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Autore	Skansi Sandro
Titolo	Introduction to deep learning : from logical calculus to artificial intelligence / / by Sandro Skansi
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ISBN	3-319-73004-5
Edizione	[1st edition.]
Descrizione fisica	1 online resource (XIII, 191 p. 38 illus.)
Collana	Undergraduate Topics in Computer Science, , 1863-7310
Disciplina	004
Soggetti	Machine learning Pattern recognition Neural networks (Computer science) Coding theory Information theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	From Logic to Cognitive Science -- Mathematical and Computational Prerequisites -- Machine Learning Basics -- Feed-forward Neural Networks -- Modifications and Extensions to a Feed-forward Neural Network -- Convolutional Neural Networks -- Recurrent Neural Networks -- Autoencoders -- Neural Language Models -- An Overview of Different Neural Network Architectures -- Conclusion.
Sommario/riassunto	This textbook presents a concise, accessible and engaging first introduction to deep learning, offering a wide range of connectionist models which represent the current state-of-the-art. The text explores the most popular algorithms and architectures in a simple and intuitive style, explaining the mathematical derivations in a step-by-step manner. The content coverage includes convolutional networks, LSTMs, Word2vec, RBMs, DBNs, neural Turing machines, memory networks and autoencoders. Numerous examples in working Python code are provided throughout the book, and the code is also supplied separately at an accompanying website. Topics and features: Introduces the fundamentals of machine learning, and the mathematical and computational prerequisites for deep learning Discusses feed-forward

neural networks, and explores the modifications to these which can be applied to any neural network Examines convolutional neural networks, and the recurrent connections to a feed-forward neural network Describes the notion of distributed representations, the concept of the autoencoder, and the ideas behind language processing with deep learning Presents a brief history of artificial intelligence and neural networks, and reviews interesting open research problems in deep learning and connectionism This clearly written and lively primer on deep learning is essential reading for graduate and advanced undergraduate students of computer science, cognitive science and mathematics, as well as fields such as linguistics, logic, philosophy, and psychology. Dr. Sandro Skansi is an Assistant Professor of Logic at the University of Zagreb and Lecturer in Data Science at University College Algebra, Zagreb, Croatia.
