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Nota di contenuto	Introduction -- Part I Black-Box Optimization -- 1 Nonlinear Optimization -- 2 Smooth Convex Optimization -- 3 Nonsmooth Convex Optimization -- 4 Second-Order Methods -- Part II Structural Optimization -- 5 Polynomial-time Interior-Point Methods -- 6 Primal-Dual Model of Objective Function -- 7 Optimization in Relative Scale -- Bibliographical Comments -- Appendix A. Solving some Auxiliary Optimization Problems -- References -- Index.
Sommario/riassunto	This book provides a comprehensive, modern introduction to convex optimization, a field that is becoming increasingly important in applied mathematics, economics and finance, engineering, and computer science, notably in data science and machine learning. Written by a leading expert in the field, this book includes recent advances in the algorithmic theory of convex optimization, naturally complementing the existing literature. It contains a unified and rigorous presentation of the acceleration techniques for minimization schemes of first- and second-order. It provides readers with a full treatment of the smoothing technique, which has tremendously extended the abilities of gradient-type methods. Several powerful approaches in structural optimization, including optimization in relative scale and polynomial-time interior-point methods, are also discussed in detail. Researchers

in theoretical optimization as well as professionals working on optimization problems will find this book very useful. It presents many successful examples of how to develop very fast specialized minimization algorithms. Based on the author's lectures, it can naturally serve as the basis for introductory and advanced courses in convex optimization for students in engineering, economics, computer science and mathematics.

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