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KEY=UML - JOSIE ANNABEL

Linkers and Loaders Morgan Kaufmann "I enjoyed reading this useful overview of the techniques and challenges of implementing linkers and loaders. While most of the examples are focused on three computer architectures that are widely used today, there are also many side comments about interesting and quirky computer architectures of the past. I can tell from these war stories that the author really has been there himself and survived to tell the tale." -Guy Steele Whatever your programming language, whatever your platform, you probably tap into linker and loader functions all the time. But do you know how to use them to their greatest possible advantage? Only now, with the publication of **Linkers & Loaders**, is there an authoritative book devoted entirely to these deep-seated compile-time and run-time processes. The book begins with a detailed and comparative account of linking and loading that illustrates the differences among various compilers and operating systems. On top of this foundation, the author presents clear practical advice to help you create faster, cleaner code. You'll learn to avoid the pitfalls associated with Windows DLLs, take advantage of the space-saving, performance-improving techniques supported by many modern linkers, make the best use of the UNIX ELF library scheme, and much more. If you're serious about programming, you'll devour this unique guide to one of the field's least understood topics. **Linkers & Loaders** is also an ideal supplementary text for compiler and operating systems courses. Features: * Includes a linker construction project written in Perl, with project files available for download. * Covers dynamic linking in Windows, UNIX, Linux, BeOS, and other operating systems. * Explains the Java linking model and how it figures in network applets and extensible Java code. * Helps you write more elegant and effective code, and build applications that compile, load, and run more efficiently.

Understanding UML The Developer's Guide Morgan Kaufmann "...(an) exceptionally balanced and informative text." --Rich Dragan The Unified Modeling Language (UML) is a third generation method for specifying, visualizing, and documenting an object-oriented system under development. It unifies the three leading object-oriented methods and others to serve as the basis for a common, stable, and expressive object-oriented development notation. As the complexity of software applications increases, so does the developer's need to design and analyze applications before developing them. This practical introduction to UML provides software developers with an overview of this powerful new design notation, and teaches Java programmers to analyse and design object-oriented applications using the UML notation. + Apply the basics of UML to your applications immediately, without having to wade through voluminous documentation + Use the simple Internet example as a prototype for developing object-oriented applications of your own + Follow a real example of an Intranet sales reporting system written in Java that is used to drive explanations throughout the book + Learn from an example application modeled both by hand and with the use of Popkin Software's SA/Object Architect O-O visual modeling tool. From COBOL to OOP Morgan Kaufmann Programming as an engineering discipline -- Basics -- Data structures and algorithms -- True object-oriented programming -- Object-oriented programming -- Databases -- Graphical user interfaces -- COBOL to OOP in practice. **Modeling Business Objects with XML Schema Elsevier XML Schema** is the new language standard from the W3C and the new foundation for defining data in Web-based systems. There is a wealth of information available about Schemas but very little understanding of how to use this highly formal specification for creating documents. Grasping the power of Schemas means going back to the basics of documents themselves, and the semantic rules, or grammars, that define them. Written for schema designers, system architects, programmers, and document authors, **Modeling Business Objects with XML Schema** guides you through understanding Schemas from the basic concepts, type systems, type derivation, inheritance, namespace handling, through advanced concepts in schema design. *Reviews basic XML syntax and the Schema recommendation in detail. *Builds a knowledge base model step by step (about jazz music) that is used throughout the book. *Discusses Schema design in large environments, best practice design patterns, and Schema's relation to object-oriented concepts. Design

