

The book was found

Probabilistic Reasoning In Intelligent Systems: Networks Of Plausible Inference (Morgan Kaufmann Series In Representation And Reasoning)



Synopsis

Probabilistic Reasoning in Intelligent Systems is a complete and accessible account of the theoretical foundations and computational methods that underlie plausible reasoning under uncertainty. The author provides a coherent explication of probability as a language for reasoning with partial belief and offers a unifying perspective on other AI approaches to uncertainty, such as the Dempster-Shafer formalism, truth maintenance systems, and nonmonotonic logic. The author distinguishes syntactic and semantic approaches to uncertainty--and offers techniques, based on belief networks, that provide a mechanism for making semantics-based systems operational. Specifically, network-propagation techniques serve as a mechanism for combining the theoretical coherence of probability theory with modern demands of reasoning-systems technology: modular declarative inputs, conceptually meaningful inferences, and parallel distributed computation. Application areas include diagnosis, forecasting, image interpretation, multi-sensor fusion, decision support systems, plan recognition, planning, speech recognition--in short, almost every task requiring that conclusions be drawn from uncertain clues and incomplete information. Probabilistic Reasoning in Intelligent Systems will be of special interest to scholars and researchers in AI, decision theory, statistics, logic, philosophy, cognitive psychology, and the management sciences. Professionals in the areas of knowledge-based systems, operations research, engineering, and statistics will find theoretical and computational tools of immediate practical use. The book can also be used as an excellent text for graduate-level courses in AI, operations research, or applied probability.

Book Information

Series: Morgan Kaufmann Series in Representation and Reasoning

Paperback: 552 pages

Publisher: Morgan Kaufmann; 1 edition (September 15, 1988)

Language: English

ISBN-10: 1558604790

ISBN-13: 978-1558604797

Product Dimensions: 6 x 1.3 x 9 inches

Shipping Weight: 2.1 pounds (View shipping rates and policies)

Average Customer Review: 4.2 out of 5 stars [See all reviews](#) (11 customer reviews)

Best Sellers Rank: #229,540 in Books (See Top 100 in Books) #73 in [Books > Textbooks >](#)

[Computer Science > Artificial Intelligence](#) #178 in [Books > Computers & Technology > Computer](#)

Science > AI & Machine Learning > Intelligence & Semantics #389 in Books > Computers & Technology > Certification

Customer Reviews

Recently I needed to learn the principles of Bayesian networks quickly, so I bought three books: this one by Pearl, "Pattern Recognition and Machine Learning" by Bishop, and "Bayesian Artificial Intelligence" by Korb and Nicholson. Each has a very different audience and different set of strengths. The Bishop book would probably be a great text for a serious student with a year to spend learning the theory of machine learning. But I found it a bit too concise, with a bias towards an "algebraic" description rather than a "geometric" one (my preference). I wound up spending a lot of time trying to translate equations into mental pictures in order to grasp the concepts. Too much work, so I dropped this after a couple of days. Next I tackled the Korb and Nicholson book. This one's aimed at the application engineer who wants to get a network up and running quickly, and is not too concerned about how it works. I've been in that position many times in my career, and have always welcomed books like this for giving me a quick start into a new field. But this time I needed to really understand how Bayesian networks worked, and for this the Korb and Nicholson book is not great. In the first 9 pages of chapter 3 they try to explain the belief propagation algorithm, but their hearts just weren't in it--I found their explanation to be unintelligible. (I suspect most readers just skim this to get to the applications.) So after several days of struggling and getting nowhere, I tossed this aside as well. The Pearl book was the only left; I put it off to last since I was initially somewhat intimidated by it. After all, this is one of the books that kicked off the "Bayesian revolution," so I was fearing a foundational math book consisting of one dry theorem after another. Not so!

[Download to continue reading...](#)

Probabilistic Reasoning in Intelligent Systems: Networks of Plausible Inference (Morgan Kaufmann Series in Representation and Reasoning) Knowledge Representation and Reasoning (The Morgan Kaufmann Series in Artificial Intelligence) Computer Networks, Fifth Edition: A Systems Approach (The Morgan Kaufmann Series in Networking) High-Performance Communication Networks, Second Edition (The Morgan Kaufmann Series in Networking) Introduction to Data Compression, Second Edition (The Morgan Kaufmann Series in Multimedia Information and Systems) Relational Database Design Clearly Explained, Second Edition (The Morgan Kaufmann Series in Data Management Systems) Probabilistic Reasoning in Expert Systems: Theory and Algorithms The Art and Science of Digital Compositing, Second Edition: Techniques for Visual Effects, Animation and

Motion Graphics (The Morgan Kaufmann Series in Computer Graphics) Computer Organization and Design, Fifth Edition: The Hardware/Software Interface (The Morgan Kaufmann Series in Computer Architecture and Design) Computer Organization and Design: The Hardware/Software Interface (The Morgan Kaufmann Series in Computer Architecture and Design) MICO: An Open Source CORBA Implementation (The Morgan Kaufmann Series in Software Engineering and Programming) Mobile 3D Graphics: with OpenGL ES and M3G (The Morgan Kaufmann Series in Computer Graphics) Logical Effort: Designing Fast CMOS Circuits (The Morgan Kaufmann Series in Computer Architecture and Design) Foundations of Multidimensional and Metric Data Structures (The Morgan Kaufmann Series in Computer Graphics) Data Governance: How to Design, Deploy and Sustain an Effective Data Governance Program (The Morgan Kaufmann Series on Business Intelligence) Pocket Guide to TCP/IP Socket Programming in C (Morgan Kaufmann Series in Networking) Applying Knowledge Management: Techniques for Building Corporate Memories (The Morgan Kaufmann Series in Artificial Intelligence) Advanced Graphics Programming Using OpenGL (The Morgan Kaufmann Series in Computer Graphics) Biomimetic Neural Learning for Intelligent Robots: Intelligent Systems, Cognitive Robotics, and Neuroscience (Lecture Notes in Computer Science) Game Feel: A Game Designer's Guide to Virtual Sensation (Morgan Kaufmann Game Design Books)

[Dmca](#)