

Computer Networks Tanenbaum 5th Edition

This textbook introduces linear algebra and optimization in the context of machine learning. Examples and exercises are provided throughout this text book together with access to a solution’s manual. This textbook targets graduate level students and professors in computer science, mathematics and data science. Advanced undergraduate students can also use this textbook. The chapters for this textbook are organized as follows: 1. Linear algebra and its applications: The chapters focus on the basics of linear algebra together with their common applications to singular value decomposition, matrix factorization, similarity matrices (kernel methods), and graph analysis. Numerous machine learning applications have been used as examples, such as spectral clustering, kernel-based classification, and outlier detection. The tight integration of linear algebra methods with examples from machine learning differentiates this book from generic volumes on linear algebra. The focus is clearly on the most relevant aspects of linear algebra for machine learning and to teach readers how to apply these concepts. 2. Optimization and its applications: Much of machine learning is posed as an optimization problem in which we try to maximize the accuracy of regression and classification models. The “parent problem” of optimization-centric machine learning is least-squares regression. Interestingly, this problem arises in both linear algebra and optimization, and is one of the key connecting problems of the two fields. Least-squares regression is also the starting point for support vector machines, logistic regression, and recommender systems. Furthermore, the methods for dimensionality reduction and matrix factorization also require the development of optimization methods. A general view of optimization in computational graphs is discussed together with its applications to back propagation in neural networks. A frequent challenge faced by beginners in machine learning is the extensive background required in linear algebra and optimization. One problem is that the existing linear algebra and optimization courses are not specific to machine learning; therefore, one would typically have to complete more course material than is necessary to pick up machine learning. Furthermore, certain types of ideas and tricks from optimization and linear algebra recur more frequently in machine learning than other application-centric settings. Therefore, there is significant value in developing a view of linear algebra and optimization that is better suited to the specific perspective of machine learning.

The widely anticipated revision of this worldwide best seller incorporates the latest developments in operating systems technologies. Hundreds of pages of new material on a wealth of subjects have been added. This authoritative, example-based reference offers practical, hands-on information in constructing and understanding modern operating systems. Continued in this second edition are the “big picture” concepts, presented in the clear and entertaining style that only Andrew S. Tanenbaum can provide. Tanenbaum’s long experience as the designer or co-designer of three operating systems brings a knowledge of the subject and wealth of practical detail that few other books can match. FEATURES\ NEW--New chapters on computer security, multimedia operating systems, and multiple processor systems. NEW--Extensive coverage of Linux, UNIX(R), and Windows 2000(TM) as examples. NEW--Now includes coverage of graphical user interfaces, multiprocessor operating systems, trusted systems, viruses, network terminals. CD-ROM file systems, power management on laptops, RAID, soft timers, stable storage, fair-share scheduling, three-level scheduling, and new paging algorithms. NEW--Most chapters have a new section on current research on the chapter’s topic. NEW--Focus on “single-processor” computer systems; a new book for a follow-up course on distributed systems is also available from Prentice Hall. NEW--Over 200 references to books and papers published since the first edition. NEW--The Web site for this book contains PowerPoint slides, simulators, figures in various formats, and other teaching aids.

Know how to set up, defend, and attack computer networks with this revised and expanded second edition. You will learn to configure your network from the ground up, beginning with developing your own private virtual test environment, then setting up your own DNS server and AD infrastructure. You will continue with more advanced network services, web servers, and database servers and you will end by building your own web applications servers, including WordPress and Joomla!. Systems from 2011 through 2017 are covered, including Windows 7, Windows 8, Windows 10, Windows Server 2012, and Windows Server 2016 as well as a range of Linux distributions, including Ubuntu, CentOS, Mint, and OpenSUSE. Key defensive techniques are integrated throughout and you will develop situational awareness of your network and build a complete defensive infrastructure, including log servers, network firewalls, web application firewalls, and intrusion detection systems. Of course, you cannot truly understand how to defend a network if you do not know how to attack it, so you will attack your test systems in a variety of ways. You will learn about Metasploit, browser attacks, privilege escalation, pass-the-hash attacks, malware, man-in-the-middle attacks, database attacks, and web application attacks. What You’ll Learn Construct a testing laboratory to experiment with software and attack techniquesBuild realistic networks that include active directory, file servers, databases, web servers, and web applications such as WordPress and Joomla!Manage networks remotely with tools, including PowerShell, WMI, and WinRMUse offensive tools such as Metasploit, Mimikatz, Veil, Burp Suite, and John the RipperExploit networks starting from malware and initial intrusion to privilege escalation through password cracking and persistence mechanismsDefend networks by developing operational awareness using auditd and Sysmon to analyze logs, and deploying defensive tools such as the Snort intrusion detection system, IPFire firewalls, and ModSecurity web application firewalls Who This Book Is For This study guide is intended for everyone involved in or interested in cybersecurity operations (e.g., cybersecurity professionals, IT professionals, business professionals, and students)

