

# Robot Operating System (ROS): The Complete Reference (Volume 1) (Studies in Computational Intelligence)

From Springer



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The objective of this book is to provide the reader with a comprehensive coverage on the Robot Operating Systems (ROS) and latest related systems, which is currently considered as the main development framework for robotics applications.

The book includes twenty-seven chapters organized into eight parts. Part 1 presents the basics and foundations of ROS. In Part 2, four chapters deal with navigation, motion and planning. Part 3 provides four examples of service and experimental robots. Part 4 deals with real-world deployment of applications. Part 5 presents signal-processing tools for perception and sensing. Part 6 provides software engineering methodologies to design complex software with ROS. Simulations frameworks are presented in Part 7. Finally, Part 8 presents advanced tools and frameworks for ROS including multi-master extension, network introspection, controllers and cognitive systems.

This book will be a valuable companion for ROS users and developers to learn more ROS capabilities and features.

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## **Robot Operating System (ROS): The Complete Reference (Volume 1) (Studies in Computational Intelligence) From Springer Bibliography**

- Sales Rank: #1991518 in Books
- Published on: 2016-02-10
- Original language: English
- Number of items: 1
- Dimensions: 9.21" h x 1.56" w x 6.14" l, .0 pounds
- Binding: Hardcover
- 728 pages

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### **Editorial Review**

#### Review

“This book has a lot of code. This feature is quite welcome for newbies and experts who want to replicate the successful robots detailed here. Another more-than-appreciated feature of this book is the section called ‘Software Engineering with ROS.’ ... The book closes with advanced tools such as advanced debuggers and real-time implementations in ROS.” (Ramon Gonzalez Sanchez, Computing Reviews, computingreviews.com, July, 2016)

#### From the Back Cover

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