

Amendment to the submission

1. The README provides sufficient details of the characteristics and qualities of the architecture, such as the type of model used, the number of layers, the size of each layer. Visualizations emphasizing particular qualities of the architecture are encouraged.

In my initial model.py I included the `plot_model(model, to_file='model.png')` but unfortunately in the Car ND environment the pydot and graphviz were not installed. I tried to install them and I run into many different problems and decided to leave it alone since this environment is extremely unstable and sensitive to change (at least on windows). One of the biggest reasons for this submission delay is definitely the environment/development problems I had to go through. For instance, try to put any “.py” file on a folder that starts with “U”, like “./Users/..” or “/Udacity” you will face a big nightmare until you realize that Python is taking the “/U” as a command and if you just move it into a different folder all your problems are gone. This is just one of the, truly, hundreds, of problems – totally unrelated to my development, or the course – that I had to endure.

I tried to install it again and after a few hours troubleshooting (installed pydot, graphviz, included the path on the “path”, etc..) I still can't import successfully the library to the point where now it doesn't even recognize any of the python commands (activate, python, etc..) proving empirically, once again, my worst fears and nightmares about this totally unstable and inappropriate for a teaching platform environment. You'll have to allow me to show you the model “summary” that gets printed on the command prompt screen after the model is built and before it starts the training:

Layer (type)	Output Shape	Param #	Connected to
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Crop (Cropping2D)	(None, 66, 200, 3)	0	cropping2d_input_1[0][0]
Normalize (Lambda)	(None, 66, 200, 3)	0	Crop[0][0]
Conv_1 (Convolution2D)	(None, 31, 98, 24)	1824	Normalize[0][0]
Dropout1 (SpatialDropout2D)	(None, 31, 98, 24)	0	Conv_1[0][0]
Conv_2 (Convolution2D)	(None, 14, 47, 36)	21636	Dropout1[0][0]
Dropout2 (SpatialDropout2D)	(None, 14, 47, 36)	0	Conv_2[0][0]

Conv_3 (Convolution2D)	(None, 5, 22, 48)	43248	Dropout2[0][0]
Dropout3 (SpatialDropout2D)	(None, 5, 22, 48)	0	Conv_3[0][0]
Conv_4 (Convolution2D)	(None, 3, 20, 64)	27712	Dropout3[0][0]
Dropout4 (SpatialDropout2D)	(None, 3, 20, 64)	0	Conv_4[0][0]
Conv_5 (Convolution2D)	(None, 1, 18, 64)	36928	Dropout4[0][0]
Dropout5 (SpatialDropout2D)	(None, 1, 18, 64)	0	Conv_5[0][0]
Flatten (Flatten)	(None, 1152)	0	Dropout5[0][0]
dropout_1 (Dropout)	(None, 1152)	0	Flatten[0][0]
FC1 (Dense)	(None, 1164)	1342092	dropout_1[0][0]
FC2 (Dense)	(None, 100)	116500	FC1[0][0]
FC3 (Dense)	(None, 50)	5050	FC2[0][0]
FC4 (Dense)	(None, 10)	510	FC3[0][0]
Dropout9 (Dropout)	(None, 10)	0	FC4[0][0]
predictions (Dense)	(None, 1)	11	Dropout9[0][0]

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Total params: 1,595,511

Trainable params: 1,595,511

Non-trainable params: 0

2. The README describes how the model was trained and what the characteristics of the dataset are. Information such as how the dataset was generated and examples of images from the dataset should be included.

The following are images from Track 1 Normal driving (not recovery and not reverse)





The following are images from **Track 2** Normal driving (not recovery and not reverse)

