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KEY=LANGUAGES - CASSIDY MAXIMUS

Languages And Machines: An Introduction To The Theory Of Computer Science, 3/E *Pearson Education India* **Philosophy and Computing An Introduction** *Routledge Philosophy and Computing explores each of the following areas of technology: the digital revolution; the computer; the Internet and the Web; CD-ROMs and Mulitmedia; databases, textbases, and hypertexts; Artificial Intelligence; the future of computing. Luciano Floridi shows us how the relationship between philosophy and computing provokes a wide range of philosophical questions: is there a philosophy of information? What can be achieved by a classic computer? How can we define complexity? What are the limits of quantam computers? Is the Internet an intellectual space or a polluted environment? What is the paradox in the Strong Artificial Intlligence program? Philosophy and Computing is essential reading for anyone wishing to fully understand both the development and history of information and communication technology as well as the philosophical issues it ultimately raises.* **Architectures for Computer Vision From Algorithm to Chip with Verilog** *John Wiley & Sons This book provides comprehensive coverage of 3D vision systems, from vision models and state-of-the-art algorithms to their hardware architectures for implementation on DSPs, FPGA and ASIC chips, and GPUs. It aims to fill the gaps between computer vision algorithms and real-time digital circuit implementations, especially with Verilog HDL design. The organization of this book is vision and hardware module directed, based on Verilog vision modules, 3D vision modules, parallel vision architectures, and Verilog designs for the stereo matching system with various parallel architectures. Provides Verilog vision simulators, tailored to the design and testing of general vision chips Bridges the differences between C/C++ and HDL to encompass both software realization and chip implementation; includes numerous examples that realize vision algorithms and general vision processing in HDL Unique in providing an organized and complete overview of how a real-time 3D vision system-on-chip can be designed Focuses on the digital VLSI aspects and implementation of digital signal processing tasks on hardware platforms such as ASICs and FPGAs for 3D vision systems, which have not been comprehensively covered in one single book Provides a timely view of the pervasive use of vision systems and the challenges of fusing information from different vision modules Accompanying website includes software and HDL code packages to enhance further learning and develop advanced systems A solution set and lecture slides are provided on the book's companion website The book is aimed at graduate students and researchers in computer vision and embedded systems, as well as chip and FPGA designers. Senior undergraduate students specializing in VLSI design or computer vision will also find the book to be helpful in understanding advanced applications.* **Introduction to Languages and the Theory of Computation** *McGraw-Hill Science, Engineering & Mathematics Introduction to Languages and the Theory of Computation is an introduction to the theory of computation that emphasizes formal languages, automata and abstract models of computation, and computability; it also includes an introduction to computational complexity and NP-completeness. Through the study of these topics, students encounter profound computational questions and are introduced to topics that will have an ongoing impact in computer science. Once students have seen some of the many diverse technologies contributing to computer science, they can also begin to appreciate the field as a coherent discipline. A distinctive feature of this text is its gentle and gradual introduction of the necessary mathematical tools in the context in which they are used. Martin takes advantage of the clarity and precision of mathematical language but also provides discussion and examples that make the language intelligible to those just learning to read and speak it. The material is designed to be accessible to students who do not have a strong background in discrete mathematics, but it is also appropriate for students who have had some exposure to discrete math but whose skills in this area need to be consolidated and sharpened.* **Modern Compiler Design** *Springer Science & Business Media "Modern Compiler Design" makes the topic of compiler design more accessible by focusing on principles and techniques of wide application. By carefully distinguishing between the essential (material that has a high chance of being useful) and the incidental (material that will be of benefit only in exceptional cases) much useful information was packed in this comprehensive volume. The student who has finished this book can expect to understand the workings of and add to a language processor for each of the modern paradigms, and be able to read the literature on how to proceed. The first provides a firm basis, the second potential for growth.