

<<信息、随机及不完整性>>

图书基本信息

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内容概要

This book is an essential companion to Chaitin's monograph ALGORITHMIC INFORMATION THEORY and includes in easily accessible form all the main ideas of the creator and principal architect of algorithmic information theory. This expanded second edition has added thirteen abstracts, a 1988 SCIENTIFIC AMERICAN article, a transcript of a EUROPALIA 89 lecture, an essay on biology, and an extensive bibliography. Its larger format makes it easier to read. Chaitin's ideas are a fundamental extension of those of Godel and Turing and have exploded some basic assumptions of mathematics and thrown new light on the scientific method, epistemology, probability theory, and of course computer science and information theory. "One will find in [Information, Randomness & Incompleteness] all kinds of "articles which are popularizations or epistemological reflections, and presentations which permit one to rapidly obtain a precise idea of the subject and of some of its applications (in particular in the biological domain). Very complete, it is recommended to anyone who is interested in algorithmic information theory." Jean-Paul Delahaye in LA RECHERCHE "No one, but no one, is exploring to greater depths the amazing insights and theorems that flow from Godel's work on undecidability than Gregory Chaitin. His exciting discoveries and speculations invade such areas as logic, induction, simplicity, the philosophy of mathematics and science, randomness, proof theory, chaos, information theory, computer complexity, diophantine analysis, and even the origin and evolution of life." Martin Gardner "Gregory Chaitin...has proved the ultimate in undecidability theorems that the logical structure of arithmetic can be random... The assumption that the formal structure of arithmetic is precise and regular turns out to have been a time-bomb, and Chaitin has just pushed the detonator." Ian Stewart in NATURE

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作者简介

书籍目录

Part I--Introductory/Tutorial/Survey Papers Randomness and mathematical proof, Scientific American, 1975
 Randomness in arithmetic, Scientific American, 1988 On the difficulty of computations, IEEE Transactions on Information Theory, 1970 Information-theoretic computational complexity, IEEE Transactions on Information Theory, 1974 Algorithmic information theory, Encyclopedia of Statistical Sciences, 1982 Algorithmic information theory, IBM Journal of Research and Development, 1977Part II--Applications to Metamathematics
 Godel's theorem and information, International Journal of Theoretical Physics, 1982 Randomness and Godel's theorem, Mondes en Developpement, 1986 An algebraic equation for the halting probability, The Universal Turing Machine, 1988 Computing the busy beaver function, Open Problems in Communication and Computation, 1987Part III--Applications to Biology To a mathematical definition of "life", A CM SICA CT News, 1970 Toward a mathematical definition of "life", The Maximum Entropy Formalism, 1979Part IV--Technical Papers on Self-Delimiting Programs A theory of program size formally identical to information theory, Journal of the A CM, 1975 Incompleteness theorems for random reals, Advances in Applied Mathematics, 1987 Algorithmic entropy of sets, Computers & Mathematics with Applications, 1976Part V--Technical Papers on Blank-Endmarker Programs Information-theoretic limitations of formal systems, Journal of the ACM, 1974 A note on Monte Carlo primality tests and algorithmic information theory, Communications on Pure and Applied Mathematics, 1978 Information-theoretic characterizations of recursive infinite strings, Theoretical Computer Science, 1976 Program size, oracles, and the jump operation, Osaka Journal of Mathematics, 1977Part VI--Technical Papers on Turing Machines & LISP On the length of programs for computing finite binary sequences, Journal of the ACM, 1966 . On the length of programs for computing finite binary sequences: statistical considerations, Journal of the ACM, 1969 On the simplicity and speed of programs for computing infinite sets of natural numbers, Journal of the ACM, 1969Part VII--Abstracts On the length of programs for computing finite binary sequences by bounded-transfer Turing machines, AMS Notices, 1966 On the length of programs for computing finite binary sequences by bounded-transfer Turing machines II, AMS Notices, 1966 Computational complexity and G0del's incompleteness theorem, AMS Notices, 1970 Computational complexity and Godel's incompleteness theorem, A CM SIGA CT News, 1971 .. Information-theoretic aspects of the Turing degrees, AMS Notices, 1972 Information-theoretic aspects of Post's construction of a simple set, AMS Notices, 1972 On the difficulty of generating all binary strings of complexity less than n , AMS Notices, 1972 . On the greatest natural number of definitional or information complexity $< n$, Recursive Function Theory: Newsletter, 1973 A necessary and sufficient condition for an infinite binary string to be recursive, Recursive Function Theory: Newsletter, 1973 There are few minimal descriptions, Recursive Function Theory: Newsletter, 1973 Information-theoretic computational complexity, IEEE International Symposium on Information Theory, 1973 A theory of program size formally identical to information theory, IEEE International Sympos- sium on Information Theory, 1974 Recent work on algorithmic information theory, IEEE International Symposium on Information Theory, 1977Part VIII--Bibliography
 Publications of G J Chaitin Discussions of Chaitin's WorkEpilogue Undecidability & randomness in pure mathematics, EUROPALIA Conference on Self-Organization, 1989 Algorithmic information & evolution, IUBS Workshop on Biological Complexity, 1988

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