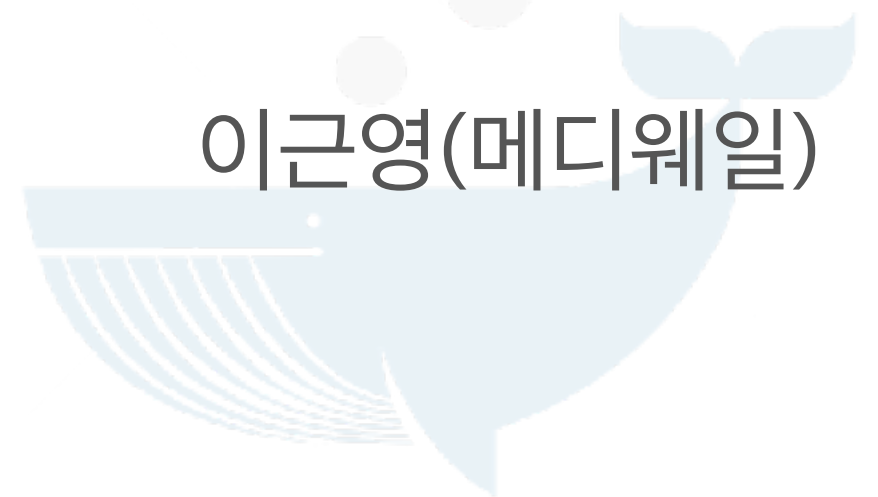


딥러닝과 머신러닝

#1 머신러닝의 이해 - 실습

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Medi Whale



https://github.com/SoulDuck/learning_tensorflow

Tensorflow

<https://www.tensorflow.org/>



Jupyter

<http://jupyter.org/>

```
In [1]: import preprocessing
import tensorflow as tf
import numpy as np
import random
import sys
import utils
import pickle
from IPython.display import Image

# preprocessing : 이미지 파일로 존재하는 데이터를 numpy와 onenotencoding 가위로 바꿔주는 모듈
# tensorflow : 텐서플로우, 임베디드와 GPU를 줄여서 사용
# numpy : fundamental package for scientific computing with Python
# pickle : python 의 데이터 형식을 그대로 저장하기 위한 파이썬 기본 패키지
```

About CIFAR - 10

```
In [2]: Image(filename='./pic/cifar_10.png')
```

Out[2]:

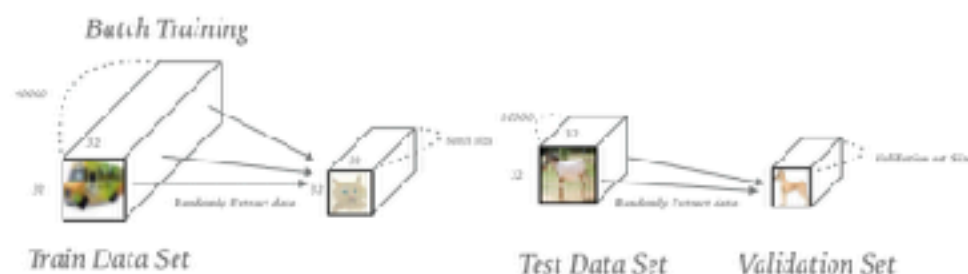
CIFAR-10



Image Loading

```
In [3]: Image(filename='./pic/batch_training.png')
```

Out[3]:



