Data Models A Semantic Approach For Database Systems Mit Press Series In Computer Science

Semantic Modeling for Data Personal Knowledge Models with Semantic Technologies Semantic Modeling for Data Graph Data-Models and Semantic Web Technologies in Scholarly Digital Editing Visual Knowledge Modeling for Semantic Web Technologies: Models and Ontologies Database Design Semantic Web for the Working Ontologist Buildings and Semantics A Semantic Product Modeling Framework and Language for Behavior Evaluation Visual Knowledge Modeling for Semantic Web Technologies The Structure of Long-term Memory The Cambridge Handbook of Psycholinguistics Semantic and Fuzzy Modelling for Human Behaviour Recognition in Smart Spaces The Oxford Handbook of Computational and Mathematical Psychology Semantic Models for Adaptive Interactive Systems Semantic Domains in Computational Linguistics Proceedings of the 1st International and Interdisciplinary Conference on Digital Environments for Education, Arts and Heritage Computational Cognitive Modeling and Linguistic Theory Semantic Priming Intelligent Scene Modeling and Human-Computer Interaction Database design with extensible semantic models Semantics Modeling with Rules Using Semantic Knowledge Engineering Semantic Methods for Execution-level Business Process Modeling Teaching Science Domain-Specific Languages Urban Informatics The Article System of French and Fuzzy Semantic Models High-Order Models in Semantic Image Segmentation Semantic Web-Based Systems Advances on Mechanics, Design Engineering and Manufacturing III Refinement Semantic Priming Semantic Modeling for Data Semantic Web Services, Processes and Applications Semantic Models for Multimedia Database Searching and Browsing Advances in Information Retrieval Metabiology Programming the Semantic Web Microsoft SQL Server 2012 Bible

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Computational Cognitive Modeling and Linguistic Theory May 17 2021 This open access book introduces a general framework that allows natural language researchers to enhance existing competence theories with fully specified performance and processing components. Gradually developing increasingly complex and cognitively realistic competence-performance models, it provides running code for these models and shows how to fit them to real-time experimental data. This computational cognitive modeling approach opens up exciting new directions for research in formal semantics, and linguistics more generally, and offers new ways of (re)connecting semantics and the broader field of cognitive science. The approach of this book is novel in more ways than one. Assuming the mental architecture and procedural modalities of Anderson's ACT-R framework, it presents fine-grained computational models of human language processing tasks which make detailed quantitative predictions that can be checked against the results of self-paced reading and other psycho-linguistic experiments. All models are presented as computer programs that readers can run on their own computer and on inputs of their choice, thereby learning to design, program and run their own models. But even for readers who won't do all that, the book will show how such detailed, quantitatively predicting modeling of linguistic processes is possible. A methodological breakthrough and a must for anyone concerned about the future of linguistics! (Hans Kamp) This book constitutes a major step forward in linguistics and psycholinguistics. It constitutes a unique synthesis of several different research traditions: computational models of psycholinguistic processes, and formal models of semantics and discourse processing. The work also introduces a sophisticated python-based software environment for modeling linguistic processes. This book has the potential to revolutionize not only formal models of linguistics, but also models of language processing more generally. (Shravan Vasishth) .

Microsoft SQL Server 2012 Bible Jun 25 2019 Harness the powerful new SQL Server 2012 Microsoft SQL Server 2012 is the most significant update to this product since 2005, and it may change how database administrators and developers perform many aspects of their jobs. If you're a database administrator or developer, Microsoft SQL Server 2012 Bible teaches you everything you need to take full advantage of this major release. This detailed guide not only covers all the new features of SQL Server 2012, it also shows you step by step how to develop top-notch SQL Server databases and new data connections and keep your databases performing at peak. The book is crammed with specific examples, sample code, and a host of tips, workarounds, and best practices. In addition, downloadable code is available from the book's companion web site, which you can use to jumpstart your own projects. Serves as an authoritative guide to Microsoft's SQL Server 2012 for database administrators and developers Covers all the software's new features and capabilities, including SQL Azure for cloud computing, enhancements to client connectivity, and new functionality that ensures high-availability of mission-critical applications Explains major new changes to the SQL Server Business Intelligence tools, such as Integration, Reporting, and Analysis Services Demonstrates tasks both graphically and in SQL code to enhance your learning Provides source code from the companion web site, which you can use as a basis for your own projects Explores tips, smart workarounds, and best practices to help you on the job Get thoroughly up to speed on SQL Server 2012 with Microsoft SQL Server 2012 Bible.

