

INTRODUCTION knowledge representation and reasoning [PDF]

Knowledge Representation and Reasoning Knowledge Representation and Defeasible Reasoning Principles of Knowledge Representation and Reasoning Handbook of Knowledge Representation Diagrammatic Representation and Reasoning Principles of Knowledge Representation and Reasoning Principles of Knowledge Representation and Reasoning Principles of Knowledge Representation and Reasoning Knowledge Representation and Reasoning Under Uncertainty Knowledge Representation, Reasoning and Declarative Problem Solving Principles of Knowledge Representation and Reasoning Graph-Based Representation and Reasoning Logic and Representation Foundations of Knowledge Representation and Reasoning Part-Whole Reasoning in an Object-Centered Framework Foundations of Knowledge Representation and Reasoning Representations of Commonsense Knowledge Principles of Knowledge Representation and Reasoning The Knowledge Frontier Knowledge Representation Graph Structures for Knowledge Representation and Reasoning The Logic of Knowledge Bases Principles of Knowledge Representation and Reasoning Approaches to Knowledge Representation Principles of Knowledge Representation and Reasoning Proceedings, Fourteenth International Conference on Principles of Knowledge Representation and Reasoning Knowledge Representation Graph Structures for Knowledge Representation and Reasoning Principles of Knowledge Representation Knowledge Representation, Reasoning, and the Design of Intelligent Agents Knowledge Representation and Reasoning Under Uncertainty Graph-Based Representation and Reasoning KR Proceedings, Tenth International Conference on Principles of Knowledge Representation and Reasoning Reasoning: Representation and Process Use of Representations in Reasoning and Problem Solving Knowledge Representation, Reasoning, and the Design of Intelligent Agents Context Knowledge Representation and Reasoning in the Context Interchange System Context Knowledge Representation and Reasoning in the Context Interchange System Reasoning and Revision in Hybrid Representation Systems Representation & Reasoning: How Artificial Intelligence Makes Choices (Fun Picture Book for K-2, AI+ME Series)

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Knowledge Representation and Reasoning

2004-05-19

knowledge representation is at the very core of a radical idea for understanding intelligence this book talks about the central concepts of knowledge representation developed over the years it is suitable for researchers and practitioners in database management information retrieval object oriented systems and artificial intelligence

Knowledge Representation and Defeasible Reasoning

2012-12-06

this series will include monographs and collections of studies devoted to the investigation and exploration of knowledge information and data processing systems of all kinds no matter whether human other animal or machine its scope is intended to span the full range of interests from classical problems in the philosophy of mind and philosophical psychology through issues in cognitive psychology and sociobiology concerning the mental capabilities of other species to ideas related to artificial intelligence and computer science while primary emphasis will be placed upon theoretical conceptual and epistemological aspects of these problems and domains empirical experimental and methodological studies will also appear from time to time the present volume provides a collection of studies that focus on some of the central problems within the domain of artificial intelligence these difficulties fall into four principal areas defeasible reasoning including the frame problem as apart ordinary language and the representation problems that it generates the revision of beliefs and its rules of inference and knowledge representation and the logical problems that are encountered there these papers make original contributions to each of these areas of inquiry and should be of special interest to those who understand the crucial role that is played by questions of logical form they vividly illustrate the benefits that can emerge from collaborative efforts involving scholars from linguistics philosophy computer science and artificial intelligence

Principles of Knowledge Representation and Reasoning

1991

the proceedings of the second international conference on title held in cambridge massachusetts april 1991 comprise 55 papers on topics including the logical specifications of reasoning behaviors and representation formalisms comparative analysis of competing algorithms and formalisms and ana

Handbook of Knowledge Representation

2008-01-08

handbook of knowledge representation describes the essential foundations of knowledge

2016-07-31

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knowledge representation and reasoning

representation which lies at the core of artificial intelligence ai the book provides an up to date review of twenty five key topics in knowledge representation written by the leaders of each field it includes a tutorial background and cutting edge developments as well as applications of knowledge representation in a variety of ai systems this handbook is organized into three parts part i deals with general methods in knowledge representation and reasoning and covers such topics as classical logic in knowledge representation satisfiability solvers description logics constraint programming conceptual graphs nonmonotonic reasoning model based problem solving and bayesian networks part ii focuses on classes of knowledge and specialized representations with chapters on temporal representation and reasoning spatial and physical reasoning reasoning about knowledge and belief temporal action logics and nonmonotonic causal logic part iii discusses knowledge representation in applications such as question answering the semantic web automated planning cognitive robotics multi agent systems and knowledge engineering this book is an essential resource for graduate students researchers and practitioners in knowledge representation and ai make your computer smarter handle qualitative and uncertain information improve computational tractability to solve your problems easily

