

Reading Paper

- Richard : **Binarized Convolutional Landmark Localizers for Human Pose Estimation and Face Alignment with Limited Resources**
- Joseph : **StackGAN: Text to Photo-realistic Image Synthesis with Stacked Generative Adversarial Networks** <https://arxiv.org/pdf/1612.03242.pdf>
- Liliana : **VoxNet: A 3d Convolutional NN for Real-Time Object Recognition**
- Kevin: **Searching for Activation Functions**
- KiHwan: **Progressive Neural Networks**
- SuMi: **Mastering the game of Go with deep neural networks and tree Search**
- Okeke Stephen: **Deformable Convolutional Networks**
<https://arxiv.org/pdf/1703.06211.pdf>
- Min-Kyu Kim: **A neural conversational model.** (2015). [\[pdf\]](#)
- Garima Agrawal: **MobileNets: Efficient Convolutional Neural Networks for Mobile Vision Applications** (2017), Andrew G. Howard et al. [\[pdf\]](#)
- Choi Yong Gyun: **Faster R-CNN: Towards Real-Time Object Detection with Region Proposal Networks** [\[pdf\]](#)

1. c:/tensorflow들어가서 shift + 마우스 오른쪽 클릭

2. <https://repo.continuum.io/archive/.winzip/> 가서

Anaconda3-4.2.0-Windows-x86_64.zip를 다운로드 받아서 압축풀고 실행프로그램 실행해서 아나콘다를 설치한다.

2.c:/tensorflow/ conda create -n tensorflow

3. c:/tensorflow/ activate tensorflow

4. c:/tensorflow/ pip install

https://storage.googleapis.com/tensorflow/windows/cpu/tensorflow-1.0.0-cp35-cp35m-win_amd64.whl

만약에 다음과 같은 에러가 나면:

**You are using pip version 8.1.2, however version 9.0.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.**

다음은 한번 실행한다. (pip업데이트)

python -m pip install --upgrade pip

그후에 다시 4번을 실행

4.

pip install pip install

https://storage.googleapis.com/tensorflow/windows/cpu/tensorflow-1.0.0-cp35-cp35m-win_amd64.whl

설치가 되었는지 확인:

C:\tensorflow> **jupyter notebook &** 를 실행하면

조금 기다리면 , 만약 **chrome** 또는 **edge**를 선택하라고 하면 **chrome**을 선택하기

팀1: 조영훈, 남가영, 임호진 -

팀2: 조승욱, 허성규, 허정호 -

팀5: 조

TTT (2017)

구글 드라이브 오픈

<https://drive.google.com/drive/folders/0BzC5UjtwGrSKZGNMZEo2UTBTM2M>

Sequence to sequence 모델: (tensorflow
예제)

[**https://www.tensorflow.org/versions/r0.10/tutorials/seq2seq/**](https://www.tensorflow.org/versions/r0.10/tutorials/seq2seq/)

Docker Quick Start Terminal을 실행한 후에 다음을 입력

\$ c

: 자기 docker 머신의 ip를 확인함. 이 ip를 나중에 사용함

\$ cd : 루트 디렉토리로 올라감

```
$ mkdir tensorflow
```

: tensorflow라는 디렉토리를 생성

```
$ echo /$(pwd)/tensorflow
```

: PC상의 어떤 디렉토리랑 연관되었는지를 보여줌

```
$ docker run -it -p 8888:8888 -p 6006:6006 -v  
/$(pwd)/tensorflow:/notebooks --name tf  
pkmital/tensorflow-python3-jupyter
```

Container에 들어간 상태에서 다음 repository에서 git clone
git clone https://github.com/Clanatia/Day-1.git
jupyter notebook & :jupyter notebook을 실행한다.

Container에 들어간 상태에서 다음 res
Chrome을 열기-> explorer 말고 chrome
/

Chrome 주소창에 'docker-machine ip'로 a 찾았던 ip에 port
8888을 주소로 입력 : git
(주소가 거의 <http://192.168.99.100:8888> 임.)

`docker ps -a` → 모든 컨테이너의 리스트를 확인함.

`docker restart ID` → ID라는 아이디를 가진 컨테이너를 재시작 (보통 ID의 앞 3글자 정도 치면 됨).

`docker attach ID` → ID라는 아이디를 가진 컨테이너에 들어감 (보통 ID의 앞 3글자 정도 치면 됨).

`docker rm ID` → ID라는 아이디를 가진 컨테이너를 삭제 (보통 ID의 앞 3글자 정도 치면 됨).

