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Clinical trials are an important part of medicine and healthcare today, deciding which treatments we use to treat patients. Anyone involved in healthcare today must know the basics of running and interpreting clinical trial data. Written in an easy-to-understand style by authors who have considerable expertise and experience in both academia and industry, Principles and Practice of Clinical Trial Medicine covers all of the basics of clinical trials, from legal and ethical issues to statistics, to patient recruitment and reporting results. Jargon-free writing style enables those with less experience to run their own clinical trials and interpret data Book con-

tains an ideal mix of theory and practice so researchers will understand both the rationale and logistics to clinical trial medicine Expert authorship whose experience includes running clinical trials in an academic as well as industry settings Numerous illustrations reinforce and elucidate key concepts and add to the book's overall pedagogy

Control engineering seeks to understand physical systems, using mathematical modeling, in terms of inputs, outputs and various components with different behaviors. It has an essential role in a wide range of control systems, from household appliances to space flight. This book provides an in-depth view of the technologies that are implemented in most varieties of modern industrial control engineering. A solid grounding is provided in traditional control techniques, followed by detailed examination of modern control techniques such as real-time, distributed, robotic, embedded, computer and wireless control technologies. For each technology, the book discusses its full profile, from the field layer and the control layer to the operator layer. It also includes all the interfaces in industrial control systems: between controllers and systems; between different layers; and between operators and systems. It not only describes the details of both real-time operating systems and distributed operating systems, but also provides coverage of the microprocessor boot code, which other books lack. In addition to working principles and operation mechanisms, this book emphasizes the practical issues of components, devices and hardware circuits, giving the specification parameters, install procedures, calibration and configuration methodologies needed for engineers to put the theory into practice. Documents all the key technologies of a wide range of industrial control systems Emphasizes practical application and methods alongside theory and principles An ideal reference for practicing engineers needing to further their understanding of the latest industrial control concepts and techniques

In this age of viruses and hackers, of electronic eavesdropping and electronic fraud, security is paramount. This solid, up-to-date tutorial is a comprehensive treatment of cryptography and network security is ideal for self-study. Explores the basic issues to be addressed by a network security capability through a tutorial and survey of cryptography and network security technology. Examines the practice of network security via practical applications that have been implemented and are in use today. Provides a sim-

plified AES (Advanced Encryption Standard) that enables readers to grasp the essentials of AES more easily. Features block cipher modes of operation, including the CMAC mode for authentication and the CCM mode for authenticated encryption. Includes an expanded, updated treatment of intruders and malicious software. A useful reference for system engineers, programmers, system managers, network managers, product marketing personnel, and system support specialists.

Divided into eight parts, the book tries to provide a comprehensive coverage of topics, beginning with OS architectures and then moving on to process scheduling, inter-process communication and synchronization, deadlocks, and multi-threading. Under the part on memory management, basic memory management and virtual memory are discussed. These are followed by chapters on file management and I/O management. Security and protection of operating systems are also discussed in detail. Further, advanced OSs such as distributed, multi-processor, real-time, mobile, and multimedia OSs are presented. Android OS, being one of the most popular, is discussed under mobile operating systems. The last part of the book discusses shell programming, which will help students perform the lab experiments for this course. The first six parts contain case studies on UNIX, Solaris, Linux, and Windows.

Over the past two decades, there has been a huge amount of innovation in both the principles and practice of operating systems. Over the same period, the core ideas in a modern operating system - protection, concurrency, virtualization, resource allocation, and reliable storage - have become widely applied throughout computer science. Whether you get a job at Facebook, Google, Microsoft, or any other leading-edge technology company, it is impossible to build resilient, secure, and flexible computer systems without the ability to apply operating systems concepts in a variety of settings. This book examines the both the principles and practice of modern operating systems, taking important, high-level concepts all the way down to the level of working code. Because operating systems concepts are among the most difficult in computer science, this top to bottom approach is the only way to really understand and master this important material.