Methods for Reactive Systems Yourdon, Statemate, and the UML Elsevier Design Methods for Reactive Systems describes methods and techniques for the design of software systems—particularly reactive software systems that engage in stimulus-response behavior. Such systems, which include information systems, workflow management systems, systems for e-commerce, production control systems, and embedded software, increasingly embody design aspects previously considered alone—such as complex information processing, non-trivial behavior, and communication between different components—aspects traditionally treated separately by classic software design methodologies. But, as this book illustrates, the software designer is better served by the ability to intelligently pick and choose from among a variety of techniques according to the particular demands and properties of the system under development. Design Methods for Reactive Systems helps the software designer meet today's increasingly complex challenges by bringing together specification techniques and guidelines proven useful in the design of a wide range of software systems, allowing the designer to evaluate and adapt different techniques for different projects. Written in an exceptionally clear and insightful style, Design Methods for Reactive Systems is a book that students, engineers, teachers, and researchers will undoubtedly find of great value. Shows how the techniques and design approaches of the three most popular design methods can be combined in a flexible, problem-driven manner. Pedagogical features include summaries, rehearsal questions, exercises, discussion questions, and numerous case studies. Unit Testing in Java How Tests Drive the Code Morgan Kaufmann Software testing is indispensable and is one of the most discussed topics in software development today. Many companies address this issue by assigning a dedicated software testing phase towards the end of their development cycle. However, quality cannot be tested into a buggy application. Early and continuous unit testing has been shown to be crucial for high quality software and low defect rates. Yet current books on testing ignore the developer's point of view and give little guidance on how to bring the overwhelming amount of testing theory into practice. Unit Testing in Java represents a practical introduction to unit testing for software developers. It introduces the basic test-first approach and then discusses a large number of special issues and problem cases. The book instructs developers through each step and motivates them to explore further. Shows how the discovery and avoidance of software errors is a demanding and creative activity in its own right and can build confidence early in a project. Demonstrates how automated tests can detect the unwanted effects of small changes in code within the entire system. Discusses how testing works with persistency, concurrency, distribution, and web applications. Includes a discussion of testing with C++ and Smalltalk. Object-oriented Reengineering Patterns Lulu.com Object-Oriented Reengineering Patterns collects and distills successful techniques in planning a reengineering project, reverse-engineering, problem detection, migration strategies and software redesign. This book is made available under the Creative Commons Attribution-ShareAlike 3.0 license. You can either download the PDF for free, or you can buy a softcover copy from lulu.com. Additional material is available from the book's web page at <http://scg.unibe.ch/oorp> Object-Oriented Implementation of Numerical Methods An Introduction with Java & Smalltalk Morgan Kaufmann "There are few books that show how to build programs of any kind. One common theme is compiler building, and there are shelves full of them. There are few others. It's an area, or a void, that needs filling. this book does a great job of showing how to build numerical analysis programs." -David N. Smith, IBM T J Watson Research Center Numerical methods naturally lend themselves to an object-oriented approach. Mathematics builds high-level ideas on top of previously described, simpler ones. Once a property is demonstrated for a given concept, it can be applied to any new concept sharing the same premise as the original one, similar to the ideas of reuse and inheritance in object-oriented (OO) methodology. Few books on numerical methods teach developers much about designing and building good code. Good computing routines are problem-specific. Insight and understanding are what is needed, rather than just recipes and black box routines. Developers need the ability to construct new programs for different applications. Object-Oriented Implementation of Numerical Methods reveals a complete OO design methodology in a clear and systematic way. Each method is presented in a consistent format, beginning with a short explanation and following with a description of the general OO architecture for the algorithm. Next, the code implementations are discussed and presented along with real-world examples that the author, an experienced software engineer, has used in a variety of commercial applications. Features: Reveals the design methodology behind the code, including design patterns where appropriate, rather than just presenting canned solutions. Implements all methods side by side in both Java and Smalltalk. This contrast can significantly enhance your understanding of the nature of OO programming languages. Provides a step-by-step pathway to new object-oriented techniques for programmers familiar with using procedural languages such as C or Fortran for numerical methods. Includes a chapter on data mining, a key application of numerical methods. Disappearing Cryptography Information Hiding : Steganography & Watermarking Morgan Kaufmann The bestselling first edition of "Disappearing Cryptography" was known as the best introduction to information hiding. This fully revised and expanded second edition describes a number of different techniques that people can use to hide information, such as encryption. ARM System Developer's Guide Designing and Optimizing System Software Elsevier Over the last ten years, the ARM architecture has become one of the most pervasive architectures in the world, with more than 2 billion ARM-based processors embedded in products ranging from cell phones to automotive braking systems. A world-wide community of ARM developers in semiconductor and product design companies includes software developers, system designers and hardware engineers. To date no book has directly addressed their need to develop the system and software for an ARM-based system. This text fills that gap. This book provides a comprehensive description of the operation of the ARM core from a developer's perspective with a clear emphasis on software. It demonstrates not only how to write efficient ARM software in C and assembly but also how to optimize code. Example code throughout the book can be integrated into commercial products or used as templates to enable quick creation of productive software. The book covers both the ARM and Thumb instruction sets, covers