This book provides a practical, up-to-date, and comprehensive survey of network-based and Internet-based security applications and standards. This books covers e-mail security, IP security, Web security, and network management security. It also includes a concise section on the discipline of cryptography—covering algorithms and protocols underlying network security applications, encryption, hash functions, digital signatures, and key exchange. For system engineers, engineers, programmers, system managers, network managers, product marketing personnel, and system support specialists.

Study Companion

Interconnections

Routing TCP/IP

Microsoft System Center Software Update Management Field Experience

The new edition of this bestselling title on Distributed Systems has been thoroughly revised throughout to reflect the state of the art in this rapidly developing field. It emphasizes the principles used in the design and construction of distributed computer systems based on networks of workstations and server computers.

"Modern Compiler Design" makes the topic of compiler design more accessible by focusing on principles and techniques of wide application. By carefully distinguishing between the essential (material that has a high chance of being useful) and the incidental (material that will be of benefit only in exceptional cases) much useful information was packed in this comprehensive volume. The student who has finished this book can expect to understand the workings of and add to a language processor for each of the modern paradigms, and be able to read the literature on how to proceed. The first provides a firm basis, the second potential for growth.

Computer and Communication Networks, Second Edition, explains the modern technologies of networking and communications, preparing you to analyze and simulate complex networks, and to design cost-effective networks for emerging requirements. Offering uniquely balanced coverage of basic and advanced topics, it teaches through case studies, realistic examples and exercises, and intuitive illustrations. Nader F. Mir establishes a solid foundation in basic networking concepts; TCP/IP schemes; wireless and LTE networks; Internet applications, such as Web and e-mail; and network security. Then, he delves into both network analysis and advanced networking protocols, VoIP, cloud-based multimedia networking, SDN, and virtualized networks. In this new edition, Mir provides updated, practical, scenario-based information that many networking books lack, offering a uniquely effective blend of theory and implementation. Drawing on extensive field experience, he presents many contemporary applications and covers key topics that other texts overlook, including P2P and voice/video networking, SDN, information-centric networking, and modern router/switch design. Students, researchers, and networking professionals will find up-to-date, thorough coverage of Packet switching Internet protocols (including IPv6) Networking devices Links and link interfaces LANs, WANs, and Internetworking Multicast routing, and protocols Wide area wireless networks and LTE Transport and end-to-end protocols Network applications and management Network security Network queues and delay analysis Advanced router/switch architecture QoS and scheduling Tunneling, VPNs, and MPLS All-optical networks, WDM, and GMPLS Cloud computing and network virtualization Software defined networking (SDN) VoIP signaling Media exchange and voice/video compression Distributed/cloud-based multimedia networks Mobile ad hoc networks Wireless sensor networks Key features include More than three hundred fifty figures that simplify complex topics Numerous algorithms that summarize key networking protocols and equations Up-to-date case studies illuminating concepts and theory Approximately four hundred exercises and examples honed over Mir’s twenty years of teaching networking

For this third edition of -Distributed Systems, - the material has been thoroughly revised and extended, integrating principles and paradigms into nine chapters: 1. Introduction 2. Architectures 3. Processes 4. Communication 5. Naming 6. Coordination 7. Replication 8. Fault tolerance 9. Security A separation has been made between basic material and more specific subjects. The latter have been organized into boxed sections, which may be skipped on first reading. To assist in understanding the more algorithmic parts, example programs in Python have been included. The examples in the book leave out many details for readability, but the complete code is available through the book’s Website, hosted at www.distributed-systems.net. A personalized digital copy of the book is available for free, as well as a printed version through Amazon.com.