Diagrammatic Representation and Reasoning

2011-06-27

the rise in computing and multimedia technology has spawned an increasing interest in the role of diagrams and sketches not only for the purpose of conveying information but also for creative thinking and problem solving this book attempts to characterise the nature of a science of diagrams in a wide ranging multidisciplinary study that contains accounts of the most recent research results in computer science and psychology key topics include cognitive aspects formal aspects and applications it is a well written and indispensable survey for researchers and students in the fields of cognitive science artificial intelligence human computer interaction and graphics and visualisation

Principles of Knowledge Representation and Reasoning

1992

stringently reviewed papers presented at the october 1992 meeting held in cambridge mass address such topics as nonmonotonic logic taxonomic logic specialized algorithms for temporal spatial and numerical reasoning and knowledge representation issues in planning diagnosis and natural langu

Principles of Knowledge Representation and Reasoning

1994

the proceedings of kr 94 comprise 55 papers on topics including deduction an search description logics theories of knowledge and belief nonmonotonic reasoning and belief revision action and time planning and decision making and reasoning about the physical world and the relations between kr

Principles of Knowledge Representation and Reasoning

1998

this volume is based on the international conference logic at work held in amsterdam the netherlands in december 1992 the 14 papers in this volume are selected from 86 submissions and 8 invited contributions and are all devoted to knowledge representation and reasoning under uncertainty which are core issues of formal artificial intelligence nowadays logic is not any longer mainly associated to mathematical and philosophical problems the term applied logic has a far wider meaning as numerous applications of logical methods particularly in computer science artificial intelligence or formal linguistics testify as demonstrated also in this volume a variety of non standard logics gained increased importance for knowledge representation and reasoning under uncertainty

Knowledge Representation and Reasoning Under Uncertainty

1994-06-28

knowledge management and knowledge based intelligence are areas of importance in the economy and society and to exploit them fully and efficiently it is necessary both to represent and reason about knowledge via a declarative interface whose input language is based on logic in this book originally published in 2003 chitta baral shows exactly how to go about doing that how to write programs that behave intelligently by giving them the ability to express knowledge and reason about it he presents a language ansprolog for both knowledge representation and reasoning and declarative problem solving the results have been organised here into a form that will appeal to practising and would be knowledge engineers wishing to learn more about the subject either in courses or through self teaching a comprehensive bibliography rounds off the book

Knowledge Representation, Reasoning and Declarative Problem Solving

2003-01-09

principles of knowledge representation and reasoning contains the proceedings of the fourth international conference on principles of knowledge representation and reasoning kr 94 held in bonn germany on may 24 27 1994 the conference provided a forum for reviewing the theory and principles underlying knowledge representation and reasoning topics covered range from reasoning about mental states and spatial reasoning with propositional logics to default logic as a query language comprised of 60 chapters this book begins with a description of a formal language for representing and reasoning about time and action before turning to proof in context and how it can replace the most common uses of reflection principles the reader is then introduced to reasoning with minimal models belief ascription and mental level modeling and a unified framework for class based

representation formalisms a general approach to specificity in default reasoning is also described together with an ontology for engineering mathematics and the use of abduction to generate tests the book concludes by considering the use of natural language for knowledge representation and reasoning this monograph will be of interest to both students and practitioners in the fields of artificial intelligence and computer science

Principles of Knowledge Representation and Reasoning

2014

this book constitutes the proceedings of the 21st international conference on conceptual structures iccs 2014 held in iasi romania in july 2014 the 17 regular papers and 6 short papers presented in this volume were carefully reviewed and selected from 40 and 10 submissions respectively the topics covered are conceptual structures knowledge representation reasoning conceptual graphs formal concept analysis semantic information integration machine learning data mining and information retrieval