Semantic Modeling for Data Sep 01 2022 Perhaps you're an information architect on a mission to make your organization's data more understandable and usable across applications. Or a knowledge engineer working to infuse domain knowledge into the next Alexa or Siri. Or a machine learning expert having difficulty obtaining the right data for your models. If you pursue these or similar tasks, this is your book. Author Panos Alexopoulos takes you on an eye-opening journey through semantic data modeling as applied in the real world. You'll learn how to master this craft and increase the usability and value of your data and applications. With this practical and comprehensive field guide, you'll understand the pitfalls to avoid and dilemmas to overcome to build high-quality and valuable semantic representations of data. Examine the quirks and challenges of semantic data modeling and learn how to effectively leverage available frameworks and tools Avoid mistakes and bad practices that can undermine your efforts to create good data models Learn about model development dilemmas, including representation, expressiveness and content, development, and governance Organize and execute semantic data initiatives in your organization, tackling technical, strategic, and organizational challenges

Domain-Specific Languages Sep 08 2020 When carefully selected and used, Domain-Specific Languages (DSLs) may simplify complex code, promote effective communication with customers, improve productivity, and unclog development bottlenecks. In Domain-Specific Languages , noted software development expert Martin Fowler first provides the information software professionals need to decide if and when to utilize DSLs. Then, where DSLs prove suitable, Fowler presents effective techniques for building them, and guides software engineers in choosing the right approaches for their applications. This book's techniques may be utilized with most modern object-oriented languages; the author provides numerous examples in Java and C#, as well as selected examples in Ruby. Wherever possible, chapters are organized to be self-standing, and most reference topics are presented in a familiar patterns format. Armed with this wide-ranging book, developers will have the knowledge they need to make important decisions about DSLs—and, where appropriate, gain the significant technical and business benefits they offer. The topics covered include: How DSLs compare to frameworks and libraries, and when those alternatives are sufficient Using parsers and parser generators, and parsing external DSLs Understanding, comparing, and choosing DSL language constructs Determining whether to use code generation, and comparing code generation strategies Previewing new language workbench tools for creating DSLs

Semantic Domains in Computational Linguistics Jul 19 2021 Semantic fields are lexically coherent - the words they contain co-occur in texts. In this book the authors introduce and define semantic domains, a computational model for lexical semantics inspired by the theory of semantic fields. Semantic domains allow us to exploit domain features for texts, terms and concepts, and they can significantly boost the performance of natural-language processing systems. Semantic domains can be derived from existing lexical resources or can be acquired from corpora in an unsupervised manner. They also have the property of interlinguality, and they can be used to relate terms in different languages in multilingual application scenarios. The authors give a comprehensive explanation of the computational model, with detailed chapters on semantic domains, domain models, and applications of the technique in text categorization, word sense disambiguation, and cross-language text categorization. This book is suitable for researchers and graduate students in computational linguistics.

The Structure of Long-term Memory Dec 24 2021 How is information stored and retrieved from long-term memory? It is argued that any systematic attempt to answer this question should be based on a particular set of specific representational assumptions that have led to the development of a new memory theory -- the connectivity model. One of the crucial predictions of this model is that, in sharp contrast to traditional theories, the speed of processing information increases as the amount and complexity of integrated knowledge increases. In this volume, the predictions of the model are examined by analyzing the results of a variety of different experiments and by studying the outcome of the simulation program CONN1, which illustrates the representation of complex semantic structures. In the final chapter, the representational assumptions of the connectivity model are evaluated on the basis of neuroanatomical and physiological evidence -- suggesting that neuroscience provides valuable knowledge which should guide the development of memory theories.

Buildings and Semantics Mar 27 2022 This book shows how diverse data models and web technologies can be created and used for the built environment. This book will serve as a guide and reference for experts and professionals in AEC computing and digital construction including Master students, PhD researchers, and junior to senior IT-oriented AEC professionals.

