

Artificial Intelligence Course

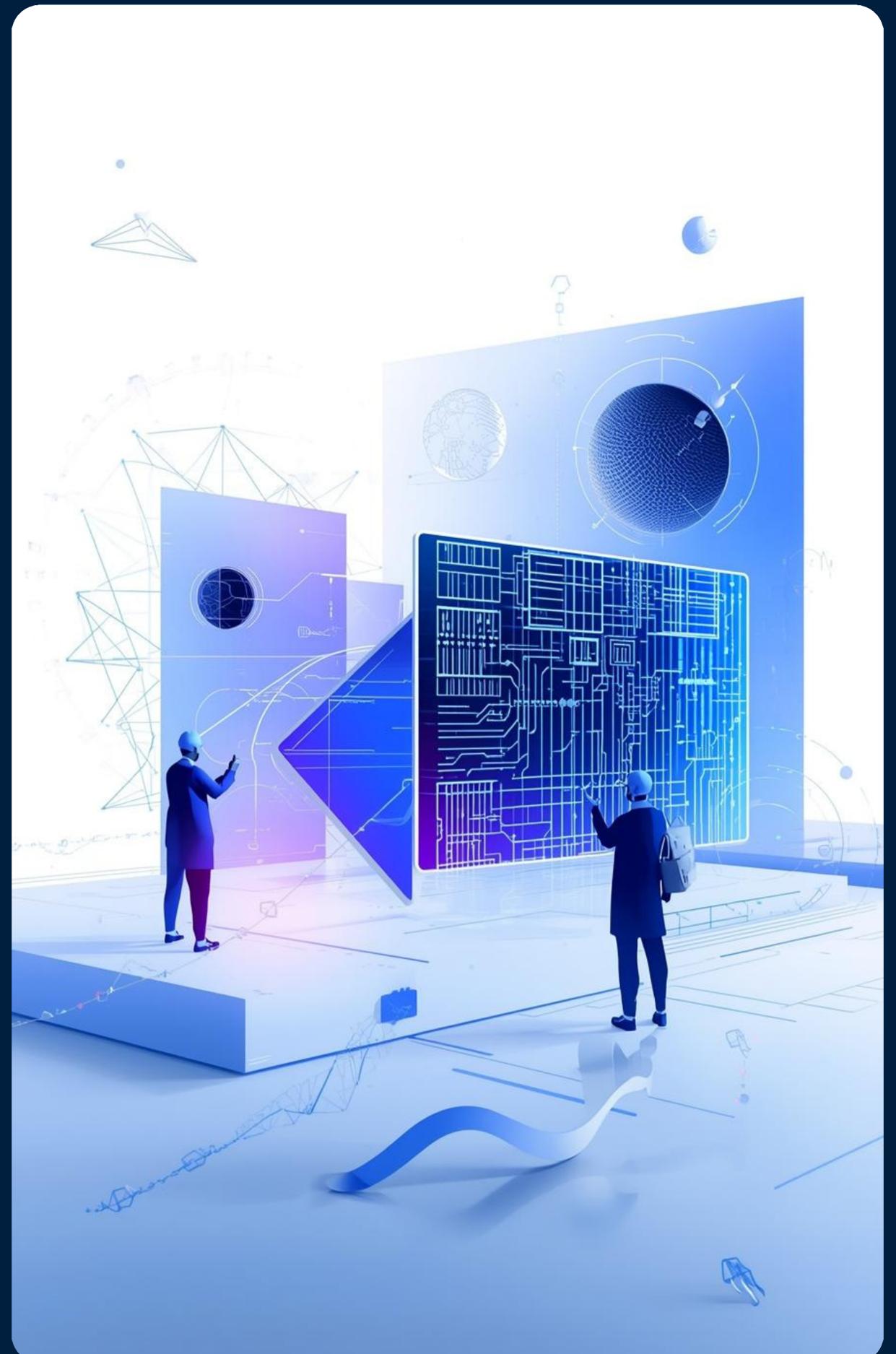
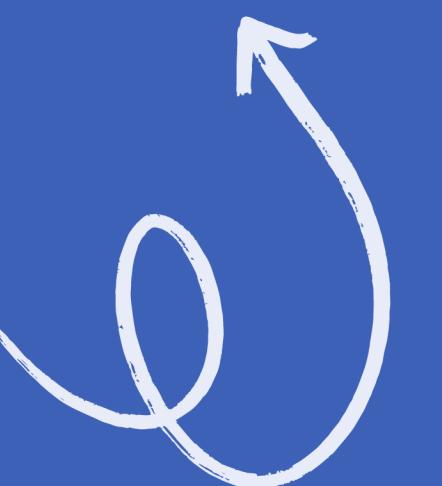
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Course Overview

Key Topics in Artificial Intelligence

Core AI Concepts

This section introduces **fundamental ideas** in AI, highlighting definitions, the Turing Test, and the distinctions between Narrow and General AI to establish a strong foundation.