Intel's XScale Processors, outlines distinctions among the versions of the ARM architecture, demonstrates how to implement DSP algorithms, explains exception and interrupt handling, describes the cache technologies that surround the ARM cores as well as the most efficient memory management techniques. A final chapter looks forward to the future of the ARM architecture considering ARMv6, the latest change to the instruction set, which has been designed to improve the DSP and media processing capabilities of the architecture. * No other book describes the ARM core from a system and software perspective. * Author team combines extensive ARM software engineering experience with an in-depth knowledge of ARM developer needs. * Practical, executable code is fully explained in the book and available on the publisher's Website. * Includes a simple embedded operating system. Artificial Intelligence & Software Engineering Intellect Books Aimed at the computer-literate person wishing to find out about the reality of exploiting the promise of artificial intelligence (AI) in practical, maintainable software systems, this text tries to avoid the hype usually associated with the subject. Instead, it presents the realities, the problems, the current state of the art, and future directions. Object-oriented Reengineering Patterns Morgan Kaufmann A guide on how to reverse engineer legacy systems to understand their problems, and then reengineer those systems to meet new demands. It uses patterns to clarify and explain the process of understanding large code bases, hence transforming them to meet new requirements. Programming with Quartz 2D and PDF Graphics in Mac OS X Elsevier Written by members of the development team at Apple, Programming with Quartz is the first book to describe the sophisticated graphics system of Mac OS X. By using the methods described in this book, developers will be able to fully exploit the state-of-the-art graphics capabilities of Mac OS X in their applications, whether for Cocoa or Carbon development. This book also serves as an introduction to 2D graphics concepts, including how images are drawn and how color is rendered. It includes guidance for working with PDF documents, drawing bitmap graphics, using Quartz built-in color management, and drawing text. Programming with Quartz is a rich resource for new and experienced Mac OS X developers, Cocoa and Carbon programmers, UNIX developers who are migrating to Mac OS X, and anyone interested in powerful 2D graphics systems. This is the definitive guide to the revolutionary graphics system of Mac OS X that uses the Portable Document Format (PDF) as the basis of its imaging model It contains the latest on programming with Quartz for Mac OS X version 10.4 Carefully crafted and extensive code examples show how to accomplish most of the drawing tasks possible with Quartz Globus® Toolkit 4 Programming Java Services Elsevier The Globus Toolkit is a key technology in Grid Computing, the exciting new computing paradigm that allows users to share processing power, data, storage, and other computing resources across institutional and geographic boundaries. Globus Toolkit 4: Programming Java Services provides an introduction to the latest version of this widely acclaimed toolkit. Based on the popular web-based The Globus Toolkit 4 Programmer's Tutorial, this book far surpasses that document, providing greater detail, quick reference appendices, and many additional examples. If you're making the leap into Grid Computing using the Globus Toolkit, you'll want Globus Toolkit 4: Programming Java Services at your side as you take your first steps. Written for newcomers to Globus Toolkit, but filled with useful information for experienced users. Clearly situates Globus application development within the context of Web Services and evolving Grid standards. Provides detailed coverage of Web Services programming with the Globus Toolkit's Java WS Core component. Covers basic aspects of developing secure services using the Grid Security Infrastructure (GSI). Uses simple, didactic examples throughout the book, but also includes a more elaborate example, the FileBuy application, that showcases common design patterns found in Globus applications. Concludes with useful reference appendices. Rethinking Productivity in Software Engineering Apress Get the most out of this foundational reference and improve the productivity of your software teams. This open access book collects the wisdom of the 2017 "Dagstuhl" seminar on productivity in software engineering, a meeting of community leaders, who came together with the goal of rethinking traditional definitions and measures of productivity. The results of their work, Rethinking Productivity in Software Engineering, includes chapters covering definitions and core concepts related to productivity, guidelines for measuring productivity in specific contexts, best practices and pitfalls, and theories and open questions on productivity. You'll benefit from the many short chapters, each offering a focused discussion on one aspect of productivity in software engineering. Readers in many fields and industries will benefit from their collected work. Developers wanting to improve their personal productivity, will learn effective strategies for overcoming common issues that interfere with progress. Organizations thinking about building internal programs for measuring productivity of programmers and teams will learn best practices from industry and researchers in measuring productivity. And researchers can leverage the conceptual frameworks and rich body of literature in the book to effectively pursue new research directions. What You'll Learn Review the definitions and dimensions of software productivity See how time management is having the opposite of the intended effect Develop valuable dashboards Understand the impact of sensors on productivity Avoid software development waste Work with human-centered methods to measure productivity Look at the intersection of neuroscience and productivity Manage interruptions and context-switching Who Book Is For Industry developers and those responsible for seminar-style courses that include a segment on software developer productivity. Chapters are written for a generalist audience, without excessive use of technical terminology. Advances in Computers Academic Press Advances in Computers Geometric Tools for Computer Graphics Elsevier Do you spend too much time creating the building blocks of your graphics applications or finding and correcting errors? Geometric Tools for Computer Graphics is an extensive, conveniently organized collection of proven solutions to fundamental problems that you'd rather not solve over and over again, including building primitives, distance calculation, approximation, containment, decomposition, intersection determination, separation, and more. If you have a mathematics degree, this book will save you time and trouble. If you don't, it will help you achieve things you may feel are out of your reach. Inside, each problem is clearly stated and diagrammed, and the fully detailed solutions are presented in easy-to-understand pseudocode.

