

User Manual

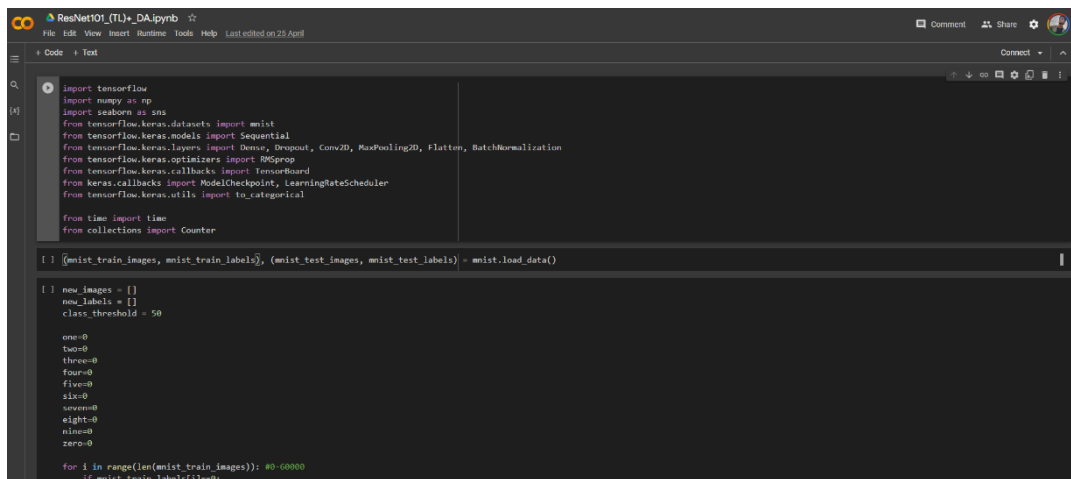
These folders consist of all the networks built for the experiments conducted within this FYP.

Steps to Run Networks

- 1) Make sure the packages in requirements.txt is installed.

This can be done by running the following on the command prompt - *"pip install -r Requirements.txt"*

- 2) Open this directory in any Python notebook IDE (Jupyter Notebooks or Google Colaboratory).



```
import tensorflow
import numpy as np
import seaborn as sns
from tensorflow.keras.datasets import mnist
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Dense, Dropout, Conv2D, MaxPooling2D, Flatten, BatchNormalization
from tensorflow.keras.optimizers import RMSprop
from tensorflow.keras.callbacks import TensorBoard
from keras.callbacks import ModelCheckpoint, LearningRateScheduler
from tensorflow.keras.utils import to_categorical

from time import time
from collections import Counter

[(mnist_train_images, mnist_train_labels), (mnist_test_images, mnist_test_labels)] = mnist.load_data()

new_images = []
new_labels = []
class_threshold = 50

one=0
two=0
three=0
four=0
five=0
six=0
seven=0
eight=0
nine=0
zero=0

for i in range(len(mnist_train_images)): #0-60000
    if mnist_train_labels[i]==0:
```

Figure 1: Network Loaded on Colab.

- 3) Run the notebook (Ctrl+F9)

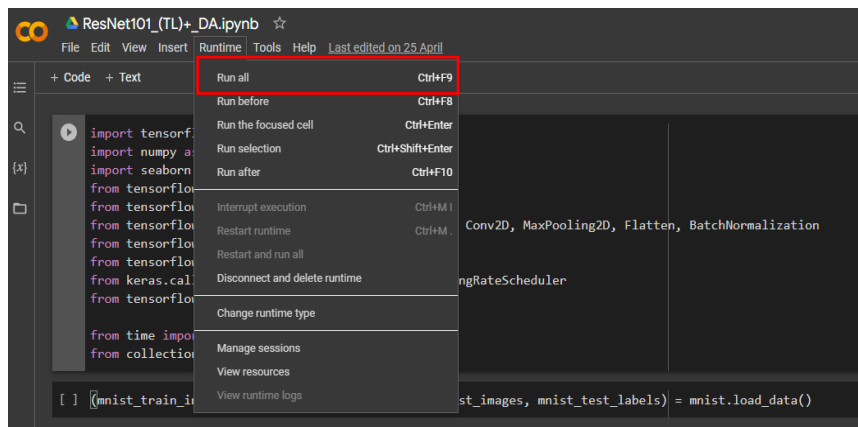


Figure 2: Run all cells in Notebook.

Additional Notes

- Link to download SVHN dataset - <http://ufldl.stanford.edu/housenumbers/>
- Network named "2Conv",
"2Conv64MaxPoolDropout0.502Conv128MaxPoolDropout0.50Conv256MaxPoolDropout0.50FlattenDense512" refers to "TUNED3" in the paper.