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	Descrizione fisica	1 online resource (XXVI, 689 p. 341 illus., 186 illus. in color.)
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	Soggetti	Control engineering Computational intelligence Computer mathematics Computers Control and Systems Theory Computational Intelligence Computational Science and Engineering Information Systems and Communication Service
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	Nota di contenuto	Introduction -- Part I: Fuzzy Control -- Basics of Fuzzy Control -- Discrete-Time Fuzzy Control -- Fuzzy Networked Control Systems -- Sliding-Mode Fuzzy Control -- Part II: Fuzzy Estimation -- Fuzzy Robust Estimation -- Fuzzy Quantized Filtering -- Fuzzy Stabilization Approaches -- Part III: Fuzzy Diagnosis -- Fuzzy Fault Detection and Control -- Fuzzy Fault Diagnosis -- Part IV: Applications and Tools -- Applications -- Simulation Tools -- Appendices.
	Sommario/riassunto	This textbook explains the principles of fuzzy systems in some depth together with information useful in realizing them within computational processes. The various algorithms and example problem solutions are a well-balanced and pertinent aid for research projects, laboratory work and graduate study. In addition to its worked examples, the book also uses end-of-chapter exercises as an instructional aid with a downloadable solutions manual available to instructors. The content of the book is developed and extended from material taught for four years

in the author's classes. The text provides a broad overview of fuzzy control, estimation and fault diagnosis. It ranges over various classes of target system and modes of control and then turns to filtering, stabilization, and fault detection and diagnosis. Applications, simulation tools and an appendix on algebraic inequalities complete a unified approach to the analysis of single and interconnected fuzzy systems. Fuzzy Control, Estimation and Fault Detection is a guide for final-year undergraduate and graduate students of electrical and mechanical engineering, computer science and information technology, and will also be instructive for professionals in the information technology sector.