# Environment Setup

[YIn.newLaptop] → ssh foojiayin@140.114.91.198

Last login: Sat Aug 24 14:14:52 2019 from 10.11.11.2

[foojiayin@hades01 ~]$ which python

/usr/local/bin/python

[foojiayin@hades01 ~]$ which python3

/usr/local/bin/python3

[foojiayin@hades01 ~]$ virtualenv -p /usr/local/bin/python3 env

Running virtualenv with interpreter /usr/local/bin/python3

Using base prefix '/usr/local'

New python executable in /home/ELSALab/foojiayin/env/bin/python3

Also creating executable in /home/ELSALab/foojiayin/env/bin/python

Installing setuptools, pip, wheel...

done.

[foojiayin@hades01 ~]$ source env/bin/activate

(env) [foojiayin@hades01 ~]$ pip list

DEPRECATION: Python 2.7 will reach the end of its life on January 1st, 2020. Please upgrade your Python as Python 2.7 won't be maintained after that date. A future version of pip will drop support for Python 2.7. More details about Python 2 support in pip, can be found at https://pip.pypa.io/en/latest/development/release-process/#python-2-support

Package Version

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pip 19.2.2

setuptools 41.2.0

wheel 0.33.6

(env) [foojiayin@hades01 ~]$ pip3 install torch torchvision

Collecting torch

Downloading https://files.pythonhosted.org/packages/30/57/d5cceb0799c06733eefce80c395459f28970ebb9e896846ce96ab579a3f1/torch-1.2.0-cp36-cp36m-manylinux1\_x86\_64.whl (748.8MB)

|████████████████████████████████| 748.9MB 34kB/s

Collecting torchvision

Downloading https://files.pythonhosted.org/packages/06/e6/a564eba563f7ff53aa7318ff6aaa5bd8385cbda39ed55ba471e95af27d19/torchvision-0.4.0-cp36-cp36m-manylinux1\_x86\_64.whl (8.8MB)

|████████████████████████████████| 8.8MB 3.0MB/s

Collecting numpy (from torch)

Downloading https://files.pythonhosted.org/packages/19/b9/bda9781f0a74b90ebd2e046fde1196182900bd4a8e1ea503d3ffebc50e7c/numpy-1.17.0-cp36-cp36m-manylinux1\_x86\_64.whl (20.4MB)

|████████████████████████████████| 20.4MB 2.5MB/s

Collecting six (from torchvision)

Downloading https://files.pythonhosted.org/packages/73/fb/00a976f728d0d1fecfe898238ce23f502a721c0ac0ecfedb80e0d88c64e9/six-1.12.0-py2.py3-none-any.whl

Collecting pillow>=4.1.1 (from torchvision)

Downloading https://files.pythonhosted.org/packages/14/41/db6dec65ddbc176a59b89485e8cc136a433ed9c6397b6bfe2cd38412051e/Pillow-6.1.0-cp36-cp36m-manylinux1\_x86\_64.whl (2.1MB)

|████████████████████████████████| 2.1MB 12.5MB/s

Installing collected packages: numpy, torch, six, pillow, torchvision

Successfully installed numpy-1.17.0 pillow-6.1.0 six-1.12.0 torch-1.2.0 torchvision-0.4.0

(env) [foojiayin@hades01 ~]$ pip3 install tensorflow

Collecting tensorflow

Downloading https://files.pythonhosted.org/packages/de/f0/96fb2e0412ae9692dbf400e5b04432885f677ad6241c088ccc5fe7724d69/tensorflow-1.14.0-cp36-cp36m-manylinux1\_x86\_64.whl (109.2MB)

|████████████████████████████████| 109.2MB 8.0MB/s

Collecting wrapt>=1.11.1 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/23/84/323c2415280bc4fc880ac5050dddfb3c8062c2552b34c2e512eb4aa68f79/wrapt-1.11.2.tar.gz

Collecting termcolor>=1.1.0 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/8a/48/a76be51647d0eb9f10e2a4511bf3ffb8cc1e6b14e9e4fab46173aa79f981/termcolor-1.1.0.tar.gz

