

Describe the effect each of the P, I, D components had in your implementation.

P value

In my project Setting the p parameter helped me in getting the project rolling. Car started but was having oscillations and the car was even going off track.

<https://www.youtube.com/watch?v=SCyqbG5lytI>

P + D Value

I started with Initial Value of D and increased it until I was able to clear the track and the oscillations stopped. But it was not staying always in the Middle of the road and sometimes it was going off road. Also, was very slow to react to come at the centre of the lane.

<https://www.youtube.com/watch?v=gUxMoooSIF4>

P + I + D

Setting I value helped me in the reaction time it takes to come back on the centre track.

<https://www.youtube.com/watch?v=TaPiDXrJ3hU>

Describe how the final hyperparameters were chosen.

Intuition behind choosing these values

I first choose the P value to get it running, it was showing a lot of oscillations

Then I started incrementing D value to make the trajectory go as smooth as possible, Around the value 8 it was the best but still sometimes it uses to touch the Side roads

After that I gave a small I value, and it became very smooth