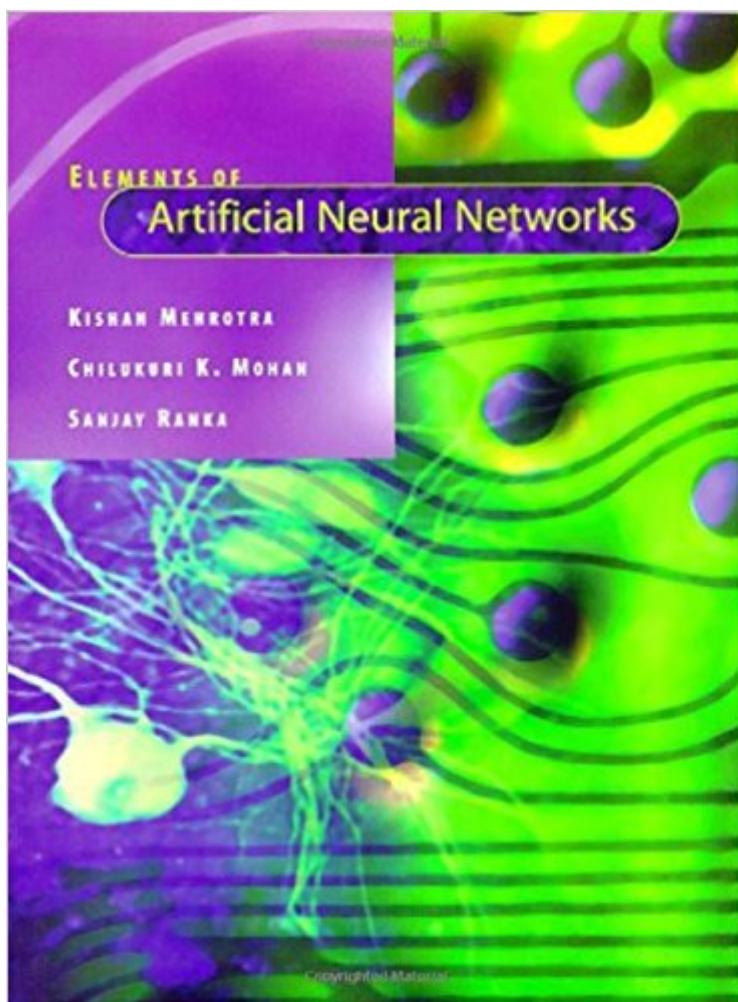


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# Elements Of Artificial Neural Networks (Complex Adaptive Systems)



## Synopsis

Elements of Artificial Neural Networks provides a clearly organized general introduction, focusing on a broad range of algorithms, for students and others who want to use neural networks rather than simply study them. The authors, who have been developing and team teaching the material in a one-semester course over the past six years, describe most of the basic neural network models (with several detailed solved examples) and discuss the rationale and advantages of the models, as well as their limitations. The approach is practical and open-minded and requires very little mathematical or technical background. Written from a computer science and statistics point of view, the text stresses links to contiguous fields and can easily serve as a first course for students in economics and management. The opening chapter sets the stage, presenting the basic concepts in a clear and objective way and tackling important -- yet rarely addressed -- questions related to the use of neural networks in practical situations. Subsequent chapters on supervised learning (single layer and multilayer networks), unsupervised learning, and associative models are structured around classes of problems to which networks can be applied. Applications are discussed along with the algorithms. A separate chapter takes up optimization methods. The most frequently used algorithms, such as backpropagation, are introduced early on, right after perceptrons, so that these can form the basis for initiating course projects. Algorithms published as late as 1995 are also included. All of the algorithms are presented using block-structured pseudo-code, and exercises are provided throughout. Software implementing many commonly used neural network algorithms is available at the book's website. Transparency masters, including abbreviated text and figures for the entire book, are available for instructors using the text.

## Book Information

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## Customer Reviews

The book is aimed at senior undergraduate or beginning graduate students. I found the book to be successful at meeting its objective. If you are studying on your own, you should consider a more elementary and hands-on starting point. Examples are Fausett's "Fundamentals of Neural Networks" and Rao and Rao's "C++ Neural Networks and Fuzzy Logic". Sorry I am not personally acquainted with more modern books that I can recommend. My copy of the book was physically defective. pages 132,133 were incorrectly bound between pages 137 and 138. I was able to get the missing material from their website and recreated the pages.

A book to understand the fundamentals and the systems. Useful algorithms to work on.

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