Intelligent Agents

Understanding **intelligent agents** is crucial for grasping how AI systems interact with their environments, including percepts, actions, goals, and the PEAS framework that defines agent capabilities.

Search Algorithms

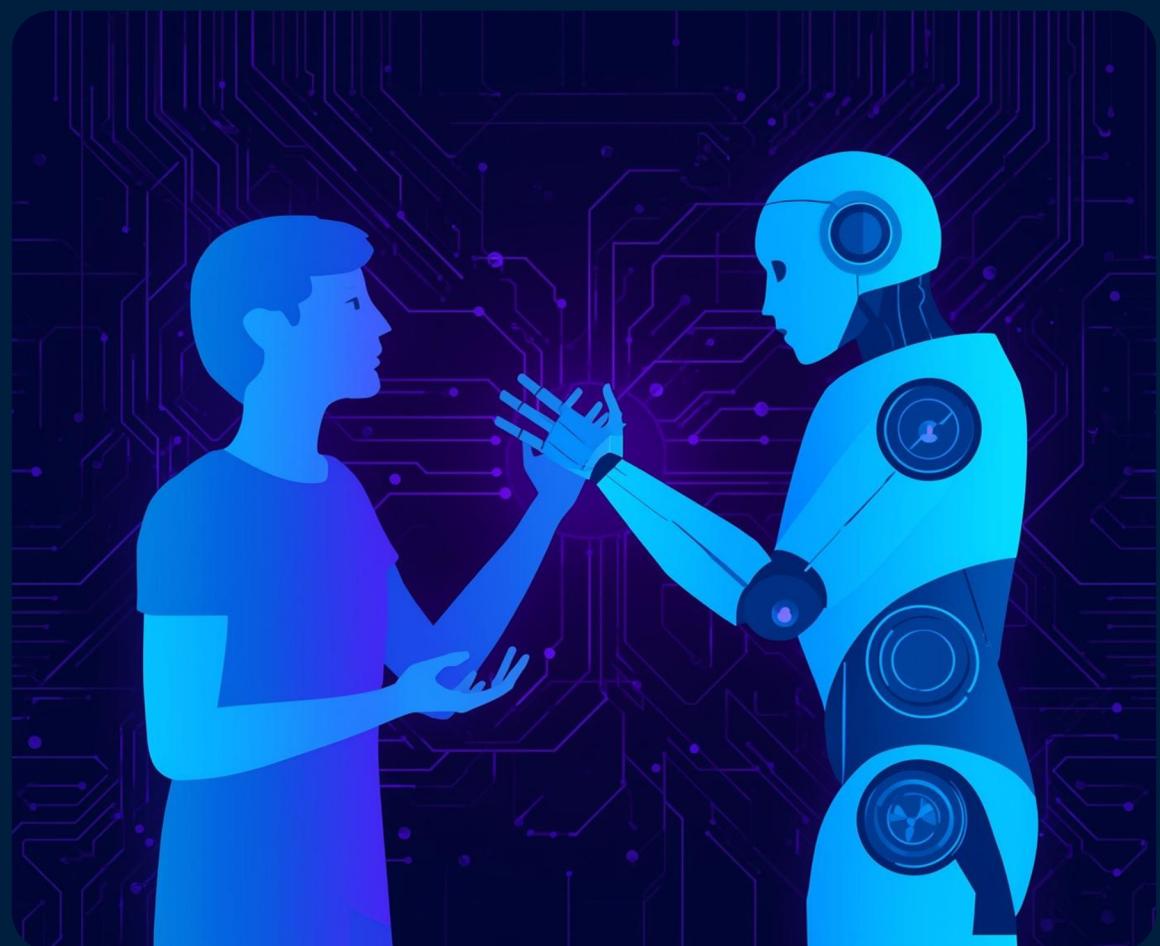
Search algorithms are essential for solving problems in AI, covering both uninformed and informed search techniques while emphasizing their role in finding optimal solutions for various tasks.