The way we work is broken. It takes forever to get anything done. Meetings and emails are incessant. Bureaucracy stifles talent and creativity. After decades of management theory and multiple waves of technological and societal change, is this really the best

we can do? Aaron Dignan teaches companies how to eliminate red tape, tap into collective intelligence, and rethink long-held traditions that no longer make sense. In *Brave New Work*, he shows you how to revolutionize the way your company works forever. Using stories from companies at the cutting edge of organisational transformation, *Brave New Work* will show you how to transform your team, department and business from the inside-out-making work more adaptable, abundant and human. It is packed with new tactics and tips for updating your company's operating system: the simple rules and assumptions so deeply embedded that you don't even think to question them. Learn how to reignite passion and energy throughout your organisation. Build a company that runs itself.

Chemical Engineering Design, Second Edition, deals with the application of chemical engineering principles to the design of chemical processes and equipment. Revised throughout, this edition has been specifically developed for the U.S. market. It provides the latest US codes and standards, including API, ASME and ISA design codes and ANSI standards. It contains new discussions of conceptual plant design, flowsheet development, and revamp design; extended coverage of capital cost estimation, process costing, and economics; and new chapters on equipment selection, reactor design, and solids handling processes. A rigorous pedagogy assists learning, with detailed worked examples, end of chapter exercises, plus supporting data, and Excel spreadsheet calculations, plus over 150 Patent References for downloading from the companion website. Extensive instructor resources, including 1170 lecture slides and a fully worked solutions manual are available to adopting instructors. This text is designed for chemical and biochemical engineering students (senior undergraduate year, plus graduates) and lecturers/tutors, and professionals in industry (chemical process, biochemical, pharmaceutical, petrochemical sectors). New to this edition: Revised organization into Part I: Process Design, and Part II: Plant Design. The broad themes of Part I are flowsheet development, economic analysis, safety and environmental impact and optimization. Part II contains chapters on equipment design and selection that can be used as supplements to a lecture course or as essential references for students or practicing engineers working on design projects. New discussion of conceptual plant design, flowsheet development and revamp de-

significantly increased coverage of capital cost estimation, process costing and economics New chapters on equipment selection, reactor design and solids handling processes New sections on fermentation, adsorption, membrane separations, ion exchange and chromatography Increased coverage of batch processing, food, pharmaceutical and biological processes All equipment chapters in Part II revised and updated with current information Updated throughout for latest US codes and standards, including API, ASME and ISA design codes and ANSI standards Additional worked examples and homework problems The most complete and up to date coverage of equipment selection 108 realistic commercial design projects from diverse industries A rigorous pedagogy assists learning, with detailed worked examples, end of chapter exercises, plus supporting data and Excel spreadsheet calculations plus over 150 Patent References, for downloading from the companion website Extensive instructor resources: 1170 lecture slides plus fully worked solutions manual available to adopting instructors

Have you heard about the tremendous success Amazon and Netflix have had by switching to a microservice architecture? Are you wondering how this can benefit your company? Or are you skeptical about how it might work? If you've answered yes to any of these questions, this practical book will benefit you. You'll learn how to take advantage of the microservice architectural style for building systems, and learn from the experiences of others to adopt and execute this approach most successfully.

Compilers: Principles and Practice explains the phases and implementation of compilers and interpreters, using a large number of real-life examples. It includes examples from modern software practices such as Linux, GNU Compiler Collection (GCC) and Perl. This book has been class-tested and tuned to the requirements of undergraduate computer engineering courses across universities in India.

"This book discusses non-distributed operating systems that benefit researchers, academicians, and practitioners"--Provided by publisher.

For a one-semester undergraduate course in operating systems for computer science, computer engineering, and electrical engineering majors. Winner of the 2009 Textbook Excellence Award from the Text and Academic Authors Association (TAA)! Operating Systems: Internals and Design Principles is a comprehensive and

unified introduction to operating systems. By using several innovative tools, Stallings makes it possible to understand critical core concepts that can be fundamentally challenging. The new edition includes the implementation of web based animations to aid visual learners. At key points in the book, students are directed to view an animation and then are provided with assignments to alter the animation input and analyze the results. The concepts are then enhanced and supported by end-of-chapter case studies of UNIX, Linux and Windows Vista. These provide students with a solid understanding of the key mechanisms of modern operating systems and the types of design tradeoffs and decisions involved in OS design. Because they are embedded into the text as end of chapter material, students are able to apply them right at the point of discussion. This approach is equally useful as a basic reference and as an up-to-date survey of the state of the art.