Visual Knowledge Modeling for Semantic Web Technologies: Models and Ontologies Jun 29 2022 "This book addresses how we can make the Web more useful, more intelligent, more knowledge intensive to fulfill our more and more demanding learning and working needs? It is based on the premise that representing knowledge visually is key for individuals and organizations to enable useful access to the knowledge era"--Provided by publisher.

Database Design May 29 2022 This book covers the broad field of database design from the perspective of semantic modeling. Aimed at present and future designers of database applications, software engineers, systems analysts and programmers, it aims to offer a unified study of semantic, relational, network and hierarchical databases as seen through the semantic modeling approach. The book provides a stuctured top-down methodology of database design in all the models and presents the principal types of database languages.

The Oxford Handbook of Computational and Mathematical Psychology Sep 20 2021 This Oxford Handbook offers a comprehensive and authoritative review of important developments in computational and mathematical psychology. With chapters written by leading scientists across a variety of subdisciplines, it examines the field's influence on related research areas such as cognitive psychology, developmental psychology, clinical psychology, and neuroscience. TheHandbook emphasizes examples and applications of the latest research, and will appeal to readers possessing various levels of modeling experience. The Oxford Handbook of Computational and mathematical Psychology covers the key developments in elementary cognitive mechanisms (signal detection, information processing, reinforcement learning), basic cognitive skills (perceptual judgment, categorization, episodic memory), higher-level cognition (Bayesian cognition, decision making, semantic memory, shape perception), modeling tools (Bayesian estimation and other new model comparison methods), and emerging new directions in computation and mathematical psychology (neurocognitive modeling, applications to clinical psychology, quantum cognition). The Handbook would make an ideal graduate-level textbook for courses in computational and mathematical psychology. Readers ranging from advanced undergraduates to experienced faculty members and researchers in virtually any area of psychology--including cognitive science and related social and behavioral sciences such as consumer behavior and communication--will find the text useful.

Semantic Web Services, Processes and Applications Nov 30 2019 Semantics, Web services, and Web processes promise better re-use, universal interoperability and integration. Semantics has been recognized as the primary tool to address the challenges of a broad spectrum of heterogeneity and for improving automation through machine understandable descriptions. Semantic Web Services, Processes and Applications brings contributions from researchers who study, explore and understand the semantic enabling of all phases of semantic Web processes. This encompasses design, annotation, discovery, choreography and composition. Also this book presents fundamental capabilities and techniques associated with ontological modeling or services, annotation, matching and mapping, and reasoning. This is complemented by discussion of applications in e-Government and bioinformatics. Special bulk rates are available for course adoption through Publishing Editor.

Programming the Semantic Web Jul 27 2019 With this book, the promise of the Semantic Web -- in which machines can find, share, and combine data on the Web -- is not just a technical possibility, but a practical reality Programming the Semantic Web demonstrates several ways to implement semantic web applications, using current and emerging standards and technologies. You'll learn how to incorporate existing data sources into semantically aware applications and publish rich semantic data. Each chapter walks you through a single piece of semantic technology and explains how you can use it to solve real problems. Whether you're writing a simple mashup or maintaining a high-performance enterprise solution,Programming the Semantic Web provides a standard, flexible approach for integrating and future-proofing systems and data. This book will help you: Learn how the Semantic Web allows new and unexpected uses of data to emerge Understand how semantic technologies promote data portability with a simple, abstract model for knowledge representation Become familiar with semantic standards, such as the Resource Description Framework (RDF) and the Web Ontology Language (OWL) Make use of semantic programming techniques to both enrich and simplify current web applications

Graph Data-Models and Semantic Web Technologies in Scholarly Digital Editing Jul 31 2022 In scholarly digital editing, the established practice for semantically enriching digital texts is to add markup to a linear string of characters. Graph data-models provide an alternative approach, which is increasingly being given serious consideration. Labelled-property-graph databases, and the W3c's semantic web recommendation and associated standards (RDF and OWL) are powerful and flexible solutions to many of the problems that come with embedded markup. This volume explores the combination of scholarly digital editions, the graph data-model, and the semantic web from three perspectives: infrastructures and technologies, formal models, and projects and editions.

