



Foundations of Robotics: Analysis and Control

By Tsuneo Yoshikawa

The MIT Press. Paperback. Book Condition: New. This item is printed on demand. Paperback. 298 pages. Foundations of Robotics presents the fundamental concepts and methodologies for the analysis, design, and control of robot manipulators. It explains the physical meaning of the concepts and equations used, and it provides, in an intuitively clear way, the necessary background in kinetics, linear algebra, and control theory. Illustrative examples appear throughout. The author begins by discussing typical robot manipulator mechanisms and their controllers. He then devotes three chapters to the analysis of robot manipulator mechanisms. He covers the kinematics of robot manipulators, describing the motion of manipulator links and objects related to manipulation. A chapter on dynamics includes the derivation of the dynamic equations of motion, their use for control and simulation and the identification of inertial parameters. The final chapter develops the concept of manipulability. The second half focuses on the control of robot manipulators. Various position-control algorithms that guide the manipulators end effector along a desired trajectory are described. Two typical methods used to control the contact force between the end effector and its environments are detailed. For manipulators with redundant degrees of freedom, a technique to develop control algorithms for active...



READ ONLINE
[6.1 MB]

Reviews

Very beneficial for all type of folks. It can be rally intriguing throug studying time. You will like how the writer publish this ebook.

-- **Nathan Cruickshank**

Totally one of the better pdf I have at any time read through. It really is simplified but shocks within the 50 % from the ebook. Once you begin to read the book, it is extremely difficult to leave it before concluding.

-- **Mariano Spinka**