Collecting keras-preprocessing>=1.0.5 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/28/6a/8c1f62c37212d9fc441a7e26736df51ce6f0e38455816445471f10da4f0a/Keras\_Preprocessing-1.1.0-py2.py3-none-any.whl (41kB)

|████████████████████████████████| 51kB 8.0MB/s

Collecting tensorflow-estimator<1.15.0rc0,>=1.14.0rc0 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/3c/d5/21860a5b11caf0678fbc8319341b0ae21a07156911132e0e71bffed0510d/tensorflow\_estimator-1.14.0-py2.py3-none-any.whl (488kB)

|████████████████████████████████| 491kB 15.6MB/s

Collecting gast>=0.2.0 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/4e/35/11749bf99b2d4e3cceb4d55ca22590b0d7c2c62b9de38ac4a4a7f4687421/gast-0.2.2.tar.gz

Collecting grpcio>=1.8.6 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/30/31/6397193572c081e0fd1fec86a7a6b7ac497c27226281e7cb32f8c3705069/grpcio-1.23.0-cp36-cp36m-manylinux1\_x86\_64.whl (2.2MB)

|████████████████████████████████| 2.2MB 15.0MB/s

Collecting protobuf>=3.6.1 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/eb/f4/a27952733796330cd17c17ea1f974459f5fefbbad119c0f296a6d807fec3/protobuf-3.9.1-cp36-cp36m-manylinux1\_x86\_64.whl (1.2MB)

|████████████████████████████████| 1.2MB 13.3MB/s

Collecting tensorboard<1.15.0,>=1.14.0 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/91/2d/2ed263449a078cd9c8a9ba50ebd50123adf1f8cfbea1492f9084169b89d9/tensorboard-1.14.0-py3-none-any.whl (3.1MB)

|████████████████████████████████| 3.2MB 20.1MB/s

Requirement already satisfied: wheel>=0.26 in ./env/lib/python3.6/site-packages (from tensorflow) (0.33.6)

Collecting keras-applications>=1.0.6 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/71/e3/19762fdfc62877ae9102edf6342d71b28fbfd9dea3d2f96a882ce099b03f/Keras\_Applications-1.0.8-py3-none-any.whl (50kB)

|████████████████████████████████| 51kB 3.8MB/s

Collecting astor>=0.6.0 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/d1/4f/950dfae467b384fc96bc6469de25d832534f6b4441033c39f914efd13418/astor-0.8.0-py2.py3-none-any.whl

Collecting google-pasta>=0.1.6 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/d0/33/376510eb8d6246f3c30545f416b2263eee461e40940c2a4413c711bdf62d/google\_pasta-0.1.7-py3-none-any.whl (52kB)

|████████████████████████████████| 61kB 7.5MB/s

Collecting absl-py>=0.7.0 (from tensorflow)

Downloading https://files.pythonhosted.org/packages/da/3f/9b0355080b81b15ba6a9ffcf1f5ea39e307a2778b2f2dc8694724e8abd5b/absl-py-0.7.1.tar.gz (99kB)

|████████████████████████████████| 102kB 8.9MB/s

Requirement already satisfied: numpy<2.0,>=1.14.5 in ./env/lib/python3.6/site-packages (from tensorflow) (1.17.0)

Requirement already satisfied: six>=1.10.0 in ./env/lib/python3.6/site-packages (from tensorflow) (1.12.0)

Requirement already satisfied: setuptools in ./env/lib/python3.6/site-packages (from protobuf>=3.6.1->tensorflow) (41.2.0)

Collecting werkzeug>=0.11.15 (from tensorboard<1.15.0,>=1.14.0->tensorflow)

Downloading https://files.pythonhosted.org/packages/d1/ab/d3bed6b92042622d24decc7aadc8877badf18aeca1571045840ad4956d3f/Werkzeug-0.15.5-py2.py3-none-any.whl (328kB)

|████████████████████████████████| 337kB 12.7MB/s

Collecting markdown>=2.6.8 (from tensorboard<1.15.0,>=1.14.0->tensorflow)

Downloading https://files.pythonhosted.org/packages/c0/4e/fd492e91abdc2d2fcb70ef453064d980688762079397f779758e055f6575/Markdown-3.1.1-py2.py3-none-any.whl (87kB)

|████████████████████████████████| 92kB 8.4MB/s

Collecting h5py (from keras-applications>=1.0.6->tensorflow)