* **Parsing Techniques A Practical Guide** *Springer Science & Business Media This second edition of Grune and Jacobs' brilliant work presents new developments and discoveries that have been made in the field. Parsing, also referred to as syntax analysis, has been and continues to be an essential part of computer science and linguistics. Parsing techniques have grown considerably in importance, both in computer science, ie. advanced compilers often use general CF parsers, and computational linguistics where such parsers are the only option. They are used in a variety of software products including Web browsers, interpreters in computer devices, and data compression programs; and they are used extensively in linguistics.* **Automata and Computability** *Springer These are my lecture notes from CS381/481: Automata and Computability Theory, a one-semester senior-level course I have taught at Cornell Uni versity for many years. I took this course myself in thc fall of 1974 as a first-year Ph.D. student at Cornell from Juris Hartmanis and have been in love with the subject ever sin,:e. The course is required for computer science majors at Cornell. It exists in two forms: CS481, an honors version; and CS381, a somewhat gentler paced version. The syllabus is roughly the same, but CS481 go es deeper into thc subject, covers more material, and is taught at a more abstract level. Students are encouraged to start off in one or the other, then switch within the first few weeks if they find the other version more suitaLle to their level of mathematical skill. The purpose of t.hc course is twofold: to introduce computer science students to the rieh heritage of models and abstractions that have arisen over the years; and to dew!c'p the capacity to form abstractions of their own and reason in terms of them.* **Eyes Open Level 4 Student's Book** *Cambridge University Press Captivating Discovery Education(TM) video and stimulating global topics spark curiosity and engage teenage learners.* **High Resolution Imaging in Microscopy and Ophthalmology New Frontiers in Biomedical Optics** *Springer This open access book provides a comprehensive overview of the application of the newest laser and microscope/ophthalmoscope technology in the field of high resolution imaging in microscopy and ophthalmology. Starting by describing High-Resolution 3D Light Microscopy with STED and RESOLFT, the book goes on to cover retinal and anterior segment imaging and image-guided treatment and also discusses the development of adaptive optics in vision science and ophthalmology. Using an interdisciplinary approach, the reader will learn about the latest developments and most up to date technology in the field and how these translate to a medical setting. High Resolution Imaging in Microscopy and Ophthalmology – New Frontiers in Biomedical Optics has been written by leading experts in the field and offers insights on engineering, biology, and medicine, thus being a valuable addition for scientists, engineers, and clinicians with technical and medical interest who would like to understand the equipment, the applications and the medical/biological background. Lastly, this book is dedicated to the memory of Dr. Gerhard Zinser, co-founder of Heidelberg Engineering GmbH, a scientist, a husband, a brother, a colleague, and a friend.* **Computability An Introduction to Recursive Function Theory** *Cambridge University Press What can computers do in principle? What are their inherent theoretical limitations? The theoretical framework which enables such questions to be answered has been developed over the last fifty years from the idea of a computable function - a function whose values can be calculated in an automatic way.* **Soft Computing for Information Processing and Analysis** *Springer Search engines, with Google at the top, have become the most heavily used online service, with millions of searches performed every day and many remarkable capabilities. Soft Computing for Information Processing and Analysis includes reports from the front of soft computing in the internet industry and imparts knowledge and understanding of the significance of the field's accomplishments, new developments and future directions. This carefully edited book has evolved from presentations made by the participants of a meeting entitled "Fuzzy Logic and the Internet: Enhancing the Power of the Internet", organized by the Berkeley Initiative in Soft Computing (BISC), University of California, Berkeley. It addresses the important topics of modern search engines such as fuzzy query, decision analysis and support systems, including articles about topics such as Web Intelligence, World Knowledge and Fuzzy Logic (by Lotfi A. Zadeh), perception based information processing, or web intelligence.* **Introduction to 80 X 86 Assembly Language and Computer Architecture** *Jones & Bartlett Learning* **Introduction to Automata Theory, Languages, and Computation** *Pearson New International Edition This classic book on formal languages, automata theory, and computational complexity has been updated to present theoretical concepts in a concise and straightforward manner with the increase of hands-on, practical applications. This new edition comes with Gradiance, an online assessment tool developed for computer science. Please note, Gradiance is no longer available with this book, as we no longer support this product.