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Multimedia Communications - Jerry D. Gibson 2000-10-31
The rapid advances and industry demands for networked delivery of information and pictures through computer networks and cable television has created a need for new techniques and standards for the packaging and delivery of digital information. Multimedia Communications presents the latest information from industry and academic experts on all standards, methods and protocols. Internet protocols for wireless communications, transcoding of Internet multimedia for universal access, ATM and ISDN chapters, videoconferencing standards, speech and audio coding standards, multi-casting and image compression techniques are included. Latest Internet protocols for wireless communications Transcoding of Internet multimedia for universal access ATM and ISDN chapters Videoconferencing standards Speech and audio coding standards Multi-casting Latest image compression techniques
Emerging Technologies in Data Mining and Information Security - João Manuel R. S. Tavares 2021-05-04
This book features research papers presented at the International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS 2020) held at the University of Engineering & Management, Kolkata, India, during July 2020. The book is organized in three volumes and includes high-quality research work by academicians and industrial experts in the field of computing and communication,

including full-length papers, research-in-progress papers, and case studies related to all the areas of data mining, machine learning, Internet of things (IoT), and information security.
Basic Computer Games - David H. Ahl 1981

IBM zEnterprise System Technical Introduction - Ivan Dobos 2014-03-31
In a smarter planet, information-centric processes are exploding in growth. The mainframe has always been the IT industry's leading platform for transaction processing, consolidated and secure data serving, and support for available enterprise-wide applications. IBM® has extended the mainframe platform to help large enterprises reshape their client experiences through information-centric computing and to deliver on key business initiatives. IBM zEnterprise® is recognized as the most reliable and trusted system, and the most secure environment for core business operations. The new zEnterprise System consists of the IBM zEnterprise EC12 (zEC12) or IBM zEnterprise BC12 (zBC12), the IBM zEnterprise Unified Resource Manager, and the IBM zEnterprise IBM BladeCenter® Extension (zBX) Model 003. This IBM Redbooks® publication describes the zEC12 and zBC12, with their improved scalability, performance, security, resiliency, availability, and virtualization. The zEnterprise System has no peer as a trusted platform that also provides the most efficient transaction processing and database management. With efficiency at scale delivering significant cost savings

on core processes, resources can be freed up to focus on developing new services to drive growth. This book provides a technical overview of the zEC12, zBC12, zBX Model 003, and Unified Resource Manager. This publication is intended for IT managers, architects, consultants, and anyone else who wants to understand the elements of the zEnterprise System. For this introduction to the zEnterprise System, readers are not expected to be familiar with current IBM System z® technology and terminology.

IBM z14 (3906) Technical Guide - Octavian Lascu 2018-12-17
This IBM® Redbooks® publication describes the new member of the IBM Z® family, IBM z14TM. IBM z14 is the trusted enterprise platform for pervasive encryption, integrating data, transactions, and insights into the data. A data-centric infrastructure must always be available with a 99.999% or better availability, have flawless data integrity, and be secured from misuse. It also must be an integrated infrastructure that can support new applications. Finally, it must have integrated capabilities that can provide new mobile capabilities with real-time analytics that are delivered by a secure cloud infrastructure. IBM z14 servers are designed with improved scalability, performance, security, resiliency, availability, and virtualization. The superscalar design allows z14 servers to deliver a record level of capacity over the prior IBM Z platforms. In its maximum configuration, z14 is powered by up to 170 client characterizable microprocessors (cores) running at 5.2 GHz. This configuration can run more than 146,000 million instructions per second (MIPS) and up to 32 TB of client memory. The IBM z14 Model M05 is estimated to provide up to 35% more total system capacity than the IBM z13® Model NE1. This Redbooks publication provides information about IBM z14 and its functions, features, and associated software support. More information is offered in areas that are relevant to technical planning. It is intended for systems engineers, consultants, planners, and anyone who wants to understand the IBM Z servers functions and plan for their usage. It is intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM Z technology and terminology.

