

inference rules but also about a *strategy* that chooses which rules will be applied, and that a key issue of logic programming is trying to make it easy to find a good strategy (for instance by using only a single inference rule, by using unification, and by restricting the attention to logic programs).

The third part finally contains three more advanced topics that can be read more or less independently from each other. Chapter 6 discusses resolution over non-standard algebras and infinite derivations. Chapter 7 shows that all computable functions can be computed by a logic program, and proves some other complexity-results. Chapter 8 finally discusses negation in logic programs, and SLDNF-resolution. This last part contains some very recent results and will also be of interest to researchers in the field of logic programming.

The book contains many exercises, and sometimes interesting theorems and results are only mentioned in these exercises. However, no solutions are provided, and some of the exercises are hard.

F. Piessens

Parallel Supercomputing in MIMD Architectures

R. Michael Hord (ed.)

Times Mirror International Publishers Ltd., c/o Excel Logistics, 3 Sheldon Way, Larkfield, Aylesford, Kent, ME20 6SF, England, ISBN 0-8493-4417-4, Price 61,00 Pounds Sterling,

As the title suggests, the author is focussing his attention on Multiple Instruction stream/Multiple Data stream (MIMD) parallel processing, as defined by Flynn's taxonomy, and this book compliments an earlier volume dedicated to SIMD architectures. The book gives a very comprehensive review of MIMD architectures, both from the recent past and present, with the emphasis firmly on the high performance end of the market. However, there is no description of the Cray XMP or YMP series and this omission is entirely justified as they have already received much coverage in other books and journals. This, therefore, left much more room for the author to concentrate on more "novel" systems.

Following a brief introduction and background to supercomputing, the 400 pages contained in the book are divided into three main areas: Part 1- *MIMD Computers* is by far the main section of the book and detailed descriptions of the CM-5, NCUBE, BB N Butterfly, Intel Paragon, and a wide range of other architectures, including some research machines, are presented. Part 2- *MIMD Software* deals with software associated with MIMD systems, including operating systems, languages and software tools. Finally, *MIMD Issues* are presented in Part 3, such as scalability, partitioning and heterogeneous networks.

As with any book trying to produce a survey in this particular field, the author necessarily has to omit many new developments or the book would never get to print because the market is changing so rapidly. Since its recent publication, several other noteworthy systems have been developed and brought to market, notably the Cray T3D, IBM SP1/SP2 and Meiko CS-2. However, this does not detract from the book's value and it is clearly a welcome addition to the growing literature on parallel computing. Its focus on the high performance computing end and detailed description of the architectures will ensure that it rightly occupies an important corner of the market.

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Neural Networks for Pattern Recognition Albert Nigrin

M.I.T. Press, Fitzroy House, 11, Chenies Street, London WC1E 7ET, ISBN 0-262-14054-3, Cost 40.50 Pounds Sterling,

This book brings together an updated version of the work performed by the author in his Ph.D. dissertation. It provides a unifying approach to pattern classification within a framework which addresses both spatial pattern recognition (static patterns) and patterns that evolve over a period of time (dynamic patterns such as speech or music).

The book is divided into 8 chapters. Chapter 1 provides a general introduction to the subject and, apart from requiring a reasonable amount of mathematical knowledge, provides a very readable account of the subject. The author also