Graph-Based Representation and Reasoning

2014-07-17

logic and representation brings together a collection of essays written over a period of ten years that apply formal logic and the notion of explicit representation of knowledge to a variety of problems in artificial intelligence natural language semantics and the philosophy of mind and language particular attention is paid to modelling and reasoning about knowledge and belief including reasoning about one's own beliefs and the semantics of sentences about knowledge and belief robert c moore begins by exploring the role of logic in artificial intelligence considering logic as an analytical tool as a basis for reasoning systems and as a programming language he then looks at various logical analyses of propositional attitudes including possible world models syntactic models and models based on russellian propositions next moore examines autoepistemic logic a logic for modelling reasoning about one's own beliefs rounding out the volume is a section on the semantics of natural language including a survey of problems in semantic representation a detailed study of the relations among events situations and adverbs and a presentation of a unification based approach to semantic interpretation robert c moore is principal scientist of the artificial intelligence center of sri international

Logic and Representation

1995

the papers collected in this book cover a wide range of topics in asymptotic statistics in particular up to date information is presented in detection of systematic changes in series of observation in robust regression analysis in numerical empirical processes and in related areas of actuarial sciences and mathematical programming the emphasis is on theoretical contributions with impact on statistical methods employed in the analysis of experiments and observations by biometricians econometricians and engineers

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knowledge

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Foundations of Knowledge Representation and Reasoning

1994-06-28

in this book the author develops an object centered framework with specialized support of the part of relation based on description logics these logics are a family of object centered knowledge representation languages tailored for describing knowledge about concepts and is a hierarchies of these concepts in addition to the representation and reasoning facilities provided by description logics for is a representation and reasoning facilities are introduced for part of finally the feasibility and the usefulness of the approach is demonstrated by applying the framework to various areas including domain modeling agent oriented scenarios document management and retrieval and composite concept learning

Part-Whole Reasoning in an Object-Centered Framework

2003-06-29

representations of commonsense knowledge provides a rich language for expressing commonsense knowledge and inference techniques for carrying out commonsense knowledge this book provides a survey of the research on commonsense knowledge organized into 10 chapters this book begins with an overview of the basic ideas on artificial intelligence commonsense reasoning this text then examines the structure of logic which is roughly analogous to that of a programming language other chapters describe how rules of universal validity can be applied to facts known with absolute certainty to deduce other facts known with absolute certainty this book discusses as well some prominent issues in plausible inference the final chapter deals with commonsense knowledge about the interrelations and interactions among agents and discusses some issues in human and social interactions that have been studied in the artificial intelligence literature this book is a valuable resource for students on a graduate course on knowledge representation

Foundations of Knowledge Representation and Reasoning

2014-01-15

knowledge representation is perhaps the most central problem confronting artificial intelligence expert systems need knowledge of their domain of expertise in order to function properly computer vision systems need to know characteristics of what they are seeing in order to be able to fully interpret scenes natural language systems are invaluabley aided by knowledge of the subject of the natural language discourse and knowledge of the participants in the discourse knowledge can guide learning systems towards better understanding and can aid problem solving systems in creating plans to solve various problems applications such as intelligent tutoring computer aided vlsi design game playing

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knowledge representation and reasoning

automatic programming medical reasoning diagnosis in various domains and speech recognition to name a few are all currently experimenting with knowledge based approaches the problem of knowledge representation breaks down into several subsidiary problems including what knowledge to represent in a particular application how to extract or create that knowledge how to represent the knowledge efficiently and effectively how to implement the knowledge representation scheme chosen how to modify the knowledge in the face of a changing world how to reason with the knowledge and how to use the knowledge appropriately in the creation of the application solution this volume contains an elaboration of many of these basic issues from a variety of perspectives

Representations of Commonsense Knowledge

2014-07-10

drawing from a wide range of disciplines this book integrates logic philosophy linguistics and computer science into this important new book written by a leading researcher in knowledge representation this definitive work is designed for researchers in computer science with knowledge of artificial intelligence as a prerequisite

Principles of Knowledge Representation and Reasoning

1991

this book constitutes the thoroughly refereed post conference proceedings of the 5th international workshop on graph structures for knowledge representation and reasoning gkr 2017 held in melbourne vic australia in august 2017 associated with ijcai 2017 the 26th international joint conference on artificial intelligence the 7 revised full papers presented were reviewed and selected from 9 submissions the contributions address various issues for knowledge representation and reasoning and the common graph theoretic background allows to bridge the gap between the different communities