`exit` → docker를 빠져나오고, docker를 중지시킴

Docker 기본 명령어

```
python retrain.py --bottleneck_dir=trans
--how_many_training_steps 500
--model_dir=inception
--output_graph=retrained_graph.pb
--output_labels=retrained_labels.txt
```

--image_dir=photo
--summaries_dir=loglist

```
# image retrieve code
import tensorflow as tf
import sys

image_path = sys.argv[1]

image_data = tf.gfile.FastGFile(image_path, 'rb').read()

label_lines = [line.rstrip() for line in tf.gfile.GFile("retrained_labels.txt")]
with tf.gfile.FastGFile("retrained_graph.pb", 'rb') as f:
    graph_def = tf.GraphDef()
    graph_def.ParseFromString(f.read())
    _ = tf.import_graph_def(graph_def, name="")

with tf.Session() as sess:
    softmax_tensor = sess.graph.get_tensor_by_name('final_result:0')
```

```

predictions = sess.run(softmax_tensor,{'DecodeJpeg/contents:0': image_data})

top_k = predictions[0].argsort()[-len(predictions[0]):][::-1]
for node_id in top_k:
    human_string = label_lines[node_id]
    score = predictions[0][node_id]
    print('%s (score = %.5f)' % (human_string, score))

```

```

-- retraining --
$ docker run -it -v $HOME/tf_files:/tf_files gcr.io/tensorflow/tensorflow:latest-devel

```

(또는 docker run -it gcr.io/tensorflow/tensorflow:latest-devel)

```

ctrl-c
mkdir tf_files
mkdircd
mkdir tf_files/starwars
cd tf_files/starwars

```

```

$ cd /tensorflow
$ git pull
$ python tensorflow/examples/image_retraining/retrain.py \
--bottleneck_dir=/tf_files/bottlenecks \
--how_many_training_steps 500 \
--model_dir=/tf_files/inception \

```

```
--output_graph=/tf_files/retrained_graph.pb \  
--output_labels=/tf_files/retrained_labels/txt \  
--image_dir /tf_files/star_wars
```

Tutorial

UFLDL Tutorial on Deep Learning (by Andrew Ng.)

[http://ufl
dl.stanford
.edu/wiki/index.php/UFLDL_Tutorial](http://ufl
dl.stanford
.edu/wiki/index.php/UFLDL_Tutorial)

Introduction to Deep Learning by Iasonas Kokkinos

<http://cvn.ecp.fr/personnel/iasonas/deeplearning.html>

Deep Learning Reading List

<http://jmozah.github.io/links/>

Deep Learning Tutorial by Yoshua Bengio

<http://www.iro.umontreal.ca/~bengioy/talks/deep-learning-gss2012.html>

Hugo Larochelle's Deep learning lecture

http://info.usherbrooke.ca/hlarochelle/neural_networks/content.html

버팔로 대학 Deep Learning 자료

<http://www.cse.buffalo.edu/~hungngo/classes/2015/705/>

How a Kalman filter works

<http://www.bzarg.com/p/how-a-kalman-filter-works-in-pictures/>

Deep Learning Visualization

http://mwskirpan.com/NN_viz/

Deep Learning News(구글 에릭 슈미트 인공지능의 미래는?)

<http://techholic.co.kr/archives/40513>

TensorFlow Example

https://github.com/aymericdamien/TensorFlow-Examples/blob/master/notebooks/3%20-%20Neural%20Networks/convolutional_network.ipynb

TensorFlow Install with Window10

<http://blog.ghatdev.xyz/8>

DL4J install

<http://1drv.ms/1FOUvMZ>

Spatial Transformer

http://torch.ch/blog/2015/09/07/spatial_transformers.html

DeepLearning with Python (Digit Recognition with Python)

<http://openmachin.es/blog/tensorflow-mnist-nod>

Software

Software Links for Deep Learning

http://deeplearning.net/software_links/

Deniz Yuret's Homepage(Beginning deep learning with 500 lines of Julia)

<http://www.denizyuret.com/2015/02/beginning-deep-learning-with-500-lines.html>

DL4J

<https://gitter.im/deeplearning4j/deeplearning4j>

ConvNetJs

<http://cs.stanford.edu/people/karpathy/convnetjs/index.html>

Digit Recognition Python

<http://openmachin.es/blog/tensorflow-mnist-nod>

Keras implementation of siamese network (following the paper : Dimensionality Reduction by Learning an Invariant Mapping)

https://github.com/fchollet/keras/blob/52f48e1f462090db19b03ae11dce2991487f70c9/examples/mnist_siamese_graph.py

