

E.N.D.G.A.M.E

Problem Statement: Taking Car Environment in A7 and implement it with TD3 algorithm

States : (42x42 image patch across car + car orientation)



Action space dimension : 1 (car angel difference towards goal)

Approach:

- APIs similar to gym environment is created i.e (env.step, en.reset etc..)
- Integrated TD3 environment with Car environment
- As seen in above image crops , I am adding one grey coloured arrow image on top of road with rotation angle of car .This will give Convolution network a sense of car angle.
- I am also passing +-Orientation of car with respect to goal to CNN along with above 42x42 image patch.
- One episode_reward memory is being created for ending episode by setting some threshold for too many negative rewards.
- Will train Actor-Critic model for entire episode and will move to another episode.
- Created random sample points on maps , to initialise car position at random location after every episodes.