The Knowledge Frontier

2012-12-06

this book describes in detail the relationship between symbolic representations of knowledge and abstract states of knowledge exploring along the way the foundations of knowledge knowledge bases knowledge based systems and knowledge representation and reasoning the idea of knowledge bases lies at the heart of symbolic or traditional artificial intelligence a knowledge based system decides how to act by running formal reasoning procedures over a body of explicitly represented knowledge a knowledge base the system is not programmed for specific tasks rather it is told what it needs to know and expected to infer the rest this book is about the logic of such knowledge bases it describes in detail the relationship between symbolic representations of knowledge and abstract states of knowledge exploring along the way the foundations of knowledge knowledge bases knowledge based systems and knowledge representation and reasoning assuming some familiarity with first order predicate logic the book offers a new mathematical model of

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knowledge representation and reasoning

knowledge that is general and expressive yet more workable in practice than previous models the book presents a style of semantic argument and formal analysis that would be cumbersome or completely impractical with other approaches it also shows how to treat a knowledge base as an abstract data type completely specified in an abstract way by the knowledge level operations defined over it

Knowledge Representation

2000

the kr conference series is a leading forum for timely in depth presentation of progress in the theory and principles underlying the representation and computational management of knowledge it is intended to foster communication and crossfertilization of ideas within the area as well as collaboration across research boundaries

Graph Structures for Knowledge Representation and Reasoning

2018-03-29

the kr conference series is a leading forum for timely in depth presentation of progress in the theory and principles underlying the representation and computational management of knowledge the 2014 kr conference was held as part of the vienna summer of logic a consortium of 12 conferences and 82 workshops organized by the kurt godel society at the vienna university of technology this proceedings contains 58 regular papers and 25 short technical papers they are broadly divided into the following areas description logics 11 reasoning about actions and processes 7 belief revision and nonmonotonicity 6 general knowledge representation and reasoning 6 planning strategies and diagnosis 5 answer set programming and logic programming 4 argumentation 4 automated reasoning and computation 4 causality and rationality 4 uncertainty 4 and reports from the field 3

The Logic of Knowledge Bases

2001-02-15

knowledge representation is fundamental to the study of mind all theories of psychological processing are rooted in assumptions about how information is stored these assumptions in turn influence the explanatory power of theories this book fills a gap in the existing literature by providing an overview of types of knowledge representation techniques and their use in cognitive models organized around types of representations this book begins with a discussion of the foundations of knowledge representation then presents discussions of different ways that knowledge representation has been used both symbolic and connectionist approaches to representation are discussed and a set of recommendations about the way representations should be used is presented this work can be used as the basis for a course on knowledge representation or can be read independently it will be useful to students of psychology as well as people in related disciplines computer science

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knowledge representation and
reasoning

philosophy anthropology and linguistics who want an introduction to techniques for knowledge representation

Principles of Knowledge Representation and Reasoning

1992

this book constitutes the thoroughly refereed post conference proceedings of the third international workshop on graph structures for knowledge representation and reasoning gkr 2013 held in beijing china in august 2013 associated with ijcai 2013 the 23rd international joint conference on artificial intelligence the 12 revised full papers presented were carefully reviewed and selected for inclusion in the book the papers feature current research involved in the development and application of graph based knowledge representation formalisms and reasoning techniques they address the following topics representations of constraint satisfaction problems formal concept analysis conceptual graphs and argumentation frameworks

Approaches to Knowledge Representation

1988

the book contains a collection of eight survey papers written by some of the best researchers in foundations of knowledge representation and reasoning it covers topics like theories of uncertainty nonmonotonic and causal reasoning logic programming abduction inductive logic programming description logics complexity in artificial intelligence and model based diagnosis it thus provides an up to date coverage of recent approaches to some of the most challenging problems underlying knowledge representation and artificial intelligence in general

Principles of Knowledge Representation and Reasoning

2016-10-08

this in depth introduction for students and researchers shows how to use asp for intelligent tasks including answering queries planning and diagnostics

Proceedings, Fourteenth International Conference on Principles of Knowledge Representation and Reasoning

2014-07-03

this book constitutes the proceedings of the 24th international conference on conceptual structures iccs 2019 held in marburg germany in july 2019 the 14 full papers and 6 short papers presented were carefully reviewed and selected from 29 submissions the proceedings also include one of the two invited talks the papers focus on the representation of and reasoning with conceptual structures in a variety of contexts iccs 2019 s theme was knowledge representation and reasoning

