

Mathematical Methods in Artificial Intelligence

By Edward A. Bender



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Mathematical Methods in Artificial Intelligence introduces the student to the important mathematical foundations and tools in AI and describes their applications to the design of AI algorithms. This useful text presents an introductory AI course based on the most important mathematics and its applications. It focuses on important topics that are proven useful in AI and involve the most broadly applicable mathematics.

The book explores AI from three different viewpoints: goals, methods or tools, and achievements and failures. Its goals of reasoning, planning, learning, or language understanding and use are centered around the expert system idea. The tools of AI are presented in terms of what can be incorporated in the data structures. The book looks into the concepts and tools of limited structure, mathematical logic, logic-like representation, numerical information, and nonsymbolic structures.

The text emphasizes the main mathematical tools for representing and manipulating knowledge symbolically. These are various forms of logic for qualitative knowledge, and probability and related concepts for quantitative knowledge. The main tools for manipulating knowledge nonsymbolically, as neural nets, are optimization methods and statistics. This material is covered in the text by topics such as trees and search, classical mathematical logic, and uncertainty and reasoning. A solutions diskette is available, please call for more information.



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Mathematical Methods in Artificial Intelligence By Edward A. Bender Bibliography

Sales Rank: #776479 in Books
Published on: 1996-02-10
Original language: English

• Number of items: 1

• Dimensions: 10.45" h x 1.64" w x 7.24" l, 2.56 pounds

• Binding: Paperback

• 656 pages

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Editorial Review

From the Back Cover

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Many introductory texts give the impression that AI is just a collection of heuristic ideas, data structures, and clever hacks. Fortunately, AI researchers use mathematics and are developing new tools. Since much of the mathematics used in AI is not part of standard undergraduate curriculum, the student will be learning mathematics and seeing how it is used in AI at the same time. A diskette containing solutions to many of the exercises is available for instructors.

Users Review

From reader reviews:

Brian Roberts:

Have you spare time for a day? What do you do when you have considerably more or little spare time? Sure, you can choose the suitable activity for spend your time. Any person spent their very own spare time to take a wander, shopping, or went to typically the Mall. How about open or perhaps read a book eligible Mathematical Methods in Artificial Intelligence? Maybe it is being best activity for you. You already know beside you can spend your time with your favorite's book, you can more intelligent than before. Do you agree with its opinion or you have different opinion?

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