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Computational Intelligent Systems for Applied Research Computational Intelligent Systems for Applied Research **Dependence Logic Advanced Research on Computer Science and Information Engineering** Epistemic Friction *A Practical Logic of Cognitive Systems Optical Supercomputing* Breakthrough Discoveries in Information Technology Research: Advancing Trends *The Application of Theorem Proving to Question-answering Systems* **Recent Advances in Intuitionistic Fuzzy Logic Systems** Handbook of the Logic of Argument and Inference *Quine, Conceptual Pragmatism, and the Analytic-Synthetic Distinction Phenomenology and Logic* Artificial Intelligence and Literary Creativity Deductive Systems in Traditional and Modern Logic **Knowledge-Based Intelligent Information and Engineering Systems** Logic and African Philosophy *Knowledge Production and the Search for Epistemic Liberation in Africa* **Abductive Reasoning A Compositional Semantic Structure for Multi-Agent Systems Dynamics A Companion to Philosophical Logic Predicting the Future: Can We Do It? And If Not, Why Not?** *Enzyme-Based Computing Systems* **The Application of Theorem Proving to Question-answering Systems Modelling of an Interval Type-2 Fussy Logic System (IT2 FLS) on Continuous Domain with Medical Application** Advances in Computers **Logic. (System of phil., 1). Encyclopedia of Information Science and Technology** *Artificial Intelligence and Integrated Intelligent Information Systems* Inferences with Ignorance: Logics of Questions Science Declares Our Universe Is Intelligently Designed *Challenges of Information Technology Management in the 21st Century* Encyclopedia of Computer Science and Technology **Information Modelling and Knowledge Bases XII Fibring Logics Computational Linguistics: Concepts, Methodologies, Tools, and Applications** *Higher Education and Belief Systems in the Asia Pacific Region 500 Artificial Intelligence (AI) Interview Questions and Answers Provability, Computability and Reflection* **Connections**

Provability, Computability and Reflection Jul 18 2019 Provability, Computability and Reflection

Connections Jun 16 2019 "In their fascinating analysis of the recent history of information technology, H. Peter Alesso and Craig F. Smith reveal the patterns in discovery and innovation that have brought us to the present tipping point. . . . A generation from now, every individual will have personally tailored access to the whole of knowledge . . . the sooner we all begin to think about how we got here, and where we're going, the better. This exciting book is an essential first step." —From the Foreword by James Burke Many people envision scientists as dispassionate characters who slavishly repeat experiments until "eureka"—something unexpected happens. Actually, there is a great deal more to the story of scientific discovery, but seeing "the big picture" is not easy. Connections: Patterns of Discovery uses the primary tools of forecasting and three archetypal patterns of discovery—Serendipity, Proof of Principle, and 1% Inspiration and 99% Perspiration—to discern relationships of past developments and synthesize a cohesive and compelling vision for the future. It challenges readers to think of the consequences of extrapolating trends, such as Moore's Law, to either reach real machine intelligence or retrench in the face of physical limitations. From this perspective,the book draws "the big picture" for the Information Revolution's innovations in chips, devices, software, and networks. With a Foreword by James Burke and bursting with fascinating detail throughout, Connections: Patterns of Discovery is a must-read for computer scientists, technologists, programmers, hardware and software developers, students, and anyone with an interest in tech-savvy topics.

The Application of Theorem Proving to Question-answering Systems Feb 17 2022 The paper shows how a question-answering system can use first-order logic as its language and an automatic theorem prover, based upon the resolution inference principle, as its deductive mechanism. The resolution proof procedure is extended to a constructive proof procedure. An answer construction algorithm is given whereby the system is able not only to produce yes or no answers but also to find or construct an object satisfying a specified condition. A working computer program, QA3, based on these ideas, is described. Methods are presented for solving state transformation problems. In addition to question-answering, the program can do automatic programming, control and problem solving for a simple robot, pattern recognition, and puzzles. (Author).

