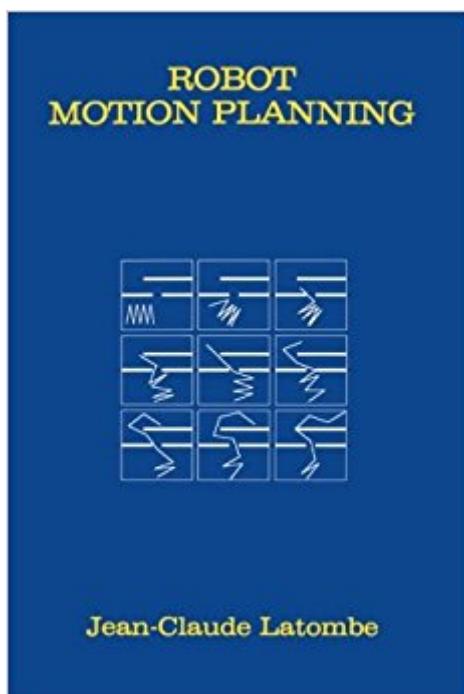The book was found

Robot Motion Planning (The Springer International Series In Engineering And Computer Science)

ROBOT MOTION PLANNING

Jean-Claude Latombe

Synopsis

One of the ultimate goals in Robotics is to create autonomous robots. Such robots will accept high-level descriptions of tasks and will execute them without further human intervention. The input descriptions will specify what the user wants done rather than how to do it. The robots will be any kind of versatile mechanical device equipped with actuators and sensors under the control of a computing system. Making progress toward autonomous robots is of major practical interÃ Â- est in a wide variety of application domains including manufacturing, construction, waste management, space exploration, undersea work, asÃ Â- sistance for the disabled, and medical surgery. It is also of great technical interest, especially for Computer Science, because it raises challenging and rich computational issues from which new concepts of broad usefulÃ Â- ness are likely to emerge. Developing the technologies necessary for autonomous robots is a formidable undertaking with deep interweaved ramifications in autoÃ Â- mated reasoning, perception and control. It raises many important probÃ Â- lems. One of them - motion planning - is the central theme of this book. It can be loosely stated as follows: How can a robot decide what motions to perform in order to achieve goal arrangements of physical objects? This capability is eminently necessary since, by definition, a robot accomplishes tasks by moving in the real world. The minimum one would expect from an autonomous robot is the ability to plan its x Preface own motions.

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Customer Reviews

If you're interested in robot motion planning, this book is it! It provides incomparable detailed coverage of the major methods for motion planning and their theory, and could serve as a great geometrical perspective to planning in general. It's not a casual read, however and is meant for a specialist audience with a liking for theory. No professional roboticist should be without it.

Comprehensive coverage of motion planning techniques.

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