Digital System Design - Dawoud Shenouda Dawoud 2010-04-10
Today, embedded systems are widely deployed in just about every piece of machinery from toasters to spacecrafts, and embedded system designers face many challenges. They are asked to produce increasingly complex systems using the latest technologies, but these technologies are changing faster than ever. They are asked to produce better quality designs with a shorter time-to-market. They are asked to implement increasingly complex functionality but, more importantly, to satisfy numerous other constraints. To achieve these current goals, the designer must be aware of such design constraints and, more importantly, the factors that have a direct effect on them. One of the challenges facing embedded system designers is the selection of the optimum processor for the application in hand: single-purpose, general-purpose, or application specific. Microcontrollers are one member of the family of the application specific processors. Digital System Design concentrates on the use of a microcontroller as the embedded system's processor and how to use it in many embedded system applications. The book covers both the hardware and software aspects needed to design using microcontrollers and is ideal for undergraduate students and engineers that are working in the field of digital system design.

Pounder's Marine Diesel Engines and Gas Turbines - Malcolm Latarche 2020-12-01
Pounder's Marine Diesel Engines and Gas Turbines, Tenth Edition, gives engineering cadets, marine engineers, ship operators and managers insights into currently available engines and auxiliary equipment and trends for the future. This new edition introduces new engine models that will be most commonly installed in ships over the next decade, as well as the latest legislation and pollutant emissions procedures. Since publication of the last edition in 2009, a number of emission control areas (ECAs) have been established by the International Maritime Organization (IMO) in which exhaust emissions are subject to even more stringent controls. In addition, there are now rules that affect new ships and their emission of CO_2 measured as a product of cargo carried. Provides the latest emission control technologies, such as SCR and water

scrubbers Contains complete updates of legislation and pollutant emission procedures Includes the latest emission control technologies and expands upon remote monitoring and control of engines

IBM zEnterprise 114 Technical Guide - Bill White 2012-02-27 The popularity of the Internet and the affordability of IT hardware and software have resulted in an explosion of applications, architectures, and platforms. Workloads have changed. Many applications, including mission-critical ones, are deployed on a variety of platforms, and the System z® design has adapted to this change. It takes into account a wide range of factors, including compatibility and investment protection, to match the IT requirements of an enterprise. This IBM® Redbooks® publication discusses the IBM zEnterprise System, an IBM scalable mainframe server. IBM is taking a revolutionary approach by integrating separate platforms under the well-proven System z hardware management capabilities, while extending System z qualities of service to those platforms. The zEnterprise System consists of the IBM zEnterprise 114 central processor complex, the IBM zEnterprise Unified Resource Manager, and the IBM zEnterprise BladeCenter® Extension. The z114 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The z114 provides up to 18% improvement in uniprocessor speed and up to a 12% increase in total system capacity for z/OS®, z/VM®, and Linux on System z over the z10TM Business Class (BC). The zBX infrastructure works with the z114 to enhance System z virtualization and management through an integrated hardware platform that spans mainframe, POWER7TM, and System x technologies. The federated capacity from multiple architectures of the zEnterprise System is managed as a single pool of resources, integrating system and workload management across the environment through the Unified Resource Manager. This book provides an overview of the zEnterprise System and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. This book is intended for systems engineers, consultants, planners, and anyone wanting to understand the zEnterprise System functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM System z technology and terminology.

Building the Hyperconnected Society - Ovidiu Vermesan 2015-06-16 This book aims to provide a broad overview of various topics of Internet of Things (IoT), ranging from research, innovation and development priorities to enabling technologies, nanoelectronics, cyber-physical systems, architecture, interoperability and industrial applications. All this is happening in a global context, building towards intelligent, interconnected decision making as an essential driver for new growth and co-competition across a wider set of markets. It is intended to be a standalone book in a series that covers the Internet of Things activities of the IERC – Internet of Things European Research Cluster from research to technological innovation, validation and deployment. The book builds on the ideas put forward by the European Research Cluster on the Internet of Things Strategic Research and Innovation Agenda, and presents global views and state of the art results on the challenges facing the research, innovation, development and deployment of IoT in future years. The concept of IoT could disrupt consumer and industrial product markets generating new revenues and serving as a growth driver for semiconductor, networking equipment, and service provider end-markets globally. This will create new application and product end-markets, change the value chain of companies that creates the IoT technology and deploy it in various end sectors, while impacting the business models of semiconductor, software, device, communication and service provider stakeholders. The proliferation of intelligent devices at the edge of the network with the introduction of embedded software and app-driven hardware into manufactured devices, and the ability, through embedded software/hardware developments, to monetize those device functions and features by offering novel solutions, could generate completely new types of revenue streams. Intelligent and IoT devices leverage software, software licensing, entitlement management, and Internet connectivity in ways that address many of the societal challenges that we will face in the next decade.