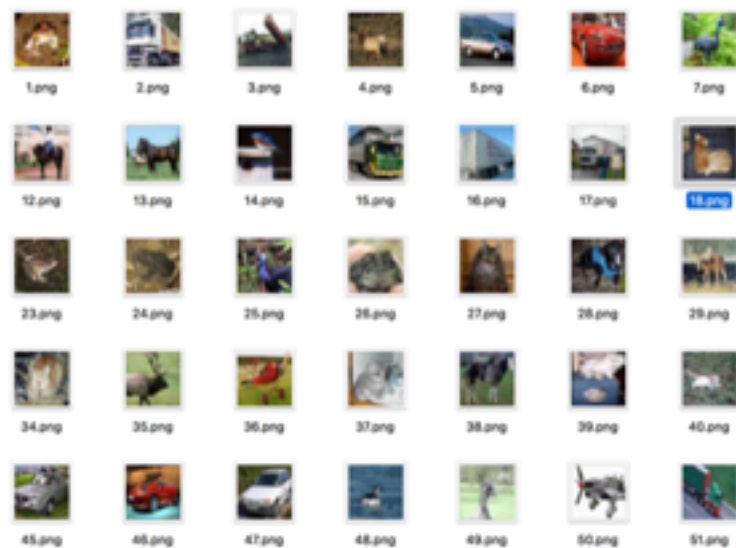
```
In [4]: train_imgs, train_labels, test_imgs, test_labels = preprocessing.get_cifar(type='image')
train_imgs = np.asarray(train_imgs)/255.
test_imgs = np.asarray(test_imgs)/255.

def next_batch(imgs, labels, batch_size):
    indices = random.sample(range(len(imgs)), batch_size)
    batch_xs = imgs[indices]
