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Nota di contenuto Foreword; Preface; Contents; Chapter 1 Fuzzy Rule-Based Systems; 1.1 Framework: Fuzzy Logic and Fuzzy Systems; 1.2 Mamdani Fuzzy Rule-Based Systems; 1.3 Takagi-Sugeno-Kang Fuzzy Rule-Based Systems; 1.4 Generation of the Fuzzy Rule Set; 1.5 Applying Fuzzy Rule-Based Systems; Chapter 2 Evolutionary Computation; 2.1 Conceptual Foundations of Evolutionary Computation; 2.2 Genetic Algorithms; 2.3 Other Evolutionary Algorithms; Chapter 3 Introduction to Genetic Fuzzy Systems; 3.1 Soft Computing; 3.2 Hybridisation in Soft Computing; 3.3 Integration of Evolutionary Algorithms and Fuzzy Logic
3.4 Genetic Fuzzy SystemsChapter 4 Genetic Tuning Processes; 4.1 Tuning of Fuzzy Rule-Based Systems; 4.2 Genetic Tuning of Scaling Functions; 4.3 Genetic Tuning of Membership Functions of Mamdani Fuzzy Rule-Based Systems; 4.4 Genetic Tuning of TSK Fuzzy Rule Sets; Chapter 5 Learning with Genetic Algorithms; 5.1 Genetic Learning Processes. Introduction; 5.2 The Michigan Approach. Classifier Systems; 5.3 The Pittsburgh Approach; 5.4 The Iterative Rule Learning Approach; Chapter 6 Genetic Fuzzy Rule-Based Systems Based on the Michigan Approach; 6.1 Basic Features of Fuzzy Classifier Systems
6.2 Fuzzy Classifier Systems for Learning Rule Bases6.3 Fuzzy Classifier

Sommario/riassunto	In recent years, a great number of publications have explored the use of genetic algorithms as a tool for designing fuzzy systems. Genetic Fuzzy Systems explores and discusses this symbiosis of evolutionary computation and fuzzy logic. The book summarizes and analyzes the novel field of genetic fuzzy systems, paying special attention to genetic algorithms that adapt and learn the knowledge base of a fuzzy-rule-based system. It introduces the general concepts, foundations and design principles of genetic fuzzy systems and covers the topic of genetic tuning of fuzzy systems. It also introduces t