Includes coverage of OS design. This title provides a chapter on real time and embedded systems. It contains a chapter on multimedia. It presents coverage of security and protection and additional coverage of distributed programming. It contains exercises at the end of each chapter.

Programming Languages And Methodologies Presents A Mature, Well-Rounded View Of The Entire Programming Process. Intended For The Junior/Senior-Level Student Who Has Completed Introductory Programming Courses, Schalkoff's Text Discusses The More Advanced Programming Topics, Including Differing Programming Methodologies (Imperative, Declarative, Functional, OO, Parallel, And Event-Driven), The Concepts Of Formal Grammars And Syntax, The Concepts And Implementation Of Scanning And Parsing, And The Concept Of Semantics. The Choice Of Topics Included Allows Instructors To Tailor Their Approach To Suit The Needs Of The Course And Provides A Wealth Of Hands-On Exercises And Experiences. With This Text Instructors Can Support Their Entire Course With Such Public Domain Platforms As Linux, Mac OS-X Or Windows OS At No Additional Cost To Students! Presenting Topics Related To The ACM/IEEE Model Curriculum, Programming Languages And Methodologies Is The Ideal Text For Your Computer Engineering And Computer Science Students!

In this collection of essays and articles, key members of Google's Site Reliability Team explain how and why their commitment to the entire lifecycle has enabled the company to successfully build, deploy, monitor, and maintain some of the largest software

systems in the world.

Uses the Running Operation as the Main Thread Difficulty in understanding an operating system (OS) lies not in the technical aspects, but in the complex relationships inside the operating systems. The Art of Linux Kernel Design: Illustrating the Operating System Design Principle and Implementation addresses this complexity. Written from the perspective of the designer of an operating system, this book tackles important issues and practical problems on how to understand an operating system completely and systematically. It removes the mystery, revealing operating system design guidelines, explaining the BIOS code directly related to the operating system, and simplifying the relationships and guiding ideology behind it all. Based on the Source Code of a Real Multi-Process Operating System Using the 0.11 edition source code as a representation of the Linux basic design, the book illustrates the real states of an operating system in actual operations. It provides a complete, systematic analysis of the operating system source code, as well as a direct and complete understanding of the real operating system run-time structure. The author includes run-time memory structure diagrams, and an accompanying essay to help readers grasp the dynamics behind Linux and similar software systems. Identifies through diagrams the location of the key operating system data structures that lie in the memory Indicates through diagrams the current operating status information which helps users understand the interrupt state, and left time slice of processes Examines the relationship between process and memory, memory and file, file and process, and the kernel Explores the essential association, preparation, and transition, which is the vital part of operating system Develop a System of Your Own This text offers an in-depth study on mastering the operating system, and provides an important prerequisite for designing a whole new operating system.

A guide to the concepts and applications of computer graphics covers such topics as interaction techniques, dialogue design, and user interface software.

A new framework for understanding computing: a coherent set of principles spanning technologies, domains, algorithms, architectures, and designs. Computing is usually viewed as a technology field that advances at the breakneck speed of Moore's Law. If we turn away even for a moment, we might miss a game-changing technological breakthrough or an earthshaking theoretical devel-

opment. This book takes a different perspective, presenting computing as a science governed by fundamental principles that span all technologies. Computer science is a science of information processes. We need a new language to describe the science, and in this book Peter Denning and Craig Martell offer the great principles framework as just such a language. This is a book about the whole of computing—its algorithms, architectures, and designs. Denning and Martell divide the great principles of computing into six categories: communication, computation, coordination, recollection, evaluation, and design. They begin with an introduction to computing, its history, its many interactions with other fields, its domains of practice, and the structure of the great principles framework. They go on to examine the great principles in different areas: information, machines, programming, computation, memory, parallelism, queueing, and design. Finally, they apply the great principles to networking, the Internet in particular. Great Principles of Computing will be essential reading for professionals in science and engineering fields with a “computational” branch, for practitioners in computing who want overviews of less familiar areas of computer science, and for non-computer science majors who want an accessible entry way to the field.