Artificial Intelligence and Integrated Intelligent Information Systems May 28 2020 Researchers in the evolving fields of artificial intelligence and information systems are constantly presented with new challenges. Artificial Intelligence and Integrated Intelligent Information Systems: Emerging Technologies and Applications provides both researchers and professionals with the latest knowledge applied to customized logic systems, agent-based approaches to modeling, and human-based models. Artificial Intelligence and Integrated Intelligent Information Systems: Emerging Technologies and Applications presents the recent advances in multi-mobile agent systems, the product development process, fuzzy logic systems, neural networks, and ambient intelligent environments among many other innovations in this exciting field.

Artificial Intelligence and Literary Creativity Sep 12 2021 Is human creativity a wall that AI can never scale? Many people are happy to admit that experts in many domains can be matched by either knowledge-based or sub-symbolic systems, but even some AI researchers harbor the hope that when it comes to feats of sheer brilliance, mind over machine is an unalterable fact. In this book, the authors push AI toward a time when machines can autonomously write not just humdrum stories of the sort seen for years in AI, but first-rate fiction thought to be the province of human genius. It reports on five years of effort devoted to building a story generator--the BRUTUS.1 system. This book was written for three general reasons. The first theoretical reason for investing time, money, and talent in the quest for a truly creative machine is to work toward an answer to the question of whether we ourselves are machines. The second theoretical reason is to silence those who believe that logic is forever closed off from the emotional world of creativity. The practical rationale for this endeavor, and the third reason, is that machines able to work alongside humans in arenas calling for creativity will have incalculable worth.

Modelling of an Interval Type-2 Fussy Logic System (IT2 FLS) on Continuous Domain with Medical Application Oct 01 2020 Academic Paper from the year 2015 in the subject Computer Science - Applied, , course: ph.d, language: English, abstract: An overview and a derivation of interval type-2 fussy logic system (IT2 FLS), which can handle rule's uncertainties on continuous domain, having good number of applications in real world. This work fo-cused on the performance of an IT2 FLS that involves the operations of a fuzzification, inference, and output processing. The output processing consists of Type-Reduction (TR) and defuzzification. This work made IT2 FLS much more accessible to FLS modellers, because it provides mathematical formulation for calculating the de-rivatives. Presenting extend to representation of T2 FSs on continuous domain and using it to derive formulas for operations, we developed and extended the derivation of the union of two IT2 FSs to the derivation of the intersection and union of N-IT2 FSs that is based on various concepts. The derivation of all the formulas that are related with an IT2 and these formulas depend on continuous domain with multiple rules. Each rule has multiple antecedents that are activated by a crisp number with T2 singleton fuzzification (SF). Then, we have shown how those results can be extended to T2 non-singleton fuzzification (NSF). We are derived the relation-ship between the consequent and the domain of uncertainty (DOU) of the T2 fired output FS. As well as, provide the derivation of the general form at continuous domain to calculate the different kinds of type-reduced. We have also applied an IT2 FLS to medical application of Heart Diseases (HDs) and an IT2 provide rather modest performance improvements over the T1 predictor. Finally, we made a comparison of HDs result between IT2 FLS using the IT2FLS in MATLAB and the IT2 FLS in Visual C# models with T1 FISs (Mamdani, and Takagi-Sugeno).

Epistemic Friction Jun 21 2022 Gila Sher approaches knowledge from the perspective of the basic human epistemic situation—the situation of limited yet resourceful beings, living in a complex world and aspiring to know it in its full complexity. What principles should guide them? Two fundamental principles of knowledge are epistemic friction and freedom. Knowledge must be substantially constrained by the world (friction), but

