deep learning 入门资料和环境配置

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资料

What are the best resources to learn about deep learning?
https://www.quora.com/What-are-the-best-resources-to-learn-about-deep-learning

Learning machine learning and data science
https://algorithmsdatascience.quora.com/Learning-machine-learning-and-data-science

machine learning yearning
https://github.com/mbadry1/DeepLearning.ai-Summary

deep learning bengio
https://www.deeplearningbook.org/

深度学习500问
https://github.com/scutan90/DeepLearning-500-questions

机器之心ML-Tutorial-Experiment
https://github.com/jiqizhixin/ML-Tutorial-Experiment
pytorch 项目模板:
https://github.com/victoresque/pytorch-template

tensorflow项目模板:
https://github.com/756481896/DLPDE_Project/tree/master/DLPDE_Project_origin

keras 项目模板:
https://github.com/Ahmkel/Keras-Project-Template

deep learning.ai 课程by Andrew Ng
https://mooc.study.163.com/university/deeplearning_ai#/c

Effective TensorFlow
https://github.com/vahidk/EffectiveTensorflow

deeplearning-papernotes
https://github.com/dennybritz/deeplearning-papernotes

An awesome Data Science repository to learn and apply for real world problems.
https://github.com/bulutyazilim/awesome-datascience

Quiz & Assignment of Coursera
https://github.com/shenweichen/Coursera

TensorFlow Tutorial and Examples for Beginners with Latest APIs
https://github.com/aymericdamien/TensorFlow-Examples

cuda and cudnn

下载安装cuda
sudo dpkg -i cuda-repo-ubuntu1604-8-0-rc_8.0.27-1_amd64.deb
sudo apt-get update
sudo apt-get install cuda

下载cudnn
tar xvzf cudnn-8.0-linux-x64-v5.1.tgz
sudo cp cuda/include/cudnn.h /usr/local/cuda/include
sudo cp cuda/lib64/libcudnn* /usr/local/cuda/lib64
sudo chmod a+r /usr/local/cuda/include/cudnn.h /usr/local/cuda/lib64/libcudnn*

sudo vi ~/.bash_profile
加入
export LD_LIBRARY_PATH="$LD_LIBRARY_PATH:/usr/local/cuda/lib64:/usr/local/cuda/extras/CUPTI/lib64"
export CUDA_HOME=/usr/local/cuda
导入
source ~/.bash_profile

报错：ImportError: libcudnn.so.6: cannot open shared object file: No such file or directory解决：升级cudnn到6
报错:ImportError: libcublas.so.8.0: cannot open shared object file: No such file or directory
解决python3 -m pip install tf-nightly-gpu

TensorFlow gpu 安装

conda install -c anaconda tensorflow-gpu tensorflow=1.12.0

pytorch 安装

sh Anaconda-…
conda install pytorch -c pytorch
conda install pytorch torchvision -c pytorch
pip install tensorboard
pip install tensorboardx

Github操作

安装:
git config –global user.name "shen"
git config –global user.email "756481896@qq.com"
ssh-keygen -t rsa -C "756481896@qq.com"
cat ~/.ssh/id_rsa.pub
复制结果
登录github账号，设置，ssh keys-new ssh key
输入
ssh -T git@github.com
测试是否连接成功

github简易指南
http://www.bootcss.com/p/git-guide/
biz=MzU1NTUxNTM0Mg==&mid=2247489742&idx=2&sn=84e713ef338a62feaeb4aa2297965252&chksm=fbd2746fcca5fd79aa9de2644e9d387722863f18ef460fc
biz=MzU1NTUxNTM0Mg==&mid=2247489742&idx=2&sn=84e713ef338a62feaeb4aa2297965252&chksm=fbd2746fcca5fd79aa9de2644e9d387722863f18ef460fc

windows 环境配置

在windows 上安装Ubuntu 子系统
ubuntu on Windows
https://www.windows10.pro/bash-on-ubuntu-on-windows/

cmder
http://cmder.net/

使用pycharm 连接服务器写代码

https://blog.csdn.net/zhaihaifei/article/details/53691873

用浏览器+jupyter 在服务器上写代码

登录服务器
ssh xingshen@10.13.63.207

export PATH=~/anaconda3/bin:$PATH
ipython notebook –no-browser –port=8889

本地:
ssh -N -f -L localhost:8888:localhost:8889 xingshen@10.13.63.20
浏览器上打开http://localhost:8888

Shell 命令行配置

zsh:
sudo apt install zsh
on my zsh:
sh -c “$(curl -fsSL https://raw.github.com/robbyrussell/oh-my-zsh/master/tools/install.sh)”

tensorboard 使用

代码中添加

```
tensorboard_dir = 'tensorboard/mnist'   # 保存目录
if not os.path.exists(tensorboard_dir):
    os.makedirs(tensorboard_dir)

writer = tf.summary.FileWriter(tensorboard_dir)
writer.add_graph(session.graph)
```

终端运行

```
$ tensorboard --logdir tensorboard/mnist
```

需要pip install tb-nightly
会出现
TensorBoard 1.5.0a20180110 at http://gpu-1:6006 (Press CTRL+C to quit)
点击网址即可

conda 安装各种包

conda install -c anaconda pygraphviz
安装各种不好安装的包

jupyter 使用tqdm

tqdm 可以把训练过程用动态进度条表示出来
from tqdm import tqdm_notebook as tqdm
import time
for i in tqdm(range(100)):
time.sleep(0.1)

for i in tqdm(range(100)):
time.sleep(0.5)

jupyter 文件转pdf格式

conda install nbconvert
sudo apt-get install texlive-xetex
安装好之后就可以用，但是不能用迅雷

jupyter autoreload

,py代码用jupyter 修改后，要有autoreload机制才可以在.ipynb中重新加载，否则要重开kernel。
%load_ext autoreload
%autoreload 2

使用pdb进行python 调试

import pdb
在断点处添上 pdb.set_trace()
运行
： p var 将变量var 打印出来

后台运行程序

nohup python train.py

keras 显式输出

keras.eval(ts)

keras plot model:

sudo yum install graphviz(不能用pip)

keras 结束当前计算图

K.clear_session()

tf查看未初始化tensor

print(sess.run(tf.report_uninitialized_variables()))

tensorflow 尽量不要让向量shape 为(n,)而是(n,1)

tf.reset_default_graph() 重置所有图（不会出现reuse 的bug）