



METADATA

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Abstract

One of the ultimate goals of Robotics is the creation of intelligent systems (robots). These systems should have the ability to accept high-level descriptions of the tasks that they are asked to perform and perform them without further human intervention. High-level task descriptions specify what the user wants to do rather than how to do it. The progress that has been made in recent years towards intelligent systems has resulted in them being used to perform various tasks, such as waste management, space exploration, marine/undersea work, autonomous vehicles, medical applications etc. The development of the necessary technologies for the creation of intelligent systems that will be able to coexist with humans, cooperate with them but also with each other and

generally share the same environment is a perspective which, in order to achieve it, many important problems must be solved. One of them is motion design, which is the central theme of this book. It can be formulated as follows: How can an intelligent system decide what moves to perform in order to move from an initial configuration to a final configuration? This capability is extremely necessary since, by definition, an intelligent system, in order to be able to perform the tasks assigned to it, must move into the real world. The minimum one would expect from an intelligent system is the ability to plan its own movements. This book consists of 9 chapters and each chapter of the book includes solved examples, exercises to solve and comprehension questions.

