Integration of AI and OR Techniques in Constraint Programming

A Comprehensive Overview

Constraint programming is a powerful paradigm for solving complex problems that involve constraints. Constraints can be used to represent a wide variety of problem features, such as logical relationships, resource limits, and scheduling constraints. Constraint programming has been successfully applied to a wide range of problems, including scheduling, resource allocation, and planning.

Integration of AI and OR Techniques in Constraint Programming: 14th International Conference, CPAIOR 2024, Padua, Italy, June 5-8, 2024, Proceedings (Lecture Notes in Computer Science Book 10335)

★★★★★ 5 out of 5

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Text-to-Speech	: Enabled
Enhanced typesetting	: Enabled
Word Wise	: Enabled
Print length	: 443 pages

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In recent years, there has been a growing interest in integrating AI and OR techniques into constraint programming. AI techniques can be used to develop more effective algorithms for solving constraint problems, while OR techniques can be used to model and analyze the performance of these

algorithms. The integration of AI and OR techniques has led to the development of new and powerful approaches to solving complex problems.

This book provides a comprehensive overview of the integration of AI and OR techniques in constraint programming. It covers the theoretical foundations, algorithms, and applications of this powerful approach to solving complex problems. The book is divided into three parts:

1. **Part I: Foundations**

2. **Part II: Algorithms**

3. **Part III: Applications**

Part I provides an to constraint programming and the integration of AI and OR techniques. It covers the basic concepts of constraint programming, as well as the different types of AI and OR techniques that can be used to solve constraint problems.

Part II describes the different algorithms that have been developed for solving constraint problems. It covers both traditional constraint programming algorithms, as well as more recent algorithms that have been developed using AI and OR techniques.

Part III presents a number of applications of constraint programming to real-world problems. These applications include scheduling, resource allocation, and planning.

This book is intended for students, researchers, and practitioners who are interested in constraint programming and its applications. It is also a

valuable resource for anyone who is interested in AI and OR techniques.

Table of Contents

Reviews

"This book is a comprehensive and up-to-date overview of the integration of AI and OR techniques in constraint programming. It is a valuable resource for anyone who is interested in this powerful approach to solving complex problems." - **Professor William Walsh, University of York**

"This book provides a clear and concise to the use of AI and OR techniques in constraint programming. It is a must-read for anyone who is

interested in using constraint programming to solve real-world problems." -

Dr. Peter van Beek, University of Waterloo

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A screenshot of the book "Integration of AI and OR Techniques in Constraint Programming" with a graph showing the integration of AI and OR techniques in constraint programming.

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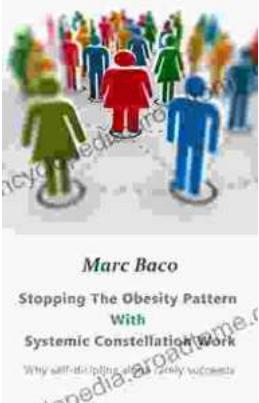
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