You also get the mathematics and geometry background needed to make optimal use of the solutions, as well as an abundance of reference material contained in a series of appendices. Features Filled with robust, thoroughly tested solutions that will save you time and help you avoid costly errors. Covers problems relevant for both 2D and 3D graphics programming. Presents each problem and solution in stand-alone form allowing you the option of reading only those entries that matter to you. Provides the math and geometry background you need to understand the solutions and put them to work. Clearly diagrams each problem and presents solutions in easy-to-understand pseudocode. Resources associated with the book are available at the companion Web site www.mkp.com/gtcg. * Filled with robust, thoroughly tested solutions that will save you time and help you avoid costly errors. * Covers problems relevant for both 2D and 3D graphics programming. * Presents each problem and solution in stand-alone form allowing you the option of reading only those entries that matter to you. * Provides the math and geometry background you need to understand the solutions and put them to work. * Clearly diagrams each problem and presents solutions in easy-to-understand pseudocode. * Resources associated with the book are available at the companion Web site www.mkp.com/gtcg. Engineering Embedded Systems Physics, Programs, Circuits Springer This is a textbook for graduate and final-year-undergraduate computer-science and electrical-engineering students interested in the hardware and software aspects of embedded and cyberphysical systems design. It is comprehensive and self-contained, covering everything from the basics to case-study implementation. Emphasis is placed on the physical nature of the problem domain and of the devices used. The reader is assumed to be familiar on a theoretical level with mathematical tools like ordinary differential equation and Fourier transforms. In this book these tools will be put to practical use. Engineering Embedded Systems begins by addressing basic material on signals and systems, before introducing to electronics. Treatment of digital electronics accentuating synchronous circuits and including high-speed effects proceeds to micro-controllers, digital signal processors and programmable logic. Peripheral units and decentralized networks are given due weight. The properties of analog circuits and devices like filters and data converters are covered to the extent desirable by a systems architect. The handling of individual elements concludes with power supplies including regulators and converters. The final section of the text is composed of four case studies: • electric-drive control, permanent magnet synchronous motors in particular; • lock-in amplification with measurement circuits for weight and torque, and moisture; • design of a simple continuous wave radar that can be operated to measure speed and distance; and • design of a Fourier transform infrared spectrometer for process applications. End-of-chapter exercises will assist the student to assimilate the tutorial material and these are supplemented by a downloadable solutions manual for instructors. The “pen-and-paper” problems are further augmented with laboratory activities. In addition to its student market, Engineering Embedded Systems will assist industrial practitioners working in systems architecture and the design of electronic measurement systems to keep up to date with developments in embedded systems through self study. GPU Computing Gems Elsevier "Since the introduction of CUDA in 2007, more than 100 million computers with CUDA capable GPUs have been shipped to end users. GPU computing application developers can now expect their application to have a mass market. With the introduction of OpenCL in 2010, researchers can now expect to develop GPU applications that can run on hardware from multiple vendors"-- Concepts, Techniques, and Models of Computer Programming MIT Press Teaching the science and the technology of programming as a unified discipline that shows the deep relationships between programming paradigms. This innovative text presents computer programming as a unified discipline in a way that is both practical and scientifically sound. The book focuses on techniques of lasting value and explains them precisely in terms of a simple abstract machine. The book presents all major programming paradigms in a uniform framework that shows their deep relationships and how and where to use them together. After an introduction to programming concepts, the book presents both well-known and lesser-known computation models ("programming paradigms"). Each model has its own set of techniques and each is included on the basis of its usefulness in practice. The general models include declarative programming, declarative concurrency, message-passing concurrency, explicit state, object-oriented programming, shared-state concurrency, and relational programming. Specialized models include graphical user interface programming, distributed programming, and constraint programming. Each model is based on its kernel language—a simple core language that consists of a small number of programmer-significant elements. The kernel languages are introduced progressively, adding concepts one by one, thus showing the deep relationships between different models. The kernel languages are defined precisely in terms of a simple abstract machine. Because a wide variety of languages and programming paradigms can be modeled by a small set of closely related kernel languages, this approach allows programmer and student to grasp the underlying unity of programming. The book has many program fragments and exercises, all of which can be run on the Mozart Programming System, an Open Source software package that features an interactive incremental development environment. Tcl/Tk A Developer's Guide Morgan Kaufmann In just a few chapters you will learn about Tcl features that allow you to isolate and protect your code from being damaged in large applications. You will even learn how to extend the language itself. Tcl/Tk: A Developer's Guide clearly discusses development tools, proven techniques, and existing extensions. It shows how to use Tcl/Tk effectively and provides many code examples. This fully revised new edition is the complete resource for computer professionals, from systems administrators to programmers. It covers versions 7.4 to 8.4 and includes a CD-ROM containing the interpreters, libraries, and tutorials to get you started quickly. Additional materials in the book include case studies and discussions of techniques for the advanced user. On the CD-ROM *Distributions for Tcl 8.3 and 8.4 for Linux, Solaris, Macintosh, and Windows. *A copy of ActiveTcl from ActiveState. *The latest release of TclTutor. *How-to's and tutorials as well as copies of all the tools discussed in the book. Engineering a Compiler Elsevier This entirely revised second edition of Engineering a Compiler is full of technical updates and new material covering the latest developments in

