

Lecture 2: Markov Decision Processes

└ Markov Processes

└ Markov Chains

Markov Process

A Markov process is a memoryless random process, i.e. a sequence of random states S_1, S_2, \dots with the Markov property.

Definition

A *Markov Process* (or *Markov Chain*) is a tuple $\langle \mathcal{S}, \mathcal{P} \rangle$

- \mathcal{S} is a (finite) set of states
- \mathcal{P} is a state transition probability matrix,
$$\mathcal{P}_{ss'} = \mathbb{P}[S_{t+1} = s' \mid S_t = s]$$