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AI REVIEW

Kinoko

September 23, 2024

Contents

Course Syllabus

1. Introduction to artificial intelligence

2. Problem solving and search technology

3. Graph Search Strategies

4. Evolutionary search

5. Swarm Intelligence

6. Memetic algorithms

7. Machine learning

8. Artificial Neural Network

9. Data mining and knowledge discovery

1   Week 1

1.1   What is artificial intelligence?

- Is an approach to make a computer, a robot, or a product to think **how smart humans think**.

- Artificial Intelligence is a study of how the human brain thinks, learns, decides, and works when it tries to solve problems. And finally, this study outputs intelligent software systems.

- Aim of Artificial Intelligence is to improve computer functions which are related to human knowledge, for example, reasoning, learning, and problem-solving.

- The objectives of AI research are reasoning, knowledge representation, planning, learning, natural language processing, realization, and the ability to move and manipulate objects. There are long-term goals in the general intelligence sector.

1.2   Types of AI

Artificial Narrow Intelligence(ANI)

- Machine learning

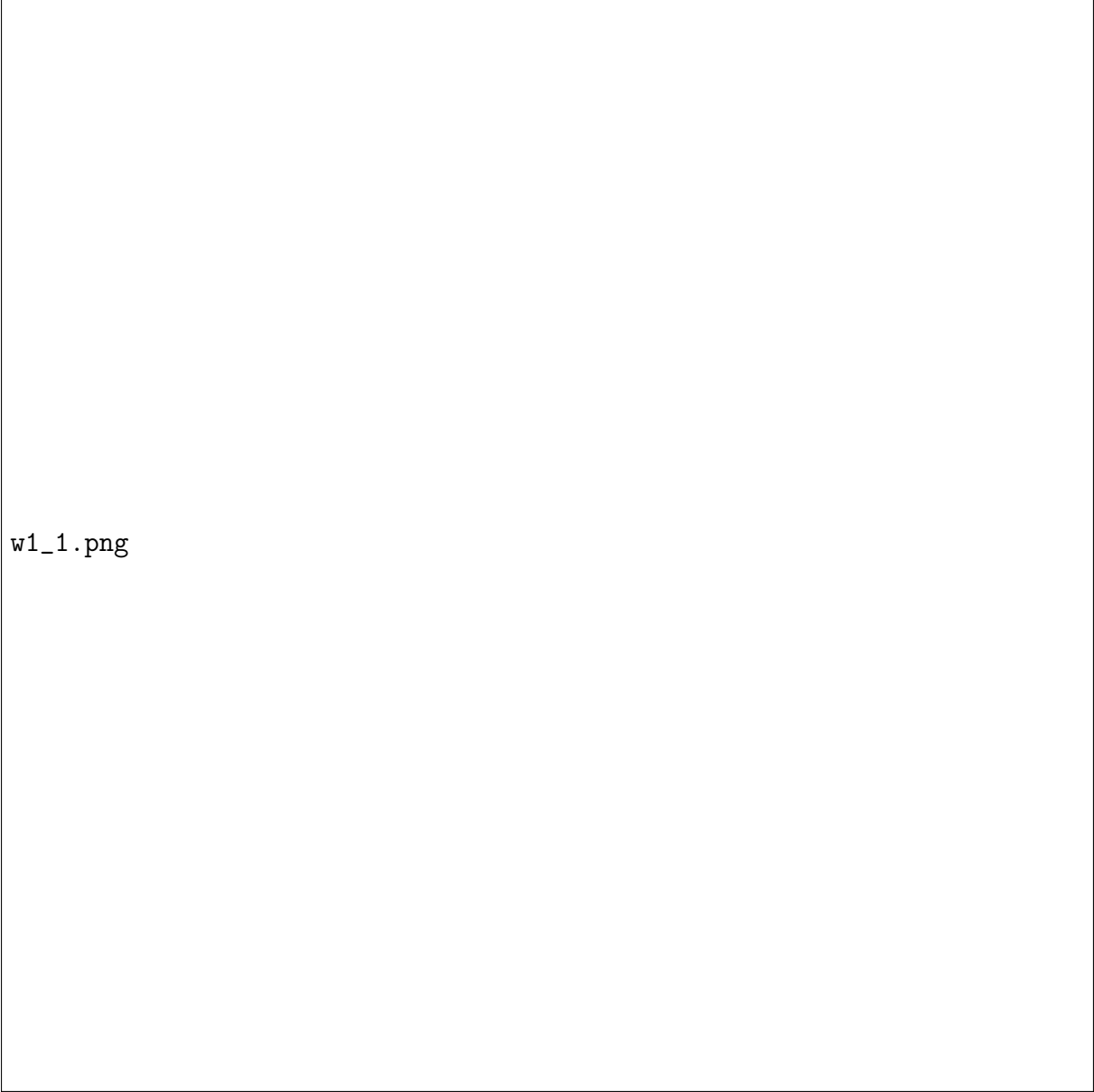- Specialize in one area and solve one problem

Artificial general Intelligence(AGI)

- Refers to a computer that is as smart as a human across the board

Artificial Super Intelligence(ASI)

- An intellect that is much smarter than the best human brain in practically any field

1.3   Dive into AI understanding

`w1_1.png`

1.4   Problem solving search technology (part1)

1.4.1   Category of search

Incremental Formulation

Search algorithm builds a solution step by step, considering only one part of the problem at a time. It incrementally constructs a sequence of decisions or actions to reach the goal.

Complete-State Formulation

The problem and its solution are represented by a complete description of the state of the system or environment. This formulation allows the search algorithm to explore all possible states systematically.

Toy Problem

A simplified, abstract, or small-scale version of a real-world problem. It is often used in AI and search algorithms as a test or learning tool to develop and test algorithms before applying them to more complex problems.

Real World Problem

A complex, practical issue that occurs in real-life scenarios. These problems often involve uncertainty, incomplete information, and multiple interacting factors.

1.4.2   Goodness search of Strategies

- Completeness

- Time complexity

- Space complexity

- Optimality of the solution (such as path cost)

2 Week 2

2.1 placeholder