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	Soggetti	Statistics
		Biomathematics
		Biometry
		Pattern recognition systems
		Statistical Theory and Methods
		Mathematical and Computational Biology
		Biostatistics
		Automated Pattern Recognition
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	Nota di contenuto	Surprise and Information of Descriptions: Prerequisites -- Improbability and Novelty of Descriptions -- Conditional Novelty and Information -- Coding and Information Transmission: On Guessing and Coding -- Information Transmission -- Information Rate and Channel Capacity: Stationary Processes and Information Rate -- Channel Capacity -- Shannon's Theorem -- Repertoires and Covers: Repertoires and Descriptions -- Novelty, Information and Surprise of Repertoires -- Conditioning, Mutual Information and Information Gain -- Information, Novelty and Surprise in Science: Information, Novelty and Surprise in

Brain Theory -- Surprise from Repetitions and Combination of Surprises -- Entropy in Physics -- Generalized Information Theory: Order- and Lattice-Structures -- Three Orderings on Repertoires -- Information Theory on Lattices of Covers -- Bibliography -- Index.

Sommario/riassunto	This revised edition offers an approach to information theory that is more general than the classical approach of Shannon. Classically, information is defined for an alphabet of symbols or for a set of mutually exclusive propositions (a partition of the probability space) with corresponding probabilities adding up to 1. The new definition is given for an arbitrary cover of , i.e. for a set of possibly overlapping propositions. The generalized information concept is called novelty and it is accompanied by two concepts derived from it, designated as information and surprise, which describe "opposite" versions of novelty, information being related more to classical information theory and surprise being related more to the classical concept of statistical significance. In the discussion of these three concepts and their interrelations several properties or classes of covers are defined, which turn out to be lattices. The book also presents applications of these concepts, mostly in statistics and in neuroscience.