Instrument Engineers' Handbook, Volume 3 - Bela G. Liptak 2016-04-19

Instrument Engineers' Handbook – Volume 3: Process Software and Digital Networks, Fourth Edition is the latest addition to an enduring collection that industrial automation (AT) professionals often refer to as the "bible." First published in 1970, the entire handbook is approximately 5,000 pages, designed as standalone volumes that cover the measurement (Volume 1), control (Volume 2), and software (Volume 3) aspects of automation. This fourth edition of the third volume provides an in-depth, state-of-the-art review of control software packages used in plant optimization, control, maintenance, and safety. Each updated volume of this renowned reference requires about ten years to prepare, so revised installments have been issued every decade, taking into account the numerous developments that occur from one publication to the next. Assessing the rapid evolution of automation and optimization in control systems used in all types of industrial plants, this book details the wired/wireless communications and software used. This includes the ever-increasing number of applications for intelligent instruments, enhanced networks, Internet use, virtual private networks, and integration of control systems with the main networks used by management, all of which operate in a linked global environment. Topics covered include: Advances in new displays, which help operators to more quickly assess and respond to plant conditions Software and networks that help monitor, control, and optimize industrial processes, to determine the efficiency, energy consumption, and profitability of operations Strategies to counteract changes in market conditions and energy and raw material costs Techniques to fortify the safety of plant operations and the security of digital communications systems This volume explores why the holistic approach to integrating process and enterprise networks is convenient and efficient, despite associated problems involving cyber and local network security, energy conservation, and other issues. It shows how firewalls must separate the business (IT) and the operation (automation technology, or AT) domains to guarantee the safe function of all industrial plants. This book illustrates how these concerns must be addressed using effective technical solutions and proper management policies and practices.

Reinforcing the fact that all industrial control systems are, in general, critically interdependent, this handbook provides a wide range of software application examples from industries including: automotive, mining, renewable energy, steel, dairy, pharmaceutical, mineral processing, oil, gas, electric power, utility, and nuclear power.

Dictionary of Acronyms and Technical Abbreviations - Jakob Vlietstra 2012-12-06
This Dictionary covers information and communication technology (ICT), including hardware and software; information networks, including the Internet and the World Wide Web; automatic control; and ICT-related computer-aided fields. The Dictionary also lists abbreviated names of relevant organizations, conferences, symposia and workshops. This reference is important for all practitioners and users in the areas mentioned above, and those who consult or write technical material. This Second Edition contains 10,000 new entries, for a total of 33,000.

IBM System Z10 Enterprise Class Technical Guide - IBM Redbooks 2009-01-01

Pressure Vessel Handbook - Eugene F. Megyesy 1977

Adobe PageMaker 7.0 - 2002
Showcases the computer graphics program's updated features while demonstrating fundamental and advanced Pagemaker concepts and displaying professionally designed projects.

Expert Clouds and Applications - I. Jeena Jacob 2021-07-15
This book features original papers from International Conference on Expert Clouds and Applications (ICOECA 2021), organized by GITAM School of Technology, Bangalore, India during February 18–19, 2021. It covers new research insights on artificial intelligence, big data, cloud computing, sustainability, and knowledge-based expert systems. The book discusses innovative research from all aspects including theoretical, practical, and experimental domains that pertain to the expert systems, sustainable clouds, and artificial intelligence technologies.