Now updated—your expert guide to twenty-first century information security Information security is a rapidly evolving field. As businesses and consumers become increasingly dependent on complex multinational information systems, it is more imperative than ever to protect the confidentiality and integrity of data. Featuring a wide array of new information on the most current security issues, this fully updated and revised edition of Information Security: Principles and Practice provides the skills and knowledge readers need to tackle any information security challenge. Taking a practical approach to information security by focusing on real-world examples, this book is organized around four major themes: Cryptography: classic cryptosystems, symmetric key cryptography, public key cryptography, hash functions, random numbers, information hiding, and cryptanalysis Access control: authentication and authorization, password-based security, ACLs and capabilities, multilevel security and compartments, covert channels and inference control, security models such as BLP and Biba's model, firewalls, and intrusion detection systems Protocols: simple authentication protocols, session keys, perfect forward secrecy, timestamps, SSH, SSL, IPSec, Kerberos, WEP, and GSM Software:

flaws and malware, buffer overflows, viruses and worms, malware detection, software reverse engineering, digital rights management, secure software development, and operating systems security This Second Edition features new discussions of relevant security topics such as the SSH and WEP protocols, practical RSA timing attacks, botnets, and security certification. New background material has been added, including a section on the Enigma cipher and coverage of the classic "orange book" view of security. Also featured are a greatly expanded and upgraded set of homework problems and many new figures, tables, and graphs to illustrate and clarify complex topics and problems. A comprehensive solutions manual is available to assist in course development. Minimizing theory while providing clear, accessible content, Information Security remains the premier text for students and instructors in information technology, computer science, and engineering, as well as for professionals working in these fields.

The tenth edition of Operating System Concepts has been revised to keep it fresh and up-to-date with contemporary examples of how operating systems function, as well as enhanced interactive elements to improve learning and the student's experience with the material. It combines instruction on concepts with real-world applications so that students can understand the practical usage of the content. End-of-chapter problems, exercises, review questions, and programming exercises help to further reinforce important concepts. New interactive self-assessment problems are provided throughout the text to help students monitor their level of understanding and progress. A Linux virtual machine (including C and Java source code and development tools) allows students to complete programming exercises that help them engage further with the material. The Print Companion includes all of the content found in a traditional text book, organized the way you would expect it, but without the problems.

Designed as a "teach-yourself" text, the book provides a step-by-step approach to clarify all of the key concepts, architectures, and components of operating systems. The book covers all of the topics from the basics to the latest mobile devices, and features key operating systems e.g., Android, iOS, Linux, and Windows 10. This book would be very useful not only as an introductory text for undergraduate students of computer science, but also for those professionals who need to review modern operating systems. Features: * A chapter on the latest mobile operating systems, e.g., An-

droid, iOS, and Windows * Covers basic concepts such as architecture, CPU scheduling, memory management, file systems, I/O, and more * Features a separate chapter on Windows 10 including shortcut keys, system tabs for settings, and security * Additional chapter on the Linux operating system with detailed explanation of its architecture, components, main features, and also Red Hat Linux * Designed as a teach-yourself text with integrated "self-quizzes" and end of chapter exercises to reinforce concepts.

"Operating systems provide the fundamental mechanisms for securing computer processing. Since the 1960s, operating systems designers have explored how to build "secure" operating systems - operating systems whose mechanisms protect the system against a motivated adversary. Recently, the importance of ensuring such security has become a mainstream issue for all operating systems. In this book, we examine past research that outlines the requirements for a secure operating system and research that implements example systems that aim for such requirements. For system designs that aimed to satisfy these requirements, we see that the complexity of software systems often results in implementation challenges that we are still exploring to this day. However, if a system design does not aim for achieving the secure operating system requirements, then its security features fail to protect the system in a myriad of ways. We also study systems that have been retro-fit with secure operating system features after an initial deployment. In all cases, the conflict between function on one hand and security on the other leads to difficult choices and the potential for unwise compromises. From this book, we hope that systems designers and implementers will learn the requirements for operating systems that effectively enforce security and will better understand how to manage the balance between function and security."--BOOK JACKET.

