

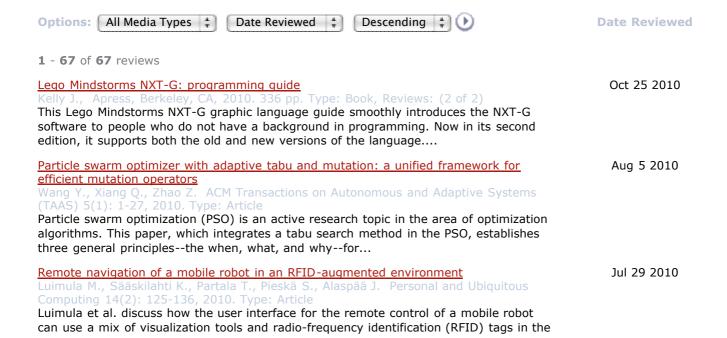
After graduating with a degree in physics from the University of Milano, Giuseppina Gini specialized in computer science as a post-doc fellow and worked on different artificial intelligence projects at the Politecnico di Milano (1972-1976). From 1976 to 1987, she held an assistant professor position at Politecnico di Milano, as well as various appointments as a visiting scholar and research assistant at Stanford University (California, USA) (in the Artificial intelligence Laboratory of the Computer Science Department and in the NMR Laboratory of the Medical School) and at SRI. Since 1987, she has been an associate professor at Politecnico di Milano, Faculty of Computer Engineering.

Gini has written and edited two books, and has authored about 200 refereed papers in scientific journals, books, and conference proceedings. Among other professional services, she organized and chaired the Symposium on Predictive Toxicology (Stanford, March 1999) for the American Association of Artificial Intelligence, and the AI&Math special session on Knowledge Exploration in Predictive Toxicology (January 2000).

She has been a partner in 16 international research projects (for NATO and the EU), and the coordinator of an EU project devoted to the development of new expert system methods in predictive toxicology. Moreover, she has directed seven national research projects.

Her main areas of research are knowledge representation and reasoning, with an emphasis on algorithms, biologically inspired solutions, hybrid systems, and computational efficiency. The main application areas in which she focuses her work are spatial and visual reasoning, human-machine interaction, and data mining. Over the course of her career, she has developed languages, simulators, and planners. In addition, she has cooperated with many European research centers over the past 15 years on various projects related to toxicity modeling, predictive systems, data mining, and in silico models.

Gini has been a reviewer for Computing Reviews since 1985, and has over 60 published reviews.



environment. Technically, it continues the line of other...

Bridging the gap	between	intensional	and	extensional	query	evaluation in p	robabilistic
databases							

Jun 23 2010

Jha A., Olteanu D., Suciu D. EDBT 2010 (Proceedings of the 13th International Conference on Extending Database Technology, Lausanne, Switzerland, Mar 22-26, 2010) 323-334, 2010. Type: Proceedings

In this paper, Jha, Olteanu, and Suciu investigate efficient computation in probabilistic databases. They give an algorithmic solution to the evaluation of queries over probabilistic databases that integrates the extensional methods with the...

Research and development in intelligent systems XXVI: incorporating applications and innovations in intelligent systems XVII

Apr 22 2010

Bramer M., Ellis R., Petridis M., Springer Publishing Company, Incorporated, New York, NY, 2009. 504 pp. Type: Book

Papers and posters presented at the 29th SGAI International Conference on Innovative Techniques and Applications of Artificial Intelligence, the last conference in an established series held annually in Cambridge, UK, are collected in this book....

Fuel-cache site-selection for polar research: a summary of results

Feb 4 2010

Dietz M., Shekhar S. IWCTS 2009 (Proceedings of the 2nd International Workshop on Computational Transportation Science, Seattle, WA, Nov 3, 2009) 7-12, 2009. Type: Proceedings

This paper illustrates various methods to solve a very specific problem: the choice of cache sites to store fuel for aircraft that make research missions in uninhabited areas, such as Antarctica. Since other aircraft have to transport the fuel,...

Performance evaluation and benchmarking of intelligent systems

Dec 23 2009

Madhavan R., Tunstel E., Messina E., Springer Publishing Company, Incorporated, New York, NY, 2009. 338 pp. Type: Book

Performance evaluation is crucial for any technological advancement. Benchmarking is the usual way to standardize a performance evaluation method. The book questions how to define performance evaluation and benchmarking for intelligent systems,...