* **Patellofemoral Pain, Instability, and Arthritis Clinical Presentation, Imaging, and Treatment** *Springer Nature This excellently illustrated book adopts an evidence-based approach to evaluate the efficacy of different techniques for the imaging and treatment of patellofemoral pain, instability, and arthritis. The aim is to equip practitioners with an informative guide that will help them to manage disorders of the patellofemoral joint by casting light on the many issues on which a consensus has been lacking. The opening chapters supply essential background information and explain the role of various imaging modalities, including radiography, CT, MRI, and bone scan. The various conservative and surgical treatment approaches for each of the three presentations – pain, instability, and arthritis – are then described and assessed in depth, with precise guidance on indications and technique. Postoperative management and options in the event of failed surgery are also evaluated. Throughout, careful attention is paid to the literature in an attempt to establish the level of evidence for each imaging and treatment method. The new edition has been thoroughly updated, with inclusion of additional chapters, in order to present the latest knowledge on biomechanics, diagnosis, surgical techniques, and rehabilitation.* **Fuzzy Sets and Systems - IFSA 2003 10th International Fuzzy Systems Association World Congress, Istanbul, Turkey, June 30 - July 2, 2003, Proceedings** *Springer The refereed proceedings of the 10th International Fuzzy Systems Association World Congress, IFSA 2003, held in June/July 2003 in Istanbul, Turkey. The 84 papers presented together with 5 invited papers were carefully reviewed and selected form 318 submissions. The papers address all current issues in the area and present the state of the art in fuzzy sets, fuzzy systems, and fuzzy logic and their applications in a broad variety of fields. The papers are divided in four parts on mathematical issues, methodological issues, application areas, and cross-disciplinary issues.* **Soft Computing in Information Retrieval Techniques and Applications** *Physica Information retrieval (IR) aims at defining systems able to provide a fast and effective content-based access to a large amount of stored information. The aim of an IR system is to estimate the relevance of documents to users' information needs, expressed by means of a query. This is a very difficult and complex task, since it is pervaded with imprecision and uncertainty. Most of the existing IR systems offer a very simple model of IR, which privileges efficiency at the expense of effectiveness. A promising direction to increase the effectiveness of IR is to model the concept of "partially intrinsic" in the IR process and to make the systems adaptive, i.e. able to "learn" the user's concept of relevance. To this aim, the application of soft computing techniques can be of help to obtain greater flexibility in IR systems.* **Genetic Algorithms in Search, Optimization, and Machine Learning** *Addison-Wesley Professional A gentle introduction to genetic algorithms. Genetic algorithms revisited: mathematical foundations. Computer implementation of a genetic algorithm. Some applications of genetic algorithms. Advanced operators and techniques in genetic search. Introduction to genetics-based machine learning. Applications of genetics-based machine learning. A look back, a glance ahead. A review of combinatorics and elementary probability. Pascal with random number generation for fortran, basic, and cobol programmers. A simple genetic algorithm (SGA) in pascal. A simple classifier system(SCS) in pascal. Partition coefficient transforms for problem-coding analysis.* **Stem Cells in Aesthetic Procedures Art, Science, and Clinical Techniques** *Springer Interest in the use of stem cells in aesthetic procedures has been increasing rapidly, reflecting the widespread acknowledgment of the tremendous potential of stem cell fat transfer. This is, however, the first book to be devoted entirely to the subject. The book opens by reviewing the history of the development of pluripotent stem cells and the results of research into the biochemistry and physiology of stem cells. Adipose tissue anatomy and survival are discussed and the wide range of aesthetic procedures involving stem cell fat transfer are then described in detail. These procedures relate to the face, breast, buttocks, legs, hands, penis and Poland syndrome. In addition, potential risks and complications are identified. The book has been written by leading experts and will be an invaluable source of information for students, beginners and experienced surgeons in a range of specialties.* **Finite Automata and Formal Languages: A Simple Approach** *Pearson Education India* **A Practical Approach to Compiler Construction** *Springer This book provides a practically-oriented introduction to high-level programming language implementation. It demystifies what goes on within a compiler and stimulates the reader's interest in compiler design, an essential aspect of computer science. Programming language analysis and translation techniques are used in many software application areas. A Practical Approach to Compiler Construction covers the fundamental principles of the subject in an accessible way. It presents the necessary background theory and shows how it can be applied to implement complete compilers. A step-by-step approach, based on a standard compiler structure is adopted, presenting up-to-date techniques and examples. Strategies and designs are described in detail to guide the reader in implementing a*