without active participation of the knower in accessing the world (freedom) theoretical knowledge is impossible. This requires a grounding of all knowledge, empirical and abstract, in both mind and world, but the fall of traditional foundationalism has led many to doubt the viability of this 'classical' project. The book challenges this skepticism, charting a new foundational methodology, foundational holism, that differs from others in being holistic, world-oriented, and universal (i.e., applicable to all fields of knowledge). Using this methodology, Epistemic Friction develops an integrated theory of knowledge, truth, and logic. This includes (i) a dynamic model of knowledge, incorporating some of Quine's revolutionary ideas while rejecting his narrow empiricism, (ii) a substantivist, non-traditional correspondence theory of truth, and (iii) an outline of a joint grounding of logic in mind and world. The model of knowledge subjects all disciplines to robust norms of both veridicality and conceptualization. The correspondence theory is at once robust, universal, and flexible, allowing multiple patterns of correspondence, including complex and indirect patterns. Logic's systematic grounding brings it in line with other disciplines without neglecting its strong necessity, generality, and normativity, which are explained by its semantic formality.

Inferences with Ignorance: Logics of Questions Apr 26 2020 Inferences with Ignorance focuses on two formal logic systems that employ the type of inferences in which questions are used in addition to statements. Not merely capturing questions as part of a logical apparatus, Michal Peliš also emphasizes the role of question-asking in communication. The book presents options for formalizing questions using sets of "direct answers," demonstrates where questions are used in inferences, and explores asking questions and seeking answers as important components of everyday communication, proposing ways of using questions within a formal system that can capture a change in knowledge during this simple communication.

Knowledge-Based Intelligent Information and Engineering Systems Jul 10 2021 Annotation The three volume set LNAI 4692, LNAI 4693, and LNAI 4694, constitute the refereed proceedings of the 11th International Conference on Knowledge-Based Intelligent Information and Engineering Systems, KES 2007, held in Vietri sul Mare, Italy, September 12-14, 2007. The 409 revised papers presented were carefully reviewed and selected from about 1203 submissions. The papers present a wealth of original research results from the field of intelligent information processing in the broadest sense; topics covered in the first volume are artificial neural networks and connectionists systems, fuzzy and neuro-fuzzy systems, evolutionary computation, machine learning and classical AI, agent systems, knowledge based and expert systems, hybrid intelligent systems, miscellaneous intelligent algorithms, intelligent vision and image processing, knowledge management and ontologies, Web intelligence, multimedia, e-learning and teaching, intelligent signal processing, control and robotics, other intelligent systems applications, papers of the experience management and engineering workshop, industrial applications of intelligent systems, as well as information engineering and applications in ubiquotous computing environments.

Computational Linguistics: Concepts, Methodologies, Tools, and Applications Oct 21 2019 In a globalized society, effective communication is critical, and study of language from a mathematical perspective can shed light on new ways in which to express meaning across cultures and nations. Computational Linguistics: Concepts, Methodologies, Tools, and Applications explores language by dissecting the phonemic aspects of various communication systems in order to identify similarities and pitfalls in the expression of meaning. With applications in a variety of areas, from psycholinguistics and cognitive science to computer science and artificial intelligence, this multivolume reference work will be of use to researchers, professionals, and educators on the cutting edge of language acquisition and communication science.

Handbook of the Logic of Argument and Inference Dec 15 2021 The Handbook of the Logic of Argument and Inference is an authoritative reference work in a single volume, designed for the attention of senior undergraduates, graduate students and researchers in all the leading research areas concerned with the logic of practical argument and inference. After an introductory chapter, the role of standard logics is surveyed in two chapters. These chapters can serve as a mini-course for interested readers, in deductive and inductive logic, or as a refresher. Then follow two chapters of criticism; one the internal critique and the other the empirical critique. The first deals with objections to standard logics (as theories of argument and inference) arising from the research programme in philosophical logic. The second canvasses criticisms arising from work in cognitive and experimental psychology. The next five chapters deal with developments in dialogue logic, interrogative logic, informal logic, probability logic and artificial intelligence. The last chapter surveys formal approaches to practical reasoning and anticipates possible future developments. Taken as a whole the Handbook is a single-volume indication of the present state of the logic of argument and inference at its conceptual and theoretical best. Future editions will periodically incorporate significant new developments.

