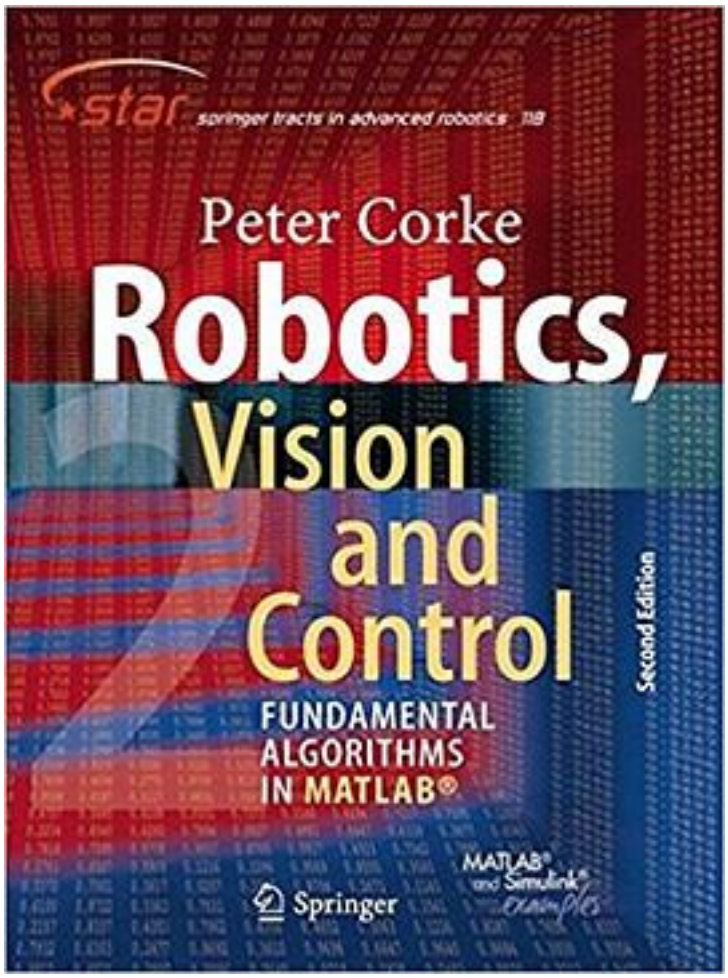
Robotics, Vision and Control: Fundamental Algorithms In MATLAB, Second Edition (Springer Tracts in Advanced Robotics)



Robotics, Vision and Control: Fundamental Algorithms In MATLAB, Second Edition (Springer Tracts in Advanced Robotics)_下载链接1_

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Robotic vision, the combination of robotics and computer vision, involves the application of computer algorithms to data acquired from sensors. The research community has developed a large body of such algorithms but for a newcomer to the field this can be quite daunting. For over 20 years the author has maintained two open-source MATLAB® Toolboxes, one for robotics and one for vision. They provide implementations of many important algorithms and allow users to work with real problems, not just trivial examples. This book makes the fundamental algorithms of robotics, vision and control accessible to all. It weaves together theory, algorithms and examples in a narrative that covers robotics and computer vision separately and together. Using the latest versions of the Toolboxes the author shows how complex problems can be decomposed and solved using just a few simple lines of code. The topics covered are guided by real problems observed by the author over many years as a practitioner of both robotics and computer vision. It is written in an accessible but informative style, easy to read and absorb, and includes over 1000 MATLAB and Simulink® examples and over 400 figures. The book is a real walk through the fundamentals of mobile robots, arm robots. then camera models, image processing, feature extraction and multi-view geometry and finally bringing it all together with an extensive discussion of visual servo systems. This second edition is completely revised, updated and extended with coverage of Lie groups, matrix exponentials and twists; inertial navigation; differential drive robots; lattice planners; pose-graph SLAM and map making; restructured material on arm-robot kinematics and dynamics; series-elastic actuators and operational-space control; Lab color spaces; light field cameras; structured light, bundle adjustment and visual odometry; and photometric visual servoing.

“An authoritative book, reaching across fields, thoughtfully conceived and brilliantly accomplished!”

OUSSAMA KHATIB, Stanford

作者介绍:

I'm a professor of robotic vision at Queensland University of Technology, and interested in how robots can use the sense of vision to understand their world and be truly useful. Current projects include vision-based indoor navigation, quadcopter control using high-speed vision, and robotics for agriculture and for healthcare. Before that I worked in applied research developing robots for mining and environmental monitoring.

目录:

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书评

33页四元数时， >>q = Quaternion(rpy2tr (0.1,0.2,0.3)) 出错！ >> q = Quaternion(rpy2tr (0.1,0.2,0.3)) Error using Quaternion (line 122) bad argument to quaternion constructor！！！ 我直接输入四个数是没问题的！ >> q = Quaternion([1,...

这本书写得很好，不管是排版，还是内容，英语写得也很流畅。当然他本身就是一个母语者。
在看了FutureLearn上面看了这个教授的相关课程之后，也在找来了这本书看来之后，我吃饱了撑的觉得应该找这个教授联系一下，问他要一个授权以便可以把另外一个网站上的视频内容发布到B站上...

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