## It's over 400:

Cooperative reinforcement learning through self play

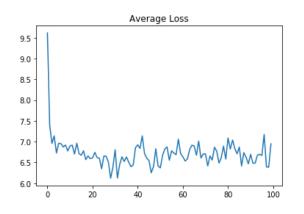


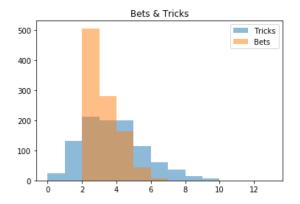
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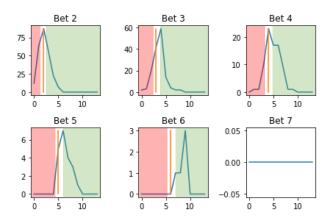
Hadi Elzayn, Mohammad Fereydounian, Mikhail Hayhoe, Harshat Kumar

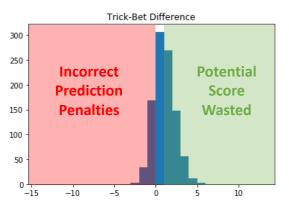
## **BETTING**

$$Loss = \begin{cases} (tricks - bet)^2, & tricks \ge bet \\ bet^2, & tricks < bet \end{cases}$$









## **PLAYING**

$$Reward = \begin{cases} bet, & tricks \ge bet \\ -bet & tricks < bet \end{cases}$$

	Random	Greedy*	Heuristic*	NN + RL
Heuristic* Win %	100	100		10.5
NN + RL Win %	100	100	89.5	

