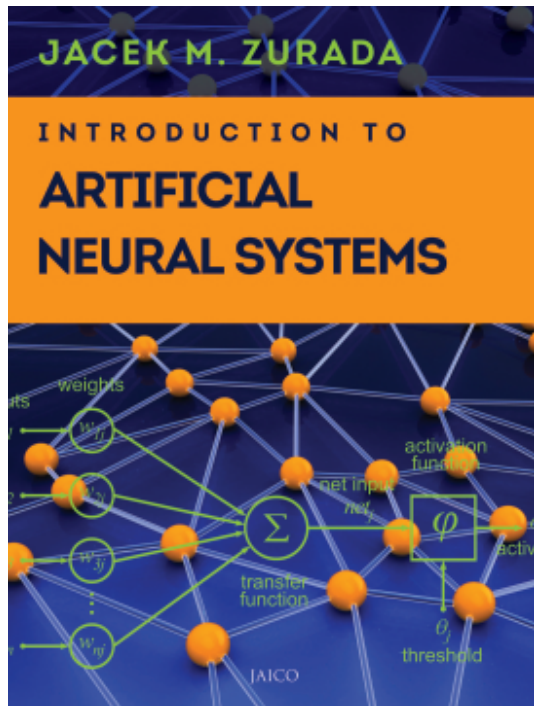


INTRODUCTION TO ARTIFICIAL NEURAL SYSTEMS

Jacek M. Zurada



Newly developed paradigms of artificial neural networks have strongly contributed to the discovery, understanding and utilization of potential functional similarities between human and artificial information processing systems. Intense research interest persists and the area continues to develop.

Artificial neural systems or neural networks are physically cellular systems which can acquire, store and utilize experimental knowledge. This book focuses on the foundations of such networks. The fundamentals of artificial neural systems theory, algorithms for information acquisition and retrieval examples of applications, and implementations issues are also included.

Jacek M. Zurada received his MS and Ph.D. degrees (with distinction) in electrical engineering from the Technical University of Gdansk, Poland. Since 1989 he has been a Professor with the Electrical and Computer Engineering Department at the University of Louisville, Kentucky. He was Department Chair from 2004 to 2006. He has published over 350 journal and conference papers in the areas of neural networks, computational intelligence, data mining, image processing and VLSI circuits.

KEY FEATURES

- The book uses mathematical exposition at the depth, essential for artificial neural systems implementation and simulation
- Unified and pedagogical approaches have been used for better understanding of the complex subject by the readers
- Author presents an integrated perspective to blend interdisciplinary aspects of this discipline and also link the approaches and terminologies among them
- The end-of-chapter problems focus on enhancing the understanding of principles

CONTENTS

1. Artificial Neural Systems: Preliminaries
2. Fundamental Concepts and Models of Artificial Neural Systems
3. Single-Layer Perceptron Classifiers
4. Multilayer Feedforward Networks
5. Single-Layer Feedback Networks
6. Associative Memories
7. Matching and Self-Organizing Networks
8. Applications of Neural Algorithms and Systems
9. Neural Networks Implementation

Topics. Neural networks (Computer science). Publisher. St. Paul : West. Collection. inlibrary; printdisabled; internetarchivebooks; china. Digitizing sponsor. Kahle/Austin Foundation.Â St. Paul. Donor. Peninsula Library System. External-identifier. urn:acs6:introductiontoar00zura_0:pdf:11e4ebd3-4e92-4f11-9c7b-b26396a221d9 urn:acs6:introductiontoar00zura_0:epub:2c1ed879-4618-4f7a-a742-c7c30a98b342 urn:oclc:record:1035694353. Foldoutcount. 0. Identifier. introductiontoar00zura_0.