IBM z13s Technical Guide - Octavian Lascu 2016-11-10

Digital business has been driving the transformation of underlying information technology (IT) infrastructure to be more efficient, secure, adaptive, and integrated. IT must be able to handle the explosive growth of mobile clients and employees. It also must be able to process enormous amounts of data to provide deep and real-time insights to help achieve the greatest business impact. This IBM® Redbooks® publication addresses the new IBM z SystemsTM single frame, the IBM z13s server. IBM z Systems servers are the trusted enterprise platform for integrating data, transactions, and insight. A data-centric infrastructure must always be available with a 99.999% or better availability, have flawless data integrity, and be secured from misuse. It needs to be an integrated infrastructure that can support new applications. It also needs to have integrated capabilities that can provide new mobile capabilities with real-time analytics delivered by a secure cloud infrastructure. IBM z13s servers are designed with improved scalability, performance, security, resiliency, availability, and virtualization. The superscalar design allows z13s servers to deliver a record level of capacity over the prior single frame z Systems server. In its maximum configuration, the z13s server is powered by up to 20 client characterizable microprocessors (cores) running at 4.3 GHz. This configuration can run more than 18,000 millions of instructions per second (MIPS) and up to 4 TB of client memory. The IBM z13s Model N20 is estimated to provide up to 100% more total system capacity than the IBM zEnterprise® BC12 Model H13. This book provides information about the IBM z13s server and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. It is intended for systems engineers, consultants, planners, and anyone who wants to understand the IBM z SystemsTM functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM z Systems technology and terminology.

Programming with Java! - Tim Ritchey 1995
Introduces a programming language that can be used to create interactive content on the World Wide Web

Machine Learning and Big Data Analytics (Proceedings of International Conference on Machine Learning and Big Data Analytics (ICMLBDA) 2021) - Rajiv Misra 2021-09-29
This edited volume on machine learning and big data analytics (Proceedings of ICMLBDA 2021) is intended to be used as a reference book for researchers and practitioners in the disciplines of computer science, electronics and telecommunication, information science, and electrical engineering. Machine learning and Big data analytics represent a key ingredients in the industrial applications for new products and services. Big data analytics applies machine learning for predictions by examining large and varied data sets—i.e., big data—to uncover hidden patterns, unknown correlations, market trends, customer preferences, and other useful information that can help organizations make more informed business decisions.

Information Security - Ali Ismail Awad 2018
The book has two parts and contains fifteen chapters. First part discussed the theories and foundations of information security. Second part covers the technologies and application of security.

Special Purpose Computers - Berni J. Alder 2014-05-10
Special Purpose Computers describes special-purpose computers and compares them to general-purpose computers in terms of speed and cost. Examples of computers that were designed for the efficient solution of long established algorithms are given, including Navier-Stokes hydrodynamic solvers, classical molecular dynamic machines, and Ising model computers. Comprised of seven chapters, this volume begins by documenting the progress of the CalTech Concurrent Computation Program and its evolution from computational high-energy physics to a supercomputer initiative, with emphasis on the lessons learned including computer architecture issues and the trade-offs between in-house and commercial development. The reader is then introduced to the QCD Machine, a special-purpose parallel supercomputer that was designed and built to solve the lattice quantum chromodynamics problem. Subsequent chapters focus on the Geometry-Defining Processors and their application to the solution of partial differential equations; the

Navier-Stokes computer; parallel processing using the Loosely Coupled Array of Processors (LCAP) system; and the Delft Ising system processor. The design and implementation of the Delft molecular-dynamics processor are also described. This book will be of interest to computer engineers and designers.

Machine Learning for Predictive Analysis - Amit Joshi 2020-10-22
This book gathers papers addressing state-of-the-art research in the areas of machine learning and predictive analysis, presented virtually at the Fourth International Conference on Information and Communication Technology for Intelligent Systems (ICTIS 2020), India. It covers topics such as intelligent agent and multi-agent systems in various domains, machine learning, intelligent information retrieval and business intelligence, intelligent information system development using design science principles, intelligent web mining and knowledge discovery systems.

Department of Defense Dictionary of Military and Associated Terms - United States. Joint Chiefs of Staff 1994

Introduction to Field Methods for Hydrologic and Environmental Studies - Robert R. Holmes 2001

U.S. Navy Program Guide - 2017 - Department Of the Navy 2019-03-12
The U.S. Navy is ready to execute the Nation's tasks at sea, from prompt and sustained combat operations to every-day forward-presence, diplomacy and relief efforts. We operate worldwide, in space, cyberspace, and throughout the maritime domain. The United States is and will remain a maritime nation, and our security and prosperity are inextricably linked to our ability to operate naval forces on, under and above the seas and oceans of the world. To that end, the Navy executes programs that enable our Sailors, Marines, civilians, and forces to meet existing and emerging challenges at sea with confidence. Six priorities guide today's planning, programming, and budgeting decisions: (1) maintain a credible, modern, and survivable sea based strategic

deterrent; (2) sustain forward presence, distributed globally in places that matter; (3) develop the capability and capacity to win decisively; (4) focus on critical afloat and ashore readiness to ensure the Navy is adequately funded and ready; (5) enhance the Navy's asymmetric capabilities in the physical domains as well as in cyberspace and the electromagnetic spectrum; and (6) sustain a relevant industrial base, particularly in shipbuilding.

