Assignment 6

Aim :

Abstract of Seminar topic- "Neural Networks for Autonomous Driving"

Objective :

To develop abstract of chosen topic in own words.

Theory :

Majority of previous attempts to autonomous driving were based on use of pre-calculated data such as exact distance to other cars or actual position of cars with re- spect of center of track. As humans, we drive on knowl- edge locally available information that is gathered by or senses, mainly sight. This works explores and evaluates the development of autonomous steering using visual-only input. Convolutional Neural Networks have been proven to excel in categorical image classication, and can be used to deciding steering values. Dierent pavement detection have also been discussed here, which can be used to detect pavement mark on an image of road in front of car, which can help car in making right decisions. Object recogni- tion and pedestrian detection are of crucial importance to autonomous driving applications. Bag of visual Words (BOW) approach by using SURF, HOG and k-means have been discussed for object and pedestrian detection. Self- driving cars require robust and fas t path planning al- gorithms to operate in dynamic environment. A model based path planning algorithm for dynamic environment have been discussed. This approach generates candidate trajectories online, then evaluates and selects the most appropriate one according to real-time environment information.

Conclusion:

Thus , we have developed abstract of our seminar topic.