Artificial Intelligence

CHAPTER 1: Introduction to AI and Production Systems

1.1 Introduction to AI
1.2 Problem Formulation and Problem Definition
1.3 Production System
1.4 Search Strategies
1.5 Control Strategy
1.6 Heuristic Search
1.7 Hill Climbing Search
1.8 Constraint Satisfaction Problems

CHAPTER 2: Representation of Knowledge

2.1 Game Playing
2.2 Knowledge Representation
2.3 Knowledge using Predicate Logic
2.4 Introduction to Predicate Calculus
2.5 Resolution
2.6 Structured Representation of Knowledge

CHAPTER 3: Structured Knowledge Representation, Handling Uncertainty, and Bayesian Theory

3.1 Overview of Structured Knowledge Representation Techniques
3.2 Weak - Slot and Filler Structures
3.3 Strong Slot and Filler Structures
3.4 CYC
3.5 Schema
3.6 Introduction to Handling Uncertainty
3.7 Probabilistic Reasoning

CHAPTER 4: Planning and Machine Learning

4.1 Basic Plan Generation Systems
4.2 Strips
4.3 Advanced Plan Generation Systems
4.4 K Strips
4.5 Different Types of Learning

CHAPTER 5: Expert System

5.1 Expert System
5.2 Expert System Architecture
5.3 Expert System Shell
5.4 Explanation
5.5 Knowledge Engineering
5.6 Building Expert System
5.7 Expert System Case Study