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Nota di contenuto	Part 1: Getting Started with Neural Networks -- Chapter 1. Learning Neural Network -- Chapter 2. Internal Mechanism of Neural Network Processing -- Chapter 3. Manual Neural Network Processing -- Part 2: Neural Network Java Development Environment -- Chapter 4. Configuring Your Development Environment -- Chapter 5. Neural Network Development Using Java Encog Framework -- Chapter 6. Neural Network Prediction Outside of the Training Range -- Chapter 7. Processing Complex Periodic Functions -- Chapter 8. Approximating Non-Continuous Functions -- Chapter 9. Approximation Continuous Functions with Complex Topology -- Chapter 10. Using Neural Network for Classification of Objects -- Chapter 11. Importance of Selecting the Correct Model -- Chapter 12. Approximation of Functions in 3-D Space

Sommario/riassunto

Develop neural network applications using the Java environment. After learning the rules involved in neural network processing, this second edition shows you how to manually process your first neural network example. The book covers the internals of front and back propagation and helps you understand the main principles of neural network processing. You also will learn how to prepare the data to be used in neural network development and you will be able to suggest various techniques of data preparation for many unconventional tasks. This book discusses the practical aspects of using Java for neural network processing. You will know how to use the Encog Java framework for processing large-scale neural network applications. Also covered is the use of neural networks for approximation of non-continuous functions. In addition to using neural networks for regression, this second edition shows you how to use neural networks for computer vision. It focuses on image recognition such as the classification of handwritten digits, input data preparation and conversion, and building the conversion program. And you will learn about topics related to the classification of handwritten digits such as network architecture, program code, programming logic, and execution. The step-by-step approach taken in the book includes plenty of examples, diagrams, and screenshots to help you grasp the concepts quickly and easily. What You Will Learn Use Java for the development of neural network applications Prepare data for many different tasks Carry out some unusual neural network processing Use a neural network to process non-continuous functions Develop a program that recognizes handwritten digits.