compiler technology. In this comprehensive text you will learn important techniques for constructing a modern compiler. Leading educators and researchers Keith Cooper and Linda Torczon combine basic principles with pragmatic insights from their experience building state-of-the-art compilers. They will help you fully understand important techniques such as compilation of imperative and object-oriented languages, construction of static single assignment forms, instruction scheduling, and graph-coloring register allocation. In-depth treatment of algorithms and techniques used in the front end of a modern compiler Focus on code optimization and code generation, the primary areas of recent research and development Improvements in presentation including conceptual overviews for each chapter, summaries and review questions for sections, and prominent placement of definitions for new terms Examples drawn from several different programming languages Knowledge-Based Intelligent Information and Engineering Systems 8th International Conference, KES 2004, Wellington, New Zealand, September 20-25, 2004. Proceedings. Part III Springer We were very pleased to once again extend to the delegates and, we are pleased to th say, our friends the warmest of welcomes to the 8 International Conference on Knowledge-Based Intelligent Information and Engineering Systems at Wellington - stitute of Technology in Wellington, New Zealand. The KES conferences attract a wide range of interest. The broad focus of the c- ference series is the theory and applications of computational intelligence and em- gent technologies. Once purely a research field, intelligent systems have advanced to the point where their abilities have been incorporated into many conventional appli- tion areas. The quest to encapsulate human knowledge and capabilities in domains such as reasoning, problem solving, sensory analysis, and other complex areas has been avidly pursued. This is because it has been demonstrated that these abilities have definite practical applications. The techniques long ago reached the point where they are being exploited to provide commercial advantages for companies and real beneficial effects on profits. KES 2004 provided a valuable mechanism for delegates to obtain a profound view of the latest intelligent systems research into a range of - gorithms, tools and techniques. KES 2004 also gave delegates the chance to come into contact with those applying intelligent systems in diverse commercial areas. The combination of theory and practice represents a uniquely valuable opportunity for - preciating the full spectrum of intelligent- systems activity and the "state of the art". Advanced Graphics Programming Using OpenGL Elsevier Today truly useful and interactive graphics are available on affordable computers. While hardware progress has been impressive, widespread gains in software expertise have come more slowly. Information about advanced techniques—beyond those learned in introductory computer graphics texts—is not as easy to come by as inexpensive hardware. This book brings the graphics programmer beyond the basics and introduces them to advanced knowledge that is hard to obtain outside of an intensive CG work environment. The book is about graphics techniques—those that don't require esoteric hardware or custom graphics libraries—that are written in a comprehensive style and do useful things. It covers graphics that are not covered well in your old graphics textbook. But it also goes further, teaching you how to apply those techniques in real world applications, filling real world needs. Emphasizes the algorithmic side of computer graphics, with a practical application focus, and provides usable techniques for real world problems. Serves as an introduction to the techniques that are hard to obtain outside of an intensive computer graphics work environment. Sophisticated and novel programming techniques are implemented in C using the OpenGL library, including coverage of color and lighting; texture mapping; blending and compositing; antialiasing; image processing; special effects; natural phenomena; artistic and non-photorealistic techniques, and many others. ITPro Morgan Kaufmann MICO is a complete implementation of CORBA, the dominant standard for distributed application development. This book shows you how to build and manage your own professional, industrial-strength CORBA applications using MICO, and includes a CD with compiled binaries for various platforms along with the complete source code. One of the most successful examples of open source development, MICO is the collaborative result of hundreds of independent programmers working together to modify and improve the initial source code. Here is a practical, affordable introduction to building distributed applications. 3D Game Engine Architecture Engineering Real-time Applications with Wild Magic Inductive Synthesis of Functional Programs Universal Planning, Folding of Finite Programs, and Schema Abstraction by Analogical Reasoning Springer Science & Business Media Because of its promise to support human programmers in developing correct and efficient program code and in reasoning about programs, automatic program synthesis has attracted the attention of researchers and professionals since the 1970s. This book focusses on inductive program synthesis, and especially on the induction of recursive functions; it is organized into three parts on planning, inductive program synthesis, and analogical problem solving and learning. Besides methodological issues in inductive program synthesis, emphasis is placed on its applications to control rule learning for planning. Furthermore, relations to problem solving and learning in cognitive psychology are discussed. Evolutionary Computation and Optimization Algorithms in Software Engineering: Applications and Techniques Applications and Techniques IGI Global Evolutionary Computation and Optimization Algorithms in Software Engineering: Applications and Techniques lays the foundation for the successful integration of evolutionary computation into software engineering. It surveys techniques ranging from genetic algorithms, to swarm optimization theory, to ant colony optimization, demonstrating their uses and capabilities. These techniques are applied to aspects of software engineering such as software testing, quality assessment, reliability assessment, and fault prediction models, among others, to providing researchers, scholars and students with the knowledge needed to expand this burgeoning application. GPU Computing Gems Emerald Edition Elsevier GPU Computing Gems Emerald Edition offers practical techniques in parallel computing using graphics processing units (GPUs) to enhance scientific research. The first volume in Morgan Kaufmann's Applications of GPU Computing Series, this book offers the latest insights and research in computer vision, electronic design automation, and emerging data-intensive applications. It also covers life sciences, medical imaging, ray tracing and rendering, scientific simulation, signal and audio processing, statistical modeling, video and image processing. This