Body Area Networks: Smart IoT and Big Data for Intelligent Health Management - Lorenzo Mucchi 2019-11-15
This book constitutes the refereed post-conference proceedings of the 14th EAI International Conference on Body Area Networks, BodyNets 2019, held in Florence, Italy, in October 2019. The 27 papers presented were selected from 54 submissions and issue new technologies to provide trustable measuring and communications mechanisms from the data source to medical health databases. Wireless body area networks (WBAN) are one major element in this process. Not only on-body devices but also technologies providing information from inside a body are in the focus of this conference. Dependable communications combined with accurate localization and behavior analysis will benefit WBAN technology and make the healthcare processes more effective.

CorelDRAW Keyboard Shortcuts - U C-Abel Books 2017-02-19
Create, edit, manipulate, and export images the right way. Increase the productivity, accuracy, and efficiency level of your operation in CorelDraw to an unimaginable height. Grab the all-in-one knowledge of CorelDraw through the use of keyboard shortcuts, tips, techniques, and illustrations used in this step by step guide. The things this book has in stock for you are: Fundamental Knowledge of Keyboard Shortcuts: Definition of Computer Keyboard, Ways To Improve In Your Typing Skill, Mouse, Definition Of Keyboard Shortcuts, Why You Should Use Shortcuts, Ways To Become A Lover Of Shortcuts, How To Learn New Shortcut Keys, Your Reward For Knowing Shortcut Keys, Why We Emphasize On The Use of Shortcuts. 15 (Fifteen) Special Keyboard Shortcuts. Tips, Tricks, Techniques, and Keyboard Shortcuts for use in CorelDraw *Vectorization: Convert to Vector Images with PowerTRACE,

A Primer on Vectorization with PowerTRACE, Before You Begin Converting Your Image, Tracing an Exported Bitmap to Vector, Tracing a Scanned Bitmap to Vector. *Customize CorelDRAW Graphics Suite to Fit Your Workflow. *What Makes a Workspace a Workspace? *Switching Between Workspaces: Customizing Toolbars Interactively, Customizing Shortcut Keys, Saving Your Workspace, Exporting Your Workspace. *Setting Document Defaults: Restoring Your Workspace to Factory Defaults. *Improving the Color of Dull Photos. *Keyboard Shortcuts for use in CorelDraw. Allow this book to show you how to use the impressively organized features of CorelDraw to create eye catching marketing materials and lots more

Smart Trends in Computing and Communications - Yu-Dong Zhang 2021
This book gathers high-quality papers presented at the Fifth International Conference on Smart Trends in Computing and Communications (SmartCom 2021), organized by Global Knowledge Research Foundation (GR Foundation) from March 2 3, 2021. It covers the state of the art and emerging topics in information, computer communications, and effective strategies for their use in engineering and managerial applications. It also explores and discusses the latest technological advances in, and future directions for, information and knowledge computing and its applications.

Advanced Informatics for Computing Research - Ashish Kumar Luhach 2019-09-16
This two-volume set (CCIS 1075 and CCIS 1076) constitutes the refereed proceedings of the Third International Conference on Advanced Informatics for Computing Research, ICAICR 2019, held in Shimla, India, in June 2019. The 78 revised full papers presented were carefully reviewed and selected from 382 submissions. The papers are organized in topical sections on computing methodologies; hardware; information systems; networks; software and its engineering.

Phase Transformations in Materials - G. Kostorz 2001-10-25
For all kinds of materials, phase transformations show common phenomena and mechanisms, and often turn a material, for example metals, multiphase alloys, ceramics or composites, into its technological

useful form. The physics and thermodynamics of a transformation from the solid to liquid state or from one crystal form to another are therefore essential for creating high-performance materials. This handbook covers phase transformations, a general phenomenon central to understanding the behavior of materials and for creating high-performance materials. It will be an essential reference for all materials scientists, physicists and engineers involved in the research and development of new high performance materials. It is the revised and enhanced edition of the renowned book edited by the late P. Haasen in 1990 (Vol. 5, Materials Science and Technology).

