

# Best Software Engineering Books

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Automate the Boring Stuff with Python, 2nd Edition Springer Science & Business Media Now in the 5th edition, Cracking the Coding Interview gives you the interview preparation you need to get the top software developer jobs. This book provides: 150 Programming Interview Questions and Solutions: From binary trees to binary search, this list of 150 questions includes the most common and most useful questions in data structures, algorithms, and knowledge based questions. 5 Algorithm Approaches: Stop being blind-sided by tough algorithm questions, and learn these five approaches to tackle the trickiest problems. Behind the Scenes of the interview processes at Google, Amazon, Microsoft, Facebook, Yahoo, and Apple: Learn what really goes on during your interview day and how decisions get made. Ten Mistakes Candidates Make -- And How to Avoid Them: Don't lose your dream job by making these common mistakes. Learn what many candidates do wrong, and how to avoid these issues. Steps to Prepare for Behavioral and Technical Questions: Stop meandering through an endless set of questions, while missing some of the most important preparation techniques. Follow these steps to more thoroughly prepare in less time.

Seriously Good Software Pearson Deutschland GmbH

The systematic application of engineering to develop software is known as software engineering. It includes designing, implementing, documenting and testing the software. There are numerous sub-disciplines within this field such as software design, software construction and software maintenance. Software designing is the process wherein the components, interfaces and other characteristics of a system are defined. The use of programming, verification, integration testing and a few other processes to create a meaningful and functioning software is known as software construction. Providing cost effective support to software through various activities is known as software maintenance. This book provides significant information of this discipline to help develop a good understanding of software engineering and related fields. Some of the diverse topics covered herein address the

varied branches that fall under this category. This book will prove to be immensely beneficial to students and researchers associated with software engineering. The Software Engineer's Guide to Freelance Consulting No Starch Press Summary Serious developers know that code can always be improved. With each iteration, you make optimizations—small and large—that can have a huge impact on your application ' s speed, size, resilience, and maintainability. In Seriously Good Software: Code that Works, Survives, and Wins, author, teacher, and Java expert Marco Faella teaches you techniques for writing better code. You ' ll start with a simple application and follow it through seven careful refactorings, each designed to explore another dimension of quality. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Great code blends the skill of a programmer with the time-tested techniques and best practices embraced by the entire development community. Although each application has its own context and character, some dimensions of quality are always important. This book concentrates on eight pillars of seriously good software: speed, memory usage, reliability, readability, thread safety, generality, and elegance. The Java-based examples demonstrate techniques that apply to any OO language. About the book Seriously Good Software is a handbook for any professional developer serious about improving application quality. It explores fundamental dimensions of code quality by enhancing a simple implementation into a robust, professional-quality application. Questions, exercises, and Java-based examples ensure you ' ll get a

firm grasp of the concepts as you go. When you finish the last version of the book ' s central project, you ' ll be able to confidently choose the right optimizations for your code. What's inside Evaluating software qualities Assessing trade-offs and interactions Fulfilling different objectives in a single task Java-based exercises you can apply in any OO language About the reader For web developers comfortable with JavaScript and HTML. About the author Marco Faella teaches advanced programming at a major Italian university. His published work includes peer-reviewed research articles, a Java certification manual, and a video course. Table of Contents \*Part 1: Preliminaries \* 1 Software qualities and a problem to solve 2 Reference implementation \*Part 2: Software Qualities\* 3 Need for speed: Time efficiency 4 Precious memory: Space efficiency 5 Self-conscious code: Reliability through monitoring 6 Lie to me: Reliability through testing 7 Coding aloud: Readability 8 Many cooks in the kitchen: Thread safety 9 Please recycle: Reusability Software Engineering for Absolute Beginners Packt Publishing Ltd This practical, tutorial-style book uses the Kali Linux distribution to teach Linux basics with a focus on how hackers would use them. Topics include Linux command line basics, filesystems, networking, BASH basics, package management, logging, and the Linux kernel and drivers. If you're getting started along the exciting path of hacking, cybersecurity, and pentesting, Linux Basics for Hackers is an excellent first step. Using Kali Linux, an advanced penetration testing distribution of Linux, you'll learn the basics of using the Linux operating system and acquire the tools and techniques you'll need to take control of a Linux environment. First, you'll learn how to install Kali on a virtual machine and get an introduction to basic Linux concepts. Next, you'll tackle broader Linux topics

like manipulating text, controlling file and directory permissions, and managing user environment variables. You'll then focus in on foundational hacking concepts like security and anonymity and learn scripting skills with bash and Python. Practical tutorials and exercises throughout will reinforce and test your skills as you learn how to:

