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Nota di contenuto	Part I: Single-Leader-Dual-Follower Teleoperation for Cooperative Manipulation -- Motion Regulation Solutions for Holding and Moving Objects in Single-Leader-Dual-Follower Teleoperation -- Single-Leader-Dual-Follower Cooperative Manipulation of Deformable Objects -- Part II: Integrated Autonomous Learning and Control Framework -- A Small Opening Workspace Control Strategy for Redundant Manipulator Based on Remote Center of Movement Method -- Motor Learning and Generalization using Broad Learning Adaptive Neural Control -- Hybrid Learning and Control using Improved Dynamical Movement Primitive and Adaptive Neural Network Control -- Part III: Bio-inspired Autonomous Learning for Dexterous Manipulations -- A Constrained DMP Framework for Robot Skills Learning and Generalization from Human Demonstrations- Incremental Motor Skill Learning and Generalization From Human Dynamic Reactions Based on Dynamic Movement Primitive and Fuzzy Logic System -- Motor Learning and Generalization using Broad Learning Adaptive Neural Control.

Sommario/riassunto

This book offers an in-depth exploration of the interdisciplinary field of dexterous robotic manipulation, focusing on advanced methods that enable robots to autonomously learn, adapt, and perform a variety of tasks. It covers key topics such as teleoperation systems, advanced control frameworks, and bio-inspired autonomous learning. The book stands out by providing a comprehensive examination of both the technical and theoretical aspects of dexterous manipulation, with a particular emphasis on integrating advanced control and autonomous learning. The book is primarily aimed at researchers, engineers, and graduate students in the fields of robotics, artificial intelligence, and control systems. It is particularly useful for those interested in robotic manipulation, autonomous learning, and bio-inspired systems. The detailed technical explanations and cutting-edge research make it an essential resource for professionals seeking to push the boundaries of robotic dexterous manipulation. The book's practical applications make it relevant for many real-world manipulation scenarios, including healthcare and manufacturing.