UML, Use Cases, Patterns, and Software Architectures

Software Modeling and Design

Computer Networking

Second Edition

Structure and Interpretation of Computer Programs - 2nd Edition

Structure and Interpretation of Computer Programs by Harold Abelson and Gerald Jay Sussman is licensed under a Creative Commons Attribution-NonCommercial 3.0 License.

Details descriptions of the principles associated with each layer and presents many examples drawn the Internet and wireless networks.

Computer Networks: A Systems Approach, Fifth Edition, explores the key principles of computer networking, with examples drawn from the real world of network and protocol design. Using the Internet as the primary example, this best-selling and classic textbook explains various protocols and networking technologies. The systems-oriented approach encourages students to think about how individual network components fit into a larger, complex system of interactions. This book has a completely updated content with expanded coverage of the topics of utmost importance to networking professionals and students, including P2P, wireless, network security, and network applications such as e-mail and the Web, IP telephony and video streaming, and peer-to-peer file sharing. There is now increased focus on application layer issues where innovative and exciting research and design is currently the center of attention. Other topics include network design and architecture; the ways users can connect to a network; the concepts of switching, routing, and internetworking; end-to-end protocols; congestion control and resource allocation; and end-to-end data. Each chapter includes a problem statement, which introduces issues to be examined; shaded sidebars that elaborate on a topic or introduce a related advanced topic; What’s Next? discussions that deal with emerging issues in research, the commercial world, or society; and exercises. This book is written for graduate or upper-division undergraduate classes in computer networking. It will also be useful for industry professionals retraining for network-related assignments, as well as for network practitioners seeking to understand the workings of network protocols and the big picture of networking. Completely updated content with expanded coverage of the topics of utmost importance to networking professionals and students, including P2P, wireless, security, and applications Increased focus on application layer issues where innovative and exciting research and design is currently the center of attention Free downloadable network simulation software and lab experiments manual available Appropriate for Computer Networking or Introduction to Networking courses at both the undergraduate and graduate level in Computer Science, Electrical Engineering, CIS, MIS, and Business Departments. Tanenbaum takes a structured approach to explaining how networks work from the inside out. He starts with an explanation of the physical layer of networking, computer hardware and transmission systems; then works his way up to network applications. Tanenbaum’s in-depth application coverage includes email; the domain name system; the World Wide Web (both client- and server-side); and multimedia (including voice over IP, Internet radio video on demand, video conferencing, and streaming media.

A Textbook

From Concept to Cash

Linear Algebra and Optimization for Machine Learning

Operating System Concepts Essentials, 2nd Edition

Computer Networks and Internets

"This book is organized around three concepts fundamental to OS construction: virtualization (of CPU and memory), concurrency (locks and condition variables), and persistence (disks, RAIDS, and file systems)"--Back cover.

Networking technologies have become an integral part of everyday life, which has led to a dramatic increase in the number of professions where it is important to understand network technologies. TCP/IP Protocol Suite teaches students and professionals, with no prior knowledge of TCP/IP, everything they need to know about the subject. This comprehensive book uses hundreds of figures to make technical concepts easy to grasp, as well as many examples, which help tie the material to the real-world. The second edition of TCP/IP Protocol Suite has been fully updated to include all of the recent technology changes in the field. Many new chapters have been added such as one on Mobile IP, Multimedia and Internet, Network Security, and IP over ATM.

Additionally, out-of-date material has been overhauled to reflect recent changes in technology.

A text on networking theory and practice, providing information on general networking concepts, routing algorithms and protocols, addressing, and mechanics of bridges, routers, switches, and hubs. Describes all major network algorithms and protocols in use today, and explores engineering trade-offs that each different approach represents. Includes chapter homework problems and a glossary. This second edition is expanded to cover recent developments such as VLANs, Fast Ethernet, and AppleTalk. The author is a Distinguished Engineer at Sun Microsystems, Inc., and holds some 50 patents. Annotation copyrighted by Book News, Inc., Portland, OR

Computer Networks

Computer Networking with Internet Protocols and Technology

Design and Implementation

Computer and Communication Networks

Principles of Database Management

Operating Systems

By staying current, remaining relevant, and adapting to emerging course needs, Operating System Concepts by Abraham Silberschatz, Peter Baer Galvin and Greg Gagne has defined the operating systems course through nine editions. This second edition of the Essentials version is based on the recent ninth edition of the original text. Operating System Concepts Essentials comprises a subset of chapters of the ninth edition for professors who want a shorter text and do not cover all the topics in the ninth edition. The new second edition of Essentials will be available as an ebook at a very attractive price for students. The ebook will have live links for the bibliography, cross-references between sections and chapters where appropriate, and new chapter review questions. A two-color printed version is also available.