Machine Learning by Tutorials (Second Edition) - raywenderlich Tutorial Team 2020-05-19
Learn Machine Learning!Machine learning is one of those topics that can be daunting at first blush. It's not clear where to start, what path someone should take and what APIs to learn in order to get started teaching machines how to learn.This is where Machine Learning by Tutorials comes in! In this book, we'll hold your hand through a number of tutorials, to get you started in the world of machine learning. We'll cover a wide range of popular topics in the field of machine learning, while developing apps that work on iOS devices.Who This Book Is ForThis books is for the intermediate iOS developer who already knows the basics of iOS and Swift development, but wants to understand how machine learning works.Topics covered in Machine Learning by TutorialsCoreML: Learn how to add a machine learning model to your iOS apps, and how to use iOS APIs to access it.Create ML: Learn how to create your own model using Apple's Create ML Tool.Turi Create and Keras: Learn how to tune parameters to improve your machine learning model using more advanced tools.Image Classification: Learn how to apply machine learning models to predict objects in an image.Convolutional Networks: Learn advanced machine learning techniques for predicting objects in an image with Convolutional Neural Networks (CNNs).Sequence Classification: Learn how you can use recurrent neural networks (RNNs) to classify motion from an iPhone's motion sensor.Text-to-text Transform: Learn how to use machine

learning to convert bodies of text between two languages.By the end of this book, you'll have a firm understanding of what machine learning is, what it can and cannot do, and how you can use machine learning in your next app!

IBM zEnterprise 196 Technical Guide - Bill White 2012-03-19
The popularity of the Internet and the affordability of IT hardware and software have resulted in an explosion of applications, architectures, and platforms. Workloads have changed. Many applications, including mission-critical ones, are deployed on a variety of platforms, and the System z® design has adapted to this change. It takes into account a wide range of factors, including compatibility and investment protection, to match the IT requirements of an enterprise. The zEnterprise System consists of the IBM zEnterprise 196 central processor complex, the IBM zEnterprise Unified Resource Manager, and the IBM zEnterprise BladeCenter® Extension. The z196 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The z196 Model M80 provides up to 1.6 times the total system capacity of the z10TM EC Model E64, and all z196 models provide up to twice the available memory of the z10 EC. The zBX infrastructure works with the z196 to enhance System z virtualization and management through an integrated hardware platform that spans mainframe, POWER7TM, and System x® technologies. Through the Unified Resource Manager, the zEnterprise System is managed as a single pool of resources, integrating system and workload management across the environment. This IBM® Redbooks® publication provides an overview of the zEnterprise System and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. This book is intended for systems engineers, consultants, planners, and anyone wanting to understand the zEnterprise System functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM System z technology and terminology. The changes to this edition are based on the System z hardware announcement dated July 12, 2011.

Reflow Soldering Processes - Ning-Cheng Lee 2002-01-11
Focused on technological innovations in the field of electronics packaging and production, this book elucidates the changes in reflow soldering processes, its impact on defect mechanisms, and, accordingly, the troubleshooting techniques during these processes in a variety of board types. Geared toward electronics manufacturing process engineers, design engineers, as well as students in process engineering classes, Reflow Soldering Processes and Troubleshooting will be a strong contender in the continuing skill development market for manufacturing personnel. Written using a very practical, hands-on approach, Reflow Soldering Processes and Troubleshooting provides the means for engineers to increase their understanding of the principles of soldering, flux, and solder paste technology. The author facilitates learning about other essential topics, such as area array packages--including BGA, CSP, and FC designs, bumping technique, assembly, and rework process,--and provides an increased understanding of the reliability failure modes of soldered SMT components. With cost effectiveness foremost in mind, this book is designed to troubleshoot errors or problems before boards go into the manufacturing process, saving time and money on the front end. The author's vast expertise and knowledge ensure that coverage of topics is expertly researched, written, and organized to best meet the needs of manufacturing process engineers, students, practitioners, and anyone with a desire to learn more about reflow soldering processes. Comprehensive and indispensable, this book will prove a perfect training and reference tool that readers will find invaluable. Provides engineers the cutting-edge technology in a rapidly changing field Offers in-depth coverage of the principles of soldering, flux, solder paste technology, area array packages--including BGA, CSP, and FC designs, bumping technique, assembly, and the rework process

