Introduction to Artificial Intelligence

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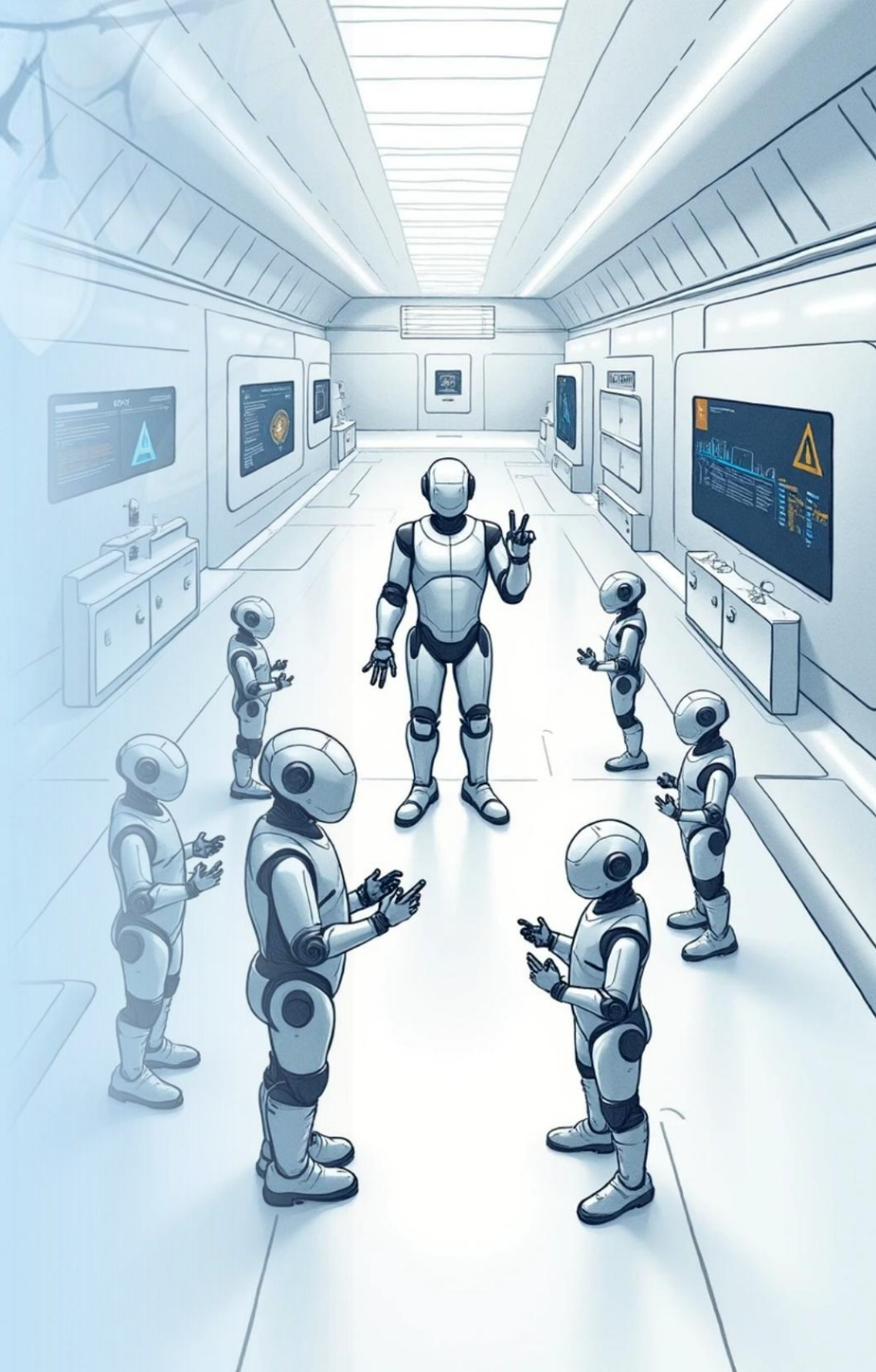
CONTENTS

1. What is AI?

Artificial Intelligence (AI) is the simulation of human intelligence in machines that can think, learn, and make decisions.