Music Recommendation with Deep Learning

<http://benanne.github.io/2014/08/05/spotify-cnns.html>

First Contact with TensorFlow

<http://www.jorditorres.org/first-contact-with-tensorflow>

Tensor Methods

<http://www.offconvex.org/2015/12/17/tensor-decompositions/>

OpenCV+CUDA+Caffe

<http://jangjy.tistory.com/181>

Back Propagation Paper

Chapter 1

<https://www4.rgu.ac.uk/files/chapter1%20-%20intro.pdf>

Chapter 2

<https://www4.rgu.ac.uk/files/chapter2%20-%20intro%20to%20ANNs.pdf>

Chapter 3

<https://www4.rgu.ac.uk/files/chapter3%20-%20bp.pdf>

Chapter 6

<https://www4.rgu.ac.uk/files/chapter6%20-%20network%20size.pdf>

Chapter 7

<https://www4.rgu.ac.uk/files/chapter7-hopfield.pdf>

Chapter 8

<https://www4.rgu.ac.uk/files/chapter8%20-%20competitive.pdf>

Chapter 9

<https://www4.rgu.ac.uk/files/chapter9%20-%20spiky.pdf>

Chapter 10

<https://www4.rgu.ac.uk/files/chapter10%20-%20implementing%20ANNs.pdf>

Chapter 11

<https://www4.rgu.ac.uk/files/chapter11%20-%20intro%20to%20evolution.pdf>

Chapter 12

<https://www4.rgu.ac.uk/files/chapter12%20-%20GAs.pdf>

Chapter 13

<https://www4.rgu.ac.uk/files/chapter13%20-%20applications.pdf>

Chapter 14

<https://www4.rgu.ac.uk/files/chapter14%20-%20extra%20GA.pdf>

Chapter 15

<https://www4.rgu.ac.uk/files/chapter15%20-%20eanns.pdf>

Chapter 16

<https://www4.rgu.ac.uk/files/chapter16%20-%20ESEP.pdf>

Chapter 17

<https://www4.rgu.ac.uk/files/chapter17%20-%20advanced%20ai.pdf>

Building AutoEncoder in Keras

<http://blog.keras.io/building-autoencoders-in-keras.html>

Miscellaneous

Homepage of Andrew Ng

<http://cs.stanford.edu/people/ang/>

Stanford University Class Reports Homepage

<http://cs231n.stanford.edu/reports.html>

YouTube Lectures

https://www.youtube.com/watch?v=bEUX_56Lojc

<https://www.youtube.com/watch?v=n6hpQwq7Inw>

Data Set

Annotated Video Set (for Video Segmentation)

<https://graphics.ethz.ch/~perazzif/davis/index.html>

Final Presentation :

Richard - [Denoising Convolutional Autoencoders for Noisy Speech Recognition](#)

Lenny - [Using Convolutional Neural Networks to Classify Dog Breeds](#)

Edwin - [Tiny ImageNet Visual Recognition Challenge](#)

Christofer Theodore - [Predicting Moves in Chess using CNN](#)

FuJia - [Is he Chinese, Korean or Japanese?](#)

LinYuFeng [Free Space Detection with Deep Nets for Autonomous Driving](#)

HanYuanDong - [Object Detection based on Convolutional Neural Network](#)

shenlian zhi [Automatic Dog Breed Identification](#)

NianZixuan [Free Space Detection with Deep Nets for Autonomous Driving](#)

DL4J Installation Guide

1. Download and install java 7 or above
2. Create an environment variable 'JAVA_HOME' with the path to ".../Java/jdk(your version)"
3. Download github desktop or other git repository software
4. Use the git shell to execute the following codes: ·

```
git clone https://github.com/deeplearning4j/nd4j.git ·  
git clone https://github.com/deeplearning4j/deeplearning4j.git ·  
git clone https://github.com/deeplearning4j/Canova.git ·  
git clone https://github.com/deeplearning4j/dl4j-0.4-examples.git 5.
```

Download and extract Apache Maven

6. Add the .../apache-maven-3.2.5-bin/apache-maven-3.2.5/bin to the PATH in the Environment Variables (If PATH doesn't exist, create new variable)

7. Download and Install Visual Studio (any version) if it's not installed yet

8. Add .../Microsoft Visual Studio 14.0/VC/bin to the PATH in the Environment Variables

9. To check if the Visual Studio directory is included, type "cl" in the command prompt window

10. Open command line tool and navigate to the directory where the git folders are downloaded

11. Execute the following lines into the command line tool

```
· cd nd4j  
· vcvars32.bat (vcvars64.bat if your visual studio is in the 64bit folder)  
· mvn clean install -DskipTests -Dmaven.javadoc.skip=true  
· cd ../Canova  
· mvn clean install -DskipTests -Dmaven.javadoc.skip=true  
· cd ../deeplearning4j  
· mvn clean install -DskipTests -Dmaven.javadoc.skip=true  
· cd ../dl4j-0.4-examples  
· mvn clean install -DskipTests -Dmaven.javadoc.skip=true  
12. Open netbeans or eclipse and import the 'deeplearning4jExamples' project  
13. Change the maven directory in the IDE to match with your current Maven_Home path.  
Tools -> Option -> Java -> Maven -> Maven_Home
```