Downloading https://files.pythonhosted.org/packages/30/99/d7d4fbf2d02bb30fb76179911a250074b55b852d34e98dd452a9f394ac06/h5py-2.9.0-cp36-cp36m-manylinux1\_x86\_64.whl (2.8MB)

|████████████████████████████████| 2.8MB 17.0MB/s

Building wheels for collected packages: wrapt, termcolor, gast, absl-py

Building wheel for wrapt (setup.py) ... done

Created wheel for wrapt: filename=wrapt-1.11.2-cp36-cp36m-linux\_x86\_64.whl size=67267 sha256=355282ace6b4e6c92e10ec3612480e8470e99182ca668237436399436a1dd96e

Stored in directory: /home/ELSALab/foojiayin/.cache/pip/wheels/d7/de/2e/efa132238792efb6459a96e85916ef8597fcb3d2ae51590dfd

Building wheel for termcolor (setup.py) ... done

Created wheel for termcolor: filename=termcolor-1.1.0-cp36-none-any.whl size=4832 sha256=45aa07dca4a889fc9fcb373bbcd6dd2274e9e6150413f3f6713b5901313da9d8

Stored in directory: /home/ELSALab/foojiayin/.cache/pip/wheels/7c/06/54/bc84598ba1daf8f970247f550b175aaaee85f68b4b0c5ab2c6

Building wheel for gast (setup.py) ... done

Created wheel for gast: filename=gast-0.2.2-cp36-none-any.whl size=7540 sha256=688699453c12f8833fa806994e3380b7ccf6bcc629b531df15235d50ef9a8dec

Stored in directory: /home/ELSALab/foojiayin/.cache/pip/wheels/5c/2e/7e/a1d4d4fcebe6c381f378ce7743a3ced3699feb89bcfbdadadd

Building wheel for absl-py (setup.py) ... done

Created wheel for absl-py: filename=absl\_py-0.7.1-cp36-none-any.whl size=117847 sha256=2cdb70392401b00889e38bf63a64f2062543e51edbbcccdca880bf5ddab84584

Stored in directory: /home/ELSALab/foojiayin/.cache/pip/wheels/ee/98/38/46cbcc5a93cfea5492d19c38562691ddb23b940176c14f7b48

Successfully built wrapt termcolor gast absl-py

Installing collected packages: wrapt, termcolor, keras-preprocessing, tensorflow-estimator, gast, grpcio, protobuf, werkzeug, absl-py, markdown, tensorboard, h5py, keras-applications, astor, google-pasta, tensorflow

Successfully installed absl-py-0.7.1 astor-0.8.0 gast-0.2.2 google-pasta-0.1.7 grpcio-1.23.0 h5py-2.9.0 keras-applications-1.0.8 keras-preprocessing-1.1.0 markdown-3.1.1 protobuf-3.9.1 tensorboard-1.14.0 tensorflow-1.14.0 tensorflow-estimator-1.14.0 termcolor-1.1.0 werkzeug-0.15.5 wrapt-1.11.2

(env) [foojiayin@hades01 ~]$ pip install matplotlib

Collecting matplotlib

Downloading https://files.pythonhosted.org/packages/57/4f/dd381ecf6c6ab9bcdaa8ea912e866dedc6e696756156d8ecc087e20817e2/matplotlib-3.1.1-cp36-cp36m-manylinux1\_x86\_64.whl (13.1MB)

|████████████████████████████████| 13.1MB 3.2MB/s

Collecting kiwisolver>=1.0.1 (from matplotlib)

Downloading https://files.pythonhosted.org/packages/f8/a1/5742b56282449b1c0968197f63eae486eca2c35dcd334bab75ad524e0de1/kiwisolver-1.1.0-cp36-cp36m-manylinux1\_x86\_64.whl (90kB)

|████████████████████████████████| 92kB 8.6MB/s

Requirement already satisfied: numpy>=1.11 in ./env/lib/python3.6/site-packages (from matplotlib) (1.17.0)

Collecting python-dateutil>=2.1 (from matplotlib)

Downloading https://files.pythonhosted.org/packages/41/17/c62faccbfbd163c7f57f3844689e3a78bae1f403648a6afb1d0866d87fbb/python\_dateutil-2.8.0-py2.py3-none-any.whl (226kB)

|████████████████████████████████| 235kB 16.1MB/s

Collecting cycler>=0.10 (from matplotlib)

Downloading https://files.pythonhosted.org/packages/f7/d2/e07d3ebb2bd7af696440ce7e754c59dd546ffe1bbe732c8ab68b9c834e61/cycler-0.10.0-py2.py3-none-any.whl

