



Mastering Bitcoin: Programming the Open Blockchain

Andreas M. Antonopoulos

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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 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. This economy is 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 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

New developments such as Segregated Witness, Payment Channels, and Lightning Network

Offshoots of the bitcoin and blockchain inventions, including alternative chains, currencies, and applications

User stories, analogies, examples, and code snippets illustrating key technical concepts

Mastering Bitcoin: Programming the Open Blockchain Details

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From Reader Review Mastering Bitcoin: Programming the Open Blockchain for online ebook

Eugene says

History of bitcoin and a very detailed description of bitcoin and blockchain functionality accompanied with source code snippets to see how it is coded in real life applications. Good introduction into blockchgain for techie people.

Cody Django says

A good overview. I was already quite familiar with the architecture of the Bitcoin system but still picked up quite a few new concepts, terms, and mental models. Especially interesting to me were the sections on transaction structure, standard transaction types, merkle trees, bloom filters, the proof-of-work algorithm in the mining process and hierarchical deterministic wallets. Andreas writes clearly (most of the time) and with a readable cadence. That said, pretty much all the info is available in the official Bitcoin documentation. If you care more about doing and less about reading perhaps you'd rather simply install bitcoin core and start messing around with the documentation by your side.

Ryan West says

This was a great technical overview of the inner workings of Bitcoin. It gave a good introduction for any intelligent audience, but then dived into all of the technical details. I had to pause to look up some concepts at times, but adding more detail would have made the book too long. This book did not fully cover the economic or business implications of Bitcoin, and was instead intended for developers.

Nikki says

First couple chapters are a nice, basic description of Bitcoin protocol, how it works. The rest is technical. Clear.

Tadas Talaikis says

This one

Side note. Andreas is too much in love with bitcoin and there were so much hype in the area that everyone forgot 1) this technology is free to access and improve for anyone, and 2) that Bitcoin economic concepts are amateurish and as a consequence - creating procyclical behavior. Way better and useful in practice things for me currently are smart contracts, DApps and private blockchains. And bitcoin... bitcoin is dead here, too slow to move to the next (censorship resistant, like Andreas says, and user friendly) level.

As example, few days ago in one morning created a simple image uploader to Interplanetary File System (IPFS) app that demonstrates how such solutions should work on the user side without various cumbersome half disk taking and slow blockchain downloads, registrations and human processing times. Add payment here and you get new hosting company that achieves 100% uptime w/o much cheaper than you can buy on Amazon on Google cloud. Not including, no one knows where your files are. Sorry, but technology is somewhat better than bitcoin's.

Athan Tolis says

I read Cryptocurrency by Paul Vigna and Michael Casey and I loved it. I was so mesmerized that I immediately sat down and wrote an eight page stream-of-consciousness account of what it left me thinking Bitcoin was. And in doing so I realized that I did not have a full grasp of the detail. Worse still, I also realized that when it comes to cryptocurrency the devil truly is in the detail.

My friends all said “buy some and you’ll soon understand better”

I’m a loser, so I read another book instead. This book.

I am beyond satisfied with my choice. Immensely satisfied. I say I loved Vigna and Casey’s book, but I liked Mastering Bitcoin more. It went through all the little nagging issues I had and one by one gave me the answers. And it gave answers to questions that had never occurred to me but in retrospect are very relevant.

So if you were wondering

- where exactly the public key is used
- what the difference is between the public key and the wallet address
- why a transaction hash is double the size of a bitcoin hash
- what exact puzzle the proof of work solves
- who awards Bitcoin to the successful miner
- what a 51% attack is

this book not only supplies the necessary computer code (and I could not possibly comment on whether it’s correct or not, I can’t code to save my life) but also fully motivates the reader to understand. And it takes you to places you’ve never been before, from Elliptic Curves all the way to Alt Coins.

Much as I don’t think it would cut it as a first introduction, I can’t recommend this book enough. Now I feel ready to go get my hands on some Bitcoin

Hayal ?ensoy says

I finished recently but I have a quite strong feeling to read it again...

Shannon Appelcline says

An excellent overview of Bitcoin that simultaneously presents the big picture in a very readable way while

also providing very specific details of how the protocol works, complete with examples. Technical writing, as it should be.

Brian says

I think this is the only book of it's type that really helps you dive down into the technical details of Bitcoin. It's showing it's age a little, but the fundamentals haven't changed all that much. I've been holding BTC for years, but I finally feel like I "understand" it. Thanks for writing this book!

Simon Eskildsen says

Wanted to understand more about the underlying tech. Decent walk-through at a technical level, but found myself somewhat puzzled by how the author went through some explanations.

Juvoni says

As a technologist and investor in Bitcoin, coming from a value investing background, I felt uncomfortable getting lucky investing in Bitcoin based on speculation as it was hard to wrap my mind around the utility and potential of Bitcoin.

Reading Mastering Bitcoin has significantly improved my understanding of the Protocol where I finally feel like I'm starting to get it. The book goes over the technicals of how Bitcoin works from keys, addresses, wallets & transactions, the scripting language, the blockchain, the bitcoin network, mining, bitcoin security and more. This is a technical book, and the examples take some understanding of Computer Science, high-level cryptography, Networking, statistics, and mathematics to follow through as Andreas drills down into the underlying technical implementations behind the core features of the protocol.

The book is still approachable if you don't know how to code, but can understand technical abstractions. It was fascinating to journey through the layering of the technology and evolution to solve complex decentralization and security problems. The book has a lot of additional references and graphs to bring additional context to the what, where, how and why certain things are done in Bitcoin which made the material easier to absorb

Gergely Szabo says

Andreas is definitely my favorite person in the cryptocurrency world. He makes this deep and complex topic fairly accessible to laymen. The basics of cryptography are explained, however I still recommend reading some introductory material in the field before starting. I will definitely refer back to the book as It includes the hottest topics in the field, like the Lightning Network.

Matthias says

Finally the kind of comprehensive treatment on blockchains I was looking for. Incredibly dense with information, might have to reread it in parts. Some glaring structural and pacing issues (I didn't really need to know all the bloody details of multisig wallets before even knowing how blocks are assembled)

Jeremy Zhang says

I wanted to read a book detailing the opportunities and landscape of the industry. But this book delves deep into the technical implementations of Bitcoin. Wasn't exactly what I was looking for.

Dalan Mendonca says

Great peek into the technical aspects of bitcoin/the blockchain. Having read more high level descriptions, I was always curious about the implementation details. This book provides quite a satisfactory introduction to this universe.
