plot_for_p3

February 16, 2019

```
In [3]: # connect google drive
        from google.colab import drive
        drive.mount('/content/gdrive')

        # the folder I use
        !ls /content/gdrive/My\ Drive/IFT6135/datasets

        path="/content/gdrive/My Drive/IFT6135/datasets/"
        output_path="/content/gdrive/My Drive/IFT6135/plot/"
```

```
Go to this URL in a browser: https://accounts.google.com/o/oauth2/auth?client_id=947318989803-6

Enter your authorization code:
··········
Mounted at /content/gdrive
CNN_Error.png           Finite_diff.png  loss_plot.png  mnist.pkl.npy
CNN_MLP_Error.png  loss.npy            mnist.pkl.gz   torch
```

```
In [0]: import numpy as np
        import matplotlib.pyplot as plt
```

1 Loss and Error plots

```
In [0]:  plt.style.use('ggplot')
```

```
In [0]: def loss_acc_plot(content=["valid_err","train_err","valid_loss","train_loss"],valid_er
          """content: a list of string denotes including 'valid_err','train_err','valid_loss',
          plt.figure(figsize=fig_size)
          err=0
          loss=0
          if "valid_err" in content and valid_err!=None:
            epochs=np.arange(np.array(valid_err).reshape(-1).shape[0])+1
            plt.plot(epochs,valid_err,"b-",label="validation_error")
            err=1
          if "train_err" in content and train_err!=None:
            epochs=np.arange(np.array(train_err).reshape(-1).shape[0])+1
```

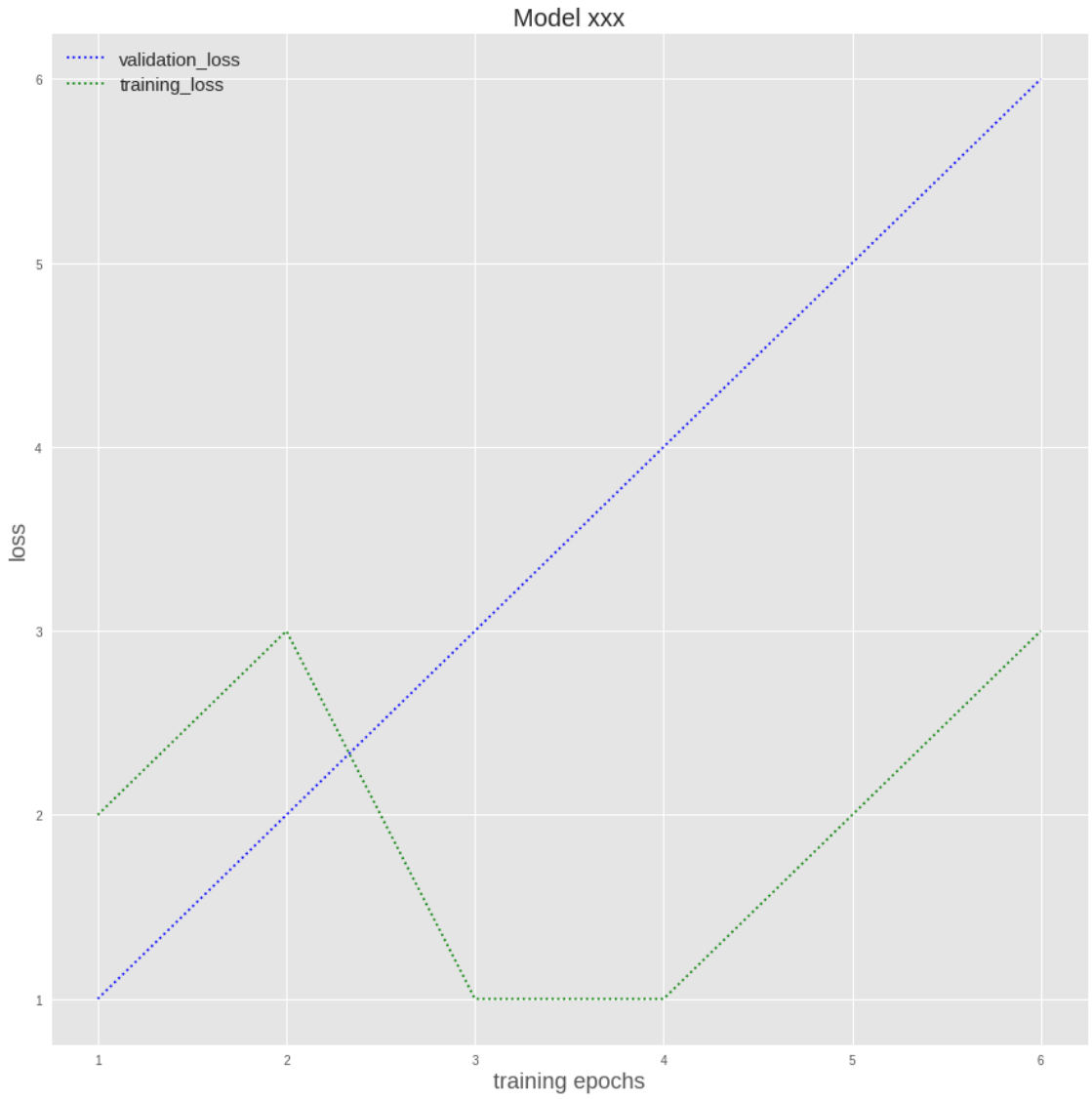
```
        plt.plot(epochs,train_err,"g-",label="training_error")
        err=1
    if "valid_loss" in content and valid_loss!=None:
        epochs=np.arange(np.array(valid_loss).reshape(-1).shape[0])+1
        plt.plot(epochs,valid_loss,"b:",label="validation_loss")
        loss=1
    if "train_loss" in content and train_loss!=None:
        epochs=np.arange(np.array(train_loss).reshape(-1).shape[0])+1
        plt.plot(epochs,train_loss,"g:",label="training_loss")
        loss=1

    plt.xticks(epochs)
    plt.xlabel("training epochs",fontsize=18)
    if err==1 and loss==1:
        plt.ylabel("error/loss",fontsize=18)
    elif err==0 and loss==1:
        plt.ylabel("loss",fontsize=18)
    elif err==1 and loss==0:
        plt.ylabel("error",fontsize=18)

    plt.title(title,fontsize=20)
    plt.legend(fontsize=15)
    plt.savefig(savefile)
    plt.show()
```

```
In [0]: a=[1,2,3,4,5,6]
        b=[2,3,1,1,2,3]

In [27]: loss_acc_plot(valid_loss=a,train_loss=b)
```