Enzyme-Based Computing Systems Dec 03 2020 This systematic and comprehensive overview of enzyme-based biocomputing is an excellent resource for scientists and engineers working on the design, study and applications of enzyme-logic systems.

Knowledge Production and the Search for Epistemic Liberation in Africa May 08 2021 This book shows the importance of knowledge production using requisite terms and frameworks to the broader scheme of epistemic liberation in Africa. The text considers what this veritable direction to knowledge production would mean to other areas of concern in African philosophy such as morality, education and the environment. These contributions are important because the success of decolonising projects in African countries depend upon the methods that underpin envisioned liberative knowledge production in light of Africa's historical and present condition. This volume appeals to students and researchers working in epistemology and African philosophy.

Optical Supercomputing Apr 19 2022 This book constitutes the refereed proceedings of the The Second International Workshop on Optical SuperComputing, OSC 2009, held in Bertinoro, Italy, in November 2009. The 18 revised full papers presented together with 1 invited lecture were carefully reviewed and selected from numerous submissions for inclusion in the book. Being an annual forum for research presentations on all facets of optical computing for solving hard computation tasks, OCS addresses the following topics of interest: designs of optical computing devices, algorithmics and complexity issues of optical computing, computation representation by photons and holograms, neural and brain inspired architectures, electro-optic devices, practical implementations, analysis of existing devices and case studies, optical photonics and laser switching technologies, optical and photonic memories, optical signal processing subsystems, optical networks for high-performance computing, optical interconnections, quantum optical systems, applications and algorithms for optical devices, Alpha particles, X-rays, and nano-technologies for optical computing.

Information Modelling and Knowledge Bases XII Dec 23 2019 This is the 12th volume in a series on information modelling and knowledge bases. The topics of the articles cover a wide variety of themes in the domain of information modelling, design and specification of information systems and knowledge bases, ranging from foundations and theories to systems construction and application studies. The contributions in this volume represent the following major themes: models in intelligent activity; concept modelling and conceptual modelling; conceptual modelling and information requirements specification; collections of concepts, knowledge base design, and database design; human-computer interaction and modelling; software engineering and modelling; and applications.

Higher Education and Belief Systems in the Asia Pacific Region Sep 19 2019 This book underscores the role of belief and knowledge that are outside the canons of science, as they are not often considered within the core functions of a university. It explores various ways in which belief systems are part of the fabric of higher education – either implicitly or explicitly – and pursues a deeper understanding of the role of belief practices as it plays out in both private and public higher education. The broad variety of geographic locations and belief systems represented here demonstrate the ways in which implicit and explicit belief systems affect higher education. The book is unique in its breadth of coverage, but also in its depth of exploration regarding how belief systems function in society through the avenue of higher education, which is often a central site for the production and dissemination of knowledge.

Encyclopedia of Computer Science and Technology Jan 24 2020 "This comprehensive reference work provides immediate, fingertip access to state-of-the-art technology in nearly 700 self-contained articles written by

over 900 international authorities. Each article in the Encyclopedia features current developments and trends in computers, software, vendors, and applications...extensive bibliographies of leading figures in the field, such as Samuel Alexander, John von Neumann, and Norbert Wiener...and in-depth analysis of future directions."