book is intended to help those who are facing the challenge of programming systems to effectively use GPUs to achieve efficiency and performance goals. It offers developers a window into diverse application areas, and the opportunity to gain insights from others' algorithm work that they may apply to their own projects. Readers will learn from the leading researchers in parallel programming, who have gathered their solutions and experience in one volume under the guidance of expert area editors. Each chapter is written to be accessible to researchers from other domains, allowing knowledge to cross-pollinate across the GPU spectrum. Many examples leverage NVIDIA's CUDA parallel computing architecture, the most widely-adopted massively parallel programming solution. The insights and ideas as well as practical hands-on skills in the book can be immediately put to use. Computer programmers, software engineers, hardware engineers, and computer science students will find this volume a helpful resource. For useful source codes discussed throughout the book, the editors invite readers to the following website: ..."

Covers the breadth of industry from scientific simulation and electronic design automation to audio / video processing, medical imaging, computer vision, and more Many examples leverage NVIDIA's CUDA parallel computing architecture, the most widely-adopted massively parallel programming solution Offers insights and ideas as well as practical "hands-on" skills you can immediately put to use Catalog of Copyright Entries. Third Series 1967: July-December Copyright Office, Library of Congress Perspectives on Data Science for Software Engineering Morgan Kaufmann Perspectives on Data Science for Software Engineering presents the best practices of seasoned data miners in software engineering. The idea for this book was created during the 2014 conference at Dagstuhl, an invitation-only gathering of leading computer scientists who meet to identify and discuss cutting-edge informatics topics. At the 2014 conference, the concept of how to transfer the knowledge of experts from seasoned software engineers and data scientists to newcomers in the field highlighted many discussions. While there are many books covering data mining and software engineering basics, they present only the fundamentals and lack the perspective that comes from real-world experience. This book offers unique insights into the wisdom of the community's leaders gathered to share hard-won lessons from the trenches. Ideas are presented in digestible chapters designed to be applicable across many domains. Topics included cover data collection, data sharing, data mining, and how to utilize these techniques in successful software projects. Newcomers to software engineering data science will learn the tips and tricks of the trade, while more experienced data scientists will benefit from war stories that show what traps to avoid. Presents the wisdom of community experts, derived from a summit on software analytics Provides contributed chapters that share discrete ideas and technique from the trenches Covers top areas of concern, including mining security and social data, data visualization, and cloud-based data Presented in clear chapters designed to be applicable across many domains Applications of Evolutionary Computing Evoworkshops: EvoBIO, EvoCOMNET, EvoHot, EvoIASP, EvoMUSART, and EvoSTOC Springer Science & Business Media This book constitutes the refereed joint proceedings of six workshops on evolutionary computing, EvoWorkshops 2005, held in Lausanne, Switzerland in March/April 2005. The 56 revised full papers presented were carefully reviewed and selected from a total of 143 submissions. In accordance with the six workshops covered, the papers are organized in topical sections on evolutionary bioinformatics; evolutionary computing in communications, networks, and connected systems; hardware optimization techniques; evolutionary computation in image analysis and signal processing; evolutionary music and art; and evolutionary algorithms in stochastic and dynamic environments. Software Engineering for Science CRC Press Software Engineering for Science provides