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Nota di contenuto Application of linear utility theory to belief functions -- A new

approach to introducing semantics and subjectivity in approximate reasoning -- Belief functions versus probability functions -- Inference via belief qualified if — Then rules based on compatibility relations and possibility theory -- Fixed point theorems for fuzzy mappings --Convergence properties of classes of decomposable measures -- Some geometrical properties of trapezoidal functions for their association with linguistic labels leading to a reduced 2-D representation --Decidability and recursive enumerability for fuzzy subsets -- Stability of linguistic modifiers compatible with a fuzzy logic -- Some maximum likelihood estimators for the fuzzy linear model -- On orderings of fuzzy numbers -- An alternative semantics for linguistic variables --Suboptimum decoding using Kullback principle -- The choice of sample size in estimating entropy according to a stratified sampling --Information measures from rate-distortion theories -- Piecewise linear fuzzy quantities: A way to implement fuzzy information into expert systems and fuzzy databases -- Sets and uncertainty in relational databases -- Answering queries addressed to the rule base of a deductive database -- A model for the management of imprecise

queries in relational databases -- Constructive learning with continuous-valued attributes -- A model for learning by source control -- Controlling inductive search in rigel learning system -- Uncertainty in a numeric concept discovery system -- On generating linguistic rules for fuzzy models -- Learning driven by the concepts structure --Checking a rule base with certainty factor for incompleteness and inconsistency -- Modeling experiential knowledge with procedural schemata of holistic perception -- Congruence of structures in urban knowledge representation -- Time representation: An example --Fuzzy qualitative modeling -- Knowledge representation systems syntactic methods -- A logical approach to deal with incomplete causal models in diagnostic problem solving -- A many valued logic of belief: Detachment operators -- Thresholds for certainty and the modal logic S3 -- Knowledge acquisition on neural networks -- Neural net connection estimates applied for feature selection & improved linear classifier design -- Modulation of the intensity of formalized attributes -- Inflammatory protein variations: Medical knowledge representation and approximate reasoning -- Sequential bayesian test from fuzzy experimental information -- An intuitive representation of imperfect information -- A method for determination of evidential weighting factors in a medical expert system -- A study of arab computer users: A special case of a general HCI methodolgy -- Knowledge-based systems application to reduce risk in software requirements --Prioritized, non-pointwise, nonmonotonic intersection and union for commonsense reasoning -- Multi-criteria decision making in terms of probabilistic sets -- Putting into practice Moreau's extended generalized modus ponens -- Evidence aggregation in expert judgments -- Conditioning in possibility and evidence theories — A logical viewpoint —.

## Sommario/riassunto

This book contains the papers presented at the 2nd IPMU Conference. held in Urbino (Italy), on July 4-7, 1988. The theme of the conference. Management of Uncertainty and Approximate Reasoning, is at the heart of many knowledge-based systems and a number of approaches have been developed for representing these types of information. The proceedings of the conference provide, on one hand, the opportunity for researchers to have a comprehensive view of recent results and, on the other, bring to the attention of a broader community the potential impact of developments in this area for future generation knowledgebased systems. The main topics are the following: frameworks for knowledge-based systems: representation scheme, neural networks, parallel reasoning schemes; reasoning techniques under uncertainty: non-monotonic and default reasoning, evidence theory, fuzzy sets, possibility theory, Bayesian inference, approximate reasoning; information theoretical approaches; knowledge acquisition and automated learning.