800x600 Focused technical guidance from System Center experts Part of a series of specialized guides on System Center--this book walks through the tools and resources used to manage the complex task of tracking and applying software updates to client computers in the enterprise using Windows Server 2012 R2 and System Center 2012 R2, or later. Written by experts on the Microsoft System Center team and with Microsoft MVP Mitch Tulloch as series editor, this title focuses on maintaining operational efficiency, minimizing security issues, and maintaining the stability of the network infrastructure. Normal 0 false false false EN-US X-NONE X-NONE MicrosoftInternetExplorer4

Introductory, theory-practice balanced text teaching the fundamentals of databases to advanced undergraduates or graduate students in information systems or computer science.

As distributed computer systems become more pervasive, so does the need for understanding how their operating systems are designed and implemented. Andrew S. Tanenbaums Distributed Operating Systems fulfills this need. Representing a revised and greatly expanded Part II of the best-selling Modern Operating Systems, it covers the material from the original book, including communication, synchronization, processes, and file systems, and adds new material on distributed shared memory, real-time distributed systems, fault-tolerant distributed systems, and ATM networks. It also contains four detailed case studies: Amoeba, Mach, Chorus, and OSF/DCE. Tanenbaums trademark writing provides readers with a thorough, concise treatment of distributed systems.

Implementing Lean Software Development

Computer Organization and Design

Distributed Systems

Three Easy Pieces

A Systems Approach

A detailed examination of interior routing protocols -- completely updated in a new edition A complete revision of the best-selling first edition--widely considered a premier text on TCP/IP routing protocols A core textbook for CCIE preparation and a practical reference for network designers, administrators, and engineers Includes configuration and troubleshooting lessons that would cost thousands to learn in a classroom and numerous real-world examples and case studies Praised in its first edition for its approachable style and wealth of information, this new edition provides readers a deep understanding of IP routing protocols, teaches how to implement these protocols using Cisco routers, and brings readers up to date protocol and implementation enhancements. Routing TCP/IP, Volume 1, Second Edition, includes protocol changes and Cisco features that enhance routing integrity, secure routers from attacks initiated through routing protocols, and provide greater control over the propagation of routing information for all the IP interior routing protocols. Routing TCP/IP, Volume 1, Second Edition, provides a detailed analysis of each of the IP interior gateway protocols (IGPs). Its structure remains the same as the best-selling first edition, though information within each section is enhanced and modified to include the new developments in routing protocols and Cisco implementations. What’s New In This Edition? The first edition covers routing protocols as they existed in 1998. The new book updates all covered routing protocols and discusses new features integrated in the latest version of Cisco IOS Software. IPv6, its use with interior routing protocols, and its interoperability and integration with IPv4 are also integrated into this book. Approximately 200 pages of new information are added to the main text, with some old text removed. Additional exercise and solutions are also included.

Introducing data communications and computer networks, this revised and updated edition takes account of developments in the area. Coverage includes essential theory associated with digital transmission, interface standards, data compression and error detection methods.

This book provides professionals with a fresh and comprehensive survey of the entire field of computer networks and Internet technology—including an up-to-date report of leading-edge technologies. TCP/IP, network security, Internet protocols, integrated and differentiated services, TCP performance, congestion in data networks, network management, and more. For programmers, systems engineers, network designers, and others involved in the design of data communications and networking products; product marketing personnel; and data processing personnel who want up-to-date coverage of a broad survey of topics in networking, Internet technology and protocols, and standards.