- Cover your tracks by changing your network information and manipulating the rsyslog logging utility
- Write a tool to scan for network connections, and connect and listen to wireless networks
- Keep your internet activity stealthy using Tor, proxy servers, VPNs, and encrypted email
- Write a bash script to scan open ports for potential targets
- Use and abuse services like MySQL, Apache web server, and OpenSSH
- Build your own hacking tools, such as a remote video spy camera and a password cracker

Hacking is complex, and there is no single way in. Why not start at the beginning with [Linux Basics for Hackers?](#) [Guide to Advanced Empirical Software Engineering](#) Addison-Wesley

Data pipelines are the foundation for success in data analytics. Moving data from numerous diverse sources and transforming it to provide context is the difference between having data and actually gaining value from it. This pocket reference defines data pipelines and explains how they work in today's modern data stack. You'll learn common considerations and key decision points when implementing pipelines, such as batch versus streaming data ingestion and build versus buy. This book addresses the most common decisions made by data professionals and discusses foundational concepts that apply to open source frameworks, commercial products, and homegrown solutions. You'll learn: What a data pipeline is and how it works How data is moved and processed on modern data infrastructure, including cloud platforms Common tools and products used by data engineers to build pipelines How pipelines support analytics and reporting needs Considerations for pipeline maintenance, testing, and alerting

*Implementing Lean Software Development* Pearson Education

Widely considered one of the best practical guides to programming, Steve McConnell's original *CODE COMPLETE* has been helping developers write better software for more than a decade. Now this classic book has been fully updated and revised with leading-

edge practices—and hundreds of new code samples—illustrating the art and science of software construction. Capturing the body of knowledge available from research, academia, and everyday commercial practice, McConnell synthesizes the most effective techniques and must-know principles into clear, pragmatic guidance. No matter what your experience level, development environment, or project size, this book will inform and stimulate your thinking—and help you build the highest quality code. Discover the timeless techniques and strategies that help you: Design for minimum complexity and maximum creativity Reap the benefits of collaborative development Apply defensive programming techniques to reduce and flush out errors Exploit opportunities to refactor—or evolve—code, and do it safely Use construction practices that are right-weight for your project Debug problems quickly and effectively Resolve critical construction issues early and correctly Build quality into the beginning, middle, and end of your project

**The Senior Software Engineer** Software Engineering at Google

11 simple practices a software engineer can apply to be more a more effective contributor and more productive team member. Included are personal processes for fixing bugs and implementing new features, tips for writing, interviewing, and time management, as well as guides for bootstrapping new projects, making technical arguments, and leading a team.

*Introduction to Software Engineering* CreateSpace

Provides information on how to write better JavaScript programs, covering such topics as functions, arrays, library and API design, and concurrency.

**Hands-On Software Engineering with Golang** No Starch Press

Software engineering education has a problem: universities and bootcamps teach aspiring engineers to write code, but they leave graduates to teach themselves

the countless supporting tools required to thrive in real software companies. Building a Career in Software is the solution, a comprehensive guide to the essential skills that instructors don't need and professionals never think to teach: landing jobs, choosing teams and projects, asking good questions, running meetings, going on-call, debugging production problems, technical writing, making the most of a mentor, and much more. In over a decade building software at companies such as Apple and Uber, Daniel Heller has mentored and managed tens of engineers from a variety of training backgrounds, and those engineers inspired this book with their hundreds of questions about career issues and day-to-day problems. Designed for either random access or cover-to-cover reading, it offers concise treatments of virtually every non-technical challenge you will face in the first five years of your career—as well as a selection of industry-focused technical topics rarely covered in training. Whatever your education or technical specialty, Building a Career in Software can save you years of trial and error and help you succeed as a real-world software professional. What You Will Learn Discover every important nontechnical facet of professional programming as well as several key technical practices essential to the transition from student to professional Build relationships with your employer Improve your communication, including technical writing, asking good questions, and public speaking Who This Book is For Software engineers either early in their careers or about to transition to the professional world; that is, all graduates of computer science or software

engineering university programs and all software engineering boot camp participants.

