## Self-Driving-Car

January 27, 2022

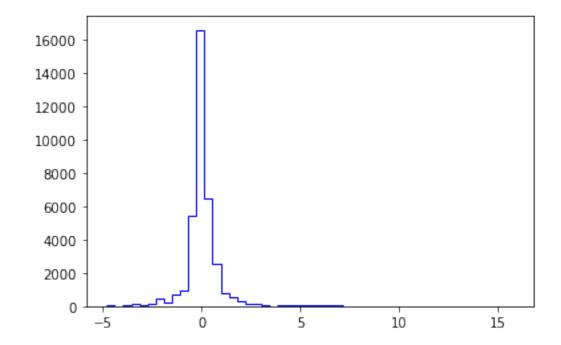
[2]: import os

from itertools import islice

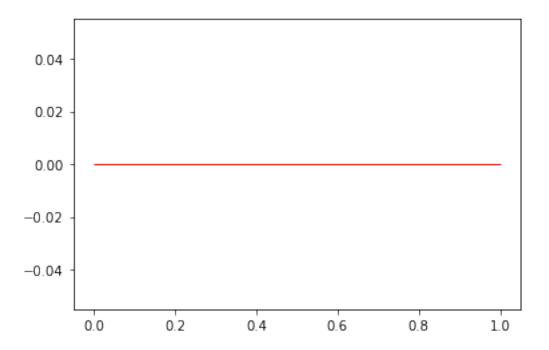
```
from scipy import pi
      import numpy as np
      DATA_FOLDER='Documents/Autopilot-TensorFlow-master/driving_dataset/'
      TRAIN FILE=os.path.join(DATA FOLDER, 'data.txt')
      LIMIT=None
      split=0.8
      X = []
      y=[]
      with open(TRAIN_FILE) as fp:
          for line in islice(fp,LIMIT):
              path,angle=line.strip().split()
              full_path=os.path.join(DATA_FOLDER,path)
              X.append(full_path)
              y.append(float(angle)*pi/100)
      y=np.array(y)
      print("Successful")
     Successful
 [3]: #split the dataset
      split_index=int(len(y)*0.8)
 [4]: train_y=y[:split_index]
 [5]: test_y=y[split_index:1]
[11]: import matplotlib.pyplot as plt
      plt.hist(train_y,bins=50,color="blue",histtype='step')
[11]: (array([5.200e+01, 1.600e+01, 2.900e+01, 1.270e+02, 9.400e+01, 1.770e+02,
              4.920e+02, 2.550e+02, 6.840e+02, 9.270e+02, 5.439e+03, 1.660e+04,
              6.513e+03, 2.538e+03, 7.510e+02, 5.250e+02, 3.090e+02, 1.640e+02,
              1.400e+02, 7.600e+01, 2.400e+01, 2.700e+01, 3.300e+01, 4.300e+01,
              5.100e+01, 4.700e+01, 5.400e+01, 3.600e+01, 3.800e+01, 1.400e+01,
              8.000e+00, 1.000e+01, 1.000e+00, 2.000e+00, 2.000e+00, 2.000e+00,
              2.000e+00, 1.000e+00, 0.000e+00, 2.000e+00, 1.000e+00, 1.000e+00,
```

```
2.000e+00, 1.000e+00, 2.000e+00, 2.000e+00, 2.000e+00, 1.000e+00,
      2.000e+00, 5.000e+00]),
array([-4.80255269, -4.39122396, -3.97989524, -3.56856651, -3.15723779,
      -2.74590906, -2.33458033, -1.92325161, -1.51192288, -1.10059415,
      -0.68926543, -0.2779367, 0.13339202, 0.54472075, 0.95604948,
       1.3673782 , 1.77870693,
                                 2.19003565,
                                              2.60136438,
                                                           3.01269311,
       3.42402183,
                    3.83535056,
                                              4.65800801,
                                 4.24667929,
                                                           5.06933674,
       5.48066546,
                    5.89199419,
                                 6.30332292,
                                              6.71465164,
                                                           7.12598037,
                    7.94863782,
                                              8.77129527,
       7.53730909,
                                 8.35996655,
                                                           9.182624
       9.59395273, 10.00528145, 10.41661018, 10.8279389, 11.23926763,
       11.65059636, 12.06192508, 12.47325381, 12.88458253, 13.29591126,
      13.70723999, 14.11856871, 14.52989744, 14.94122616, 15.35255489,
      15.76388362]),
```

[<matplotlib.patches.Polygon at 0x1d57fe874f0>])



## [<matplotlib.patches.Polygon at 0x1d57fee52b0>])



```
[13]: train_mean_y=np.mean(train_y)

[16]: np.mean(np.square(test_y-train_mean_y))

[16]: nan

[17]: np.mean(np.square(test_y-0.0))

[17]: nan
```