This course-tested textbook describes the design and implementation of operating systems, and applies it to the MTX operating system, a Unix-like system designed for Intel x86 based PCs. Written in an evolutionary style, theoretical and practical aspects of operating systems are presented as the design and implementation of a complete operating system is demonstrated. Throughout the text, complete source code and working sample systems are used to exhibit the techniques discussed. The book contains many new materials on the design and use of parallel algorithms in SMP. Complete coverage on booting an operating system is included,

as well as, extending the process model to implement threads support in the MTX kernel, an init program for system startup and a sh program for executing user commands. Intended for technically oriented operating systems courses that emphasize both theory and practice, the book is also suitable for self-study.

"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.

Principles of Computer System Design is the first textbook to take a principles-based approach to the computer system design. It identifies, examines, and illustrates fundamental concepts in computer system design that are common across operating systems, networks, database systems, distributed systems, programming languages, software engineering, security, fault tolerance, and architecture. Through carefully analyzed case studies from each of these disciplines, it demonstrates how to apply these concepts to tackle practical system design problems. To support the focus on design, the text identifies and explains abstractions that have proven successful in practice such as remote procedure call, client/service organization, file systems, data integrity, consistency, and authenticated messages. Most computer systems are built using a handful of such abstractions. The text describes how these abstractions are implemented, demonstrates how they are used in different systems, and prepares the reader to apply them in future designs. The book is recommended for junior and senior undergraduate students in Operating Systems, Distributed Systems, Distributed Operating Systems and/or Computer Systems Design courses; and professional computer systems designers. Features: Concepts of computer system design guided by fundamental principles. Cross-cutting approach that identifies abstractions common to networking, operating systems, transaction systems, distributed systems, architecture, and software engineering. Case studies that make the abstractions real: naming (DNS and the URL); file systems (the UNIX file system); clients and services (NFS); virtualization (virtual machines); scheduling (disk arms); security (TLS). Numerous pseudocode fragments that provide concrete examples of abstract concepts. Extensive support. The authors and MIT OpenCourseWare provide on-line, free of charge, open educational resources, including additional chapters, course syllabi, board layouts and slides, lecture videos, and an archive of lecture

schedules, class assignments, and design projects.

The seventh edition has been updated to offer coverage of the most current topics and applications, improved conceptual coverage and additional content to bridge the gap between concepts and actual implementations. The new two-color design allows for easier navigation and motivation. New exercises, lab projects and review questions help to further reinforce important concepts. · Overview · Process Management · Process Coordination · Memory Management · Storage Management · Distributed Systems · Protection and Security · Special-Purpose Systems

This excellent addition to the UTiCS series of undergraduate textbooks provides a detailed and up to date description of the main principles behind the design and implementation of modern programming languages. Rather than focusing on a specific language, the book identifies the most important principles shared by large classes of languages. To complete this general approach, detailed descriptions of the main programming paradigms, namely imperative, object-oriented, functional and logic are given, analysed in depth and compared. This provides the basis for a critical understanding of most of the programming languages. An historical viewpoint is also included, discussing the evolution of programming languages, and to provide a context for most of the constructs in use today. The book concludes with two chapters which introduce basic notions of syntax, semantics and computability, to provide a completely rounded picture of what constitutes a programming language. /div

Today's economy is fueled by knowledge. Every leader knows this to be true, yet few have systematic methods for converting organizational knowledge into economic value. This book argues that communities of practice--groups of individuals formed around common interests and expertise--provide the ideal vehicle for driving knowledge-management strategies and building lasting competitive advantage. Written by leading experts in the field, Cultivating Communities of Practice is the first book to outline models and methods for systematically developing these essential groups. Through compelling research and company examples, including DaimlerChrysler, McKinsey & Company, Shell, and the World Bank, authors Etienne Wenger, Richard McDermott, and William M. Snyder show how world-class organizations have leveraged communities of practice to drive strategy, generate new business opportunities, solve problems, transfer best practices, de-

velop employees' professional skills, and recruit and retain top talent. Underscoring the new central role communities of practice are playing in today's knowledge economy, Cultivating Communities of Practice is the definitive guide to fostering, designing, and developing these powerful groups within and across organizations.

