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ARTIFICIAL INTELLIGENCE: APPLICATIONS IN THE FUTURE OF SOFTWARE ENGINEERING, D. Partridge, Ellis Horwood Limited, England, 1986.

Derek Partridge, from the Computing Research Laboratory at New Mexico State University, describes the scope and limitations of commercial AI today and the problems that must be solved before its full potential is realized. He speculates on AI's eventual use in software engineering based on the general characteristics of today's expert systems.

This book is not a manual on building AI programs. The author believes current AI systems have not come close to demonstrating their potential benefits. He does, although, discuss strategies for creating practical AI software within current limitations.

In the final chapters, he suggests that computer programs might "mediate" the design and development stage of software engineering to enable programs to document themselves. He concludes that general AI programs will be needed to help us develop applied AI programs, but they are not yet here. When they arrive, they will fulfill AI's promise in software engineering.

INTELLIGENT INFORMATION SYSTEMS: PROGRESS AND PROSPECTS, Roy Davies, ed., Ellis Horwood Limited, England, 1986.

and user modeling in expert systems. The last chapter in this section, by Elaine Rich, stresses psychological factors in modeling. It separates the earlier information retrieval sections from part four, which is on cognitive and information science.

The earlier sections of part four contain detailed examples of applied expert systems. Davies believes the sum of the problems discussed in this book are key to the development of higher level intelligent systems.

COGNITION AND COMPUTERS: STUDIES IN LEARNING, R.W. Lawler, J. du Boulay, M. Hughes, and H. Macleod, Ellis Horwood Limited, England, 1986.

This book investigates whether interaction with computers affects cognitive development. Various detailed case studies explore this issue, which was introduced by Lawler's colleague, Seymour Papert, in his seminal book, *Mindstorms: Children, Computers, and Powerful Ideas* (New York: Basic Books, 1980). The research presented here corroborates Papert's conclusions that computers definitely help cognitive development.

The first part of this book is devoted to natural learning, including number knowledge. The last two parts are devoted to learning with the Logo computer language. Most of the book explores learning in young children using Logo.

station will include robotics for object manipulation, a data base management system, and a man-machine interface.

Expert system application areas include maintenance and repair, expert quality control processes, system monitoring and control functions, and robot scheduling and control. An expert system might also be used as an astronaut's associate that would help them use complicated programs by suggesting parameter values. The expert associate may also explain the meaning of certain system responses.

This rather short itemization does not begin to describe the breadth of material covered in this book. It also includes sections on how these new technologies may be transferred and applied to "terrestrial" commercial systems.

This is an indispensable guide for contractors and developers of space station information and automation systems. For the rest of us, it defines current AI limitations and details future AI technology needs that will have to be resolved. This is a wonderful book that will enthrall students and practitioners of applied AI.

PROGRAMMING EXPERT SYSTEMS IN MODULA-2 and PROGRAMMING EXPERT SYSTEMS IN PASCAL, Brian Sawyer and Dennis Foster, Wiley Press, New York, 1986.

These two books are essentially similar. The ideas and most of the words expounded in them are the same. The only difference, as you may have