

CS294 Deep RL Assignment 4: Model-Based RL

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Problem 1

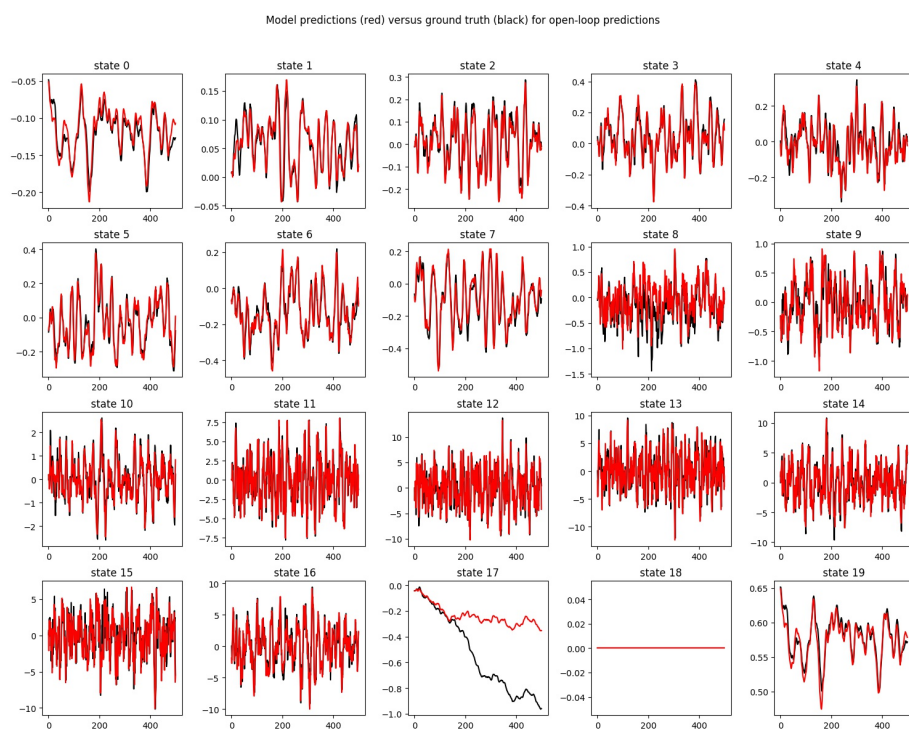


Figure 1: State 17 seems to be the most inaccurate. I don't know why. Maybe it's a more complex function?

Problem 2

	Random Policy	Trained Policy
ReturnAvg	-147.13	20.9676
ReturnStd	29.8119	16.1825

Table 1: ReturnAvg and ReturnStd for the random policy and for model-based controller trained on randomly gathered data.

Problem 3a

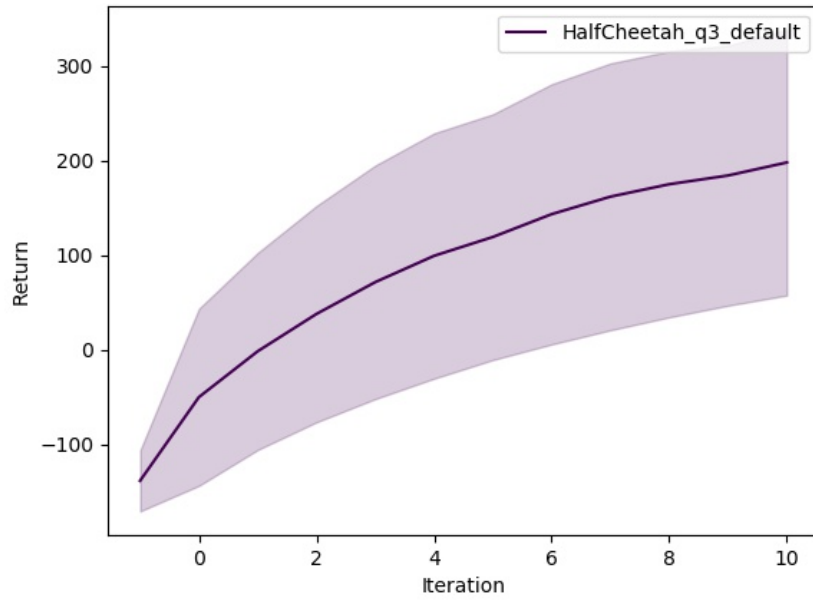


Figure 2: Plot of the returns versus iteration when running model-based reinforcement learning.