A Practical Logic of Cognitive Systems May 20 2022 The present work is a continuation of the authors' acclaimed multi-volume A Practical Logic of Cognitive Systems. After having investigated the notion of relevance in their previous volume, Gabbay and Woods now turn to abduction. In this highly original approach, abduction is construed as ignorance-preserving inference, in which conjecture plays a pivotal role. Abduction is a response to a cognitive target that cannot be hit on the basis of what the agent currently knows. The abducer selects a hypothesis which were it true would enable the reasoner to attain his target. He concludes from this fact that the hypothesis may be conjectured. In allowing conjecture to stand in for the knowledge he fails to have, the abducer reveals himself to be a satisficer, since an abductive solution is not a solution from knowledge. Key to the authors' analysis is the requirement that a conjectured proposition is not just what a reasoner might allow himself to assume, but a proposition he must defeasibly release as a premiss for further inferences in the domain of enquiry in which the original abduction problem has arisen. The coverage of the book is extensive, from the philosophy of science to computer science and AI, from diagnostics to the law, from historical explanation to linguistic interpretation. One of the volume's strongest contributions is its exploration of the abductive character of criminal trials, with special attention given to the standard of proof beyond a reasonable doubt. Underlying their analysis of abductive reasoning is the authors' conception of practical agency. In this approach, practical agency is dominantly a matter of the comparative modesty of an agent's cognitive agendas, together with comparatively scant resources available for their advancement. Seen in these ways, abduction has a significantly practical character, precisely because it is a form of inference that satisfices rather than maximizes its response to the agent's cognitive target. The Reach of Abduction will be necessary reading for researchers, graduate students and senior undergraduates in logic, computer science, AI, belief dynamics, argumentation theory, cognitive psychology and neuroscience, linguistics, forensic science, legal reasoning and related areas. Key features: - Reach of Abduction is fully integrated with a background logic of cognitive systems. - The most extensive coverage compared to competitive works. - Demonstrates not only that abduction is a form of ignorance preserving inference but that it is a mode of inference that is wholly rational. - Demonstrates the satisficing rather than maximizing character of abduction. - The development of formal models of abduction is considerably more extensive than one finds in existing literature. It is an especially impressive amalgam of sophisticated conceptual analysis and extensive logical modelling. · Reach of Abduction is fully integrated with a background logic of cognitive systems. · The most extensive coverage compared to competitive works · Demonstrates not only that abduction is a form of ignorance preserving inference but that it is a mode of inference that is wholly rational. · Demonstrates the satisficing rather than maximizing character of abduction. · The development of formal models of abduction is considerably more extensive than one finds in existing literature. It is an especially impressive amalgam of sophisticated conceptual analysis and extensive logical modelling.

Phenomenology and Logic Oct 13 2021 entirety to contemporary readers." --Book Jacket.

Advanced Research on Computer Science and Information Engineering Jul 22 2022 This two-volume set (CCIS 152 and CCIS 153) constitutes the refereed proceedings of the International Conference on Computer Science and Information Engineering, CSIE 2011, held in Zhengzhou, China, in May 2011. The 159 revised full papers presented in both volumes were carefully reviewed and selected from a large number of submissions. The papers present original research results that are broadly relevant to the theory and applications of Computer Science and Information Engineering and address a wide variety of topics such as algorithms, automation, artificial intelligence, bioinformatics, computer networks, computer security, computer vision, modeling and simulation, databases, data mining, e-learning, e-commerce, e-business, image processing, knowledge management, multimedia, mobile computing, natural computing, open and innovative education, pattern recognition, parallel computing, robotics, wireless networks, and Web applications.

Challenges of Information Technology Management in the 21st Century Feb 23 2020 As the 21st century begins, we are faced with opportunities and challenges of available technology as well as pressured to create strategic and tactical plans for future technology. Worldwide, IT professionals are sharing and trading concepts and ideas for effective IT management, and this co-operation is what leads to solid IT management practices. This volume is a collection of papers that present IT management perspectives from professionals around the world. The papers seek to offer new ideas, refine old ones, and pose interesting scenarios to help the reader develop company-sensitive management strategies.

Quine, Conceptual Pragmatism, and the Analytic-Synthetic Distinction Nov 14 2021 This book provides an in-depth examination of C.I. Lewis's conceptual pragmatism and its influence on Quine's developing views in epistemology. The author shows how Quine's engagement with problems presented by Lewis, such as analyticity and the empirical given, contribute to the development of his conception of naturalized epistemology.

