

# Computational Complexity



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This beginning graduate textbook describes both recent achievements and classical results of computational complexity theory. Requiring essentially no background apart from mathematical maturity, the book can be used as a reference for self-study for anyone interested in complexity, including physicists, mathematicians, and other scientists, as well as a textbook for a variety of courses and seminars. More than 300 exercises are included with a selected hint set.

作者介绍:

Sanjeev Arora is a professor in the department of computer science at Princeton University. He has done foundational work on probabilistically checkable proofs and approximability of NP-hard problems. He is the founding director of the Center for Computational Intractability, which is funded by the National Science Foundation.

Boaz Barak is an assistant professor in the department of computer science at Princeton University. He has done foundational work in computational complexity and cryptography, especially in developing “non-blackbox” techniques.

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## 标签

计算复杂性

计算理论

计算机

计算机科学

CS

TCS

数学

textbook

## 评论

A very good book to learn computation complexity. One of the most interesting textbook I've ever read. The authors provide many good examples that help students understanding complicated concepts.

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读了一半。这本书写的真是简洁，有时甚至过于简洁了以至于觉得跳跃太大，刚看的时候一头雾水，但是等理解了之后再回头看又觉得书上的论述真是一针见血，直指本质。本书对初学者不够友好，建议阅读时辅以其它的资料（推荐Luc Trevisan的lecture

notes以及Ryan O'Donnell的讲课视频) 。

实在看不懂。

参考书目

讲明白了很多我没理解透的点

当然，没读完

别的不说，chapter 20介绍量子算法的形象和详细程度比Nielsen高到不知道哪里去

before: for COLT! inactive: summer's gone.

Anyone who is going to embark on the complexity thing should read this book, more or less. Minor critiques: (i) there are more than 50 typos in the book and (ii) some proofs and ideas are not intuitive enough, as they could have been.

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## 书评

有人说数学有多美。有人说复杂度理论有多美。我亲眼见过有人眯着眼睛告诉我，数学是多么的美。虚伪做作。哗众取宠。道听途说。他们或者并不知道数学是否美。但他们听过其他人说这个的观点，那些自某些大牛口中流传下来的观点，被廉价的唾液复制上千遍，于是他也要拿来复制...

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版本：非正式出版版，网上下载的版本，以后有机会就买一本。  
现在用的是正式版的了，不过以前写的这些评论还是依据网络老版的。好久没看此书了。  
第九章 密码学 整体通俗易懂。零知识协议写的真少。  
最后一个定理，[GGM84]，证明写的不好，主要问题出在  $T_n$ 次调用G，把...

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