COLOMBIA POTENCIA DE LA VIDA

TIC

Key word vocabulary comprehension: "The Power of Reinforcement Learning

From Gaming to Robotics

1. Reinforcement Learning (RL)

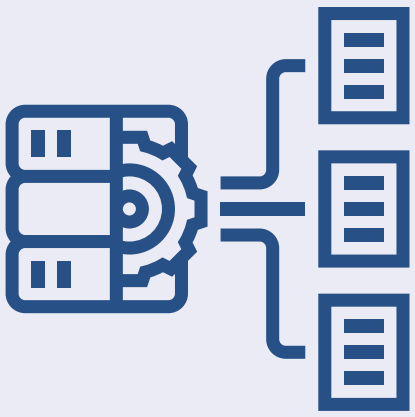
A machine learning technique where an agent learns to make decisions in an environment by performing actions and receiving rewards. It involves trial-and-error learning, allowing the agent to improve its decisions over time based on past experiences.

2. Markov Decision Process (MDP)

A basic Reinforcement Learning model where an agent interacts with an environment, taking actions and receiving rewards. It assumes the environment is fully observable, meaning the agent has complete information about the state of the environment.

3. Deep Reinforcement Learning

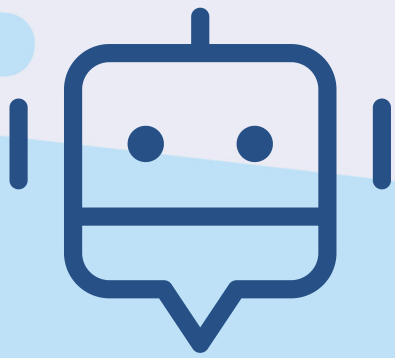
A variant of Reinforcement Learning that combines deep learning techniques with RL algorithms. Neural networks are employed to represent the Q-function, facilitating the approximation of the value function and enhancing decision-making.



4. Exploration vs. Exploitation

A fundamental challenge in Reinforcement Learning, referring to the trade-off between exploring the environment to gather more information and exploiting known knowledge to maximize rewards. Striking the right balance is crucial for algorithm success.

5. Robotics (as an RL Application)



The application of Reinforcement Learning in training robots to perform various tasks, such as grasping objects, navigation, and manipulation. The agent (robot) learns from actions and rewards, optimizing its behavior over time.