translator for a programming language. A simple high-level language, loosely based on C, is used to illustrate aspects of the compilation process. Code examples in C are included, together with discussion and illustration of how this code can be extended to cover the compilation of more complex languages. Examples are also given of the use of the flex and bison compiler construction tools. Lexical and syntax analysis is covered in detail together with a comprehensive coverage of semantic analysis, intermediate representations, optimisation and code generation. Introductory material on parallelisation is also included. Designed for personal study as well as for use in introductory undergraduate and postgraduate courses in compiler design, the author assumes that readers have a reasonable competence in programming in any high-level language. **Polymer Colloids** Royal Society of Chemistry Academic and industrial research around polymer-based colloids is huge, driven both by the development of mature technologies, e.g. latexes for coatings, as well as the advancement of new materials and applications, such as building blocks for 2D/3D structures and medicine. Edited by two world-renowned leaders in polymer science and engineering, this is a fundamental text for the field. Based on a specialised course by the editors, this book provides the reader with an invaluable single source of reference. The first section describes formation, explaining basic properties of emulsions and dispersion polymerization, microfluidic approaches to produce polymer-based colloids and formation via directed self-assembly. The next section details characterisation methodologies from microscopy and small angle scattering, to surface science and simulations. The final chapters close with applications, including Pickering emulsions and molecular engineering for materials development. A comprehensive guide to polymer colloids, with contributions by leaders in their respective areas, this book is a must-have for researchers and practitioners working across polymers, soft matter and chemical and molecular engineering. **Semiconductor Power Devices Physics, Characteristics, Reliability** Springer Science & Business Media Semiconductor power devices are the heart of power electronics. They determine the performance of power converters and allow topologies with high efficiency. Semiconductor properties, pn-junctions and the physical phenomena for understanding power devices are discussed in depth. Working principles of state-of-the-art power diodes, thyristors, MOSFETs and IGBTs are explained in detail, as well as key aspects of semiconductor device production technology. In practice, not only the semiconductor, but also the thermal and mechanical properties of packaging and interconnection technologies are essential to predict device behavior in circuits. Wear and aging mechanisms are identified and reliability analyses principles are developed. Unique information on destructive mechanisms, including typical failure pictures, allows assessment of the ruggedness of power devices. Also parasitic effects, such as device induced electromagnetic interference problems, are addressed. The book concludes with modern power electronic system integration techniques and trends. **E-Commerce and Intelligent Methods** Physica This book covers significant recent developments in the field of Intelligent Meth ods applied to eCommerce. The Intelligent Methods considered are mainly Soft Computing Methods that include fuzzy sets, rough sets, neural networks, evolutionary computations, probabilistic and evidential reasoning, multivalued logic, and related fields. There is not doubt about the relevance of eCommerce in our daily environ ments and in the work carried out at many research centers throughout the world. The application of AI to Commerce is growing as fast as the computers and net works are being integrated in all business and commerce aspects. We felt that it was time to sit down and see how was the impact into that field of low-level AI, i.e. softcomputing. We found many scattered contributions disseminated in con ferences, workshops, journal, books or even technical reports, but nothing like a common framework that could serve as a basis for further research, comparison or even prototyping for a direct transfer to the industry. We felt then the need to set up a reference point, a book like this. We planned this book as a recompilation of the newest developments of re searchers who already made some contribution into the field. The authors were se lected based on the originality and quality of their work and its relevance to the field. Authors came from prestigious universities and research centers with differ ent backgrounds. **International Handbook of Mathematical Learning Difficulties From the Laboratory to the Classroom** Springer