

Understanding Reinforcement Learning

Reinforcement learning (RL) is an area of machine learning inspired by behavioral psychology.

It is based on the idea that an agent learns to take actions in an environment to maximize some notion of cumulative reward.

An RL system is typically composed of an agent, an environment, and a reward signal.

At each time step, the agent observes the current state, selects an action, and receives feedback in the form of a reward or punishment.

Over time, the agent aims to learn a policy — a mapping from states to actions — that yields the highest possible cumulative reward.

RL has been successfully applied in areas such as robotics, game playing (e.g., AlphaGo), and autonomous driving.