Proceedings of the 1st International and Interdisciplinary Conference on Digital Environments for Education, Arts and Heritage Jun 17 2021 This book gathers peer-reviewed papers presented at the 1st International and Interdisciplinary Conference on Digital Environments for Education, Arts and Heritage (EARTH2018), held in Brixen, Italy in July 2018. The papers focus on interdisciplinary and multi-disciplinary research concerning cutting-edge cultural heritage informatics and engineering; the use of technology for the representation, preservation and communication of cultural heritage knowledge; as well as heritage education in digital environments; innovative experiments in the field of digital representation; and methodological reflections on the use of IT tools in various educational contexts. The scope of the papers ranges from theoretical research to applications, including education, in several fields of science, technology and art. EARTH 2018 addressed a

variety of topics and subtopics, including digital representation technologies, virtual museums and virtual exhibitions, virtual and augmented reality, digital heritage and digital arts, art and heritage education, teaching and technologies for museums, VR and AR technologies in schools, education through digital media, psychology of perception and attention, psychology of arts and communication, as well as serious games and gamification. As such the book provides architects, engineers, computer scientists, social scientists and designers interested in computer applications and cultural heritage with an overview of the latest advances in the field, particularly in the context of science, arts and education.

A Semantic Product Modeling Framework and Language for Behavior Evaluation Feb 23 2022 Supporting different stakeholder viewpoints across the product's entire lifecycle requires semantic richness for representing product related information. This paper proposes a multi-layered product modeling framework that enables stakeholders to define their product-specific models and relate them to physical or simulated instances. The framework is defined within the Model-driven Architecture and adapted to the multi-layer approach of the architecture. The data layer represents real world products, the model layer includes models of those products, and the meta-model layer (M2) defines the product modeling language. The semantic-based product modeling language described in this paper is specialized from a web ontology language enabling product designers to express the semantics of their product models explicitly and logically in an engineering-friendly way. The interactions between these three layers are described to illustrate how each layer in the framework is used in a product engineering context. A product example is provided for further understanding of the framework.

Advances in Information Retrieval Sep 28 2019 This two-volume set LNCS 12035 and 12036 constitutes the refereed proceedings of the 42nd European Conference on IR Research, ECIR 2020, held in Lisbon, Portugal, in April 2020. The 55 full papers presented together with 8 reproducibility papers, 46 short papers, 10 demonstration papers, 12 invited CLEF papers, 7 doctoral consortium papers, 4 workshop papers, and 3 tutorials were carefully reviewed and selected from 457 submissions. They were organized in topical sections named: Part I: deep learning I; entities; evaluation; recommendation; information extraction; deep learning II; retrieval; multimedia; deep learning III; queries; IR – general; question answering, prediction, and bias; and deep learning IV. Part II: reproducibility papers; short papers; demonstration papers; CLEF organizers lab track; doctoral consortium papers; workshops; and tutorials. *Due to the COVID-19 pandemic, this conference was held virtually.*

Semantics Jan 13 2021 The current book is a nice blend of number of great ideas, theories, mathematical models, and practical systems in the domain of Semantics. The book has been divided into two volumes. The current one is the first volume which highlights the advances in theories and mathematical models in the domain of Semantics. This volume has been divided into four sections and ten chapters. The sections include: 1) Background, 2) Queries, Predicates, and Semantic Cache, 3) Algorithms and Logic Programming, and 4) Semantic Web and Interfaces. Authors across the World have contributed to debate on state-of-the-art systems, theories, mathematical models in the domain of Semantics. Subsequently, new theories, mathematical models, and systems have been proposed, developed, and evaluated.

Semantic Web for the Working Ontologist Apr 27 2022 Semantic Web for the Working Ontologist: Effective Modeling in RDFS and OWL, Second Edition, discusses the capabilities of Semantic Web modeling languages, such as RDFS (Resource Description Framework Schema) and OWL (Web Ontology Language). Organized into 16 chapters, the book provides examples to illustrate the use of Semantic Web technologies in solving common modeling problems. It uses the life and works of William Shakespeare to demonstrate some of the most basic capabilities of the Semantic Web. The book first provides an overview of the Semantic Web and aspects of the Web. It then discusses semantic modeling and how it can support the development from chaotic information gathering to one characterized by information sharing, cooperation, and collaboration. It also explains the use of RDF to implement the Semantic Web by allowing information to be distributed over the Web, along with the use of SPARQL to access RDF data. Moreover, the reader is introduced to components that make up a Semantic Web deployment and how they fit together, the concept of inferencing in the Semantic Web, and how RDFS differs from other schema languages. Finally, the book considers the use of SKOS (Simple Knowledge Organization System) to manage vocabularies by taking advantage of the inferencing structure of RDFS-Plus. This book is intended for the working ontologist who is trying to create a domain model on the Semantic Web. Updated with the latest developments and advances in Semantic Web technologies for organizing, querying, and processing information, including SPARQL, RDF and RDFS, OWL 2.0, and SKOS Detailed information on the ontologies used in today's key web applications, including ecommerce, social networking, data mining, using government data, and more Even more illustrative examples and case studies that demonstrate what semantic technologies are and how they work together to solve real-world problems