This comprehensive volume provides teachers, researchers and education professionals with cutting edge knowledge developed in the last decades by the educational, behavioural and neurosciences, integrating cognitive, developmental and socioeconomic approaches to deal with the problems children face in learning mathematics. The neurocognitive mechanisms and the cognitive processes underlying acquisition of arithmetic abilities and their significance for education have been the subject of intense research in the last few decades, but the most part of this research has been conducted in non-applied settings and there's still a deep discrepancy between the level of scientific knowledge and its implementation into actual educational settings. Now it's time to bring the results from the laboratory to the classroom. Apart from bringing the theoretical discussions to educational settings, the volume presents a wide range of methods for early detection of children with risks in mathematics learning and strategies to develop effective interventions based on innovative cognitive test instruments. It also provides insights to translate research knowledge into public policies in order to address socioeconomic issues. And it does so from an international perspective, dedicating a whole section to the cultural diversity of mathematics learning difficulties in different parts of the world. All of this makes the International Handbook of Mathematical Learning Difficulties an essential tool for those involved in the daily struggle to prepare the future generations to succeed in the global knowledge society. **Developmental Biology and Musculoskeletal Tissue Engineering Principles and Applications** Academic Press Developmental Biology and Musculoskeletal Tissue Engineering: Principles and Applications focuses on the regeneration of orthopedic tissue, drawing upon expertise from developmental biologists specializing in orthopedic tissues and tissue engineers who have used and applied developmental biology approaches. Musculoskeletal tissues have an inherently poor repair capacity, and thus biologically-based treatments that can recapitulate the native tissue properties are desirable. Cell- and tissue-based therapies are gaining ground, but basic principles still need to be addressed to ensure successful development of clinical treatments. Written as a source of information for practitioners and those with a nascent interest, it provides background information and state-of-the-art solutions and technologies. Recent developments in orthopedic tissue engineering have sought to recapitulate developmental processes for tissue repair and regeneration, and such developmental-biology based approaches are also likely to be extremely amenable for use with more primitive stem cells. Brings the fields of tissue engineering and developmental biology together to explore the potential for regenerative medicine-based research to contribute to enhanced clinical outcomes Initial chapters provide an outline of the development of the musculoskeletal system in general, and later chapters focus on specific tissues Addresses the effect of mechanical forces on the musculoskeletal system during development and the relevance of these processes to tissue engineering Discusses the role of genes in the development of musculoskeletal tissues and their potential use in tissue engineering Describes how developmental biology is being used to influence and guide tissue engineering approaches for cartilage, bone, disc, and tendon repair **Locking Plates in Veterinary Orthopedics** John Wiley & Sons Locking Plates in Veterinary Orthopedics is a comprehensive and state-of-the-art guide to all aspects of using locking plates to treat orthopedic conditions in dogs, cats, and large animals. • Offers a proven approach to using locking plates in veterinary practice • Highlights practical clinical applications with illustrative clinical cases • Includes information on the history, principles, and materials as well as specific techniques • Presents data on both traumatic and non-traumatic applications • Provides instructive color photographs to demonstrate the procedures **Formal Languages and Automata Theory** Pearson Education India Formal Languages and Automata Theory deals with the mathematical abstraction model of computation and its relation to formal languages. This book is intended to expose students to the theoretical development of computer science. It also provides conceptual tools that practitioners use in computer engineering. An assortment of problems illustrative of each method is solved in all possible ways for the benefit of students. The book also presents challenging exercises designed to hone the analytical skills of students. **Theory of Computer Science Automata, Languages and Computation** PHI Learning Pvt. Ltd. This Third Edition, in response to the enthusiastic reception given by academia and students to the previous edition, offers a cohesive presentation of all aspects of theoretical computer science, namely automata, formal languages, computability, and complexity. Besides, it includes coverage of mathematical preliminaries. NEW TO THIS EDITION • Expanded sections on pigeonhole principle and the principle of