**Clean Code** Pearson Education Looks at the principles and clean code, includes case studies showcasing the practices of writing clean code, and contains a list of heuristics and "smells" accumulated from the process of writing clean code.

*Software Engineering in C* CRC Press

The second edition of this best-selling Python book (over 500,000 copies sold!) uses Python 3 to teach even the technically uninclined how to write programs that do in minutes what would take hours to do by hand. There is no prior programming experience required and the book is loved by liberal arts majors and geeks alike. If you've ever spent hours renaming files or updating hundreds of spreadsheet cells, you know how tedious tasks like these can be. But what if you could have your computer do them for you? In this fully revised second edition of the best-selling classic *Automate the Boring Stuff with Python*, you'll learn how to use Python to write programs that do in minutes what would take you hours to do by hand--no prior programming experience required. You'll learn the basics of Python and explore Python's rich library of modules for performing specific tasks, like scraping data off websites, reading PDF and Word documents, and automating clicking and typing tasks. The second edition of this international fan favorite includes a brand-new chapter on input validation, as well as tutorials on automating Gmail and Google Sheets, plus tips on automatically updating CSV files. You'll learn how to create programs that effortlessly perform useful feats of automation to:

- Search for text in a file or across multiple files
- Create, update, move, and rename files and folders
- Search the Web and download online content
- Update and format data in Excel spreadsheets of any size
- Split, merge, watermark, and encrypt PDFs
- Send email responses and text notifications
- Fill out online forms

Step-by-step instructions walk you through each program, and updated practice projects at the end of each chapter challenge you to improve those programs and use

your newfound skills to automate similar tasks. Don't spend your time doing work a well-trained monkey could do. Even if you've never written a line of code, you can make your computer do the grunt work. Learn how in *Automate the Boring Stuff with Python*, 2nd Edition.

**The Missing README** Pearson Education

Today, software engineers need to know not only how to program effectively but also how to develop proper engineering practices to make their codebase sustainable and healthy. This book emphasizes this difference between programming and software engineering. How can software engineers manage a living codebase that evolves and responds to changing requirements and demands over the length of its life? Based on their experience at Google, software engineers Titus Winters and Hyrum Wright, along with technical writer Tom Manshreck, present a candid and insightful look at how some of the world's leading practitioners construct and maintain software. This book covers Google's unique engineering culture, processes, and tools and how these aspects contribute to the effectiveness of an engineering organization. You'll explore three fundamental principles that software organizations should keep in mind when designing, architecting, writing, and maintaining code: How time affects the sustainability of software and how to make your code resilient over time How scale affects the viability of software practices within an engineering organization What trade-offs a typical engineer needs to make when evaluating design and development decisions

*Rethinking Productivity in Software Engineering* Yaknyam Publishing

Project managers, technical leads, and Windows programmers throughout the industry share an important concern--how to get their development schedules under control. *Rapid Development* addresses that concern head-

on with philosophy, techniques, and tools that help shrink and control development schedules and keep projects moving. The style is friendly and conversational--and the content is impressive.

*Data Pipelines Pocket Reference* Pearson Education

Good software design is simple and easy to understand. Unfortunately, the average computer program today is so complex that no one could possibly comprehend how all the code works. This concise guide helps you understand the fundamentals of good design through scientific laws--principles you can apply to any programming language or project from here to eternity. Whether you're a junior programmer, senior software engineer, or non-technical manager, you'll learn how to create a sound plan for your software project, and make better decisions about the pattern and structure of your system. Discover why good software design has become the missing science Understand the ultimate purpose of software and the goals of good design Determine the value of your design now and in the future Examine real-world examples that demonstrate how a system changes over time Create designs that allow for the most change in the environment with the least change in the software Make easier changes in the future by keeping your code simpler now Gain better knowledge of your software's behavior with more accurate tests