    batch_ys = labels[indices]
    return batch_xs, batch_ys

# preprocessing 모듈에서 train_imgs, train_labels, test_imgs, test_labels 를 불러 온다.
# fully connected 모델을 위해 32x32x3 크기의 이미지를 3072 으로 reshape 한다.
# next_batch 함수는 batch_size 수 만큼 random 으로 추출하여 train batch 를 생성하는 함수
```

CIFAR

CIFAR-10

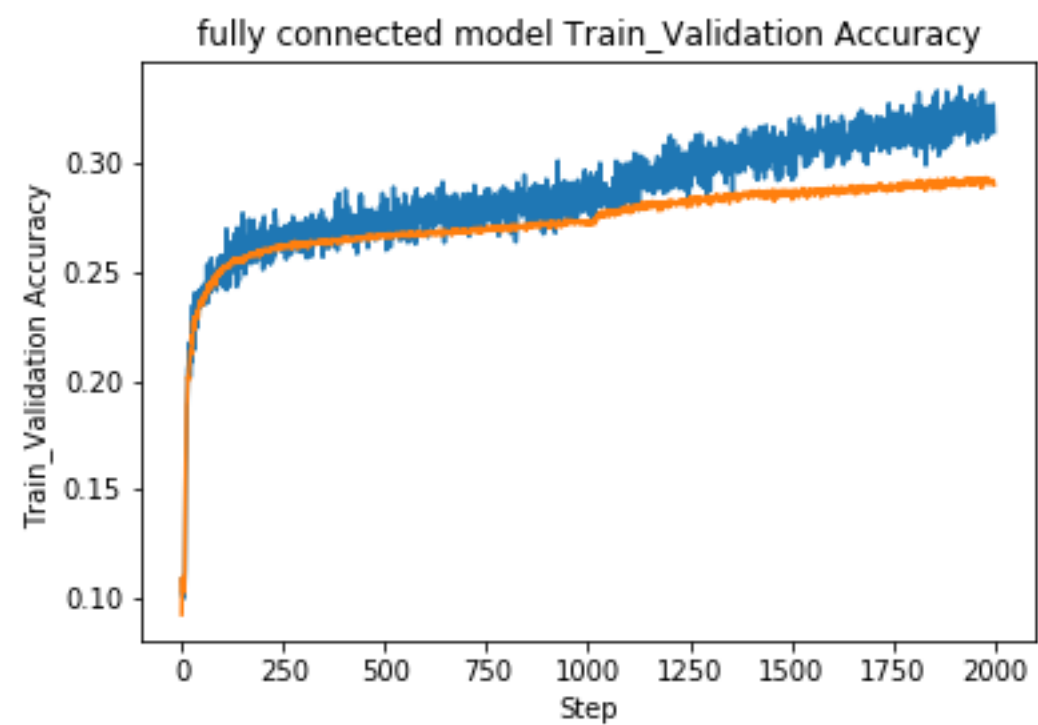
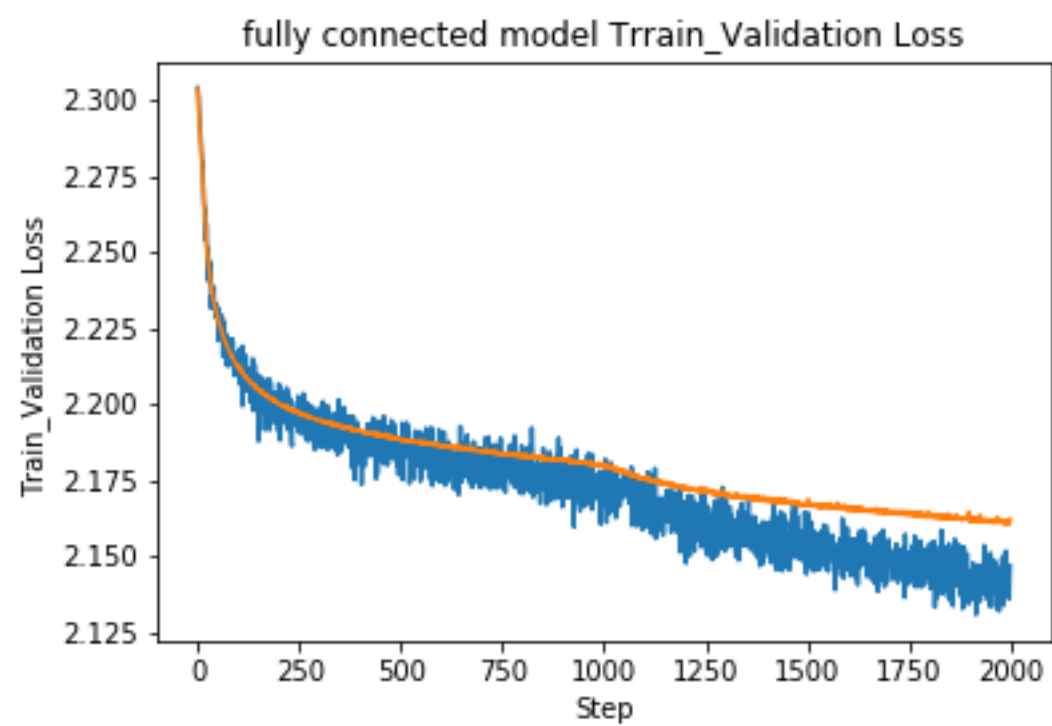