Your expert guide to information security As businesses and consumers become more dependent on complex multinational information systems, the need to understand and devise sound information security systems has never been greater. This title takes a practical approach to information security by focusing on real-world examples. While not sidestepping the theory, the emphasis is on developing the skills and knowledge that security and information technology students and professionals need to face their challenges. The book is organized around four major themes: * Cryptography: classic cryptosystems, symmetric key cryptography, public key cryptography, hash functions, random numbers, information hiding, and cryptanalysis * Access control: authentication and authorization, password-based security, ACLs and capabilities, multilevel and multilateral security, covert channels and inference control, BLP and Biba's models, firewalls, and intrusion detection systems * Protocols: simple authentication protocols, session keys, perfect forward secrecy, timestamps, SSL, IPSec, Kerberos, and GSM * Software: flaws and malware, buffer overflows, viruses and worms, software reverse engineering, digital rights management, secure software development, and operating systems security Additional features include numerous figures and tables to illustrate and clarify complex topics, as well as problems ranging from basic to challenging to help readers apply their newly developed skills. A solutions manual and a set of classroom-tested PowerPoint(r) slides will assist instructors in their course development. Students and professors in information technology, computer science, and engineering, and professionals working in the field will find this reference most useful to solve their information security issues. An Instructor's Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department. An Instructor Support FTP site is also available.

Principles of Operating Systems is an in-depth look at the internals of operating systems. It includes chapters on general principles of process management, memory management, I/O device management, and file systems. Each major topic area also in-

cludes a chapter surveying the approach taken by nine examples of operating systems. Setting this book apart are chapters that examine in detail selections of the source code for the Inferno operating system and the Linux operating system.

The book, now in its Fifth Edition, aims to provide a practical view of GNU/Linux and Windows 7, 8 and 10, covering different design considerations and patterns of use. The section on concepts covers fundamental principles, such as file systems, process management, memory management, input-output, resource sharing, inter-process communication (IPC), distributed computing, OS security, real-time and microkernel design. This thoroughly revised edition comes with a description of an instructional OS to support teaching of OS and also covers Android, currently the most popular OS for handheld systems. Basically, this text enables students to learn by practicing with the examples and doing exercises. **NEW TO THE FIFTH EDITION** • Includes the details on Windows 7, 8 and 10 • Describes an Instructional Operating System (PintOS), FEDORA and Android • The following additional material related to the book is available at www.phindia.com/bhatt.
 o Source Code Control System in UNIX
 o X-Windows in UNIX
 o System Administration in UNIX
 o VxWorks Operating System (full chapter)
 o OS for handheld systems, excluding Android
 o The student projects
 o Questions for practice for selected chapters
TARGET AUDIENCE • BE/B.Tech (Computer Science and Engineering and Information Technology) • M.Sc. (Computer Science) BCA/MCA

Despite its importance, the role of HdS is most often underestimated and the topic is not well represented in literature and education. To address this, Hardware-dependent Software brings together experts from different HdS areas. By providing a comprehensive overview of general HdS principles, tools, and applications, this book provides adequate insight into the current technology and upcoming developments in the domain of HdS. The reader will find an interesting text book with self-contained introductions to the principles of Real-Time Operating Systems (RTOS), the emerging BIOS successor UEFI, and the Hardware Abstraction Layer (HAL). Other chapters cover industrial applications, verification, and tool environments. Tool introductions cover the application of tools in the ASIP software tool chain (i.e. Tensilica) and the generation of drivers and OS components from C-based languages. Applications focus on telecommunication and automotive systems.