2 Show images

```
In [0]: path="/content/gdrive/My Drive/IFT6135/ift6135h19/"
```

```
In [0]: import matplotlib.pyplot as plt
        from skimage import io, transform
        from torchvision import transforms
        import torch

        %matplotlib inline

        import matplotlib as mpl
```

```
        mpl.rcParams['axes.grid'] = False
        mpl.rcParams['image.interpolation'] = 'nearest'
        mpl.rcParams['figure.figsize'] = 10, 10

        def show_image(img):
          plt.imshow(img)
          plt.axis('off')
```

In [0]:
```
def plot_image(image_path="/content/gdrive/My Drive/IFT6135/demoeimage/pytorch-examples
  transforms_plot = torchvision.transforms.Compose([
    torchvision.transforms.Resize((64,64))
  ])
  image=io.imread(image_path, transform=transforms_plot)
  show_image(image)
```

In [62]:
```
'''# ! mkdir /content/gdrive/My\ Drive/IFT6135/demoeimage/
# ! cd /content/gdrive/My\ Drive/IFT6135/demoeimage/ && git clone https://github.com/
! cd /content/gdrive/My\ Drive/IFT6135/demoeimage/pytorch-examples/data/classificatio
image_path="/content/gdrive/My Drive/IFT6135/demoeimage/pytorch-examples/data/classif
```

Out[62]:
```
'# ! mkdir /content/gdrive/My\\ Drive/IFT6135/demoeimage/\n# ! cd /content/gdrive/My\\
```

In [63]:
```
plot_image()
```

In [0]: