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Nota di contenuto	Evaluation decision problems -- Graded logic and aggregation -- LSP method -- Applications.
Sommario/riassunto	A NOVEL APPROACH TO DECISION ENGINEERING, WITH A VERIFIED FRAMEWORK FOR MODELING HUMAN REASONING Soft Computing Evaluation Logic provides an in-depth examination of evaluation decision problems and presents comprehensive guidance toward the use of the Logic Scoring of Preference "LSP" method in modeling complex decision criteria. Fully aligned with current developments in computational intelligence, the discussion covers the design and use of LSP criteria for evaluation and comparison in diverse areas, such as search engines, medical conditions, real estate, space management, habitat mitigation projects in ecology, and land use and residential development suitability maps, with versatile transfer to other similar decision-modeling contexts. Human decision making is rife with fuzziness, imprecision, uncertainty, and half-truths; yet humans make evaluation decisions every day. In this book, such decision processes are observed, analyzed, and modeled. The result is graded logic, a soft computing mathematical infrastructure that provides both formal logic and semantic generalizations of classical Boolean logic.

Graded logic is used for logic aggregation in the context of evaluation models consistent with observable properties of human reasoning. The LSP method, based on graded logic and logic aggregation, is a vital component of an industrial-strength decision engineering framework. Thus, the book: . Provides detailed theoretical background for graded logic. Provides a theory of logic aggregators. Explains the LSP method for designing complex evaluation criteria and their use. Shows techniques for evaluation, comparison, and selection of complex systems, as well as the cost/suitability analysis, optimization, sensitivity analysis, tradeoff analysis, and missingness-tolerant aggregation. Includes a survey of available LSP software tools, including ISEE, ANSY and LSP.NT. With quantitative modeling of human reasoning, novel approaches to modeling decision criteria, and a verified decision engineering framework applicable to a broad array of applications, this book is an invaluable resource for graduate students, researchers, and practitioners working within the decision engineering realm.

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