"Presents the fundamentals of hardware technologies, assembly language, computer arithmetic, pipelining, memory hierarchies and I/O"--

Applications and Standards

The Hardware/Software Interface

Modern Operating Systems

Building, Defending, and Attacking Modern Computer Networks

Computer Networking [Global Edition]

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Computer Networks, 5/e is appropriate for Computer Networking or Introduction to Networking courses at both the undergraduate and graduate level in Computer Science, Electrical Engineering, CIS, MIS, and Business Departments. Tanenbaum takes a structured approach to explaining how networks work from the inside out. He starts with an explanation of the physical layer of networking, computer hardware and transmission systems; then works his way up to network applications. Tanenbaum's in-depth application coverage includes email; the domain name system; the World Wide Web (both client- and server-side); and multimedia (including voice over IP, Internet radio video on demand, video conferencing, and streaming media. Each chapter follows a consistent approach: Tanenbaum presents key principles, then illustrates them utilizing real-world example networks that run through the entire book—the Internet, and wireless networks, including Wireless LANs, broadband wireless and Bluetooth. The Fifth Edition includes a chapter devoted exclusively to network security. The textbook is supplemented by a Solutions Manual, as well as a Website containing PowerPoint slides, art in various forms, and other tools for instruction, including a protocol simulator whereby students can develop and test their own network protocols.

This book covers all you need to know to model and design software applications from use cases to software architectures in UML and shows how to apply the COMET UML-based modeling and design method to real-world problems. The author describes architectural patterns for various architectures, such as broker, discovery, and transaction patterns for service-oriented architectures, and addresses software quality attributes including maintainability, modifiability, testability, traceability, scalability, reusability, performance, availability, and security. Complete case studies illustrate design issues for different software architectures: a banking system for client/server architecture, an online shopping system for service-oriented architecture, an emergency monitoring system for component-based software architecture, and an automated guided vehicle for real-time software architecture. Organized as an introduction followed by several short, self-contained chapters, the book is perfect for senior undergraduate or graduate courses in software engineering and design, and for experienced software engineers wanting a quick reference at each stage of the analysis, design, and development of large-scale software systems.

If you really want to understand how the Internet and other computer networks operate, start with Computer Networks and Internets, Third Edition. Douglas E. Comer, who helped build the Internet, presents an up-to-the-minute tour of the Internet and internetworking, from low-level data transmission wiring all the way up to Web services and Internet application software. The new edition contains extensive coverage of network programming, plus authoritative introductions to many new Internet protocols and technologies, from CIDR addressing to Network Address Translation (NAT). Comer explains every networking layer, showing how facilities and services provided by one layer are used and extended in the next. Discover how networking hardware utilizes carrier signals, modulation and encoding; why internets use packet switching; how LANs, local loops, WANs, public and private networks work; and how protocols like TCP support internetworking. Understand the client/server model at the heart of most network applications, and master key Internet technologies such as CGI, DNS, E-mail, ADSL, and cable modems. This new edition includes a complete new chapter on static and automatic Internet routing, introducing key concepts such as Autonomous Systems and hop metrics; as well as detailed coverage of label switching and virtual circuits.

For Introductory Courses in Operating Systems in Computer Science, Computer Engineering, and Electrical Engineering programs. The widely anticipated revision of this worldwide best-seller incorporates the latest developments in operating systems (OS) technologies. The Third Edition includes up-to-date materials on relevant OS such as Linux, Windows, and embedded real-time and multimedia systems. Tanenbaum also provides information on current research based on his experience as an operating systems researcher.

Network Security Essentials

Modern Compiler Design

STRUCTURED COMPUTER ORGANIZATION

Computer Networks

Concepts and Design

"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.

This is a practical manual on operating systems, which describes a small UNIX-like operating system, demonstrating how it works and illustrating the principles underlying it. The relevant sections of the MINIX source code are described in detail, and the book has been revised to include updates in MINIX, which initially started as a v7 unix clone for a floppy-disk only 8088. It is now aimed at 386, 486 and pentium machines, and is based on the international posix standard instead of on v7. Versions of MINIX are now also available for the Macintosh and SPARC.

Appropriate for a first course on computer networking, this textbook describes the architecture and function of the application, transport, network, and link layers of the internet protocol stack, then examines audio and video networking applications, the underpinnings of encryption and network security, and the key issues of network management. Th

The Practical Guide to Storing, Managing and Analyzing Big and Small Data

Problem Solutions

Computer Networking and the Internet

Computer Organization & Architecture 7e

With Internet Applications