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Nota di contenuto	Introduction -- Part 1: Type-1 Fuzzy Sets and Systems -- Short Primers on Type-1 Fuzzy Sets and Fuzzy Logic -- Type-1 Fuzzy Logic Systems -- Part 2: Type-2 Fuzzy Sets -- Sources of Uncertainty -- Type-2 Fuzzy Sets -- Operations on and Properties OF Type-2 Fuzzy Sets -- Type-2 Relations and Compositions -- Centroid of a Type-2 Fuzzy Set: Type-Reduction -- Part 3: Type-2 Fuzzy Logic Systems -- Mamdani Interval Type-2 Fuzzy Logic Systems (IT2 FLSS) -- TSK Interval Type-2 Fuzzy Logic Systems -- General Type-2 Fuzzy Logic Systems (GT2 FLSS) -- Conclusion.
Sommario/riassunto	The third edition of this textbook presents a further updated approach to fuzzy sets and systems that can model uncertainty — i.e., “type-2” fuzzy sets and systems. The author demonstrates how to overcome the limitations of classical fuzzy sets and systems, enabling a wide range of applications, from time-series forecasting to knowledge mining to classification to control and to explainable AI (XAI). This latest edition again begins by introducing classical (type-1) fuzzy sets and systems,

and then explains how they can be modified to handle uncertainty, leading to type-2 fuzzy sets and systems. New material is included about how to obtain fuzzy set word models that are needed for XAI, similarity of fuzzy sets, a quantitative methodology that lets one explain in a simple way why the different kinds of fuzzy systems have the potential for performance improvements over each other, and new parameterizations of membership functions that have the potential for achieving even greater performance for all kinds of fuzzy systems. For hands-on experience, the book provides information on accessing MATLAB, Java, and Python software to complement the content. The book features a full suite of classroom material.