Reinforcement Learning

# Prerequisite (02)

Probability distributions and expected values,

basic linear algebra (e.g., inner products).

# 1 Introduction to Reinforcement Learning: (04)

Reinforcement Learning:

Key features and Elements of RL,

Types of RL, rewards.

Algorithms: Q-Learning,

State Action Reward State action (SARSA),

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# 2 Bandit problems and online learning: 07

An n-Armed Bandit Problem,

Action-Value Methods

Tracking a Nonstationary Problem,

Optimistic Initial Values

Upper-Confidence-Bound Action Selection

Gradient Bandits

# 3 Markov Decision Processes: 07

The Agent–Environment Interface,

Goals and Rewards, Returns,

Markov properties,

Markov Decision Process,

Value Functions

Optimal Value Functions,

# 4 Dynamic Programming: 07

Policy Evaluation (Prediction),

Policy Improvement,

Policy Iteration, Value Iteration,

Asynchronous Dynamic Programming,

Generalized Policy Iteration

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# 5 Monte Carlo Methods and Temporal-Difference Learning 07

Monte Carlo Prediction,

Monte Carlo Estimation of Action Values,

Monte Carlo Control,

TD Prediction, TD control using Q-Learning

# 6 Applications and Case Studies 05

Elevator Dispatching,

Dynamic Channel Allocation,

Job-Shop Scheduling

[Reinforcement Learning - YouTube](https://www.youtube.com/playlist?list=PLnn6VZp3hqNvRrdnMOVtgV64F_O-61C1D)

[Reinforcement Learning ( Machine Learning ) - YouTube](https://www.youtube.com/playlist?list=PLloZa6L2Dthi-baGngFkImaq3jJEPQm6l)