy and the Sewer Rat; Rocket Science and Ethereum's Killer App; and many more. Volume Two also includes an all-new frequently asked questions section! In 2013, Andreas M. Antonopoulos started publicly speaking about bitcoin and quickly became one of the world's most sought-after speakers in the industry. To date, he has delivered more than 75, TED-style talks in venues ranging from the Henry Ford Museum in the United States to packed-out Bitcoin Meetups around the world including Brazil, the Czech Republic, and New Zealand, and every talk is completely different. In these performances, Antonopoulos walks onto the stage and delivers a live, unscripted talk. Without a deck in sight, he unleashes his latest insights into the lightning-fast changes surrounding bitcoin. Combining the knowledge of one of the world's leading blockchain technologists, with cultural context, comedy, and the flair of a performance artist, Antonopoulos conveys an up-to-the-second understanding of bitcoin to live audiences worldwide. Many of these talks were so visionary, their content so educational, that they were curated and refined into a book form. On 7 September 2016, The Internet of Money Volume One was launched on The Joe Rogan Experience podcast (the interview has since been viewed more than 300,000 times). With its genesis in the lived, human experience, The Internet of Money offered something that was desperately needed: an explanation of the philosophy, economics, politics, poetics, and technologies of bitcoin and open blockchains set within a broad historical context and using clear, simple language that delighted general audiences and bitcoin enthusiasts alike. During its first year, Volume One quickly became a hit in the global crypto-currency community-appealing to audiences from fields as diverse as the arts, sciences, and humanities. As one reader wrote: "It provides a uniquely accessible take on a mind-bendingly abstract system." The Internet of Money Volume Two: a collection of talks builds on that momentum and offers readers an opportunity to experience more these inspiring and thought-provoking talks in print. It also includes a bonus question and answer section, where Andreas answers some of the most frequently asked questions from audience members during his worldwide tour. Volume Two is a sequel that rivals, even exceeds, the first, in content, scope, and vision. These talks are intellectual fire-starters you won't want to miss. Make this book part of your collection and see why Andreas M. Antonopoulos is considered the most powerful and engaging voice in crypto-currency and blockchain.

Technology is constantly evolving, and blockchain is taking development to new places, as mobile did a decade ago – and Ethereum is the leading platform for creating this new wave of applications. This book reveals everything you need to create a robust decentralized application (more commonly known as DApp). Unlike other books on the topic, this one focuses on the web application layer, and guides you in creating great experiences on top of the Ethereum blockchain. You'll review the challenges and differences involved in developing DApps as opposed to traditional web applications. After a brief introduction to blockchain history and Ethereum in particular, you'll jump directly into building a sample decentralized application, to familiarize yourself with all the moving pieces. This book offers specific chapters on querying and rendering data from the blockchain, reacting to events, interacting with user accounts, sending transactions, managing gas, handling confirmations and reorganizations, and more. You will also find a chapter dedicated to Solidity that will give you the necessary means to understand and even build your own smart contracts. Other important topics covered include building backend servers that act as indexing

layers, and managing storage efficiently with solutions like the interplanetary file system, or IPFS. Last but not least, you will find chapters that examine the biggest problems on Ethereum today: onboarding and scalability. These include the state of the art of the available strategies to tackle them, such as meta-transactions, smart accounts, ENS, state channels, sidechains, and more. What You'll Learn Connect to the blockchain from the browser and send transactions from client-side Build a web app that provides a read-only interface to a blockchain contract Create a wallet interface for arbitrary fungible tokens, displaying the user's balance and allowing for simple transfers to other addresses Develop a web app that stores large blobs of data off-chain, and keeps a reference to it on-chain (e.g. avatars, long text descriptions) Produce a web app that relies on a centralized server for indexing on-chain information to be presented to the user Who This Book Is For Web developers focused on client-side applications, with knowledge of JavaScript and HTML/CSS. You do not need any prior knowledge of Blockchain, Ethereum, or cryptocurrency.

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

A Collection of Talks by Andreas M. Antonopoulos

Build blockchain-based decentralized applications using solidity

Build your own decentralized applications with Ethereum and smart contracts

Mastering Bitcoin

With Examples in Python, Solidity, and JavaScript

Ethereum Smart Contract Development in Solidity

Develop real-time practical DApps using Ethereum and JavaScript About This Book Create powerful, end-to-end applications for Blockchain using Ethereum Write your first program using the Solidity programming language Change the way you think and design your applications by using the all new database-Blockchain Who This Book Is For This book is for JavaScript developers who now want to create tamper-proof data (and transaction) applications using Blockchain and Ethereum. Those who are interested in cryptocurrencies and the logic and database empowering it will find this book extremely useful. What You Will Learn Walk through the basics of the Blockchain technology Implement Blockchain's technology and its features, and see what can be achieved