induction (both in Chapter 2) • A rigorous proof of Kleene's theorem (Chapter 5) • Major changes in the chapter on Turing machines (TMs) – A new section on high-level description of TMs – Techniques for the construction of TMs – Multitape TM and nondeterministic TM • A new chapter (Chapter 10) on decidability and recursively enumerable languages • A new chapter (Chapter 12) on complexity theory and NP-complete problems • A section on quantum computation in Chapter 12. • KEY FEATURES • Objective-type questions in each chapter—with answers provided at the end of the book. • Eighty-three additional solved examples—added as Supplementary Examples in each chapter. • Detailed solutions at the end of the book to chapter-end exercises. The book is designed to meet the needs of the undergraduate and postgraduate students of computer science and engineering as well as those of the students offering courses in computer applications. **U.S. Department of Defense Civilian Casualty Policies and Procedures An Independent Assessment** The U.S. Department of Defense (DoD), from its most-senior leaders to military operators in the field, has expressed a strong commitment to complying with the law of war and to mitigating civilian harm for legal, moral, and strategic reasons and for reasons related to mission-effectiveness. But above and beyond its law of war obligations, DoD implements policies and procedures at multiple levels to mitigate civilian harm during armed conflict. In this report, researchers from the RAND Corporation and the Center for Naval Analyses (CNA) conduct an independent assessment of DoD standards, processes, procedures, and policies relating to civilian casualties resulting from U.S. military operations. In particular, the researchers examine DoD's efforts to assess, investigate, and respond to civilian harm, as well as DoD's resourcing and structure to address such issues. The researchers outline their findings and recommendations for how DoD can improve in these areas. **Introduction to the Theory of Computation** Cengage Learning Now you can clearly present even the most complex computational theory topics to your students with Sipser's distinct, market-leading INTRODUCTION TO THE THEORY OF COMPUTATION, 3E. The number one choice for today's computational theory course, this highly anticipated revision retains the unmatched clarity and thorough coverage that make it a leading text for upper-level undergraduate and introductory graduate students. This edition continues author Michael Sipser's well-known, approachable style with timely revisions, additional exercises, and more memorable examples in key areas. A new first-of-its-kind theoretical treatment of deterministic context-free languages is ideal for a better understanding of parsing and LR(k) grammars. This edition's refined presentation ensures a trusted accuracy and clarity that make the challenging study of computational theory accessible and intuitive to students while maintaining the subject's rigor and formalism. Readers gain a solid understanding of the fundamental mathematical properties of computer hardware, software, and applications with a blend of practical and philosophical coverage and mathematical treatments, including advanced theorems and proofs. INTRODUCTION TO THE THEORY OF COMPUTATION, 3E's comprehensive coverage makes this an ideal ongoing reference tool for those studying theoretical computing. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. **Information Processing and Management of Uncertainty in Knowledge-Based Systems 18th International Conference, IPMU 2020, Lisbon, Portugal, June 15–19, 2020, Proceedings, Part I** Springer Nature This three volume set (CCIS 1237-1239) constitutes the proceedings of the 18th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU 2020, in June 2020. The conference was scheduled to take place in Lisbon, Portugal, at University of Lisbon, but due to COVID-19 pandemic it was held virtually. The 173 papers were carefully reviewed and selected from 213 submissions. The papers are organized in topical sections: homage to Enrique Ruspini; invited talks; foundations and mathematics; decision making, preferences and votes; optimization and uncertainty; games; real world applications; knowledge processing and creation; machine learning I; machine learning II; XAI; image processing; temporal data processing; text analysis and processing; fuzzy interval analysis; theoretical and applied aspects of imprecise probabilities; similarities in artificial intelligence; belief function theory and its applications; aggregation: theory and practice; aggregation: pre-aggregation functions and other generalizations of monotonicity; aggregation: aggregation of different data structures; fuzzy methods in data mining and knowledge discovery; computational intelligence for logistics and transportation problems; fuzzy implication functions; soft methods in statistics and data analysis; image understanding and explainable AI; fuzzy and generalized quantifier theory; mathematical methods towards dealing with uncertainty in applied sciences; statistical image processing and analysis, with applications in neuroimaging; interval uncertainty; discrete models and computational intelligence; current