Collecting pyparsing!=2.0.4,!=2.1.2,!=2.1.6,>=2.0.1 (from matplotlib)

Downloading https://files.pythonhosted.org/packages/11/fa/0160cd525c62d7abd076a070ff02b2b94de589f1a9789774f17d7c54058e/pyparsing-2.4.2-py2.py3-none-any.whl (65kB)

|████████████████████████████████| 71kB 11.4MB/s

Requirement already satisfied: setuptools in ./env/lib/python3.6/site-packages (from kiwisolver>=1.0.1->matplotlib) (41.2.0)

Requirement already satisfied: six>=1.5 in ./env/lib/python3.6/site-packages (from python-dateutil>=2.1->matplotlib) (1.12.0)

Installing collected packages: kiwisolver, python-dateutil, cycler, pyparsing, matplotlib

Successfully installed cycler-0.10.0 kiwisolver-1.1.0 matplotlib-3.1.1 pyparsing-2.4.2 python-dateutil-2.8.0

(env) [foojiayin@hades01 ~]$ deactivate

# Testing: linear regression

[foojiayin@hades01 ~]$ ssh -X hades02

Warning: Permanently added 'hades02,10.11.11.2' (ECDSA) to the list of known hosts.

Last login: Sat Aug 24 14:23:27 2019 from 10.11.11.1

[foojiayin@hades02 ~]$ source env/bin/activate

(env) [foojiayin@hades02 ~]$ cd test

(env) [foojiayin@hades02 test]$ python3 linear-regression.py

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/framework/dtypes.py:516: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_qint8 = np.dtype([("qint8", np.int8, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/framework/dtypes.py:517: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_quint8 = np.dtype([("quint8", np.uint8, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/framework/dtypes.py:518: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

...

\_np\_qint32 = np.dtype([("qint32", np.int32, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorboard/compat/tensorflow\_stub/dtypes.py:550: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

np\_resource = np.dtype([("resource", np.ubyte, 1)])

WARNING: Logging before flag parsing goes to stderr.

W0824 14:32:09.743089 139800290920256 deprecation\_wrapper.py:119] From linear-regression.py:14: The name tf.random\_uniform is deprecated. Please use tf.random.uniform instead.

W0824 14:32:09.779193 139800290920256 deprecation\_wrapper.py:119] From linear-regression.py:20: The name tf.train.GradientDescentOptimizer is deprecated. Please use tf.compat.v1.train.GradientDescentOptimizer instead.

W0824 14:32:09.821597 139800290920256 deprecation\_wrapper.py:119] From linear-regression.py:24: The name tf.global\_variables\_initializer is deprecated. Please use tf.compat.v1.global\_variables\_initializer instead.

W0824 14:32:09.822438 139800290920256 deprecation\_wrapper.py:119] From linear-regression.py:27: The name tf.Session is deprecated. Please use tf.compat.v1.Session instead.

2019-08-24 14:32:09.822788: I tensorflow/core/platform/cpu\_feature\_guard.cc:142] Your CPU supports instructions that this TensorFlow binary was not compiled to use: AVX2 FMA

2019-08-24 14:32:09.827353: I tensorflow/core/platform/profile\_utils/cpu\_utils.cc:94] CPU Frequency: 3600335000 Hz

2019-08-24 14:32:09.828357: I tensorflow/compiler/xla/service/service.cc:168] XLA service 0x44aab90 executing computations on platform Host. Devices:

2019-08-24 14:32:09.828383: I tensorflow/compiler/xla/service/service.cc:175] StreamExecutor device (0): <undefined>, <undefined>

2019-08-24 14:32:09.835173: W tensorflow/compiler/jit/mark\_for\_compilation\_pass.cc:1412] (One-time warning): Not using XLA:CPU for cluster because envvar TF\_XLA\_FLAGS=--tf\_xla\_cpu\_global\_jit was not set. If you want XLA:CPU, either set that envvar, or use experimental\_jit\_scope to enable XLA:CPU. To confirm that XLA is active, pass --vmodule=xla\_compilation\_cache=1 (as a proper command-line flag, not via TF\_XLA\_FLAGS) or set the envvar XLA\_FLAGS=--xla\_hlo\_profile.