Artificial life models in hardware

Nov 20 2009

Adamatzky A., Komosinski M., Springer Publishing Company, Incorporated, New York, NY, 2009. 270 pp. Type: Book

This book presents various contributions to the construction of life-like artifacts that globally show adaptation and evolution, as in the artificial life paradigm. Here, the meaning of hardware is extended beyond the typical meaning in computer...

Expanding network communities from representative examples

Aug 11 2009

Mehler A., Skiena S. ACM Transactions on Knowledge Discovery from Data (TKDD) 3(2): 1-27, 2009. Type: Article

Social networks and their growth are hot topics. In this paper, Mehler and Skiena continue long-term research that has already produced Lydia, a system for news analysis that is described in one of the referenced papers....

Generation of correlated spike trains

Jun 18 2009

Brette R. Neural Computation 21(1): 188-215, 2009. Type: Article

In this paper on neural computation, we read about new mathematical methods and algorithms to generate correlated spike trains. The simulation of neural circuits requires the generation of spikes. Since spike trains display correlations and those ...

<u>Profit sharing and firm performance in the manufacturer-retailer dual-channel supply</u>

Feb 27 2009

Yan R. Electronic Commerce Research 8(3): 155-172, 2008. Type: Article

Combining marketing models to find a strategy for increasing the profits of manufacturers and retailers, when going to the electronic market, is discussed in this paper. The strategy derives from applying the models to compute the profits in...

Semantic grid: model, methodology, and applications

Jan 27 2009

Wu Z., Chen H., Springer Publishing Company, Incorporated, 2008. 500 pp. Type: Book This book is an organized proposal of the various components of a system able to integrate grid computing and the semantic Web, and is mostly based on the research activity of the Advanced Computing and System (CCNT) Laboratory at...

<u>From the specification to the implementation of norms: an automatic approach to generate rules from norms to govern the behavior of agents</u>

Oct 23 2008

Silva V. Autonomous Agents and Multi-Agent Systems 17(1): 113-155

In multiagent systems (MAS), autonomous agents have to follow norms. Usually, norms are defined in a mathematical language; here we see a method to transform norms into

rules and to automatically implement the rules in a computer language. The...

Creating cool Mindstorms NXT robots (Technology in Action)

Benedettelli D., Apress, 2008. 608 pp. Type: Book

for

In just a few years, we have another Lego book. In 2001, Martin's book [1] offered, for the first time, a different way of learning engineering concepts. That book was based on the Lego Technic and on the first prototype of...

<u>Design support systems: A case study of modular design of the set-top box from design knowledge externalization perspective</u>

Jun 18 2008

Apr 28 2008

Feb 26 2008

Jul 16 2008

Tseng T., Huang C. Decision Support Systems 44(4): 909-924, 2008. Type: Article This paper illustrates the design of a design support system (DSS) and its application in a real case study in the consumer electronics industry....

Outlier detection by logic programming

Angiulli F., Greco G., Palopoli L. ACM Transactions on Computational Logic 9(1): 7-es,

.

Detecting outliers in data mining, in the scenario of logic programming, is the topic covered in this paper. The specific problem, in this context, is that the background knowledge may (or may not) be in accordance with the hypotheses derived by...

Building CBR systems with icolibri

Díaz-Agudo B., González-Calero P., Recio-García J., Sánchez-Ruiz-Granados A. Science of Computer Programming 69(1-3): 68-75, 2007. Type: Article

Díaz-Agudo et al. propose a software framework for applying case based reasoning (CBR) to real-world problems. The framework was developed in Java and is called jcolibri. It is available via open-source license, to be used and extended by...

<u>Using competitions to study human-robot interaction in urban search and rescue</u>

Dec 20 2005

Drury J., Yanco H., Scholtz J. interactions 12(2): 39-41, 2005. Type: Article

This short paper proposes using data collected from a set of well-defined experiments in human-robot interaction to individuate better interfaces and strategies of cooperation. The experiments take place in the arena of the urban search and...

Who needs emotions: the brain meets the robot (Series in Affective Science)

Nov 2 2005

This unusual title in computer science literature takes us into the world of emotions. As described in the preface, the book collects various contributions, and is organized in four parts: "Perspectives,"...