10 Index

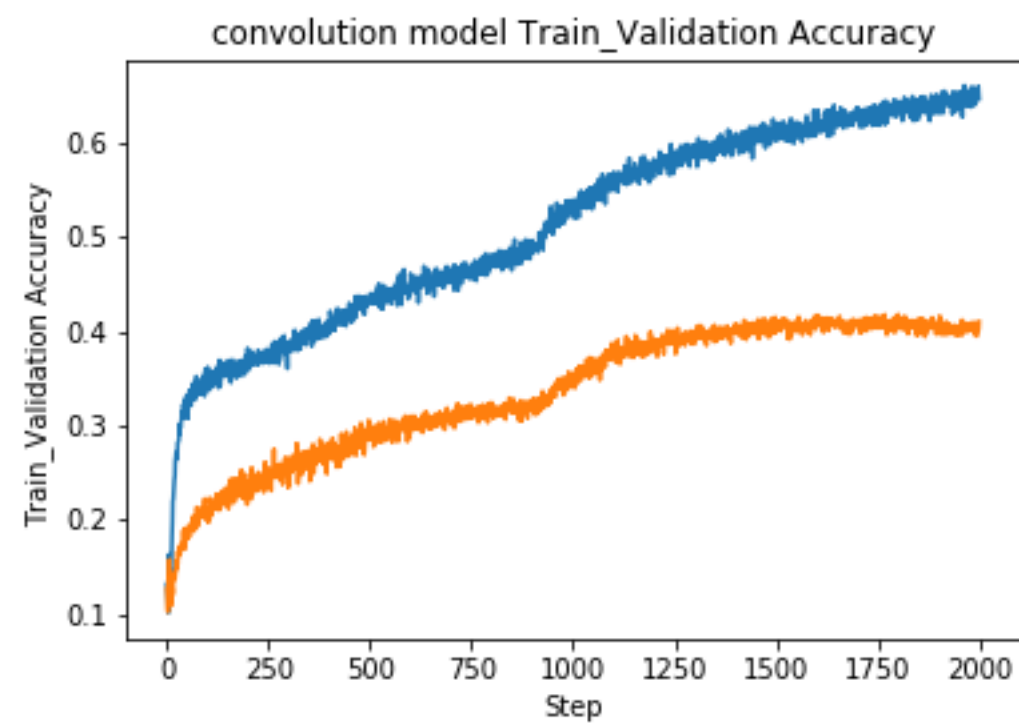
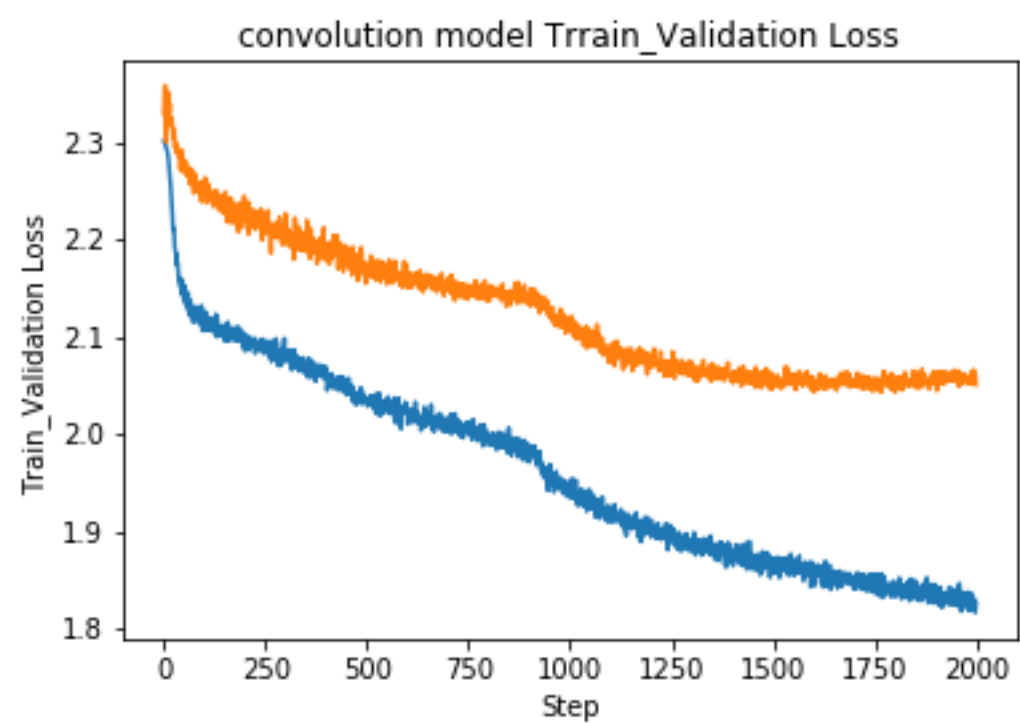
32x32 Pixel , color Image