Semantic and Fuzzy Modelling for Human Behaviour Recognition in Smart Spaces Oct 22 2021 One of the major limitations of the Ambient Intelligent Systems today is the lack of semantic models of those activities on the environment, so that the system can recognize the specific activity being performed by the user(s) and act accordingly. In this context, this thesis addresses the general problem of knowledge representation in Smart Spaces. The main objective is to develop knowledge-based models, equipped with semantics to learn, infer and monitor human behaviours in Smart Spaces. Moreover, it is easy to recognize that some aspects of this problem have a high degree of uncertainty, and therefore, the developed models must be equipped with mechanisms to manage this type of information. As an added value, this system should be sufficiently simple and flexible to be managed by non-expert users, and thus, facilitate the transfer of research to industry. To do this, we develop graphical models to represent human behaviour in Smart Spaces, in order to provide them with more usability in the final application. As a result, human behaviour recognition can help assisting people with special needs such as independent elders, in remote rehabilitation monitoring, industrial process guidelines, and many other cases.

Urban Informatics Aug 08 2020 This open access book is the first to systematically introduce the principles of urban informatics and its application to every aspect of the city that involves its functioning, control, management, and future planning. It introduces new models and tools being developed to understand and implement these technologies that enable cities to function more efficiently – to become 'smart' and 'sustainable'. The smart city has quickly emerged as computers have become ever smaller to the point where they can be embedded into the very fabric of the city, as well as being central to new ways in which the population can communicate and act. When cities are wired in this way, they have the potential to become sentient and responsive, generating massive streams of 'big' data in real time as well as providing immense opportunities for extracting new forms of urban data through crowdsourcing. This book offers a comprehensive review of the methods that form the core of urban informatics from various kinds of urban remote sensing to new approaches to machine learning and statistical modelling. It provides a detailed technical introduction to the wide array of tools information scientists need to develop the key urban analytics that are fundamental to learning about the smart city, and it outlines ways in which these tools can be used to inform design and policy so that cities can become more efficient with a greater concern for environment and equity.

Semantic Models for Adaptive Interactive Systems Aug 20 2021 Providing insights into methodologies for designing adaptive systems based on semantic data, and introducing semantic models that can be used for building interactive systems, this book showcases many of the applications made possible by the use of semantic models. Ontologies may enhance the functional coverage of an interactive system as well as its visualization and interaction capabilities in various ways. Semantic models can also contribute to bridging gaps; for example, between user models, context-aware interfaces, and model-driven UI generation. There is considerable potential for using semantic models as a basis for adaptive interactive systems. A variety of reasoning and machine learning techniques exist that can be employed to achieve adaptive system behavior. The advent and rapid growth of Linked Open Data as a large-scale collection of semantic data has also paved the way for a new breed of intelligent, knowledge-intensive applications. Semantic Models for Adaptive Interactive Systems includes ten complementary chapters written by experts from both industry and academia. Rounded off by a number of case studies in real world application domains, this book will serve as a valuable reference for researchers and practitioners exploring the use of semantic models within HCI.

