Preface

Artificial Intelligence (AI) is one of the most fascinating and unusual areas of academic study to have emerged this century, with its ultimate goal as the complete understanding and replication of human cognition, perception, and behavior.

This daring and challenging objective has given rise to controversial opinions about the field. For some, AI is a true scientific discipline, that has made important and fundamental contributions to the use of computation for our understanding of the nature and phenomena of the human mind. For others, AI is the black art of computer science.

It is not our intention to contribute to the AI debate. Our belief is that AI has led to a range of important results and techniques, which have significantly enriched the computer science field. In addition, AI can justifiably claim to have built bridges and contributed to other disciplines, of which philosophy, cognitive science, and logic are obvious examples.

The main motivating purpose of this book was to provide a showcase for the field of AI as it stands today. Twenty years ago it would have been realistic to present a survey of the entire field in a single book. Today, given the extremely wide range of issues addressed within AI, this would clearly be impossible. Instead, we aim at giving the reader a taste of the problems attacked and the solutions developed by contemporary AI researchers. We have not attempted to be comprehensive, but include both "traditional" areas of study, such as theorem proving, as well as ones that have emerged more recently, such as agents, AI and the Internet, and synthetic characters. The chapters themselves are a mixture of specialised research papers and authoritative survey papers.

The secondary purpose of this book is to celebrate Springer-Verlag's *Lecture Notes in Artificial Intelligence* (LNAI) series. LNAI volumes provide a rapid, low-cost way of publishing and disseminating research results, and as such the series provides an important service for the AI community.

We hope that the quality of the articles contained in this volume, written as they are by some of the finest researchers in the field, will contribute to an increased understanding of the significant advances that AI brings to the scientific world.

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