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Engineering : Robotics and Automation

Koubaa, Anis (Ed.)

Robot Operating System (ROS)

The Complete Reference (Volume 1)

- Contributions devoted to the Robot Operating System (ROS) with working examples, demonstrations and illustrations
- Comprehensive coverage of the Robot Operating Systems (ROS), which is currently considered as the main development framework for robotics applications
- Includes supplementary material representing all the code provided by the authors, which will be made available as open source in a Google Code repository
- Accompanying video channel for demonstrations related to chapters of the book

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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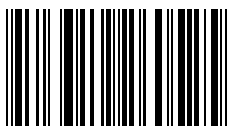
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