0 [-0.62733316] [0.2944061]

20 [-0.21928023] [0.46622002]

40 [-0.07885867] [0.39311555]

60 [-0.00019547] [0.35216275]

80 [0.04387115] [0.32922125]

100 [0.06855698] [0.31636956]

120 [0.08238583] [0.30917013]

140 [0.09013265] [0.30513707]

160 [0.09447237] [0.30287775]

180 [0.09690347] [0.3016121]

200 [0.09826535] [0.30090308]

# Mnist\_1.py

# Mnist\_2.py

(env) [foojiayin@hades02 test]$ python3 mnist\_2.py

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/framework/dtypes.py:516: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_qint8 = np.dtype([("qint8", np.int8, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/framework/dtypes.py:517: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_quint8 = np.dtype([("quint8", np.uint8, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/framework/dtypes.py:518: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_qint16 = np.dtype([("qint16", np.int16, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/framework/dtypes.py:519: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_quint16 = np.dtype([("quint16", np.uint16, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/framework/dtypes.py:520: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_qint32 = np.dtype([("qint32", np.int32, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/framework/dtypes.py:525: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

np\_resource = np.dtype([("resource", np.ubyte, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorboard/compat/tensorflow\_stub/dtypes.py:541: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_qint8 = np.dtype([("qint8", np.int8, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorboard/compat/tensorflow\_stub/dtypes.py:542: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_quint8 = np.dtype([("quint8", np.uint8, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorboard/compat/tensorflow\_stub/dtypes.py:543: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_qint16 = np.dtype([("qint16", np.int16, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorboard/compat/tensorflow\_stub/dtypes.py:544: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_quint16 = np.dtype([("quint16", np.uint16, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorboard/compat/tensorflow\_stub/dtypes.py:545: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

\_np\_qint32 = np.dtype([("qint32", np.int32, 1)])

/home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorboard/compat/tensorflow\_stub/dtypes.py:550: FutureWarning: Passing (type, 1) or '1type' as a synonym of type is deprecated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)type'.

np\_resource = np.dtype([("resource", np.ubyte, 1)])

WARNING: Logging before flag parsing goes to stderr.

W0824 15:52:16.909361 139692672677696 deprecation.py:323] From mnist\_2.py:8: read\_data\_sets (from tensorflow.contrib.learn.python.learn.datasets.mnist) is deprecated and will be removed in a future version.

Instructions for updating:

Please use alternatives such as official/mnist/dataset.py from tensorflow/models.

W0824 15:52:16.909807 139692672677696 deprecation.py:323] From /home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/contrib/learn/python/learn/datasets/mnist.py:260: maybe\_download (from tensorflow.contrib.learn.python.learn.datasets.base) is deprecated and will be removed in a future version.

Instructions for updating:

Please write your own downloading logic.

W0824 15:52:16.910296 139692672677696 deprecation.py:323] From /home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/contrib/learn/python/learn/datasets/mnist.py:262: extract\_images (from tensorflow.contrib.learn.python.learn.datasets.mnist) is deprecated and will be removed in a future version.

Instructions for updating:

Please use tf.data to implement this functionality.

Extracting MNIST\_data/train-images-idx3-ubyte.gz

W0824 15:52:17.143629 139692672677696 deprecation.py:323] From /home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/contrib/learn/python/learn/datasets/mnist.py:267: extract\_labels (from tensorflow.contrib.learn.python.learn.datasets.mnist) is deprecated and will be removed in a future version.

Instructions for updating:

Please use tf.data to implement this functionality.

Extracting MNIST\_data/train-labels-idx1-ubyte.gz

W0824 15:52:17.146102 139692672677696 deprecation.py:323] From /home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/contrib/learn/python/learn/datasets/mnist.py:110: dense\_to\_one\_hot (from tensorflow.contrib.learn.python.learn.datasets.mnist) is deprecated and will be removed in a future version.

Instructions for updating:

Please use tf.one\_hot on tensors.

Extracting MNIST\_data/t10k-images-idx3-ubyte.gz

Extracting MNIST\_data/t10k-labels-idx1-ubyte.gz

W0824 15:52:17.214493 139692672677696 deprecation.py:323] From /home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/contrib/learn/python/learn/datasets/mnist.py:290: DataSet.\_\_init\_\_ (from tensorflow.contrib.learn.python.learn.datasets.mnist) is deprecated and will be removed in a future version.

Instructions for updating:

Please use alternatives such as official/mnist/dataset.py from tensorflow/models.