Teaching Science Oct 10 2020 Science has never been more important, yet science education faces serious challenges. At present, science education research only sees half the picture, focusing on how students learn and their changing conceptions. Both teaching practice and what is taught, science knowledge itself, are missing. This book offers new, interdisciplinary ways of thinking about science teaching that foreground the forms taken by science knowledge and the language, imagery and gesture through which they are expressed. This book brings together leading international scholars from Systemic Functional Linguistics, a long-established approach to language, and Legitimation Code Theory, a rapidly growing sociological approach to knowledge practices. It explores how to bring knowledge, language and pedagogy back into the picture of science education but also offers radical innovations that will shape future research. Part I sets out new ways of understanding the role of knowledge in integrating mathematics into science, teaching scientific explanations and using multimedia resources such as animations. Part II provides new concepts for showing the role of language in complex scientific explanations, in how scientific taxonomies are built, and in combining with mathematics and images to create science knowledge. Part III draws on the approaches to explore how more students can access scientific knowledge, how to teach professional reasoning, the role of body language in science teaching, and making mathematics understandable to all learners. Teaching Science offers major leaps forward in understanding knowledge, language and pedagogy that will shape the research agenda far beyond science education.

Semantic Models for Multimedia Database Searching and Browsing Oct 29 2019 Semantic Models for Multimedia Database Searching and Browsing begins with the introduction of multimedia information applications, the need for the development of the multimedia database management systems (MDBMSs), and the important issues and challenges of multimedia systems. The temporal relations, the spatial relations, the spatio-temporal relations, and several semantic models for multimedia information systems are also introduced. In addition, this book discusses recent advances in multimedia database searching and multimedia database browsing. More specifically, issues such as image/video segmentation, motion detection, object tracking, object recognition, knowledge-based event modeling, content-based retrieval, and key frame selections are presented for the first time in a single book. Two case studies consisting of two semantic models are included in the book to illustrate how to use semantic models to design multimedia information systems. Semantic Models for Multimedia Database Searching and Browsing is an excellent reference and can be used in advanced level courses for researchers, scientists, industry professionals, software engineers, students, and general readers who are interested in the issues, challenges, and ideas underlying the current practice of multimedia presentation, multimedia database searching, and multimedia browsing in multimedia information systems.

Semantic Priming Jan 31 2020 Semantic priming has been a focus of research in the cognitive sciences for more than thirty years and is commonly used as a tool for investigating other aspects of perception and cognition, such as word recognition, language comprehension, and knowledge representations. Semantic Priming: Perspectives from Memory and Word Recognition examines empirical and theoretical advancements in the understanding of semantic priming, providing a succinct, in-depth review of this important phenomenon, framed in terms of models of memory and models of word recognition. The first section examines models of semantic priming, including spreading activation models, the verification model, compound-cue models, distributed network models, and multistage activation models (e.g. interactive-activation model). The second section examines issues and findings that have played an especially important role in testing models of priming and includes chapters on the following topics: methodological issues (e.g. counterbalancing of materials, choice of priming baselines); automatic vs. strategic priming; associative vs. "pure" semantic priming; mediated priming; long-term semantic priming; backward priming; unconscious priming; the prime-task effect; list context effects; effects of word frequency, stimulus quality, and stimulus repetition; and the cognitive neuroscience of semantic priming. The book closes with a summary and a discussion of promising new research directions. The volume will be of interest to a wide range of researchers and students in the cognitive sciences and neurosciences.

Intelligent Scene Modeling and Human-Computer Interaction Mar 15 2021 This edited book is one of the first to describe how Autonomous Virtual Humans and Social Robots can interact with real people and be aware of the surrounding world using machine learning and AI. It includes: · Many algorithms related to the awareness of the surrounding world such as the recognition of objects, the interpretation of various sources of data provided by cameras, microphones, and wearable sensors · Deep Learning Methods to provide solutions to Visual Attention, Quality Perception, and Visual Material Recognition · How Face Recognition and Speech Synthesis will replace the traditional mouse and keyboard interfaces · Semantic modeling and rendering and shows how these domains play an important role in Virtual and Augmented Reality Applications. Intelligent Scene Modeling and Human-Computer Interaction explains how to understand the composition and build very complex scenes and emphasizes the semantic methods needed to have an intelligent interaction with them. It offers readers a unique opportunity to comprehend the rapid changes and continuous development in the fields of Intelligent Scene Modeling.

