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Titolo	IWSM : 1998 3rd International Workshop on Statistical Metrology : June 7, 1998, Honolulu
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Lingua di pubblicazione	Inglese
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Autore	Li Xiang
Titolo	Compliantly-Driven Robots with Application to Exoskeletons : Mechanical Design, Interaction Control, and Interactive Learning / / by Xiang Li, Haoyong Yu
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2026
ISBN	981-9695-44-9
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Descrizione fisica	1 online resource (344 pages)
Collana	Intelligent Technologies and Robotics Series
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Nota di contenuto	Introduction to Compliant Actuators -- Compliantly-Actuated Robots -- Robotic Exoskeleton -- Interactive Learning -- Rehabilitation Robots -- Future Directions and Research Opportunities.
Sommario/riassunto	This book adopts a multidisciplinary approach to comprehensively explore the intricacies of compliantly driven robots and their application in exoskeletons. It is structured in three main parts. 1) The first part delves into mechanical design, offering a detailed examination of the underlying principles governing the construction and fabrication of these robots. This section encompasses discussions on actuators, joints, and overall system architecture. 2) The second part focuses on interaction control, delving into algorithms and strategies that govern the dynamic and responsive behavior of these robots when interacting with their environment and human users. Topics such as intention sensing, feedback systems, and adaptive control are addressed. 3) The third part is dedicated to interactive learning, where we explore the evolving field of machine learning algorithms tailored for robots, enabling them to adapt and improve their performance over time. Human demonstration, unsupervised learning, and human-in-the-loop methodologies are central themes. Throughout the book, we emphasize real-world applications, particularly in the realm of exoskeleton technology, showcasing how these principles manifest in practical contexts such as rehabilitation and assistive devices. By intertwining theory with practical implementation, this book provides a comprehensive guide for researchers, engineers, and enthusiasts in the field of compliantly driven robotics.