*Design Patterns* Apress

There are no easy decisions in software architecture. Instead, there are many hard parts--difficult problems or issues with no best practices--that force you to choose among various compromises. With this book, you'll learn how to think critically about the trade-offs involved with distributed architectures. Architecture veterans and practicing consultants Neal Ford, Mark Richards, Pramod Sadalage, and Zhamak Dehghani discuss strategies for choosing an appropriate architecture. By interweaving a story about a fictional group of technology

professionals--the Sysops Squad--they examine everything from how to determine service granularity, manage workflows and orchestration, manage and decouple contracts, and manage distributed transactions to how to optimize operational characteristics, such as scalability, elasticity, and performance. By focusing on commonly asked questions, this book provides techniques to help you discover and weigh the trade-offs as you confront the issues you face as an architect. Analyze trade-offs and effectively document your decisions Make better decisions regarding service granularity Understand the complexities of breaking apart monolithic applications Manage and decouple contracts between services Handle data in a highly distributed architecture Learn patterns to manage workflow and transactions when breaking apart applications

Pearson Education

"This remarkable book combines practical advice, ready-to-use techniques, and a deep understanding of why this is the right way to develop software. I have seen software teams transformed by the ideas in this book." --Mike Cohn, author of *Agile Estimating and Planning*

"As a lean practitioner myself, I have loved and used their first book for years. When this second book came out, I was delighted that it was even better. If you are interested in how lean principles can be useful for software development organizations, this is the book you are looking for. The Poppendiecks offer a beautiful blend of history, theory, and practice." --Alan Shalloway, coauthor of *Design Patterns Explained*

"I've enjoyed reading the book very much. I feel it might even be better than the first lean book by Tom and Mary, while that one was already exceptionally good!

Mary especially has a lot of knowledge related to lean techniques in product development and manufacturing. It's rare that these techniques are actually translated to software. This is something no other book does well (except their first book)." --Bas Vodde

"The new book by Mary and Tom Poppendieck provides a well-written and comprehensive introduction to lean principles and selected practices for software managers and engineers. It illustrates the application of the values and practices with well-suited success stories. I enjoyed reading it." --Roman Pichler

"In *Implementing Lean Software Development*, the Poppendiecks explore more deeply the themes they introduced in *Lean Software Development*. They begin with a compelling history of lean thinking, then move to key areas such as value, waste, and people. Each chapter includes exercises to help you apply key points. If you want a better understanding of how lean ideas can work with software, this book is for you." --Bill Wake, independent consultant

In 2003, Mary and Tom Poppendieck's *Lean Software Development* introduced breakthrough development techniques that leverage Lean principles to deliver unprecedented agility and value. Now their widely anticipated sequel and companion guide shows exactly how to implement Lean software development, hands-on. This new book draws on the Poppendiecks' unparalleled experience helping development organizations optimize the entire software value stream. You'll discover the right questions to ask, the key issues to focus on, and techniques proven to work. The authors present case studies from leading-edge software organizations, and offer practical exercises for jumpstarting your own Lean initiatives. Managing to extend, nourish, and leverage agile practices Building true development teams, not just groups Driving quality through rapid feedback and detailed discipline Making decisions Just-in-Time, but no later

Delivering fast: How PatientKeeper delivers 45 rock-solid releases per year Making tradeoffs that really satisfy customers

*Implementing Lean Software Development* is indispensable to anyone who wants more effective development processes--managers, project leaders, senior developers, and architects in enterprise IT and software companies alike.

*Software Architecture: The Hard Parts* Apress

The practice of enterprise application development has benefited from the emergence of many new enabling technologies. Multi-tiered object-oriented platforms, such as Java and .NET, have become commonplace. These new tools and technologies are capable of building powerful applications, but they are not easily implemented. Common failures in enterprise applications often occur because their developers do not understand the architectural lessons that experienced object developers have learned. *Patterns of Enterprise Application Architecture* is written in direct response to the stiff challenges that face enterprise application developers. The author, noted object-oriented designer Martin Fowler, noticed that despite changes in technology--from Smalltalk to CORBA to Java to .NET--the same basic design ideas can be adapted and applied to solve common problems. With the help of an expert group of contributors, Martin distills over forty recurring solutions into patterns. The result is an indispensable handbook of solutions that are applicable to any enterprise application platform. This book is actually two books in one. The first section is a short tutorial on developing enterprise applications, which you can read from start to finish to understand the scope of the book's lessons. The next section, the bulk of the book, is a detailed reference to the patterns themselves. Each pattern provides usage and implementation information, as well as detailed code examples in Java or C#. The entire book is also richly illustrated with UML diagrams to further explain the concepts. Armed with this book, you will have the knowledge necessary to make important architectural decisions about building an enterprise application

and the proven patterns for use when building them. The topics covered include · Dividing an enterprise application into layers · The major approaches to organizing business logic · An in-depth treatment of mapping between objects and relational databases · Using Model-View-Controller to organize a Web presentation · Handling concurrency for data that spans multiple transactions · Designing distributed object interfaces