Advances on Mechanics, Design Engineering and Manufacturing III Apr 03 2020 This open access book gathers contributions presented at the International Joint Conference on Mechanics, Design Engineering and Advanced Manufacturing (JCM 2020), held as a web conference on June 2-4, 2020. It reports on cutting-edge topics in product design and manufacturing, such as industrial methods for integrated product and process design; innovative design; and computer-aided design. Further topics covered include virtual simulation and reverse engineering; additive manufacturing; product manufacturing; engineering methods in medicine and education; representation techniques; and nautical, aeronautics and aerospace design and modeling. The book is organized into four main parts, reflecting the focus and primary themes of the conference. The contributions presented here not only provide researchers, engineers and experts in a range of industrial engineering subfields with extensive information to support their daily work; they are also intended to stimulate new research directions, advanced applications of the methods discussed and future interdisciplinary collaborations.

Semantic Priming Apr 15 2021 Semantic priming - the improvement in speed or accuracy to respond to a word when it is preceded by a semantically related word - is addressed in this volume, which provides a succinct and in-depth overview of this important phenomenon.

High-Order Models in Semantic Image Segmentation Jun 05 2020 High-Order Models in Semantic Image Segmentation reviews recent developments in optimization-based methods for image segmentation, presenting several geometric and mathematical models that underlie a broad class of recent segmentation techniques. Focusing on impactful algorithms in the computer vision community in the last 10 years, the book includes sections on graph-theoretic and continuous relaxation techniques, which can compute globally optimal solutions for many problems. The book provides a practical and accessible introduction to these state-of-the-art segmentation techniques that is ideal for academics, industry researchers, and graduate students in computer vision, machine learning and medical imaging. Gives an intuitive and conceptual understanding of this mathematically involved subject by using a large number of graphical illustrations Provides the right amount of knowledge to apply sophisticated techniques for a wide range of new applications Contains numerous tables that compare different algorithms, facilitating the appropriate choice of algorithm for the intended application Presents an array of practical applications in computer vision and medical imaging Includes code for many of the algorithms that is available on the book's companion website

Modeling with Rules Using Semantic Knowledge Engineering Dec 12 2020 This book proposes a consistent methodology for building intelligent systems. It puts forward several formal models for designing and implementing rules-based systems, and presents illustrative case studies of their applications. These include software engineering, business process systems, Semantic Web, and context-aware systems on mobile devices. Rules offer an intuitive yet powerful method for representing human knowledge, and intelligent systems based on rules have many important applications. However, their practical development requires proper techniques and models - a gap that this book effectively addresses.

The Cambridge Handbook of Psycholinguistics Nov 22 2021 Our ability to speak, write, understand speech and read is critical to our ability to function in today's society. As such, psycholinguistics,

or the study of how humans learn and use language, is a central topic in cognitive science. This comprehensive handbook is a collection of chapters written not by practitioners in the field, who can summarize the work going on around them, but by trailblazers from a wide array of subfields, who have been shaping the field of psycholinguistics over the last decade. Some topics discussed include how children learn language, how average adults understand and produce language, how language is represented in the brain, how brain-damaged individuals perform in terms of their language abilities and computer-based models of language and meaning. This is required reading for advanced researchers, graduate students and upper-level undergraduates who are interested in the recent developments and the future of psycholinguistics.

Visual Knowledge Modeling for Semantic Web Technologies Jan 25 2022 Visual Knowledge Modeling for Semantic Web Technologies: Models and Ontologies aims to make visual knowledge modeling available to individuals as an intellectual method and a set of tools at different levels of formalization. It aims to provide to its readers a simple, yet powerful visual language to structure their thoughts, analyze information, transform it to personal knowledge, and communicate information to support knowledge acquisition in collaborative activities.

Metabiology Aug 27 2019 In the context of life sciences, we are constantly confronted with information that possesses precise semantic values and appears essentially immersed in a specific evolutionary trend. In such a framework, Nature appears, in Monod's words, as a tinkerer characterized by the presence of precise principles of self-organization. However, while Monod was obliged to incorporate his brilliant intuitions into the framework of first-order cybernetics and a theory of information with an exclusively syntactic character such as that defined by Shannon, research advances in recent decades have led not only to the definition of a second-order cybernetics but also to an exploration of the boundaries of semantic information. As H. Atlan states, on a biological level "the function self-organizes together with its meaning". Hence the need to refer to a conceptual theory of complexity and to a theory of self-organization characterized in an intentional sense. There is also a need to introduce, at the genetic level, a distinction between coder and ruler as well as the opportunity to define a real software space for natural evolution. The recourse to non-standard model theory, the opening to a new general semantics, and the innovative definition of the relationship between coder and ruler can be considered, today, among the most powerful theoretical tools at our disposal in order to correctly define the contours of that new conceptual revolution increasingly referred to as metabiology. This book focuses on identifying and investigating the role played by these particular theoretical tools in the development of this new scientific paradigm. Nature "speaks" by means of mathematical forms: we can observe these forms, but they are, at the same time, inside us as they populate our organs of cognition. In this context, the volume highlights how metabiology appears primarily to refer to the growth itself of our instruments of participatory knowledge of the world.