Problem 3b

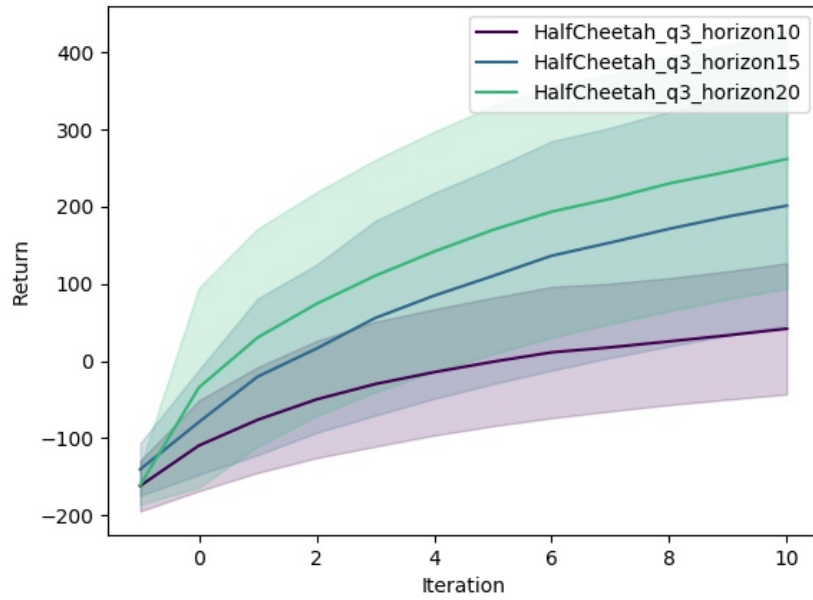


Figure 3: Plot comparing performance when varying the MPC horizon.

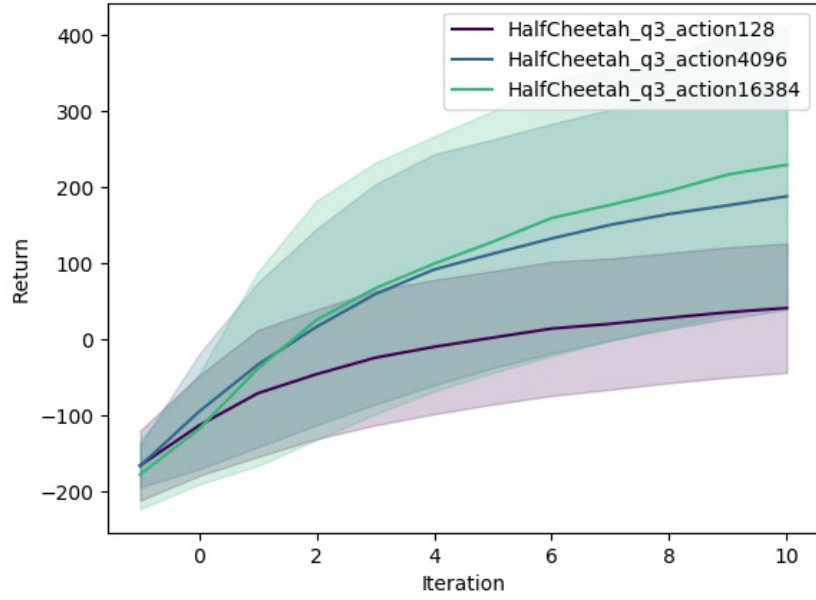


Figure 4: Plot comparing performance when varying the number of randomly sampled action sequences used for planning.

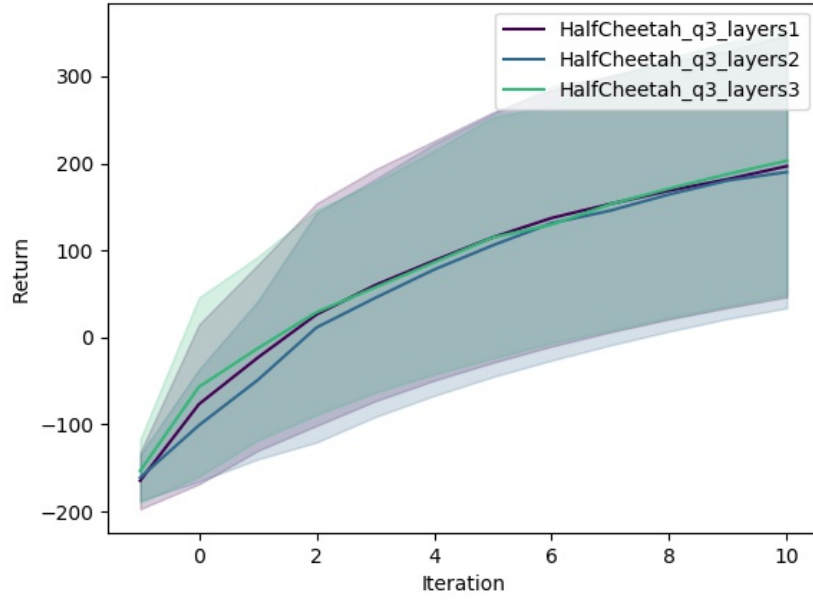


Figure 5: Plot comparing performance when varying the number of neural network layers for the learned dynamics model.