Evolutionary computation for biclustering of gene expression

Jul 28 2005

Aguilar-Ruiz J., Divina F. Applied computing (Proceedings of the 2005 ACM Symposium on Applied Computing, Santa Fe, New Mexico, Mar 13-17, 2005) 959-960, 2005. Type: Proceedings

This short paper from the Symposium on Applied Computing illustrates an algorithm, called SEBI, for solving the biclustering problem of gene analysis. The algorithm introduces evolutionary computation into the basic schema of such methods, which...

<u>Fusion of domain knowledge with data for structural learning in object oriented domains</u>
Langseth H., Nielsen T. The Journal of Machine Learning Research (electronic edition)
4339-368, 2004. Type: Article

Sep 8 2004

Jun 7 2004

Langseth and Nielsen's paper illustrates some new results in building Bayesian networks, using structural learning in order to integrate knowledge from data, and from a given class hierarchy of the domain....

Planning based on decision theory

Riccia G. (ed), Kruse R. (ed), Dubois D. (ed), Lenz H. (ed), Springer-Verlag New York, Inc., Secaucus, NJ, 2004. 165 pp. Type: Book, Reviews: (1 of 2)

This edited book contains papers from the sixth workshop on "planning based on decision theory," organized at the International Center for Mechanical Sciences (CISM) in Udine, Italy in 2002....

The collective control of perceptions: constructing order from conflict

McClelland K. International Journal of Human-Computer Studies 60(1): 65-99, 2004.

The author develops a new aspect of perceptual control theory (PCT), indicating how collective control processes arise from different agents, and how conflict and cooperation are explained in PCT....

Dynamic flexible constraint satisfaction and its application to AI planning

liguel I., Springer-Verlag New York, Inc., Secaucus, NJ, 2003. 328 pp. Type: Book

Part of the distinguished dissertations series, this book proposes and develops new hybrid algorithms for dynamic and flexible constraint satisfaction problems (CSPs). It

Feb 12 2004

covers the topic in nine chapters and four appendices....

Dec 15 2003 Temporal scenario modelling and recognition based on possibilistic logic

This paper presents a method for modeling temporal scenarios, and for recognizing them

from observations. Three formal models are developed: the logical dependencies, defined in possibilistic logic; the temporal constraints between events,...

Where is knowledge in robotics? Some methodological issues on symbolic and Sep 18 2003 connectionist perspectives of AI

Mira J., Delgado A. In *Autonomous robotic systems*. Heidelberg, Germany: Physica-Verlag GmbH, 2003. Type: Book Chapter

Knowledge in robotics is an appealing phrase. One reads the chapter trying to find answers to open issues in robotics, such as how a robot can understand its environment and grow its knowledge, while pursuing a useful task. However, you will not...

Optical music recognition: a coding theoretic approach Jul 8 2003 Homenda W. In Granular computing. Heidelberg, Germany: Physica-Verlag GmbH,

The problem of representing and using music notation for recognition and interpretation of a musical text is addressed in this paper. It makes a proposal for an optical recognition system....

A fuzzy petri net for pattern recognition: application to dynamic classes Jun 3 2003 Gunes V., Loonis P., Ménard M. Knowledge and Information Systems 4(1): 112-128,

A solution for the classification of dynamic classes, where changes are periodic, is presented in this paper. The proposed recognition system extends the fuzzy Petri net (FPN) model [1]. To introduce a model for complete correspondence between a...

A macroscopic analytical model of collaboration in distributed robotic systems Mar 12 2003 Lerman K., Galstyan A., Martinoli A., Ijspeert A. Artificial Life 7(4): 375-393, 2002.

As stated by the authors, this paper presents a macroscopic analytical model of collaboration in a group of reactive robots, acting without explicit communication or

Neural-symbolic learning system: foundations and applications Jan 28 2003 Garcez A., Gabbay D., Broda K., Springer-Verlag New York, Inc., Secaucus, NJ, 2002. 280 pp. Type: Book

The topic of neural-symbolic integration was very hot at the beginning of the 1980s, when the first seminal works introduced the possibility of extracting knowledge from trained neural networks (NNs), and reversibly building network structures...