an in-depth collection of peer-reviewed chapters that describe experiences with applying software engineering practices to the development of scientific software. It provides a better understanding of how software engineering is and should be practiced, and which software engineering practices are effective for scientific software. The book starts with a detailed overview of the Scientific Software Lifecycle, and a general overview of the scientific software development process. It highlights key issues commonly arising during scientific software development, as well as solutions to these problems. The second part of the book provides examples of the use of testing in scientific software development, including key issues and challenges. The chapters then describe solutions and case studies aimed at applying testing to scientific software development efforts. The final part of the book provides examples of applying software engineering techniques to scientific software, including not only computational modeling, but also software for data management and analysis. The authors describe their experiences and lessons learned from developing complex scientific software in different domains. About the Editors Jeffrey Carver is an Associate Professor in the Department of Computer Science at the University of Alabama. He is one of the primary organizers of the workshop series on Software Engineering for Science (<http://www.SE4Science.org/workshops>). Neil P. Chue Hong is Director of the Software Sustainability Institute at the University of Edinburgh. His research interests include barriers and incentives in research software ecosystems and the role of software as a research object. George K. Thiruvathukal is Professor of Computer Science at Loyola University Chicago and Visiting Faculty at Argonne National Laboratory. His current research is focused on software metrics in open source mathematical and scientific software. Agents and Artificial Intelligence 9th International Conference, ICAART 2017, Porto, Portugal, February 24-26, 2017, Revised Selected Papers Springer This book contains the revised and extended versions of selected papers from the 9th International Conference, ICAART 2017, held in Porto, Portugal, in February 24-26, 2017. The 11 full papers were carefully reviewed and selected from 158 initial submissions. The papers are organized in two tracks. The first focuses on agents, multi-agent systems, software platforms, distributed problem solving and distributed AI in general. The second track focuses mainly on artificial intelligence, knowledge representation, planning, learning, scheduling, perception, reactive AI systems, evolutionary computing, and other topics related to intelligent systems and computer intelligence. Programming Massively Parallel Processors A Hands-on Approach Newnes Programming Massively Parallel Processors: A Hands-on Approach, Second Edition, teaches students how to program massively parallel processors. It

offers a detailed discussion of various techniques for constructing parallel programs. Case studies are used to demonstrate the development process, which begins with computational thinking and ends with effective and efficient parallel programs. This guide shows both student and professional alike the basic concepts of parallel programming and GPU architecture. Topics of performance, floating-point format, parallel patterns, and dynamic parallelism are covered in depth. This revised edition contains more parallel programming examples, commonly-used libraries such as Thrust, and explanations of the latest tools. It also provides new coverage of CUDA 5.0, improved performance, enhanced development tools, increased hardware support, and more; increased coverage of related technology, OpenCL and new material on algorithm patterns, GPU clusters, host programming, and data parallelism; and two new case studies (on MRI reconstruction and molecular visualization) that explore the latest applications of CUDA and GPUs for scientific research and high-performance computing. This book should be a valuable resource for advanced students, software engineers, programmers, and hardware engineers.

