1. Record Nr. UNINA9910798735503321

Autore	Crutchfield James A. <1938->
Titolo	It happened in Montana : remarkable events that shaped history / / James Crutchfield
Pubbl/distr/stampa	Guilford, Connecticut : , : TwoDot, , [2017] ©2017
ISBN	0-7627-7194-1 1-4930-2356-X
Edizione	[Third edition.]
Descrizione fisica	1 online resource (145 pages)
Collana	It happened in the West series
Disciplina	978.6
Soggetti	Montana History Anecdotes Montana History, Local Anecdotes Montana Biography Anecdotes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	"Author James A. Crutchfield has mined thirty-seven of the most colorful episodes from Montana's provocative past--from the first glimpse of French explorers of the "Shining Mountains" in 1743 to the attempt to round up the wild horses of the Pryor Mountains."--Provided by publisher.

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Autore	León Beatriz
Titolo	From robot to human grasping simulation / / Beatriz Leon, Antonio Morales, Joaquin Sancho-Bru
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , 2014
ISBN	3-319-01833-7
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (x, 261 pages) : illustrations (some color)
Collana	Cognitive Systems Monographs, , 1867-4925 ; ; 19
Disciplina	006.3 629.892
Soggetti	Robot hands
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"ISSN: 1867-4925."
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	""Preface""; ""Contents""; ""1 Introduction""; ""1.1 The Grasping Process""; ""1.1.1 Grasping in Biomechanics""; ""1.1.2 Grasping in Robotics""; ""1.2 Simulation: A Tool Towards Understanding the Grasping Process""; ""1.3 From Robot to Human Grasping Simulation""; ""1.4 Outline""; ""1.4.1 Part I: Robot Grasping Simulation""; ""1.4.2 Part II: Human Grasping Simulation""; ""References""; ""Part IRobot Grasping Simulation""; ""2 Robot Grasping Foundations""; ""2.1 Introduction""; ""2.2 Contact Modelling""; ""2.2.1 Contact Kinematics""; ""2.2.2 Contact Models""; ""2.2.3 Selection Matrices"" ""2.3 Grasp Analysis""""2.3.1 Grasp Matrix and Hand Jacobian""; ""2.3.2 Disturbance Resistance""; ""2.3.3 Optimal Contact Forces Computation""; ""2.4 Grasp Synthesis""; ""References""; ""3 Robot Grasping Simulation""; ""3.1 Introduction""; ""3.1.1 Requirements for a Grasp Simulator""; ""3.1.2 Related Work""; ""3.2 OpenRAVE""; ""3.2.1 The Core Layer""; ""3.2.2 The Scripting Layer""; ""3.2.3 The Plugins Layer""; ""3.2.4 Object Manipulation in OpenRAVE""; ""3.3 OpenGRASP: Simulation Toolkit""; ""3.3.1 Developed Plugins""; ""3.3.2 Physics Simulation""; ""3.3.3 File Format for Robot Models"" ""3.3.4 Robot Editor""""3.3.5 Robot Models""; ""3.4 Simulated Tactile Sensor""; ""3.4.1 Related Work""; ""3.4.2 Tactile Sensor Model""; ""3.4.3 Contact Force Model""; ""3.4.4 Tactile Sensor Plugin""; ""3.4.5 Experiments on Robot Grasping""; ""3.4.6 Discussion""; ""3.5 Conclusion""; ""References""; ""4 Applications of Robot Grasping

Simulation""; ""4.1 Introduction""; ""4.2 Grasping Known Objects: Existing Approaches""; ""4.2.1 Grasp Hypothesis Database""; ""4.2.2 OpenRAVE Grasping Pipeline""; ""4.3 Grasping Known Objects: Using Uncertainty Metric MOOM""; ""4.3.1 Related Work""
""4.3.2 MOOM: Model-Object Overlap Metric""""4.3.3 Grasping Pipeline""; ""4.3.4 Experimental Setup and Evaluation""; ""4.3.5 Discussion""; ""4.4 Grasping Unknown Objects: Using Symmetry Assumptions""; ""4.4.1 Predicting Object Shape Through Symmetry""; ""4.4.2 Grasping Pipeline""; ""4.4.3 Experiments""; ""4.4.4 Discussion""; ""4.5 Grasping Familiar Objects: Using Task Constraints""; ""4.5.1 Grasping Pipeline""; ""4.5.2 Experiments""; ""4.5.3 Discussion""; ""4.6 Dynamic Grasping Simulation""; ""4.6.1 Implementation""; ""4.6.2 Experimental Setup""; ""4.6.3 Results""; ""4.6.4 Discussion""
""4.7 Conclusion""""""References""; ""Part IIHuman Grasping Simulation""; ""5 The Model of the Human Hand""; ""5.1 Introduction""; ""5.2 Literature Review""; ""5.2.1 Biomechanical Models of the Hand""; ""5.2.2 Hand Models in Ergonomics""; ""5.2.3 Grasping in Robotics""; ""5.3 Hand Model Proposed for the Study of Grasp""; ""5.4 Anatomy of the Hand: Terminology""; ""5.5 Biomechanical Model""; ""5.5.1 Kinematics""; ""5.5.2 Musculo-tendon Action""; ""5.5.3 Ligaments""; ""5.5.4 Soft Contact Model""; ""5.5.5 Skin Model""; ""5.5.6 Closure Algorithm""; ""5.5.7 Neuromuscular Control""
""5.6 Simulation Framework for Human Hand Grasping""

Sommario/riassunto

The human hand and its dexterity in grasping and manipulating objects are some of the hallmarks of the human species. For years, anatomic and biomechanical studies have deepened the understanding of the human hand’s functioning and, in parallel, the robotics community has been working on the design of robotic hands capable of manipulating objects with a performance similar to that of the human hand. However, although many researchers have partially studied various aspects, to date there has been no comprehensive characterization of the human hand’s function for grasping and manipulation of everyday life objects. This monograph explores the hypothesis that the confluence of both scientific fields, the biomechanical study of the human hand and the analysis of robotic manipulation of objects, would greatly benefit and advance both disciplines through simulation. Therefore, in this book, the current knowledge of robotics and biomechanics guides the design and implementation of a simulation framework focused on manipulation interactions that allows the study of the grasp through simulation. As a result, a valuable framework for the study of the grasp, with relevant applications in several fields such as robotics, biomechanics, ergonomics, rehabilitation and medicine, has been made available to these communities.