Reasoning about nonlinear system identification Dec 10 2002 Bradley E., Easley M., Stolle R. Artificial Intelligence 133(1-2): 139-188, 2001. Type:

A study of applying formal logic to problems usually approached in system and control theory is reported on in this paper. The resulting system automatically develops a nonlinear model and tests it using first-order logic rules in different...

Vision for Mobile Robot Navigation: A Survey Oct 14 2002 DeSouza G., Kak A. IEEE Transactions on Pattern Analysis and Machine Intelligence 24(2): 237-267, 2002. Type: Article

The authors of this paper survey most of the research developed in the last 20 years in the field of mobile robot navigation through vision. They provide background information, draw a schema, and introduce the main methods that have been...

Learning-based robot vision: principles and applications May 30 2002 Pauli J., Springer-Verlag, London, UK, 2001. 288 pp. Type: Book

A thesis prepared by the author at the University of Kiel (Germany) is the basis of this book. It provides the background and methodology of the technology necessary for a robot to deliberate and execute tasks in real environments, based on its...

Acquisition and Propagation of Spatial Constraints Based on Qualitative Information Mar 1 2002 Sogo T., Ishiguro H., Ishida T. IEEE Transactions on Pattern Analysis and Machine Intelligence 23(3): 268-278, 2001. Type: Article

This paper develops a symbolic method to achieve qualitative localization from a distributed vision system. The method starts by detecting motion direction from images. During robot navigation, landmarks move as the robot moves. This movement is...

Intelligent systems for engineers and scientists (2nd ed.) May 1 2001 Hopgood A. (ed), CRC Press, Inc., Boca Raton, FL, 2001. 467 pp. Type: Book

Most of the programming methods used to develop intelligent systems are introduced. The book is intended for people who want to use them in practice. However, it can also be used as a textbook, and in fact evolved from class notes. In the broad...

Intelligent machines: myths and realities

de Silva C. (ed), CRC Press, Inc., Boca Raton, FL, 2000. 326 pp. Type: Book The editor has put together material from a lecture series on "Myths and Realities of Intelligent Machines," given at the University of British Columbia, to create a ninechapter overview of the area, consisting of papers by...

Computational principles of mobile robotics

Dudek G., Jenkin M., Cambridge University Press, New York, NY, 2000. 280 pp. Type:

Computational methods for mobile robots are emphasized in this book, which presents the essential technical information about the robot hardware....

Basics of robotics

Dec 1 1999

Sep 1 2000

Apr 1 2000

Morecki A., Knapczyk J., Springer-Verlag New York, Inc., Secaucus, NJ, 1999. Type: Book

Research results produced by the authors over a number of years are organized and presented here. The book's core subject is mechanical engineering, with only one chapter covering information technology issues. Industrial engineers and...

Sep 1 1999

Gustavsson R. Communications of the ACM 42(3): 41-47, 1999. Type: Article

The subtitle of this paper clarifies its aim: "The energy market is ripe for emergent IT tools that may simply transform the utilities sector." The author expresses his views on the possibilities of using the existing electric grid...

Rough computational methods for information systems

May 1 1999

Guan J., Bell D. Artificial Intelligence 105(1-2): 77-103, 1998. Type: Article The authors apply results from rough set theory to information systems. In particular, rough analysis, a technique derived from rough set theory and based on classification, is applied to analyze large data sets during knowledge representation....

The selection of natural scales in 2D images using adaptive Gabor filtering

Jan 1 1999

Fdez-Valdivia J., Garcia J., Martinez-Baena J., Fdez-Vidal X. IEEE Transactions on Pattern Analysis and Machine Intelligence 20(5): 458-469, 1998. Type: Article

The appealing idea of this paper is that it is possible to automatically extract from an image the natural scale of the shapes. This enables biological systems to use visual data for different purposes, analyzing the image at different levels in...

Applications of a logic of knowledge to motion planning under uncertainty Brafman R., Latombe J., Moses Y., Shoham Y. Journal of the ACM 44(5): 633-668, 1997. Jul 1 1998

The research described here is aimed at applying formal logic to problems that are usually approached using systems and control theory or geometric reasoning. The problem addressed is whether a mobile robot will be able to reach its destination,...

How to use expert advice

Feb 1 1998

Cesa-Bianchi N., Freund Y., Haussler D., Helmbold D., Schapire R., Warmuth M. Journal of the ACM 44(3): 427-485, 1997. Type: Article

While the title of this paper suggests the use of traditional expert systems technology, the research reported here concerns how to make predictions when a team of experts is available and their predictions are known....

