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INTRODUCTION TO EXPERT SYSTEMS

Peter Jackson

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Peter Jackson
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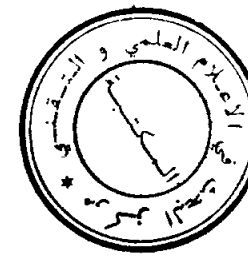

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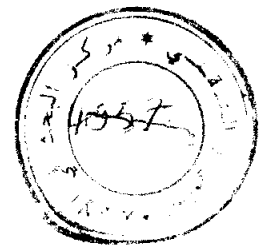

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Preface

This book began life as a series of notes to accompany my Expert Systems lectures to the undergraduate course 'Artificial Intelligence 2' given by the Department of Artificial Intelligence at the University of Edinburgh. Students taking this course come from a wide variety of other departments in both the science and the arts faculties, although there is usually a majority of computer science students. I have tried to retain both the introductory character of the original lectures and their intelligibility to readers of differing backgrounds. Thus no previous study of artificial intelligence is assumed. The book is aimed mainly at final-year undergraduates who are doing a course in knowledge-based systems and first-year postgraduate students in information technology disciplines. However, many chapters may be of interest to a wider audience of information scientists and persons interested in industrial applications of expert systems technology. It should be stressed that the book is not intended either as an exhaustive catalogue of existing systems or as a course in how to construct knowledge-based systems.

The original course had a programming component in which students learned to program in PROLOG. After some serious thought, it was decided not to wed the book to any particular programming language, nor to delve too deeply into issues of implementation. Such an orientation would have been at odds with the introductory nature of the text, and the level of description employed. Exercises are included at the ends of chapters where the content is sufficiently technical to merit practical involvement on the part of the student. For introductory texts to the more common artificial intelligence programming languages, the reader is referred to Winston and Horn (1984) for LISP, and Clocksin and Mellish (1981) for PROLOG.

I would like to thank colleagues at Edinburgh who commented on earlier drafts of some of the chapters. The comments of the reviewers were also invaluable in helping to redress many errors of judgement and emphasis; those that remain are entirely my own responsibility. Finally I would like to thank the AI2 class of '84 for helping me to debug my initial set of lecture notes.

Peter Jackson
Edinburgh, December 1985

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