techniques to model, process and describe time series; mathematical fuzzy logic and graded reasoning models; formal concept analysis, rough sets, general operators and related topics; computational intelligence methods in information modelling, representation and processing. **Handbook of Computability Theory** Elsevier The chapters of this volume all have their own level of presentation. The topics have been chosen based on the active research interest associated with them. Since the interest in some topics is older than that in others, some presentations contain fundamental definitions and basic results while others relate very little of the elementary theory behind them and aim directly toward an exposition of advanced results. Presentations of the latter sort are in some cases restricted to a short survey of recent results (due to the complexity of the methods and proofs themselves). Hence the variation in level of presentation from chapter to chapter only reflects the conceptual situation itself. One example of this is the collective efforts to develop an acceptable theory of computation on the real numbers. The last two decades has seen at least two new definitions of effective operations on the real numbers. **Computational Intelligence Collaboration, Fusion and Emergence** Springer Science & Business Media This book is about synergy in computational intelligence (CI). It is a c- lection of chapters that covers a rich and diverse variety of computer-based techniques, all involving some aspect of computational intelligence, but each one taking a somewhat pragmatic view. Many complex problems in the real world require the application of some form of what we loosely call "intel- gence"fortheirsolution. Fewcanbesolvedbythenaiveapplicationofasingle technique, however good it is. Authors in this collection recognize the li- tations of individual paradigms, and propose some practical and novel ways in which di?erent CI techniques can be combined with each other, or with more traditional computational techniques, to produce powerful probl- solving environments which exhibit synergy, i. e. , systems in which the whole 1 is greater than the sum of the parts . Computational intelligence is a relatively new term, and there is some d- agreement as to its precise de?nition. Some practitioners limit its scope to schemes involving evolutionary algorithms, neural networks, fuzzy logic, or hybrids of these. For others, the de?nition is a little more ?exible, and will include paradigms such as Bayesian belief networks, multi-agent systems, case-based reasoning and so on. Generally, the term has a similar meaning to the well-known

phrase "Arti?cial Intelligence" (AI), although CI is p- ceived moreas a "bottom up" approachfrom which intelligent behaviour can emerge,whereasAItendstobestudiedfromthe"topdown",andderivefrom pondering upon the "meaning of intelligence". (These and other key issues will be discussed in more detail in Chapter 1. **Semiconductor Power Devices Physics, Characteristics, Reliability** *Springer Halbleiter-Leistungsbauelemente sind das Kernstück der Leistungselektronik. Sie bestimmen die Leistungsfähigkeit und machen neuartige und verlustarme Schaltungen erst möglich. In dem Band wird neben den Halbleiter-Leistungsbauelementen selbst auch die Aufbau- und Verbindungstechnik behandelt: von den physikalischen Grundlagen und der Herstellungstechnologie über einzelne Bauelemente bis zu thermomechanischen Problemen, Zerstörungsmechanismen und Störungseffekten. Die 2., überarbeitete Auflage berücksichtigt technische Neuerungen und Entwicklungen.* **Osteotomies around the Knee Indications-Planning-Surgical Techniques using Plate Fixators** *Thieme Written by leading surgeons with expertise in performing osteotomies around the knee, this book is an essential reference for the current techniques in joint-preserving knee surgery. The book opens with a thorough discussion of physiology, pathophysiology, clinical evaluation, and imaging. It then describes the indications and basic principles of treatment and provides a detailed planning algorithm for high-tibial osteotomy. Separate chapters cover various clinical applications, addressing important topics ranging from the effects of osteotomies on cartilage pressure in the knee to management for failed osteotomies around knee. The book also discusses the latest technological developments in the field, such as computer-assisted navigation and the development of plate fixators.Features: Clinical insights and practical tips from experts in the field Detailed presentation of surgical techniques Numerous high-quality images and illustrations demonstrating key concepts Discussion of how to manage complications after high-tibial open-wedge osteotomy* **Embedded Software First International Workshop, EMSOFT 2001, Tahoe City, CA, USA, October 8-10, 2001. Proceedings** *Springer With the omnipresence of micro devices in our daily lifes embedded software has gained tremendous importance in both science and industry. This volume contains 34 invited papers from the First International Workshop on Embedded Systems. They present latest research results from different areas of computer science that are traditionally distinct but relevant to embedded software development (such as, for example, component based design, functional programming, real-time Java, resource and storage allocation, verification). Each paper focuses on one topic, showing the inter-relationship and application to the design and implementation of embedded software systems.