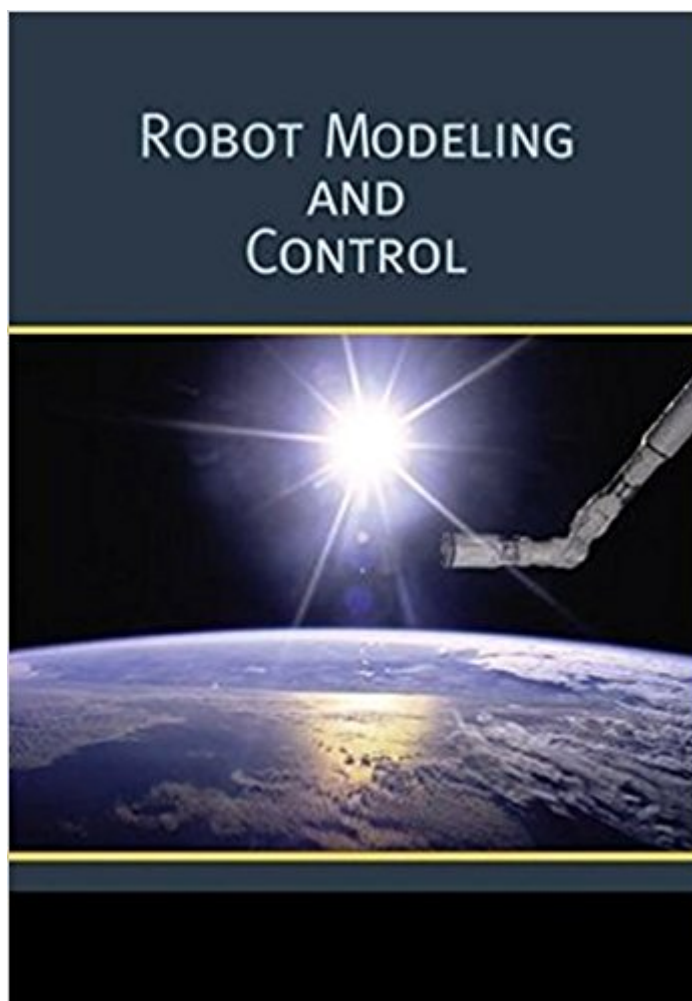The book was found

Robot Modeling And Control

Synopsis

"The coverage is unparalleled in both depth and breadth. No other text that I have seen offers a better complete overview of modern robotic manipulation and robot control." -- Bradley Bishop, United States Naval Academy Based on the highly successful classic, Robot Dynamics and Control, by Spong and Vidyasagar (Wiley, 1989), Robot Modeling and Control offers a thoroughly up-to-date, self-contained introduction to the field. The text presents basic and advanced material in a style that is at once readable and mathematically rigorous. Key Features * A step-by-step computational approach helps you derive and compute the forward kinematics, inverse kinematics, and Jacobians for the most common robot designs. * Detailed coverage of vision and visual servo control enables you to program robots to manipulate objects sensed by cameras. * An entire chapter on dynamics prepares you to compute the dynamics of the most common manipulator designs. * The most common motion planning and trajectory generation algorithms are presented in an elementary style. * The comprehensive treatment of motion and force control includes both basic and advanced methods. * The text's treatment of geometric nonlinear control is more readable than in more advanced texts. * Many worked examples and an extensive list of problems illustrate all aspects of the theory. About the authors Mark W. Spong is Donald Biggar Willett Professor of Engineering at the University of Illinois at Urbana-Champaign. Dr. Spong is the 2005 President of the IEEE Control Systems Society and past Editor-in-Chief of the IEEE Transactions on Control Systems Technology. Seth Hutchinson is currently a Professor at the University of Illinois in Urbana-Champaign, and a senior editor of the IEEE Transactions on Robotics and Automation. He has published extensively on the topics of robotics and computer vision. Mathukumalli Vidyasagar is currently Executive Vice President in charge of Advanced Technology at Tata Consultancy Services (TCS), India's largest IT firm. Dr. Vidyasagar was formerly the director of the Centre for Artificial Intelligence and Robotics (CAIR), under Government of India's Ministry of Defense.

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Customer Reviews

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The book has excellent chapters on kinematics and kinetics.The explanation is clear and a lot of examples are shown.However, other chapters on control or vision has almost no content.Those later chapters are NOT for teaching, but just brief overview of technology.If you are trying to learn robot kinematics, this is an excellent book.However, don't expect to learn beyond that. (You can't learn control or vision from this book)

A great book in robotics. Explain the kinematics, dynamics and control (KDC) in an intuitive and thorough way. These authors are all top experts in this field, specializing in robotics and controls. Spong and Hutchinson were EIC's in top control and robotics journals, while Vidyasagar won the 2000 Bode Lecture Prize. If you want to lay solid foundation in KDC, this is the book to begin with.PS: I am a postdoc at CMU Robotics Institute.

Good but the paper is much thinner than I thought and all black and white pages read not so well.

This book was a requirement for my Robotics curriculum. Explains the dynamics of manipulators with trigonometry and linear algebra. I complemented the excesises by using MathCAD, MathLAB, and Soliworks.

This textbook was required reading for my Robotics class and I read it from cover to cover before class even started. It is a fairly straightforward look at how to approach modelling robotic movement as well as including chapters on computer vision. I cannot speak to the homework problems in the book since our professor created her own, but this is one of the best textbooks I've ever bought. This is not one you want to resell. It's one you keep for your collection.

Nice but expensive

I used this book in my last semester for Robot Synthesis and Analysis class in Mechatronics Engineering.One thing you might find interesting when unboxing is that the book is very thin comparing to any other engineering books. Yes, it is very thin, but it is also very informative. Whether you are buying this book for your class or to learn about Robot control, this is a great buy; it will teach you the basic how to modeling the robot's link&joints movement as well as utilizing MATLAB to manage this modeling.A lot of people might underestimate this book because it was published in 2005, but you might want to think of it again because all the modern robot was built on the same practical modeling and control theory. So, this book is teaching you how to walk first before you are ready to run.

It's a great book designed for all levels of students. The authors try to explain profound theories in simple words and vivid examples, thus making this abstruse problem much less difficult and more interesting.

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