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reasoning

entitled graphs in human and machine cognition

Knowledge Representation

1999

originally published in 1975 this volume contains original reports of new models and data in the areas of propositional reasoning syllogistic reasoning and transitive inference in children and adults of the time a wide range of theoretical viewpoints is represented and an effort is made to integrate the models and empirical findings as well as place them in a common perspective and elucidate the general issues and questions relevant to these various approaches the study of logical reasoning was undergoing rapid expansion at the time and this volume brings together the latest thinking in the area in such a way that the relation between piagetian and non piagetian traditions are examined as well as the connection between the study of reasoning and the area of linguistic inquiry the discussions of metatheoretical issues such as the notion of logical competence and separability of representation and logical processing as regards the various models presented herein made this volume required reading for all those interested in reasoning in children and adults at the time

Graph Structures for Knowledge Representation and Reasoning

2014-01-21

within an increasingly multimedia focused society the use of external representations in learning teaching and communication has increased dramatically this book explores how we can theorise the relationship between processing internal and external representations

Principles of Knowledge Representation

1996-01-01

this work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it this work was reproduced from the original artifact and remains as true to the original work as possible therefore you will see the original copyright references library stamps as most of these works have been housed in our most important libraries around the world and other notations in the work this work is in the public domain in the united states of america and possibly other nations within the united states you may freely copy and distribute this work as no entity individual or corporate has a copyright on the body of the work as a reproduction of a historical artifact this work may contain missing or blurred pages poor pictures errant marks etc scholars believe and we concur that this work is important enough to be preserved reproduced and made generally available to the public we appreciate your support of the preservation process and thank you for being an important part of keeping this knowledge alive and relevant

Knowledge Representation, Reasoning, and the Design of Intelligent Agents

2014-03-10

is your child interested in sci fi robots or video games is your kid fascinated by smart home assistants and the prospect of self driving cars time to turn that enthusiasm into action and engage with the exciting world of artificial intelligence ai me is a series designed to introduce the 5 big ideas of artificial intelligence to young learners students take a deep dive into the five big ideas of ai perception representation and reasoning learning natural interaction and societal impact this is the 2nd book in the ai me series focused on representation and reasoning the series is recommended for k 2 students why should children be educated about ai learning ai opens up a world of opportunities as the fastest growing area of computer science ai will become the most important change force when our children grow up so it is critical they learn about it early ai is fun the field of ai started with scientists making computers learn to play games ai is an incredibly fun way to introduce kids to programming and pique their interest in advanced topics like deep learning lastly a topic like ai naturally opens up discussions about our humanity in our curriculum we dig deep into questions like does ai positively or negatively impact society in doing so we aim to develop critical thinking skills and encourage students to reflect deeply benefits of ai education gets children interested in stem education improves their problem solving and critical thinking skills builds their understanding of the tech tools that ll shape their future starts important conversations about the future of humanity what are educators saying i really love these books i think they are absolutely beautiful and very visually engaging ways for students to learn about artificial intelligence i like how they progress through the topic and terms related to artificial intelligence and help students to attach meaning to what they are learning by the different examples and step by step ways that students build their understanding through the book rachelle dene poth author of in other words unconventional the future is now and chart a new course what are parents saying my 1st grader loves this book she already is really interested in computers but this book got her thinking about how we actually tell emotions she started using her camera on her computer to record different expressions my son learned readyai courses before i let his friend read ai me big idea 1 surprisingly both of them finished reading the book with a lot of interest i will recommend this book for elementary school students i have been looking for fun ways to introduce ai to my kid and this definitely nailed it

Knowledge Representation and Reasoning Under Uncertainty

1994

Graph-Based Representation and Reasoning

2019-06-24

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knowledge representation and
reasoning

KR Proceedings, Tenth International Conference on Principles of Knowledge Representation and Reasoning

2006

Reasoning: Representation and Process

2015-06-18

Use of Representations in Reasoning and Problem Solving

2010-09-13

Knowledge Representation, Reasoning, and the Design of Intelligent Agents

2014

Context Knowledge Representation and Reasoning in the Context Interchange System

2018-03

Context Knowledge Representation and Reasoning in the Context Interchange System

1999

Reasoning and Revision in Hybrid Representation Systems

1990

Representation & Reasoning: How Artificial Intelligence Makes Choices (Fun Picture Book for K-2, AI+ME Series)

2020-10-19

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