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	Nota di contenuto	Part I, Computability in Analysis -- Computability of Real Numbers -- Computability of Subsets of Metric Spaces -- Computability of Differential Equations -- Computable Complex Analysis -- Part II, Complexity, Dynamics, and Randomness -- Computable Geometric Complex Analysis and Complex Dynamics -- A Survey on Analog Models of Computation -- Computable Measure Theory and Algorithmic Randomness -- Algorithmic Fractal Dimensions in Geometric Measure Theory -- Part III Constructivity, Logic, and Descriptive Complexity -- Admissibly Represented Spaces and Qcb-Spaces -- Bishop-Style Constructive Reverse Mathematics -- Weihrauch Complexity in Computable Analysis -- Index.
	Sommario/riassunto	Computable analysis is the modern theory of computability and complexity in analysis that arose out of Turing's seminal work in the 1930s. This was motivated by questions such as: which real numbers and real number functions are computable, and which mathematical tasks in analysis can be solved by algorithmic means? Nowadays, this theory has many different facets that embrace topics from computability theory, algorithmic randomness, computational complexity, dynamical systems, fractals, and analog computers, up to logic, descriptive set theory, constructivism, and reverse mathematics. In recent decades, computable analysis has invaded many branches of analysis, and researchers have studied computability and complexity questions arising from real and complex analysis, functional analysis,

and the theory of differential equations, up to (geometric) measure theory and topology. This comprehensive handbook contains 11 chapters grouped into parts on computability in analysis; complexity, dynamics, and randomness; and constructivity, logic, and descriptive complexity. Researchers and graduate students in the areas of theoretical computer science and mathematical logic will find systematic introductions into many branches of computable analysis, as well as a wealth of information and references that will help them to navigate the modern research literature in this field. Vasco Brattka is a professor for Theoretical Computer Science and Mathematical Logic at the Universität der Bundeswehr München. He is editor-in-chief of Computability, the journal of the association, Computability in Europe. Peter Hertling is a professor in the Institute for Theoretical Computer Science, Mathematics and Operations Research at UniBwM. He is an associate editor of Journal of Complexity.