

1. Record Nr.	UNINA9910145579003321
Autore	Dawson Michael R. W
Titolo	Connectionism [[electronic resource]] : A Hands-on Approach
Pubbl/distr/stampa	Hoboken, : Wiley, 2008
ISBN	1-4051-4387-8 1-280-19855-9 9786610198559 0-470-69407-6 1-4051-4389-4
Edizione	[1st ed.]
Descrizione fisica	1 online resource (210 p.)
Disciplina	153
Soggetti	Connectionism Social Sciences Psychology Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	CONNECTIONISM; Contents; Chapter 1:Hands-On Connectionism; 1.1 Connectionism in Principle and in Practice; 1.2 The Organization of This Book; Chapter 2:The Distributed Associative Memory; 2.1 The Paired Associate Task; 2.2 The Standard Pattern Associator; 2.3 Exploring the Distributed Associative Memory; Chapter 3:The James Program; 3.1 Introduction; 3.2 Installing the Program; 3.3 Teaching a Distributed Memory; 3.4 Testing What the Memory Has Learned; 3.5 Using the Program; Chapter 4:Introducing Hebb Learning; 4.1 Overview of the Exercises; 4.2 Hebb Learning of Basis Vectors 4.3 Hebb Learning of Orthonormal,Non-Basis Vectors Appendix - Creating mutually orthogonal vectors with Maple; Chapter 5:Limitations of Hebb Learning; 5.1 Introduction; 5.2 The Effect of Repetition; 5.3 The Effect of Correlation; Appendix - Creating the linearly independent set of vectors; Chapter 6:Introducing the Delta Rule; 6.1 Introduction; 6.2 The Delta Rule; 6.3 The Delta Rule and the Effect of Repetition; 6.4 The Delta Rule and the Effect of Correlation; Chapter 7:Distributed Networks and Human Memory; 7.1 Background on the Paired Associate

Paradigm

7.2 The Effect of Similarity on the Distributed Associative Memory
Chapter 8:Limitations of Delta Rule Learning; 8.1 Introduction; 8.2 The Delta Rule and Linear Dependency; Chapter 9:The Perceptron; 9.1 Introduction; 9.2 The Limits of Distributed Associative Memories, and Beyond; 9.3 Properties of the Perceptron; 9.4 What Comes Next; Chapter 10:The Rosenblatt Program; 10.1 Introduction; 10.2 Installing the Program; 10.3 Training a Perceptron; 10.4 Testing What the Memory Has Learned; Chapter 11:Perceptrons and Logic Gates; 11.1 Introduction; 11.2 Boolean Algebra
11.3 Perceptrons and Two-Valued Algebra
Chapter 12:Performing More Logic With Perceptrons; 12.1 Two-Valued Algebra and Pattern Spaces; 12.2 Perceptrons and Linear Separability; Appendix - The DawsonJots Font; Chapter 13:Value Units and Linear Nonseparability; 13.1 Linear Separability and Its Implications; 13.2 Value Units and the Exclusive-Or Relation; 13.3 Value Units and Connectedness; Chapter 14:Network By Problem Type Interactions; 14.1 All Networks Were Not Created Equally; 14.2 Value Units and the Two-Valued Algebra; Chapter 15:Perceptrons and Generalization; 15.1 Background
15.2 Generalization and Savings for the 9-Majority Problem
Chapter 16: Animal Learning Theory and Perceptrons; 16.1 Discrimination Learning; 16.2 Linearly Separable Versions of Patterning; Chapter 17:The Multilayer Perceptron; 17.1 Creating Sequences of Logical Operations; 17.2 Multilayer Perceptrons and the Credit Assignment Problem; 17.3 The Implications of the Generalized Delta Rule; Chapter 18:The Rumelhart Program; 18.1 Introduction; 18.2 Installing the Program; 18.3 Training a Multilayer Perceptron; 18.4 Testing What the Network Has Learned; Chapter 19:Beyond the Perceptron 's Limits
19.1 Introduction

Sommario/riassunto

Connectionism is a "hands on" introduction to connectionist modeling through practical exercises in different types of connectionist architectures. explores three different types of connectionist architectures - distributed associative memory, perceptron, and multilayer perceptron provides a brief overview of each architecture, a detailed introduction on how to use a program to explore this network, and a series of practical exercises that are designed to highlight the advantages, and disadvantages, of each accompanied by a website at <http://www.bcp.psych.ualbert>