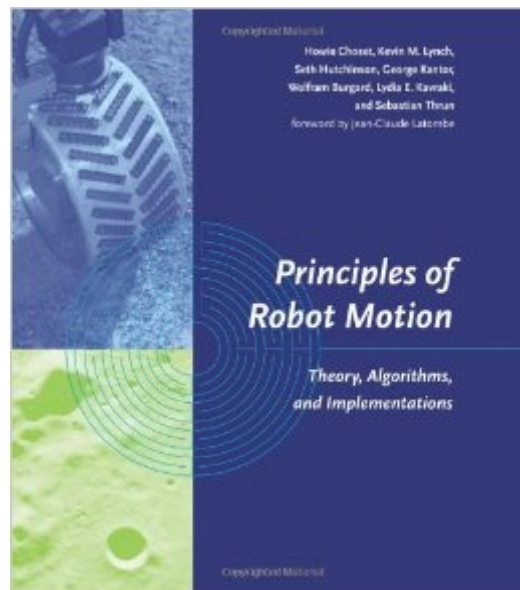


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# Principles Of Robot Motion: Theory, Algorithms, And Implementations (Intelligent Robotics And Autonomous Agents Series)



## Synopsis

Robot motion planning has become a major focus of robotics. Research findings can be applied not only to robotics but to planning routes on circuit boards, directing digital actors in computer graphics, robot-assisted surgery and medicine, and in novel areas such as drug design and protein folding. This text reflects the great advances that have taken place in the last ten years, including sensor-based planning, probabilistic planning, localization and mapping, and motion planning for dynamic and nonholonomic systems. Its presentation makes the mathematical underpinnings of robot motion accessible to students of computer science and engineering, relating low-level implementation details to high-level algorithmic concepts.

## Book Information

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## Customer Reviews

At the outset one might expect this book to be pure about motion planning or motion control. In reality the book is remarkably comprehensive in coverage of perception, planning and control with in-depth coverage of basic kinematics, basic planning mechanisms and applied estimation such as Kalman filters for robot perception. The book was written/edited by the first authors with in-depth coverage in particular chapters by the other authors. In the end it is a very coherent, up-to-date and comprehensive book. The book is written to have enough detail for a 1 term senior under-graduate or junior graduate course in robotics or as a reference for practitioners. Truly a great book

It is excellent book that gives contemporary presentation of the main topics of robots motion. It provides both clear explanations of the underlying principles and accurate algorithms and methods, which can be directly applied for the robots control. I use this book as one of the main sources for the course in mobile robots and as a handbook for research projects, and highly recommend it for everyone who deals with modern robotic systems.

This is a great book on mobile robotics, a lot of methods are explained in the book and its writing is clear and easy to understand. I have used it on several undergraduate and graduate courses that I have taken, I fully recommend it.

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