* **An Introduction to Formal Language Theory** *Springer Science & Business Media The study of formal languages and of related families of automata has long been at the core of theoretical computer science. Until recently, the main reasons for this centrality were connected with the specification and analy sis of programming languages, which led naturally to the following ques tions. How might a grammar be written for such a language? How could we check whether a text were or were not a well-formed program generated by that grammar? How could we parse a program to provide the structural analysis needed by a compiler? How could we check for ambiguity to en sure that a program has a unique analysis to be passed to the computer? This focus on programming languages has now been broadened by the in creasing concern of computer scientists with designing interfaces which allow humans to communicate with computers in a natural language, at least concerning problems in some well-delimited domain of discourse. The necessary work in computational linguistics draws on studies both within linguistics (the analysis of human languages) and within artificial intelligence. The present volume is the first textbook to combine the topics of formal language theory traditionally taught in the context of program ming languages with an introduction to issues in computational linguistics. It is one of a series, The AKM Series in Theoretical Computer Science, designed to make key mathematical developments in computer science readily accessible to undergraduate and beginning graduate students.* **Handbook of Granular Computing** *John Wiley & Sons Although the notion is a relatively recent one, the notions and principles of Granular Computing (GrC) have appeared in a different guise in many related fields including granularity in Artificial Intelligence, interval computing, cluster analysis, quotient space theory and many others. Recent years have witnessed a renewed and expanding interest in the topic as it begins to play a key role in bioinformatics, e-commerce, machine learning, security, data mining and wireless mobile computing when it comes to the issues of effectiveness, robustness and uncertainty. The Handbook of Granular Computing offers a comprehensive reference source for the granular computing community, edited by and with contributions from leading experts in the field. Includes chapters covering the foundations of granular computing, interval analysis and fuzzy set theory; hybrid methods and models of granular computing; and applications and case studies. Divided into 5 sections: Preliminaries, Fundamentals, Methodology and Algorithms, Development of Hybrid Models and Applications and Case Studies. Presents the flow of ideas in a systematic, well-organized manner, starting with the concepts and motivation and proceeding to detailed design that materializes in specific algorithms, applications and case studies. Provides the reader with a self-contained reference that includes all pre-requisite knowledge, augmented with step-by-step explanations of more advanced concepts. The Handbook of Granular Computing represents a significant and valuable contribution to the literature and will appeal to a broad audience including researchers, students and practitioners in the fields of Computational Intelligence, pattern recognition, fuzzy sets and neural networks, system modelling, operations research and bioinformatics.* **Repair and Regeneration of Ligaments, Tendons, and Joint Capsule** *Springer Science & Business Media A comprehensive and authoritative review of the most important scientific and clinically relevant topics today in ligaments, tendons, and capsular biology, including their biomechanics and surgical reconstruction. The authors review the basic science of tendons in the hand and shoulder ligaments, the current clinical status of the shoulder and cruciate ligaments, and the latest advances in research on the healing of ligament and tendon to bone, artificial ligaments, and gene therapy. They also cover the major type 1 collagen soft tissues that are of particular interest to upper extremity surgeons and sports medicine specialists.* **Digital_Humanities** *MIT Press A visionary report on the revitalization of the liberal arts tradition in the electronically inflected, design-driven, multimedia language of the twenty-first century. Digital_Humanities is a compact, game-changing report on the state of contemporary knowledge production. Answering the question "What is digital humanities?," it provides an in-depth examination of an emerging field. This collaboratively authored and visually compelling volume explores methodologies and techniques unfamiliar to traditional modes of humanistic inquiry—including geospatial analysis, data mining, corpus linguistics, visualization, and simulation—to show their relevance for contemporary culture. 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