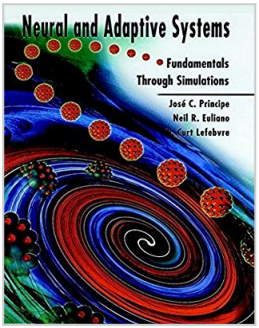

Neural and Adaptive Systems: Fundamentals through Simulations

By José C. Principe, Neil R. Euliano, W. Curt Lefebvre

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Develop New Insight into the Behavior of Adaptive Systems

This one-of-a-kind interactive book and CD-ROM will help you develop a better understanding of the behavior of adaptive systems. Developed as part of a project aimed at innovating the teaching of adaptive systems in science and engineering, it unifies the concepts of neural networks and adaptive filters into a common framework. It begins by explaining the fundamentals of adaptive linear regression and builds on these concepts to explore pattern classification, function approximation, feature extraction, and time-series modeling/prediction. The text is integrated with the industry standard neural network/adaptive system simulator NeuroSolutions. This allows the authors to demonstrate and reinforce key concepts using over 200 interactive examples. Each of these examples is 'live,' allowing the user to change parameters and experiment first-hand with real-world adaptive systems. This creates a powerful environment for learning through both visualization and experimentation. Key Features of the Text

- The text and CD combine to become an interactive learning tool.
- Emphasis is on understanding the behavior of adaptive systems rather than mathematical derivations.
- Each key concept is followed by an interactive example.
- Over 200 fully functional simulations of adaptive systems are included.
- The text and CD offer a unified view of neural networks, adaptive filters, pattern recognition, and support vector machines.
- Hyperlinks allow instant access to keyword definitions, bibliographic references, equations, and advanced discussions of concepts.

The CD-ROM Contains:

- A complete, electronic version of the text in hypertext format
- NeuroSolutions, an industry standard, icon-based neural network/adaptive system simulator
- A tutorial on how to use NeuroSolutions
- Additional data files to use with the simulator

"An innovative approach to describing neurocomputing and adaptive learning systems from a perspective which unifies classical linear adaptive systems approaches with the modern advances in neural networks. It is rich in examples and practical insight."
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Editorial Review

Review

I would like to send you my very best congratulations to an extremely comprehensive and pedagogical book on neural systems. After more than 20 years in satellite remote sensing I found your book bringing together most of the different remote sensing analysis tools and methods used in a new and very systematic way. I have been trying to introduce the use of ANN techniques into our projects on forest classification and forest inventory applications combining ground sample measurements with airborne photos and satellite remote sensing in a hierarchical fashion. I found the Neuro Solutions software to be the most easily and yet flexible tool on the market. The problem has been to fully understand the tool and methods. Most courses on Neural Network techniques found in Sweden and all over Europe seem to be very technical. You need to be a C or C++ programmer, which I'm not. Also, most of the books on neural networks are very technical, describing only the different topologies and training methods but not a more general feeling of the practical use and opimal designs for different applications. The strengths of your book is the combination of a comprehensive and pedagicical description. A systematic building of the stastistical aspects and theory combined with the interactive hands on experience from running the examples. I got the book in my hand on friday afternoon (Dec 17, 1999) fresh from the print, and spent most of the weekend reading and running the examples. I like your approach from the "user" point of view. It is the first complete description (as far as I know) giving answers to most of my questions and thoughts on statistical methods, neural networks and classification. I will certainly recommend it to all my collegues in the field. -- *Mats Rosengren, MSc Engineering Physics Project Manager, Remote Sensing Forest Applications Satellus AB, Swedish Space Corporation Group*

From the Back Cover

Develop New Insight into the Behavior of Adaptive Systems This one-of-a-kind interactive book and CD-ROM will help you develop a better understanding of the behavior of adaptive systems. Developed as part of a project aimed at innovating the teaching of adaptive systems in science and engineering, it unifies the concepts of neural networks and adaptive filters into a common framework. It begins by explaining the fundamentals of adaptive linear regression and builds on these concepts to explore pattern classification, function approximation, feature extraction, and time-series modeling/prediction. The text is integrated with the industry standard neural network/adaptive system simulator NeuroSolutions. This allows the authors to demonstrate and reinforce key concepts using over 200 interactive examples. Each of these examples is 'live,' allowing the user to change parameters and experiment first-hand with real-world adaptive systems. This creates a powerful environment for learning through both visualization and experimentation. Key Features of the Text

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About the Author
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Users Review

From reader reviews:

Luke Shaffer:

Reading a e-book tends to be new life style within this era globalization. With studying you can get a lot of information that may give you benefit in your life. With book everyone in this world can share their idea. Ebooks can also inspire a lot of people. Plenty of author can inspire all their reader with their story or even their experience. Not only the storyplot that share in the textbooks. But also they write about the information about something that you need illustration. How to get the good score toefl, or how to teach your young ones, there are many kinds of book which exist now. The authors in this world always try to improve their skill in writing, they also doing some research before they write to their book. One of them is this Neural and Adaptive Systems: Fundamentals through Simulations.

Robert Hyde:

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Dawn Bliss:

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