New coverage of CUDA 5.0, improved performance, enhanced development tools, increased hardware support, and more Increased coverage of related technology, OpenCL and new material on algorithm patterns, GPU clusters, host programming, and data parallelism Two new case studies (on MRI reconstruction and molecular visualization) explore the latest applications of CUDA and GPUs for scientific research and high-performance computing

The Art of Multiprocessor Programming, Revised Reprint Elsevier Revised and updated with improvements conceived in parallel programming courses, The Art of Multiprocessor Programming is an authoritative guide to multicore programming. It introduces a higher level set of software development skills than that needed for efficient single-core programming. This book provides comprehensive coverage of the new principles, algorithms, and tools necessary for effective multiprocessor programming. Students and professionals alike will benefit from thorough coverage of key multiprocessor programming issues. This revised edition incorporates much-demanded updates throughout the book, based on feedback and corrections reported from classrooms since 2008

Learn the fundamentals of programming multiple threads accessing shared memory Explore mainstream concurrent data structures and the key elements of their design, as well as synchronization techniques from simple locks to transactional memory systems Visit the companion site and download source code, example Java programs, and materials to support and enhance the learning experience

Advanced C and C++ Compiling Apress Learning how to write C/C++ code is only the first step. To be a serious programmer, you need to understand the structure and purpose of the binary files produced by the compiler: object files, static libraries, shared libraries, and, of course, executables. Advanced C and C++ Compiling explains the build process in detail and shows how to integrate code from other developers in the form of deployed libraries as well as how to resolve issues and potential mismatches between your own and external code trees. With the proliferation of open source, understanding these issues is increasingly the responsibility of the individual programmer. Advanced C and C++ Compiling brings all of the information needed to move from intermediate to expert programmer together in one place -- an engineering guide on the topic of C/C++ binaries to help you get the most accurate and pertinent information in the quickest possible time.

Formal Object-Oriented Development Springer Science & Business Media Formal Object-Oriented Development provides a comprehensive overview of the use of formal object-oriented methods; it covers how and where they should be introduced into the development process, how they can be introduced selectively for critical parts of an application, and how to incorporate them effectively into existing developmental practices. The text is extensively illustrated, both with tutorial and self-assessment exercises and with examples of industrial applications from the reactive systems domain. This book will be of interest to academic and industrial researchers, software engineering practitioners and consultants, and will also provide invaluable reading material for students learning Z++ and VDM++.

Joe Celko's SQL Programming Style Elsevier Are you an SQL programmer that, like many, came to SQL after learning and writing procedural or object-oriented code? Or have switched jobs to where a different brand of SQL is being used, or maybe even been told to learn SQL yourself? If even one answer is yes, then you need this book. A "Manual of Style" for the SQL programmer, this book is a collection of heuristics and rules, tips, and tricks that will help you improve SQL programming style and proficiency, and for formatting and writing portable, readable, maintainable SQL code. Based on many years of experience consulting in SQL shops, and gathering questions and resolving his students' SQL style issues, Joe Celko can help you become an even better SQL programmer. Help you write Standard SQL without an accent or a dialect that is used in another programming language or a specific flavor of SQL, code that can be maintained and used by other people. Enable you to give your group a coding standard for internal use, to enable programmers to use a consistent style. Give you the mental tools to approach a new problem with SQL as your tool, rather than another programming language -- one that someone else might not know!

AI 2006: Advances in Artificial Intelligence 19th Australian Joint Conference on Artificial Intelligence, Hobart, Australia, December 4-8, 2006, Proceedings Springer This book constitutes the refereed proceedings of the 19th Australian Joint Conference on Artificial Intelligence, AI 2006, held in Hobart, Australia, December 2006. Coverage includes foundations and knowledge based system, machine learning, connectionist AI, data mining, intelligent agents, cognition and user interface, vision and image processing, natural language processing and Web intelligence, neural networks, robotics, and AI applications.