Core AI Concepts Explained

Understanding AI, Agents, and Learning

This section covers essential AI concepts, including the **Turing Test**, distinctions between narrow and general AI, and the roles of machine learning and deep learning in modern technology.



Intelligent Agents Overview

Understanding AI agents and environments

Percepts

Percepts are the inputs received by an intelligent agent from its environment, shaping its understanding and reactions to various stimuli, essential for effective decision-making.

Actions

Actions are the responses an agent executes based on its percepts, allowing it to interact with and modify its environment, driving goal-oriented behavior and problem-solving.

Goals

Goals define the desired outcomes for intelligent agents, guiding their actions and strategies, and providing a framework for evaluating success in achieving objectives within their environments.



Search Algorithms Overview



01

Uninformed Search

Uninformed search algorithms, such as Breadth-First Search (BFS) and Depth-First Search (DFS), explore search spaces without additional information, guaranteeing complete solutions but often at higher resource costs.

02

Informed Search

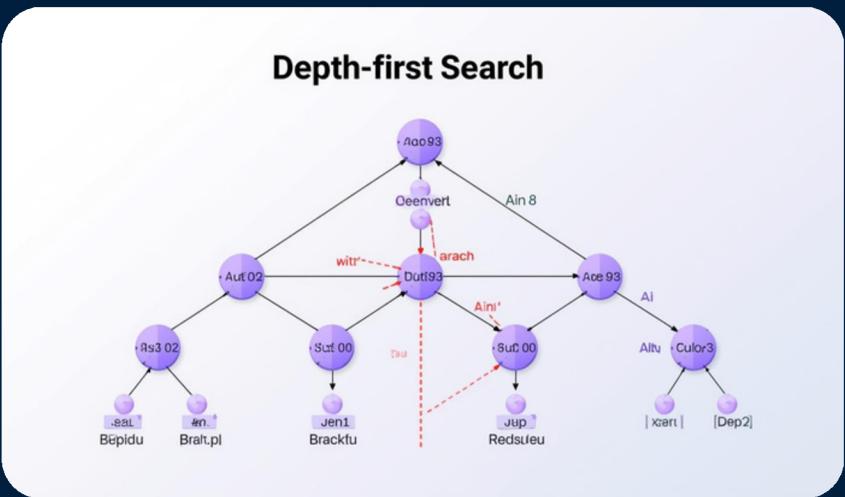
Informed search algorithms utilize heuristics to enhance efficiency, guiding the search process and reducing time complexity, with examples like A* Search achieving optimal paths through evaluation of node costs.

Uninformed Search Algorithms: Exploring BFS and DFS



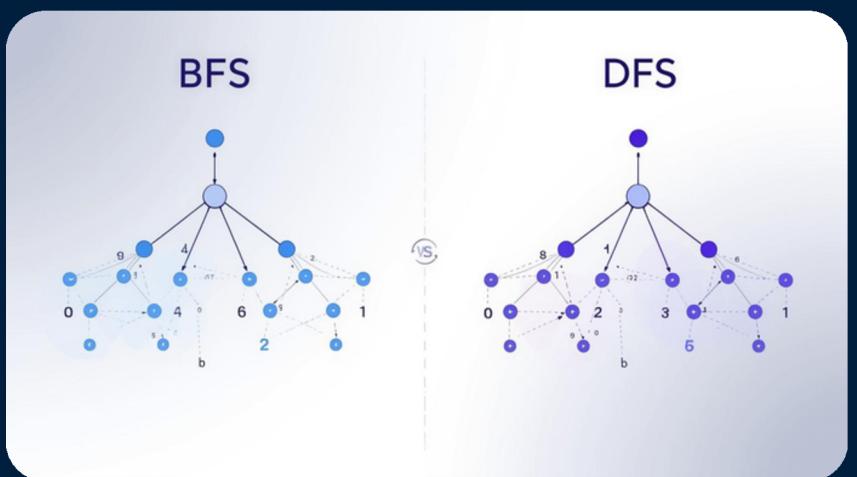
Breadth-First Search

Explores nodes level by level, ensuring completeness.



Depth-First Search

Dives deep into branches, prioritizing depth over breadth.



Iterative Deepening

Combines depth-first and breadth-first strategies effectively.





Thank You
for your attention and participation!