The second edition of this innovative work again provides a unique perspective on the clinical discovery process by providing input from experts within the NIH on the principles and practice of clinical research. Molecular medicine, genomics, and proteomics have opened vast opportunities for translation of basic science observations to the bedside through clinical research. As an introductory reference it gives clinical investigators in all fields an awareness of the tools required to ensure research protocols are well designed and comply with the rigorous regulatory requirements necessary to maximize the safety of research subjects. Complete with sections on the history of clinical research and ethics, copious figures and charts, and sample documents it serves as an excellent companion text for any course on clinical research and as a must-have reference for seasoned researchers. *Incorporates new chapters on Managing Conflicts of Interest in Human Subjects Research, Clinical Research from the Patient's Perspective, The Clinical Researcher and the Media, Data Management in Clinical Research, Evaluation of a Protocol Budget, Clinical Research from the Industry Perspective, and Genetics in Clinical Research *Addresses the vast opportunities for translation of basic science observations to the bedside through clinical research *Delves into data management and addresses how to collect data and use it for discovery *Contains valuable, up-to-date information on how to obtain funding from the federal government

Computer Security: Principles and Practice, 2e, is ideal for courses in Computer/Network Security. In recent years, the need for education in computer security and related topics has grown dramatically – and is essential for anyone studying Computer Science or Computer Engineering. This is the only text available to provide integrated, comprehensive, up-to-date coverage of the broad range of topics in this subject. In addition to an extensive pedagogical program, the book provides unparalleled support for both research and modeling projects, giving students a broader perspective. The Text and Academic Authors Association named Computer Security: Principles and Practice, 1e, the winner of the Textbook Excellence Award for the best Computer Science textbook of 2008.

This second edition of Distributed Systems, Principles & Paradigms, covers the principles, advanced concepts, and technologies of distributed systems in detail, including: communication, replication, fault tolerance, and security. Intended for use in

a senior/graduate level distributed systems course or by professionals, this text systematically shows how distributed systems are designed and implemented in real systems.

Forecasting is required in many situations. Stocking an inventory may require forecasts of demand months in advance. Telecommunication routing requires traffic forecasts a few minutes ahead. Whatever the circumstances or time horizons involved, forecasting is an important aid in effective and efficient planning. This textbook provides a comprehensive introduction to forecasting methods and presents enough information about each method for readers to use them sensibly.

This title gives students an integrated and rigorous picture of applied computer science, as it comes to play in the construction of a simple yet powerful computer system.

Praise for the first edition: “This excellent text will be useful to every system engineer (SE) regardless of the domain. It covers ALL-relevant SE material and does so in a very clear, methodical-fashion. The breadth and depth of the author's presentation of SE principles and practices is outstanding.” –Philip Allen This textbook presents a comprehensive, step-by-step guide to System Engineering analysis, design, and development via an integrated set of concepts, principles, practices, and methodologies. The methods presented in this text apply to any type of human system -- small, medium, and large organizational systems and system development projects delivering engineered systems or services across multiple business sectors such as medical, transportation, financial, educational, governmental, aerospace and defense, utilities, political, and charity, among others. Provides a common focal point for “bridging the gap” between and unifying System Users, System Acquirers, multi-discipline System Engineering, and Project, Functional, and Executive Management education, knowledge, and decision-making for developing systems, products, or services Each chapter provides definitions of key terms, guiding principles, examples, author's notes, real-world examples, and exercises, which highlight and reinforce key SE&D concepts and practices Addresses concepts employed in Model-Based Systems Engineering (MBSE), Model-Driven Design (MDD), Unified Modeling Language (UMLTM) / Systems Modeling Language (SysMLTM), and Agile/Spiral/V-Model Development such as user needs, stories, and use cases analysis; specification development; system architecture development; User-Centric System Design (UCSD); interface

definition & control; system integration & test; and Verification & Validation (V&V) Highlights/introduces a new 21st Century Systems Engineering & Development (SE&D) paradigm that is easy to understand and implement. Provides practices that are critical staging points for technical decision making such as Technical Strate-

gy Development; Life Cycle requirements; Phases, Modes, & States; SE Process; Requirements Derivation; System Architecture-Development, User-Centric System Design (UCSD); Engineering Standards, Coordinate Systems, and Conventions; et al. Thoroughly illustrated, with end-of-chapter exercises and numerous case

studies and examples, Systems Engineering Analysis, Design, and Development, Second Edition is a primary textbook for multi-discipline, engineering, system analysis, and project management undergraduate/graduate level students and a valuable reference for professionals.