The Number of DataSet : 50000

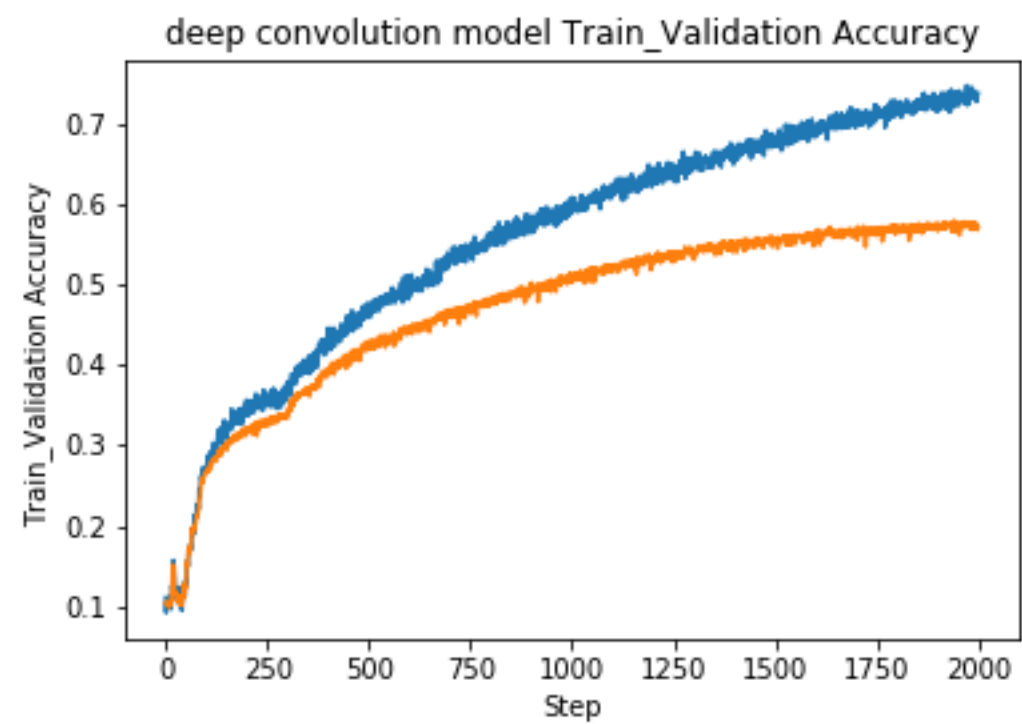
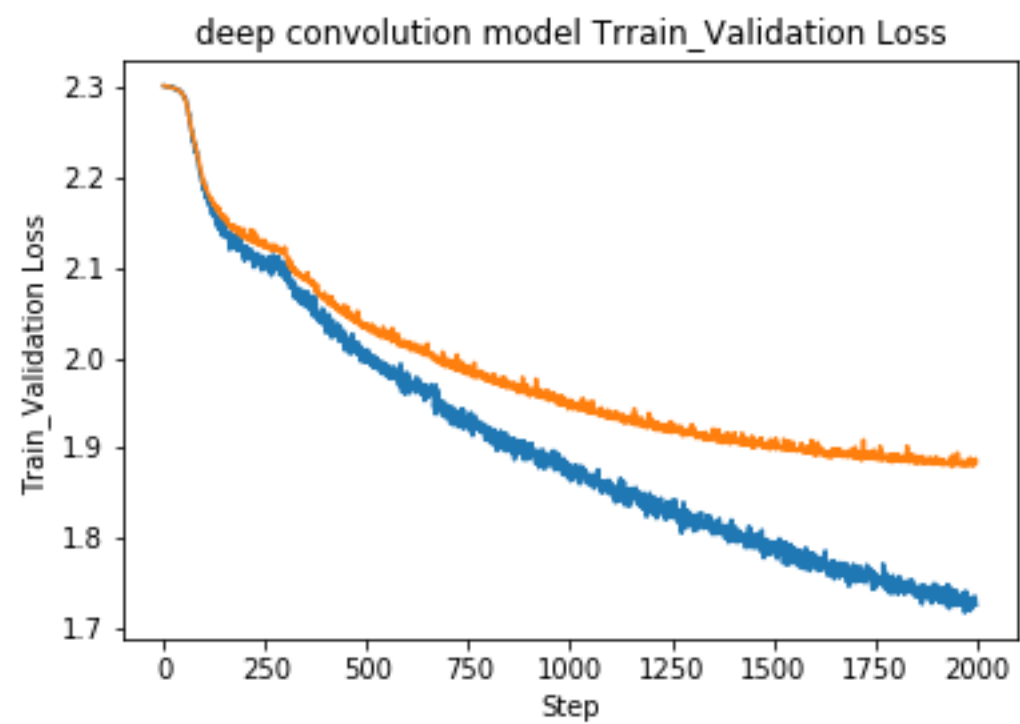
결과



결과



결과



결과