2. Agents and Environments

- Simple reflex agents
- Model-based reflex agents
- Goal-based agents
- Utility-based agents
- Learning agents

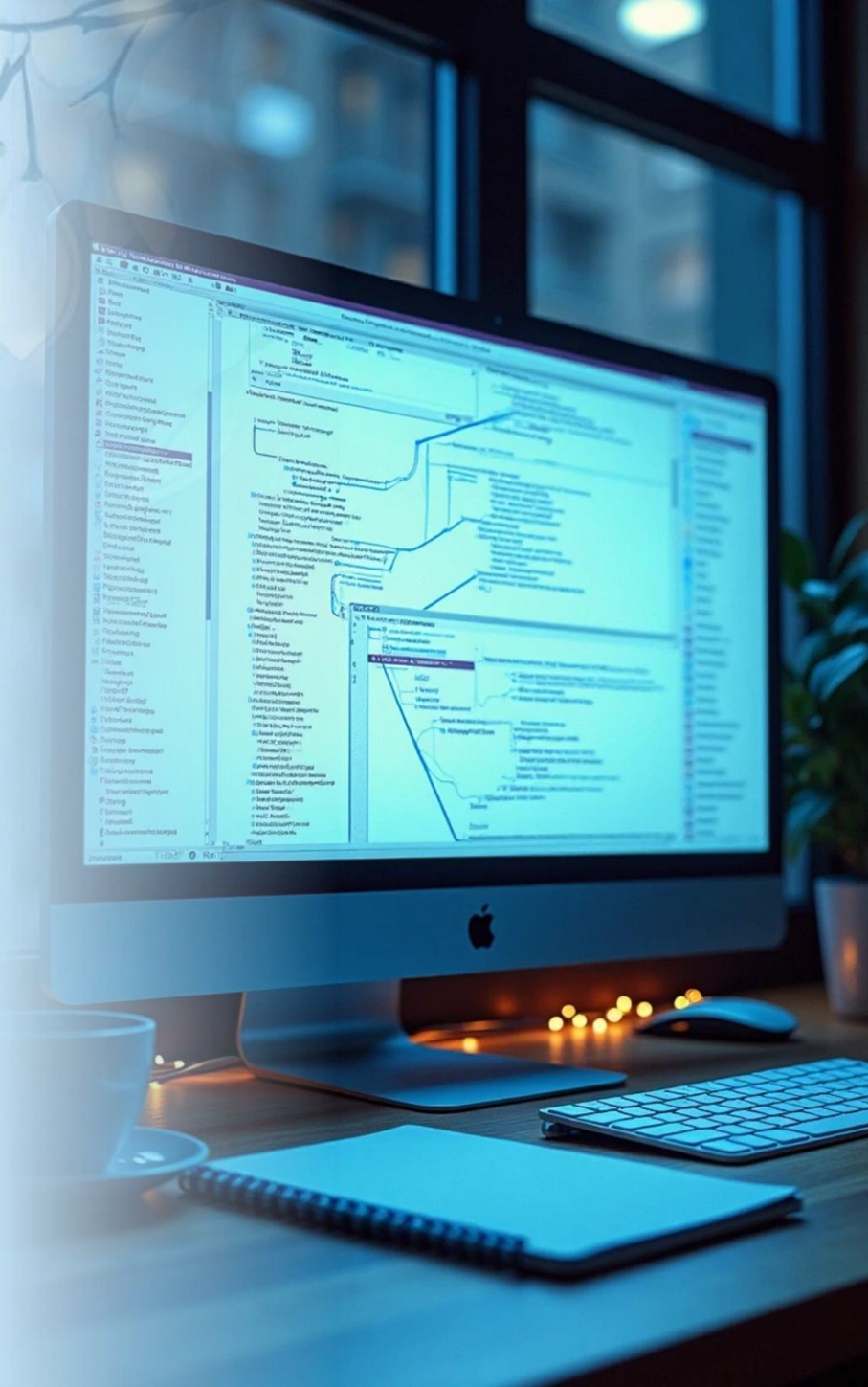


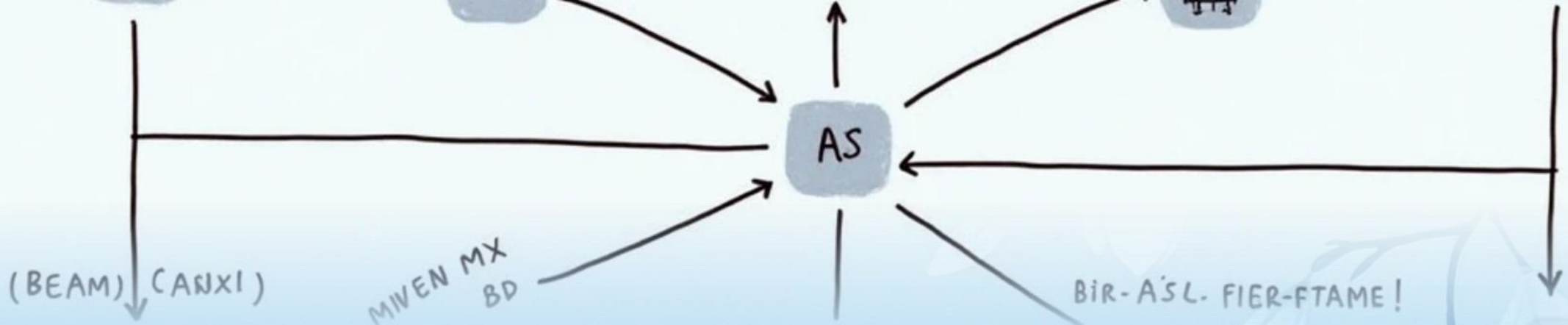
3. Problem-Solving Agents

1. Vacuum world
2. 8-puzzle
3. 8-queens problem

5. Uninformed Search Strategies

1. Breadth-first search
2. Depth-first search
3. Bidirectional search
4. Depth-limited search
5. Iterative deepening depth-first search





6. Informed Search Strategies

- Best First Search
- Hill-climbing search
- Beam Search
- A*
- Min Max Algorithm
- Alpha-Beta Pruning

7. AI Game Examples

1
Tic-Tac-Toe

2
Chess

3
Snake game

8. Defining Constraint Satisfaction Problems

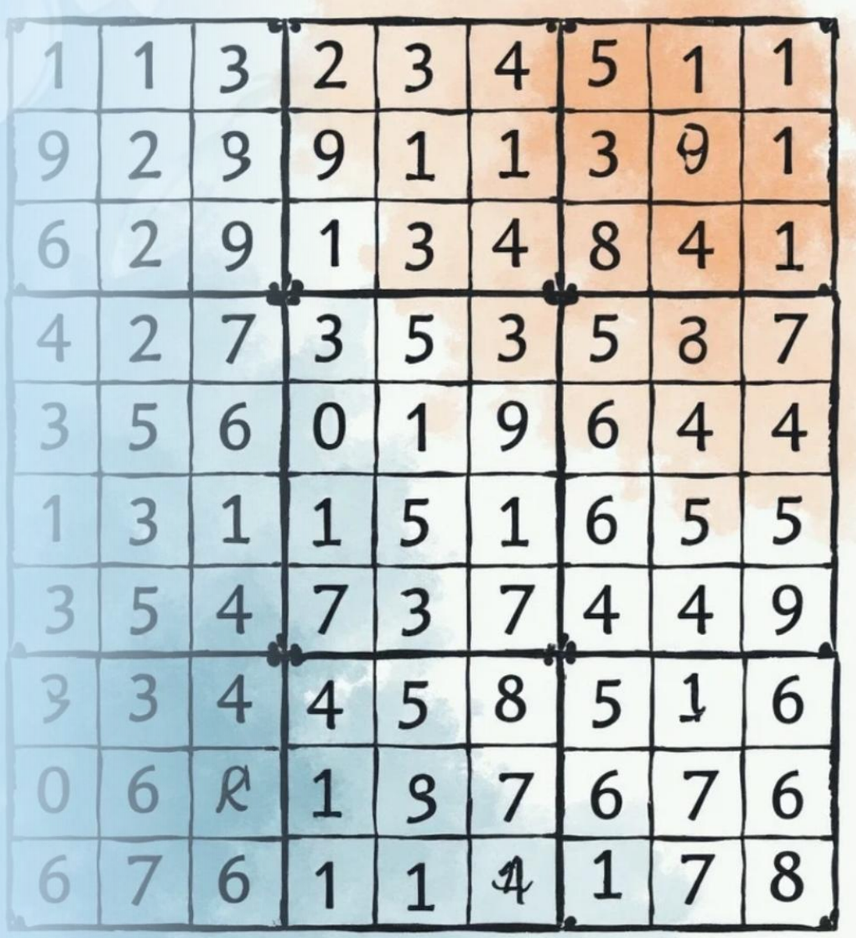
Map Coloring

Map coloring

Variations on the CSP formalism

9. Constraint Propagation: Inference in CSPs

1. Node consistency
2. Arc consistency
3. Path consistency
4. Global constraints



Thank You