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VLSI for Artificial Intelligence and Neural Networks.
 Plenum. 0-306-44029-6. US \$95.

This book is an edited selection of the papers presented at the International Workshop for Artificial Intelligence and Neural Networks held at the University of Oxford in September 1990. This means that the material is at least 2 years old and in the rapidly evolving world of neural networks, 2 years is a long time.

There are two major areas covered by this book, computer architectures for artificial intelligence and hardware support for neural computing. It is probable that most readers would only have an interest in one or other of these major areas.

The book consists of five chapters, the first two covering the Artificial Intelligence (AI) part and the rest devoted to neural networks.

Chapter 1 consists of nine papers covering the area of architectures and hardware support for AI. These range from single coprocessor support, through to multiprocessor architectures of several different designs. A number of other issues of particular interest to AI hardware systems (e.g. garbage collection) are also covered.

Chapter 2 specifically addresses the support available for PROLOG; there are a number of papers whose subjects range from new RISC instruction sets through dedicated PROLOG processors to parallel implementations.

Chapter 3 is the first chapter covering neural networks and deals with analog and the related pulse stream implementations. There are eight papers almost equally split between the two areas. Analog implementations although very fast tend to be inflexible and are not particularly suitable for the learning process. Pulse stream neural networks use a technique which more accurately mimics the operation of brain neurons.

Chapters 4 and 5 are concerned with the digital implementation of neural networks, still a very popular method for neural network simulation, as it usually allows for a high degree of flexibility and precision. There are a total of 15 papers mainly concerned with the VLSI implementation of architectures designed to exploit the natural parallelism inherent in neural networks. A number of different approaches are presented which reflect techniques in use today, ranging from systolic techniques through processor-per-node models to matrix/vector computation techniques.

It is likely that the typical reader will only find a portion of this book relevant to their individual work. At about £50 it is unlikely that many readers will be buying individual copies. This is a book to be purchased by a library.

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ERIC LOUW and NEIL DUFFY
Managing Computer Viruses. Oxford University Press.
 0-19-853974-6. £14.95.

This is a scholarly book citing numerous literature references aimed at the management aspect of computer viruses. As such, it tries to avoid all the technical aspects of the problem, as far as possible.

A major problem is caused by this. It is necessary to understand how viruses replicate in order to take sensible management measures. The authors of the book seem to be suffering from the misapprehension that boot sector viruses can only replicate from bootable diskettes: they do not say otherwise, and they quote references that reinforce this view. As a result, we see under 'Unsafe practices', booting up from the diskette drive. In fact, this would be better put under 'Safe practices', as this is generally recognised as the best way to start up before running anti-virus software. Nowhere in the book was there such a recommendation.

The idea of a book aimed at management of the virus problem is a good one; the implementation in this book could be improved. There certainly are some useful checklists for activities such as 'Implementing virus control plans'. But what technical information is given in the book is often wrong. For example, it says 'On every eighth boot it displays 'Your PC is now Stoned! LEGALISE MARIJUANA!' Actually, only the first half of the message is displayed, and it is only when booting from an infected floppy, and with a *probability* of 1/8. Also, the book states that it does not infect 3 1/2 diskettes. This is a misunderstanding; the virus only infects diskettes in drive A. It also implies that there is a version (the main version) that does not infect hard disks. This is not true; such a version has never existed. It would have been better to completely omit the information about the viruses, than give such wrong data. Much of the other technical data given in the book is likewise mistaken.

Various models are presented for management to follow, but it is often hard to see how to apply them. For example, in the Business Impact calculation, you need to estimate the impact of viruses on systems: isolated incidents or frequent, minor or severe, in order to calculate a risk score. But management does not usually have the information required, and there is no indication of how to acquire this estimate. There is some useful information in the book, but the technical mistakes tend to nullify some of the advice given. The overall message of the book is correct; technical measures need to be backed up by an appropriate management response.

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