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Soggetti	Artificial intelligence Computers Microprocessors Machine learning Neural networks (Computer science) Artificial Intelligence Information Systems and Communication Service Processor Architectures
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Nota di bibliografia	Includes bibliographic references and index.
Nota di contenuto	1 An Introduction to Neural Networks -- 2 Machine Learning with Shallow Neural Networks -- 3 Training Deep Neural Networks -- 4 Teaching Deep Learners to Generalize -- 5 Radical Basis Function Networks -- 6 Restricted Boltzmann Machines -- 7 Recurrent Neural Networks -- 8 Convolutional Neural Networks -- 9 Deep Reinforcement Learning -- 10 Advanced Topics in Deep Learning.
Sommario/riassunto	This book covers both classical and modern models in deep learning. The chapters of this book span three categories: The basics of neural

networks: Many traditional machine learning models can be understood as special cases of neural networks. An emphasis is placed in the first two chapters on understanding the relationship between traditional machine learning and neural networks. Support vector machines, linear/logistic regression, singular value decomposition, matrix factorization, and recommender systems are shown to be special cases of neural networks. These methods are studied together with recent feature engineering methods like word2vec. Fundamentals of neural networks: A detailed discussion of training and regularization is provided in Chapters 3 and 4. Chapters 5 and 6 present radial-basis function (RBF) networks and restricted Boltzmann machines. Advanced topics in neural networks: Chapters 7 and 8 discuss recurrent neural networks and convolutional neural networks. Several advanced topics like deep reinforcement learning, neural Turing machines, Kohonen self-organizing maps, and generative adversarial networks are introduced in Chapters 9 and 10. The book is written for graduate students, researchers, and practitioners. Numerous exercises are available along with a solution manual to aid in classroom teaching. Where possible, an application-centric view is highlighted in order to provide an understanding of the practical uses of each class of techniques.