The Application of Theorem Proving to Question-answering Systems Nov 02 2020

Logic and African Philosophy Jun 09 2021 "Logic and African Philosophy: Seminal Essays on African Systems of Thought" aims to put African intellectual history in perspective, with focus on the subjects of racism, logic, language, and psychology. The volume seeks to fill in the gaps left by the exclusion of African thinkers that are frequent in the curricula of African schools concerning history, sociology, philosophy, and cultural studies. The book is divided into four parts that are preceded by an introduction to link up the essays and emphasise their sociological implications. Part one is comprised of essays that opened the controversy of whether logic can be found in traditional African cultures as well as other matters like the nature of the mind and behaviour of African peoples. The essays in part two are centred on the following question: are the laws of thought present in African languages and cultures? Part three brings together essays that sparkle the debate on whether there can be such a thing as African logic, which stems from the discussions in part two. Part four is concerned on the theme of system-building in logic; contributions are written by members of the budding African philosophy movement called the "Conversational School of Philosophy" based at the University of Calabar, and the main objective of their papers is to formulate systems of African logic.

Encyclopedia of Information Science and Technology Jun 28 2020 "This set of books represents a detailed compendium of authoritative, research-based entries that define the contemporary state of knowledge on technology"--Provided by publisher.

Predicting the Future: Can We Do It? And If Not, Why Not? Jan 04 2021 Yogi Berra, the American baseball legend, stated famously that "it is difficult to make predictions, especially about the future." We all try to predict what will occur in our lives. We routinely orchestrate events in the present in an attempt to influence what we'd like to see happen in the future. But despite our best efforts, everything doesn't always go according to plan. The question is why? In Predicting the Future: Can We Do It? And If Not, Why Not?, author Dr. Gerard G. Nahum offers a comprehensive answer to this question. He provides a framework of explanation as to why we find ourselves in the situations we do concerning our ability (or inability) to predict and influence the future. Nahum illustrates why the predicaments we encounter often have much more to do with the fundamental physical constraints of the universe that we live in rather than anything man-made. Predicting the Future: Can We Do It? And If Not, Why Not? is intellectually rigorous in its approach and conveys a simple message: the information we can access, the knowledge we gain as a result, and the understandings we develop as a consequence are what we use to make decisions about the way we believe the future is most likely to unfold. This, in turn, informs our perspectives, which impacts our choices, and ultimately influences the actions we take.

Fibring Logics Nov 21 2019 Modern applications of logic, in mathematics, theoretical computer science, and linguistics, require combined systems involving many different logics working together. In this book the author offers a basic methodology for combining-or fibring-systems. This means that many existing complex systems can be broken down into simpler components, hence making them much easier to manipulate. Using this methodology the book discusses ways of obtaining a wide variety of multimodal, modal intuitionistic, modal substructural and fuzzy systems in a uniform way. It also covers self-fibred languages which allow

formulae to apply to themselves. The book also studies sufficient conditions for transferring properties of the component logics into properties of the combined system.

Computational Intelligent Systems for Applied Research Oct 25 2022 FLINS is an acronym for Fuzzy Logic and Intelligent Technologies in Nuclear Science. FLINS 2002 is the fifth in a series of FLINS conferences and covers state-of-the-art research and development in computational intelligence for applied research in general and for nuclear science and engineering in particular. This book outlines the trends in computational intelligence in control, decision-making, and nuclear engineering, and presents the latest developments of computational intelligent systems in applied research and nuclear applications.

500 Artificial Intelligence (AI) Interview Questions and Answers Aug 19 2019 Knowledge for Free... Get that job, you aspire for! Want to switch to that high paying job? Or are you already been preparing hard to give interview the next weekend? Do you know how many people get rejected in interviews by preparing only concepts but not focusing on actually which questions will be asked in the interview? Don't be that person this time. This is the most comprehensive Artificial Intelligence (AI) interview questions book that you can ever find out. It contains: 500 most frequently asked and important Artificial Intelligence (AI) interview questions and answers Wide range of questions which cover not only basics in Artificial Intelligence (AI) but also most advanced and complex questions which will help freshers, experienced professionals, senior developers, testers to crack their interviews.