The Clean Coder Apress

WINNER of Computing Reviews 20th Annual Best Review in the category Management "Tyler's book is concise, reasonable, and full of interesting practices, including some curious ones you might consider adopting yourself if you become a software engineering manager." —Fernando Berzal, CR, 10/23/2015 "Josh Tyler crafts a concise, no-nonsense, intensely focused guide for building the workhouse of Silicon Valley—the high-functioning software team." —Gordon Rios, Summer Book Recommendations from the Smartest People We Know—Summer 2016 Building Great Software Engineering Teams provides engineering leaders, startup founders, and CTOs concrete, industry-proven guidance and techniques for recruiting, hiring, and managing software engineers in a fast-paced, competitive environment. With so much at stake, the challenge of scaling up a team can be intimidating. Engineering leaders in growing companies of all sizes need to know how to find great candidates, create effective interviewing and hiring processes, bring out the best in people and their work, provide meaningful career development, learn to spot warning signs in their team, and manage their people for long-term success. Author Josh Tyler has spent nearly a decade building teams in high-growth startups, experimenting with every aspect of the task to see what works best. He draws on this experience to outline specific, detailed solutions augmented by instructive stories from his own experience. In this book you'll learn how to build your team, starting with your first hire and continuing through the stages of development as you manage your team for growth and success. Organized to cover each step of the process in the order you'll likely face them, and highlighted by stories of success and failure, it provides an easy-

to-understand recipe for creating your high-powered engineering team.

The Pragmatic Programmer

Simple Programmer, LLC

This book is a practical guide to discovering and exploiting security flaws in web applications. The authors explain each category of vulnerability using real-world examples, screen shots and code extracts. The book is extremely practical in focus, and describes in detail the steps involved in detecting and exploiting each kind of security weakness found within a variety of applications such as online banking, e-commerce and other web applications. The topics covered include bypassing login mechanisms, injecting code, exploiting logic flaws and compromising other users. Because every web application is different, attacking them entails bringing to bear various general principles, techniques and experience in an imaginative way. The most successful hackers go beyond this, and find ways to automate their bespoke attacks. This handbook describes a proven methodology that combines the virtues of human intelligence and computerized brute force, often with devastating results. The authors are professional penetration testers who have been involved in web application security for nearly a decade. They have presented training courses at the Black Hat security conferences throughout the world. Under the alias "PortSwigger", Dafydd developed the popular Burp Suite of web application hack tools.

Introduction to Software Engineering "O'Reilly Media, Inc."

An industry insider explains why there is so much bad software—and why academia doesn't teach programmers what industry wants them to

know. Why is software so prone to bugs? So vulnerable to viruses? Why are software products so often delayed, or even canceled? Is software development really hard, or are software developers just not that good at it? In *The Problem with Software*, Adam Barr examines the proliferation of bad software, explains what causes it, and offers some suggestions on how to improve the situation. For one thing, Barr points out, academia doesn't teach programmers what they actually need to know to do their jobs: how to work in a team to create code that works reliably and can be maintained by somebody other than the original authors. As the size and complexity of commercial software have grown, the gap between academic computer science and industry has widened. It's an open secret that there is little engineering in software engineering, which continues to rely not on codified scientific knowledge but on intuition and experience. Barr, who worked as a programmer for more than twenty years, describes how the industry has evolved, from the era of mainframes and Fortran to today's embrace of the cloud. He explains bugs and why software has so many of them, and why today's interconnected computers offer fertile ground for viruses and worms. The difference between good and bad software can be a single line of code, and Barr includes code to illustrate the consequences of seemingly inconsequential choices by programmers. Looking to the future, Barr writes that the best prospect for improving software engineering is the move to the cloud. When software is a service and not a product, companies will have more incentive to make

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it good rather than "good  
enough to ship."