Semantic Modeling for Data Jan 01 2020 What value does semantic data modeling offer? As an information architect or data science professional, let's say you have an abundance of the right data and the technology to extract business gold—but you still fail. The reason? Bad data semantics. In this practical and comprehensive field guide, author Panos Alexopoulos takes you on an eye-opening journey through semantic data modeling as applied in the real world. You'll learn how to master this craft to increase the usability and value of your data and applications. You'll also explore the pitfalls to avoid and dilemmas to overcome for building high-quality and valuable semantic representations of data. Understand the fundamental concepts, phenomena, and processes related to semantic data modeling Examine the quirks and challenges of semantic data modeling and learn how to effectively leverage the available frameworks and tools Avoid mistakes and bad practices that can undermine your efforts to create good data models Learn about model development dilemmas, including representation, expressiveness and content, development, and governance Organize and execute semantic data initiatives in your organization, tackling technical, strategic, and organizational challenges

Database design with extensible semantic models Feb 11 2021

Semantic Web-Based Systems May 05 2020 The book initially presents the basic concepts related to the Semantic Web, Semantic Web-based applications, Web applications, Ontology, and their qualitative aspects. It then presents the evaluation of the structural quality of modular ontologies and review on metrics for the evaluation of ontology behavior. Further, the book discusses the qualitative evaluation of Semantic Web applications deployed on the Cloud, helping readers understand, maintain, integrate, and reuse these applications. The book offers software engineers in general and ontology engineers in particular a single, valuable guide to help them find the best modularization on the basis of goodness of (re) use. It can also serve as an initial source of information for starting research in this domain.

Refinement Mar 03 2020 Refinement is one of the cornerstones of a formal approach to software engineering. Refinement is all about turning an abstract description (of a soft or hardware system) into something closer to implementation. It provides that essential bridge between higher level requirements and an implementation of those requirements. This book provides a comprehensive introduction to refinement for the researcher or graduate student. It introduces refinement in different semantic models, and shows how refinement is defined and used within some of the major formal methods and languages in use today. It (1) introduces the reader to different ways of looking at refinement, relating refinement to observations(2) shows how these are realised in different semantic models (3) shows how different formal methods use different models of refinement, and (4) how these models of refinement are related.

Semantic Methods for Execution-level Business Process Modeling Nov 10 2020 This book develops new approaches for the rapid development and flexible adaption of business processes. It investigates how process modelers can be supported by semantic technologies and puts special emphasis on expressiveness and scalability.

The Article System of French and Fuzzy Semantic Models Jul 07 2020

Personal Knowledge Models with Semantic Technologies Oct 02 2022

Semantic Modeling for Data Nov 03 2022 What value does semantic data modeling offer? As an information architect or data science professional, let's say you have an abundance of the right data and the technology to extract business gold—but you still fail. The reason? Bad data semantics. In this practical and comprehensive field guide, author Panos Alexopoulos takes you on an eye-opening journey through semantic data modeling as applied in the real world. You'll learn how to master this craft to increase the usability and value of your data and applications. You'll also explore the pitfalls to avoid and dilemmas to overcome for building high-quality and valuable semantic representations of data. Understand the fundamental concepts, phenomena, and processes related to semantic data modeling Examine the quirks and challenges of semantic data modeling and learn how to effectively leverage the available frameworks and tools Avoid mistakes and bad practices that can undermine your efforts to create good data models Learn about model development dilemmas, including representation, expressiveness and content, development, and governance Organize and execute semantic data initiatives in your organization, tackling technical, strategic, and organizational challenges