Science Declares Our Universe Is Intelligently Designed Mar 26 2020

Deductive Systems in Traditional and Modern Logic Aug 11 2021 The book provides a contemporary view on different aspects of the deductive systems in various types of logics including term logics, propositional logics, logics of refutation, non-Fregean logics, higher order logics and arithmetic.

Abductive Reasoning Apr 07 2021 Abductive Reasoning: Logical Investigations into Discovery and Explanation is a much awaited original contribution to the study of abductive reasoning, providing logical foundations and a rich sample of pertinent applications. Divided into three parts on the conceptual framework, the logical foundations, and the applications, this monograph takes the reader for a comprehensive and erudite tour through the taxonomy of abductive reasoning, via the logical workings of abductive inference ending with applications pertinent to scientific explanation, empirical progress, pragmatism and belief revision.

Computational Intelligent Systems for Applied Research Sep 24 2022

Recent Advances in Intuitionistic Fuzzy Logic Systems Jan 16 2022 This book aims at providing an overview of state-of-the-art in both the theory and methods of intuitionistic fuzzy logic, partial differential equations and numerical methods in informatics. It covers topics such as fuzzy intuitionistic Hilbert spaces, intuitionistic fuzzy differential equations, fuzzy intuitionistic metric spaces, and numerical methods for differential equations. It reports on applications such as fuzzy real time scheduling, intelligent control, diagnostics and time series prediction. Chapters were carefully selected among contributions presented at the second edition of the International Conference on Intuitionistic Fuzzy Sets and Mathematical Science, ICIFSMAS, held on April 11-13, 2018, at Al Akhawayn University of Ifrane, in Morocco.

A Compositional Semantic Structure for Multi-Agent Systems Dynamics Mar 06 2021

Advances in Computers Aug 31 2020 Advances in Computers

A Companion to Philosophical Logic Feb 05 2021 This collection of newly comissioned essays by international contributors offers a representative overview of the most important developments in contemporary philosophical logic. Presents controversies in philosophical implications and applications of formal symbolic logic. Surveys major trends and offers original insights.

Logic. (System of phil., 1). Jul 30 2020

Dependence Logic Aug 23 2022 In this volume, different aspects of logics for dependence and independence are discussed, including both the logical and computational aspects of dependence logic, and also applications in a number of areas, such as statistics, social choice theory, databases, and computer security. The contributing authors represent leading experts in this relatively new field, each of whom was invited to write a chapter based on talks given at seminars held at the Schloss Dagstuhl Leibniz Center for Informatics in Wadern, Germany (in February 2013 and June 2015) and an Academy Colloquium at the Royal Netherlands Academy of Arts and Sciences (March 2014). Altogether, these chapters provide the most up-to-date look at this developing and highly interdisciplinary field and will be of interest to a broad group of logicians, mathematicians, statisticians, philosophers, and scientists. Topics covered include a comprehensive survey of many propositional, modal, and first-order variants of dependence logic; new results concerning expressive power of several variants of dependence logic with different sets of logical connectives and generalized dependence atoms; connections between inclusion logic and the least-fixed point logic; an overview of dependencies in databases by addressing the relationships between implication problems for fragments of statistical conditional independencies, embedded multivalued dependencies, and propositional logic; various Markovian models used to characterize dependencies and causality among variables in multivariate systems; applications of dependence logic in social choice theory; and an introduction to the theory of secret sharing, pointing out connections to dependence and independence logic.

Breakthrough Discoveries in Information Technology Research: Advancing Trends Mar 18 2022 "This book informs researchers and practitioners of novel and emerging research in information science and technology, allowing for the discussion and dissemination of critical concepts that will promote further study and innovation"--Provided by publisher.