

# Reinforcement Learning

Final exam : Friday May 15th

- 7:15 PM - 10:15 PM

- Online

- Multiple choice

- Calculator needed

- Practice Gradiance Quiz  
will be posted

= One more Gradiance Quiz left  
(RL)

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$A$  - set of all actions

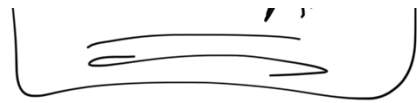
$$\underline{A_t \in \underline{A(s_t)}} \subset A$$

$$R_t \in \mathbb{R}$$

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Policy  $\pi$

$$\left[ \begin{array}{l} s_1 \rightarrow A_{s_1} \\ s_2 \rightarrow A_{s_2} \end{array} \right]$$

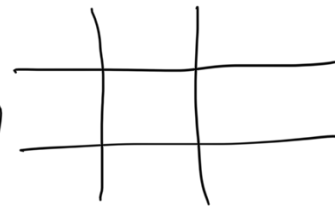


## Tic Tac Toe

Playing against an imperfect  
opponent.



9<sup>3</sup> "possible" states



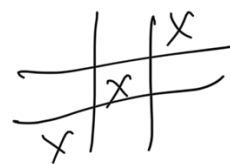
$S$

Value Prob of winning from that  
State.

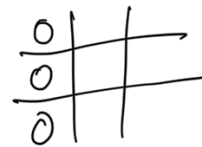
$S$  is small packia.



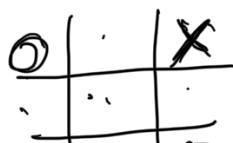
0.5



1



0



$A(S_0)$

$S_1$

$x | \cancel{x} : 10$

-1

$$0.5 f \alpha (0 - 0.5)$$

$$0.5 - 0.5 \alpha$$

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