Introduction to robotics in CIM systems (3rd ed.)

Jul 1 1997

Rehg J., Prentice-Hall, Inc., Upper Saddle River, NJ, 1997.Type: Book

Now in its third edition, this book is both an introduction to industrial robots from a system point of view and an introduction to integrating robots in CIM. The proposed audience is made up of industrial professionals and college students....

CYC

Lenat D. Communications of the ACM 38(11): 33-38, 1995. Type: Article

Apr 1 1997

The CYC project was established in 1984 as a ten-year project aimed at building a generic knowledge-based system expressing commonsense knowledge as used in almost all aspects of everyday life. The long development time of this project is...

Computational research on interaction and agency

1995. Type: Article gre P. (ed) Artificial Intelligence 72(1-2): 1-52,

May 1 1996

Agre's paper introduces this special issue devoted to agents. Agre concentrates on a conceptual framework for characterizing agents, and the agent's interactions with

environments and other agents.... $% \label{eq:continuous} % \label{eq:contin$

Blackboard systems Craig I. (trans.), Ablex Publishing Corp., Norwood, NJ, 1995.Type: Book According to the author, this book has appeared after a long time spent in publishing it, and when interest in the subject has declined. A book that five years ago would have appealed to many is now of interest to a restricted audience	Dec 1 1995
Investigating production system representations for non-combinatorial match Tambe M. (ed), Rosenbloom P. Artificial Intelligence 68(1): 155-199, 1994. Type: Article Some solutions to the problem of reducing the complexity of matching in production systems are proposed and discussed in a clear and smooth style. Matching production rules against data in working memory is a computation-intensive process that	Oct 1 1995
Case-based reasoning: business applications Allen B. Communications of the ACM 37(3): 40-42, 1994. Type: Article Case-based reasoning is a problem-solving process that evolved from research performed by R. Schank and his colleagues at Yale University in the 1980s. The solution is obtained by retrieving the closest stored cases that have been solved in the	Dec 1 1994
Knowledge-based systems analysis and design Tansley D., Hayball C., Prentice-Hall, Inc., Upper Saddle River, NJ, 1993.Type: Book Knowledge-based systems (KBSs) are used in many organizations to help in or partially automate routine work. The main justification for their use is the need to eventually modify the procedures, which makes the development of standard	Sep 1 1994
Expert systems in manufacturing Chorafas D., Van Nostrand Reinhold Co., New York, NY, 1992.Type: Book The aim of this book is to provide industrial engineers as well as manufacturing managers with basic knowledge about expert systems technology, so they can employ it as a tool for more competitive manufacturing. This work is neither a textbook	Apr 1 1994
Intelligent robotic systems Valavanis K., Saridis G., Kluwer Academic Publishers, Norwell, MA, 1992.Type: Book An architecture of intelligent robots is presented in a unified framework. The general architecture is independent of the kind of robot and the application	Oct 1 1993
Temporally distributed symptoms in technical diagnosis Nökel K., Springer-Verlag New York, Inc., New York, NY, 1991. Type: Book The temporal aspects of dynamic systems, which evolve with continuous variables, make their diagnosis difficult. Nökel developed a method for defining this kind of temporal reasoning and incorporating it into existing paradigms of diagnosis	Sep 1 1992
Multiprocessor system for realtime robotics applications Al-Mouhamed M. Microprocessors & Microsystems 14(5): 276-290, 1990. Type: Article Parallel architectures have been in use in robotics for more than a decade to improve the real-time performance of complex manipulators. Often those architectures have been developed by the robot manufacturers and have been based on such simple	May 1 1992
Quantitative results concerning the utility of explanation-based learning Minton S. Artificial Intelligence 42(2-3): 363-391, 1990. Type: Article Little information about evaluating learning systems has been available. This paper presents the author's experience in implementing and evaluating such a system along with some review of the field. The paper concentrates on the use of	Feb 1 1991
An expert system for maintenance of riveting machines, vol. 1. Daley P., Eyada O. Industrial & engineering applications of artificial intelligence & expert systems, vol. 1 (, Tullahoma, TN, Jun 6-9, 1989) 721989. Type: Proceedings Both scheduled and reactive maintenance are becoming crucial in CIM. This paper presents the Expert Maintenance System for Riveters, an AI-based system aimed at reducing the downtime of riveting machines at Boeing Military Airplanes. The authors	Aug 1 1990
<u>Task-Level Planning of Pick-and-Place Robot Motions</u> Lozano-Pérez T., Mazer E., Jones J., O'Donnell P. Computer 22(3): 21-29, 1989. Type:	Nov 1 1989
Article Task-level programming of robots was proposed long ago but was never attained because of many misunderstandings and difficult computational problems. This paper is an important step toward developing such systems	
Machine learning of robot assembly plans Segre A., Kluwer Academic Publishers, Norwell, MA, 1988.Type: Book This book presents ARMS, the learning system developed for the author's doctoral thesis. While the overall subject is artificial intelligence, robotics provides the real-world context	May 1 1989

