1. Record Nr. UNINA9910483938503321

Titolo	Deep Learning Classifiers with Memristive Networks : Theory and Applications / / edited by Alex Pappachen James
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-14524-7
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (216 pages)
Collana	Modeling and Optimization in Science and Technologies, , 2196-7326 ; ; 14
Disciplina	006.32
Soggetti	Computational intelligence Pattern perception Data mining Optical data processing Computational Intelligence Pattern Recognition Data Mining and Knowledge Discovery Image Processing and Computer Vision
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	This book introduces readers to the fundamentals of deep neural network architectures, with a special emphasis on memristor circuits and systems. At first, the book offers an overview of neuro-memristive systems, including memristor devices, models, and theory, as well as an introduction to deep learning neural networks such as multi-layer networks, convolution neural networks, hierarchical temporal memory, and long short term memories, and deep neuro-fuzzy networks. It then focuses on the design of these neural networks using memristor crossbar architectures in detail. The book integrates the theory with various applications of neuro-memristive circuits and systems. It provides an introductory tutorial on a range of issues in the design, evaluation techniques, and implementations of different deep neural network architectures with memristors.