The Internet of Things - Pethuru Raj 2017-02-24
As more and more devices become interconnected through the Internet of Things (IoT), there is an even greater need for this book,which explains the technology, the internetworking, and applications that are making IoT an everyday reality. The book begins with a discussion of IoT "ecosystems" and the technology that enables them, which includes:

Wireless Infrastructure and Service Discovery Protocols Integration Technologies and Tools Application and Analytics Enablement Platforms A chapter on next-generation cloud infrastructure explains hosting IoT platforms and applications. A chapter on data analytics throws light on IoT data collection, storage, translation, real-time processing, mining, and analysis, all of which can yield actionable insights from the data collected by IoT applications. There is also a chapter on edge/fog computing. The second half of the book presents various IoT ecosystem use cases. One chapter discusses smart airports and highlights the role of IoT integration. It explains how mobile devices, mobile technology, wearables, RFID sensors, and beacons work together as the core technologies of a smart airport. Integrating these components into the airport ecosystem is examined in detail, and use cases and real-life examples illustrate this IoT ecosystem in operation. Another in-depth look is on envisioning smart healthcare systems in a connected world. This chapter focuses on the requirements, promising applications, and roles of cloud computing and data analytics. The book also examines smart homes, smart cities, and smart governments. The book concludes with a chapter on IoT security and privacy. This chapter examines the emerging security and privacy requirements of IoT environments. The security issues and an assortment of surmounting techniques and best practices are also discussed in this chapter.

IBM z13 Technical Guide - Octavian Lascu 2016-11-11
Digital business has been driving the transformation of underlying IT infrastructure to be more efficient, secure, adaptive, and integrated. Information Technology (IT) must be able to handle the explosive growth of mobile clients and employees. IT also must be able to use enormous amounts of data to provide deep and real-time insights to help achieve the greatest business impact. This IBM® Redbooks® publication addresses the IBM Mainframe, the IBM z13TM. The IBM z13 is the trusted enterprise platform for integrating data, transactions, and insight. A data-centric infrastructure must always be available with a 99.999% or better availability, have flawless data integrity, and be secured from misuse. It needs to be an integrated infrastructure that can support new applications. It needs to have integrated capabilities that can provide new mobile capabilities with real-time analytics delivered by a secure cloud infrastructure. IBM z13 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The superscalar design allows the z13 to deliver a record level of capacity over the prior IBM z SystemsTM. In its maximum configuration, z13 is powered by up to 141 client characterizable microprocessors (cores) running at 5 GHz. This configuration can run more than 110,000 millions of instructions per second (MIPS) and up to 10 TB of client memory. The IBM z13 Model NE1 is estimated to provide up to 40% more total system capacity than the IBM zEnterprise® EC12 (zEC1) Model HA1. This book provides information about the IBM z13 and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. It is intended for systems engineers, consultants, planners, and anyone who wants to understand the IBM z Systems functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM z Systems technology and terminology.

Modern Data Science with R - Benjamin S. Baumer 2021-03-31
From a review of the first edition: "Modern Data Science with R... is rich with examples and is guided by a strong narrative voice. What's more, it presents an organizing framework that makes a convincing argument that data science is a course distinct from applied statistics" (The American Statistician). Modern Data Science with R is a comprehensive data science textbook for undergraduates that incorporates statistical and computational thinking to solve real-world data problems. Rather than focus exclusively on case studies or programming syntax, this book illustrates how statistical programming in the state-of-the-art R/RStudio computing environment can be leveraged to extract meaningful information from a variety of data in the service of addressing compelling questions. The second edition is updated to reflect the growing influence of the tidyverse set of packages. All code in the book has been revised and styled to be more readable and easier to understand. New

functionality from packages like sf, purrr, tidymodels, and tidytext is now integrated into the text. All chapters have been revised, and several have been split, re-organized, or re-imagined to meet the shifting landscape of best practice.