for applying learning methods, and the specific problem...

KNACK--report-driven knowledge acquisition

Klinker G., Bentolila J., Genetet S., Grimes M., McDermott J. International Journal of Man-Machine Studies 26(1): 65-79, 1987. Type: Article

According to the authors, "this paper describes a knowledge-acquisition tool that builds expert systems for evaluating designs of electro-mechanical systems." Although some tools for building and maintaining large knowledge bases have ...

Knowledge-based design for manufacture

Swift K., Prentice-Hall, Inc., Upper Saddle River, NJ, 1987.Type: Book

Mar 1 1988

Sep 1 1988

venerdì10/12/10 10:45

There is growing interest in the area of CAM in the application of expert systems techniques. This book approaches the problem of designing parts for automatic assembly. The author presents the motivations and describes the implementation of an...

PRIDE: an expert system for the design of paper handling systems Mittal S., Dym C., Morjaria M. Computer 19(7): 102-114, 1986. Type: Article

Aug 1 1987

Design is one of the less developed applications of expert systems and is one of the tasks requiring more problem solving skills. This paper presents, in a broad and clear manner, PRIDE, an expert system developed at Xerox PARC and tested on the...

<u>Legged robots that balance</u>

Jul 1 1987

Raibert M., Massachusetts Institute of Technology, Cambridge, MA, 1986. Type: Book This book is really unique in the robotics literature in that it presents, in a unified

framework, the problems of designing, modeling, and experimenting with legged robots, a very underdeveloped field in robotics. The presentation is clear,...

Assembly with robots

Owen T., Prentice-Hall, Inc., Upper Saddle River, NJ, 1986. Type: Book

May 1 1987

Even though robotics is a field of growing interest for computer science professionals. this book is of marginal interest for computer people. The book instead covers a large part of the problems that managers face when they consider buying a...

Frame representation of physical systems for expert system use

Oct 1 1986

LeVan D. Information Sciences: an International Journal 37(1-3): 169-177, 1985. Type:

This paper is about a topic that deserves attention, i.e., how to integrate conventional algorithmic techniques with expert systems to develop programs that need both mathematical computations and heuristics....

Rule-based systems

May 1 1986

Haves-Roth F. Communications of the ACM 28(9): 921-932, 1985, Type: Article

This paper illustrates how "rule-based systems automate problem-solving know-how, provide a means for capturing and refining human expertise, and are proving to be commercially viable." The presentation is intended for a broad...

<u>Incorporating codes of practice into reinforced concrete design programs</u> Allwood R., Case M. Computer-Aided Design 16(5): 242-248, 1984. Type: Article Sep 1 1985

The paper is about a very specific topic in CAD, namely the problem of changing the Code of Practice embodied in a reinforced concrete design program. As the authors indicate, the problem arises because different countries have different codes;...

Expressive power of knowledge representation systems

Feb 1 1985

Orlowska E., Pawlak Z. International Journal of Man-Machine Studies 20(5): 485-500,

This paper gives a definition, based on logic theory, of the "indiscernibility relation" of a knowledge representation system and develops a method of comparison between the expressive power of representation systems using this...

Display 100 # per column ()

REVIEWER'S AREA

MASTHEAD

SUBSCRIBE

PRESS

TIPS

HELP

CONTACT US

Reproduction in whole or in part without permission is prohibited. Copyright © 2000-2010 Reviews.com Terms of Use | Privacy Policy