Get Free Mastering Ethereum: Building Smart Contracts And Dapps

using them Build DApps using Solidity and Web3.js Understand the geth command and cryptography Create Ethereum wallets Explore consortium blockchain In Detail Blockchain is a decentralized ledger that maintains a continuously growing list of data records that are secured from tampering and revision. Every user is allowed to connect to the network, send new transactions to it, verify transactions, and create new blocks, making it permission-less. This book will teach you what Blockchain is, how it maintains data integrity, and how to create real-world Blockchain projects using Ethereum. With interesting real-world projects, you will learn how to write smart contracts which run exactly as programmed without any chance of fraud, censorship, or third-party interference, and build end-to-end applications for Blockchain. You will learn about concepts such as cryptography in cryptocurrencies, ether security, mining, smart contracts, solidity, and more. You will also learn about web sockets, various API services for Ethereum, and much more. The blockchain is the main technical innovation of bitcoin, where it serves as the public ledger for bitcoin transactions. Style and approach This is a project-based guide that not only gets you up and running with Blockchain, but also lets you create intuitive real-world applications that will make you an independent Blockchain developer.

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

With DApps built on the Ethereum blockchain, users can establish persistent, reliable ownership records for actions such as buying a car or a house with smart contracts to enforce blockchain-based verification before a transaction can be completed. Building Ethereum ?Apps introduces

readers to decentralized applications based on the Ethereum blockchain platform. They'll discover how to design smart contracts to enforce transaction rules, and then implement them in Ethereum's JavaScript-like Solidity language. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Summary If you think Bitcoin is just an alternative currency for geeks, it's time to think again. *Grokking Bitcoin* opens up this powerful distributed ledger system, exploring the technology that enables applications both for Bitcoin-based financial transactions and using the blockchain for registering physical property ownership. With this fully illustrated, easy-to-read guide, you'll finally understand how Bitcoin works, how you can use it, and why you can trust the blockchain. Foreword by David A. Harding, Contributor to Bitcoin documentation.

Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Inflation, depressed economies, debased currencies ... these are just a few of the problems centralized banking has caused throughout history. Bitcoin, a digital currency created with the ambition to shift control away from change-prone governments, has the potential to bring an end to those problems once and for all. It's time to find out how it can help you. About the Book *Grokking Bitcoin* explains why Bitcoin's supporters trust it so deeply, and why you can too. This approachable book will introduce you to Bitcoin's groundbreaking technology, which is the key to this world-changing system. This illustrated, easy-to-read guide prepares you for a new way of thinking with easy-to-follow diagrams and exercises. You'll discover how Bitcoin mining works, how to accept Bitcoin, how to participate in the Bitcoin network, and how to set up a digital wallet. What's inside Bitcoin transactions

The blockchain Bitcoin mining Bitcoin wallets About the Reader Intended for anyone interested in learning about Bitcoin technology. While a basic understanding of technical concepts is beneficial, no programming skills are necessary. About the Author Kalle Rosenbaum is a computer scientist, an avid Bitcoin supporter, and the founder of Propeller, a Bitcoin consultancy. Table of Contents Introduction to Bitcoin Cryptographic hash functions and digital signatures Addresses Wallets Transactions The blockchain Proof of work Peer-to-peer network Transactions revisited Segregated witness Bitcoin upgrades

A deep dive into distributed ledgers, consensus protocols, smart contracts, DApps, cryptocurrencies, Ethereum, and more, 3rd Edition

Building Games with Ethereum Smart Contracts

Learn How to Program Bitcoin from Scratch

Ethereum for Architects and Developers

Distributed ledger technology, decentralization, and smart contracts explained, 2nd Edition

Solidity Smart Contracts: Build Dapps in Ethereum Blockchain

As the Ethereum platform has grown, so has the ecosystem of tools that support it. In this book, we'll examine some of the most popular Ethereum tools, and walk you through how to use them when building your own Ethereum-based apps. It contains: Remix: Develop Smart Contracts for the Ethereum Blockchain by Ahmed Bouchefra An Introduction to Geth and Running Ethereum Nodes by Mislav Javor Introducing Mist, a Human-friendly Geth Interface by Mislav Javor Introducing Truffle, a Blockchain Smart Contract Suite by Mislav Javor Quality Solidity Code with OpenZeppelin and Friends by Tonino Jankov Truffle: Testing Smart Contracts by Mislav Javor Truffle Migrations Explained by Mislav Javor Flattening Contracts and Debugging with Remix by Ahmed Bouchefra Debugging with Truffle CLI by Mislav Javor Using Puppeth, the Ethereum Private Network Manager by Bruno Skvorc This book is for anyone interested in using the Ethereum platform for development. It's advised that you read The Developer's Guide to Ethereum before reading this book if you are not familiar with blockchain technology.

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

Grokking Bitcoin

Ethereum Smart Contract Development