The Robot Builder's Bonanza - Gordon McComb 2001
A major revision of the bestselling "bible" of amateur robotics building--packed with the latest in servo motor technology, microcontrolled robots, remote control, Lego Mindstorms Kits, and other commercial kits. Gives electronics hobbyists fully illustrated plans for 11 complete Robots, as well as all-new coverage of Robotix-based Robots, Lego Technic-based Robots, Functionoids with Lego Mindstorms, and Location and Motorized Systems with Servo Motors.Features a pictures and parts list that accompany all projects, and material on using the BASIC Stamp and other microcontrollers.

Vasculopathies - Marc Thiriet 2019-02-18
This volume presents one of the clinical foundations of vasculopathies: the biological markers and risk factors associated with cardiovascular disease. A detailed biological and clinical framework is provided as a prerequisite for adequate modeling. Chapter 1 presents cardiovascular risk factors and markers, where the search for new criteria is aimed at improving early detection of chronic diseases. The subsequent chapters focus on hypertension, which involves the kidney among other organs as well as many agents, hyperglycemia and diabetes, hyperlipidemias and obesity, and behavior. The last of these risk factors includes altered circadian rhythm, tobacco and alcohol consumption, physical inactivity, and diet. The volumes in this series present all of the data needed at various length scales for a multidisciplinary approach to modeling and simulation of flows in the cardiovascular and ventilatory systems, especially multiscale modeling and coupled simulations. The cardiovascular and respiratory systems are tightly coupled, as their primary function is to supply oxygen to and remove carbon dioxide from the body's cells. Because physiological conduits have deformable and reactive walls, macroscopic flow behavior and prediction must be coupled to nano- and microscopic events in a corrector scheme of

regulated mechanisms. Therefore, investigation of flows of blood and air in anatomical conduits requires an understanding of the biology, chemistry, and physics of these systems together with the mathematical tools to describe their functioning in quantitative terms.

IBM zEnterprise EC12 Technical Guide - Octavian Lascu 2015-03-04
The popularity of the Internet and the affordability of IT hardware and software have resulted in an explosion of applications, architectures, and platforms. Workloads have changed. Many applications, including mission-critical ones, are deployed on various platforms, and the IBM® System z® design has adapted to this change. It takes into account a wide range of factors, including compatibility and investment protection, to match the IT requirements of an enterprise. This IBM Redbooks® publication addresses the new IBM zEnterprise® System. This system consists of the IBM zEnterprise EC12 (zEC12), an updated IBM zEnterprise Unified Resource Manager, and the IBM zEnterprise BladeCenter® Extension (zBX) Model 003. The zEC12 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The superscalar design allows the zEC12 to deliver a record level of capacity over the prior System z servers. It is powered by 120 of the world's most powerful microprocessors. These microprocessors run at 5.5 GHz and are capable of running more than 75,000 millions of instructions per second (MIPS). The zEC12 Model HA1 is estimated to provide up to 50% more total system capacity than the IBM zEnterprise 196 (z196) Model M80. The zBX Model 003 infrastructure works with the zEC12 to enhance System z virtualization and management. It does so through an integrated hardware platform that spans mainframe, IBM POWER7®, and IBM System x® technologies. Through the Unified Resource Manager, the zEnterprise System is managed as a single pool of resources, integrating system and workload management across the environment. This book provides information about the zEnterprise System and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. It is intended for systems engineers, consultants, planners, and anyone who wants to understand the zEnterprise System

functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM System z® technology and terminology.

Information and Communication Technology for Intelligent Systems - Tomonobu Senjyu 2020-10-29
This book gathers papers addressing state-of-the-art research in all areas of information and communication technologies and their applications in intelligent computing, cloud storage, data mining and software analysis. It presents the outcomes of the Fourth International Conference on Information and Communication Technology for Intelligent Systems, which was held in Ahmedabad, India. Divided into two volumes, the book discusses the fundamentals of various data analysis techniques and algorithms, making it a valuable resource for researchers and practitioners alike.

Integrating Engineering Education and Humanities for Global Intercultural Perspectives - Zhanna Anikina 2020-05-06
This book presents papers from the International Conference on Integrating Engineering Education and Humanities for Global Intercultural Perspectives (IEEHGIP 2020), held on 25–27 March 2020. The conference brought together researchers and practitioners from various disciplines within engineering and humanities to offer a range of perspectives. Focusing on, but not limited to, Content and Language Integrated Learning (CLIL) in Russian education the book will appeal to a wide academic audience seeking ways to initiate positive changes in education.