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Autore	Siciliano Bruno
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Nota di contenuto	1 Oussama Khatib, The Journey of Robotics -- 2 Dorit Borrmann and Andreas Nüchter, Sensing and Estimation -- 3 Lars Berscheid and Torsten Kröger, Control and Motion Planning -- 4 Luigi Villani, Force Control -- 5 Francois Chaumette, Visual Control -- 6 Joe Watson, Julen Urain, Joao Carvalho, Niklas Funk and Jan Peters, Learning -- 7 Michael Beetz and Daniel Nyga, Knowledge Representation and Reasoning- 8 Giorgio Grisetti, Rainer Kuemmerle, Cyrill Stachniss and Wolfram Burgard, Graph-Based SLAM.
Sommario/riassunto	The robot “concept” was clearly established by those many creative historical realizations, such as those recalled above. Nonetheless, the emergence of the “physical” robot had to await the advent of its underlying technologies of mechanics, controls, computers, electronics

and sensors in one word, mechatronics during the course of the twentieth century. As always, new designs motivate new research and discoveries which, in turn, lead to enhanced solutions and thus to novel concepts. This virtuous circle over time produced that knowledge and understanding which gave birth to the field of Robotics, properly referred to as the science and technology of robots. To make robots and intelligent machines useful to humans it is necessary to have a broad and tight intersection between Robotics and AI. Sophisticated mathematical models are needed that enable the robot from a physical point of view, as well as intelligent algorithms capable of correlating all the information coming from the use of technologically advanced sensors with the data available from experience. It is expected that the synergy of model-based techniques with data-driven approaches will contribute to increasing the level of autonomy of robots and intelligent machines in the near future. The first book of the Robotics Goes MOOC project starts with the journey of robotics in the introductory chapter by Khatib, who has pioneered our field of robotics and has ferried it to the third millennium. Sensing is crucial for the development of intelligent and autonomous robots, as covered in Chapter 2 by Nüchter et al. Model-based control is dealt with in Chapter 3 by Kröeger et al along with motion planning, as well as in Chapter 4 by Villani and Chapter 5 by Chaumette to handle force and visual feedback, respectively, when interacting with the environment. Resorting to AI techniques is the focus of the last part of the book, namely, Chapter 6 by Peters et al on Learning, Chapter 7 by Beetz et al on knowledge representation and reasoning, and Chapter 8 by Burgard et al on graph-based SLAM. The image on the cover metaphorically illustrates the knowledge paradigm of robotics through a hand trying to catch an apple. The content published here are linked to a series of MOOCs on Robotics specifically created and hosted by Federica Web Learning. You can access the related content via our app: download the SN More Media app for free, scan the link and access directly to the online courses on your smartphone or tablet.
