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2.7.2. The utility of a probability distribution; 2.7.3. Approximation and discrepancy; 2.7.4. Information; 2.8. Discussion and further references; 2.8.1. Operational definitions; 2.8.2. Quantitative coherence theories; 2.8.3. Related theories; 2.8.4. Critical issues; 3. GENERALISATIONS; 3.1. Generalised representation of beliefs; 3.1.1. Motivation; 3.1.2. Countable additivity; 3.2. Review of probability theory; 3.2.1. Random quantities and distributions; 3.2.2. Some particular univariate distributions; 3.2.3. Convergence and limit theorems; 3.2.4. Random vectors, Bayes' theorem; 3.2.5. Some particular multivariate distributions; 3.3. Generalised options and utilities; 3.3.1. Motivation and preliminaries; 3.3.2. Generalised preferences; 3.3.3. The value of information; 3.4. Generalised information measures; 3.4.1. The general problem of reporting beliefs; 3.4.2. The utility of a general probability distribution; 3.4.3. Generalised approximation and discrepancy; 3.4.4. Generalised information; 3.5. Discussion and further references; 3.5.1. The role of mathematics; 3.5.2. Critical issues; 4. MODELLING; 4.1 Statistical models; 4.1.1. Beliefs and models; 4.2. Exchangeability and related concepts; 4.2.1. Dependence and independence; 4.2.2. Exchangeability and partial exchangeability; 4.3. Models via exchangeability; 4.3.1. The Bernoulli and binomial models; 4.3.2. The multinomial model; 4.3.3. The general model; 4.4. Models via invariance; 4.4.1. The normal model; 4.4.2. The multivariate normal model; 4.4.3. The exponential model; 4.4.4. The geometric model; 4.5. Models via sufficient statistics; 4.5.1. Summary statistics; 4.5.2. Predictive sufficiency and parametric sufficiency; 4.5.3. Sufficiency and the exponential family; 4.5.4. Information measures and the exponential family

Sommario/riassunto

This highly acclaimed text, now available in paperback, provides a thorough account of key concepts and theoretical results, with particular emphasis on viewing statistical inference as a special case of decision theory. Information-theoretic concepts play a central role in the development of the theory, which provides, in particular, a detailed discussion of the problem of specification of so-called prior ignorance. The work is written from the authors' committed Bayesian perspective, but an overview of non-Bayesian theories is also provided, and each chapter contains a wide-ranging critical
