Artificial Intelligence – A Modern Approach (Fourth Edition)

Stuart Russel & Peter Norvig

# Artificial Intelligence

## Introduction

### What Is AI?

### The Foundations of Artificial Intelligence

### The History of Artificial Intelligence

### The State of the Art

### Risks and Benefits of AI

### Summary

### Bibliographical and Historical Notes

## Intelligent Agents

### Agents and Environments

### Good Behaviour: The Concepts of Rationality

### The Nature of Environments

### The Structure of Agents

### Summary

### Bibliographical and Historical Notes

# Problem-solving

## Solving Problems by Searching

### Problem-Solving Agents

### Example Problems

### Search Algorithms

### Uninformed Search Strategies

### Informed (Heuristic) Search Strategies

### Heuristic Functions

### Summary

### Bibliographical and Historical Notes

## Search in Complex Environments

### Local Search and Optimization Problems

### Local Search in Continuous Spaces

### Search with Nondeterministic Actions

### Search in Partially Observable Environments

### Online Search Agents and Unknown Environments

### Summary

### Bibliographical and Historical Notes

## Constraint Satisfaction Problems

### Defining Constraint Satisfaction Problems

### Constraint Propagation: Inference in CSPs

### Backtracking Search for CSPs

### Local Search for CSPs

### The Structure of Problems

### Summary

### Bibliographical and Historical Notes

## Adversarial Search and Games

### Game Theory

### Optimal Decisions in Games

### Heuristic Alpha-Beta Tree Search

### Monte Carlo Tree Search

### Stochastic Games

### Partially Observable Games

### Limitations of Game Search Algorithms

### Summary

### Bibliographical and Historical Notes