W0824 15:52:17.349701 139692672677696 deprecation\_wrapper.py:119] From mnist\_2.py:15: The name tf.placeholder is deprecated. Please use tf.compat.v1.placeholder instead.

W0824 15:52:17.354034 139692672677696 deprecation.py:323] From /home/ELSALab/foojiayin/env/lib/python3.6/site-packages/tensorflow/python/util/tf\_should\_use.py:193: initialize\_all\_variables (from tensorflow.python.ops.variables) is deprecated and will be removed after 2017-03-02.

Instructions for updating:

Use `tf.global\_variables\_initializer` instead.

W0824 15:52:17.355036 139692672677696 deprecation\_wrapper.py:119] From mnist\_2.py:19: The name tf.Session is deprecated. Please use tf.compat.v1.Session instead.

2019-08-24 15:52:17.355527: I tensorflow/core/platform/cpu\_feature\_guard.cc:142] Your CPU supports instructions that this TensorFlow binary was not compiled to use: AVX2 FMA

2019-08-24 15:52:17.362355: I tensorflow/core/platform/profile\_utils/cpu\_utils.cc:94] CPU Frequency: 3600335000 Hz

2019-08-24 15:52:17.362967: I tensorflow/compiler/xla/service/service.cc:168] XLA service 0x55672b0 executing computations on platform Host. Devices:

2019-08-24 15:52:17.363001: I tensorflow/compiler/xla/service/service.cc:175] StreamExecutor device (0): <undefined>, <undefined>

2019-08-24 15:52:17.366678: W tensorflow/compiler/jit/mark\_for\_compilation\_pass.cc:1412] (One-time warning): Not using XLA:CPU for cluster because envvar TF\_XLA\_FLAGS=--tf\_xla\_cpu\_global\_jit was not set. If you want XLA:CPU, either set that envvar, or use experimental\_jit\_scope to enable XLA:CPU. To confirm that XLA is active, pass --vmodule=xla\_compilation\_cache=1 (as a proper command-line flag, not via TF\_XLA\_FLAGS) or set the envvar XLA\_FLAGS=--xla\_hlo\_profile.

W0824 15:52:17.367291 139692672677696 deprecation\_wrapper.py:119] From mnist\_2.py:24: The name tf.truncated\_normal is deprecated. Please use tf.random.truncated\_normal instead.

W0824 15:52:17.387392 139692672677696 deprecation\_wrapper.py:119] From mnist\_2.py:35: The name tf.nn.max\_pool is deprecated. Please use tf.nn.max\_pool2d instead.

W0824 15:52:17.422527 139692672677696 deprecation.py:506] From mnist\_2.py:59: calling dropout (from tensorflow.python.ops.nn\_ops) with keep\_prob is deprecated and will be removed in a future version.

Instructions for updating:

Please use `rate` instead of `keep\_prob`. Rate should be set to `rate = 1 - keep\_prob`.

W0824 15:52:17.449953 139692672677696 deprecation\_wrapper.py:119] From mnist\_2.py:67: The name tf.log is deprecated. Please use tf.math.log instead.

W0824 15:52:17.453883 139692672677696 deprecation\_wrapper.py:119] From mnist\_2.py:68: The name tf.train.AdamOptimizer is deprecated. Please use tf.compat.v1.train.AdamOptimizer instead.

step 0, training accuracy 0.16

step 100, training accuracy 0.84

step 200, training accuracy 0.96

step 300, training accuracy 0.84

step 400, training accuracy 0.98

step 500, training accuracy 0.96

step 600, training accuracy 0.96

step 700, training accuracy 0.94

step 800, training accuracy 0.94

step 900, training accuracy 0.94

step 1000, training accuracy 0.94

step 1100, training accuracy 1

step 1200, training accuracy 0.9

step 1300, training accuracy 1

step 1400, training accuracy 0.96

step 1500, training accuracy 0.98

step 1600, training accuracy 0.94

step 1700, training accuracy 0.98

step 1800, training accuracy 0.96

step 1900, training accuracy 0.96

step 2000, training accuracy 0.94

step 2100, training accuracy 0.98

step 2200, training accuracy 0.96

step 2300, training accuracy 0.96

step 2400, training accuracy 0.98

step 2500, training accuracy 1

step 2600, training accuracy 0.98

step 2700, training accuracy 1

step 2800, training accuracy 0.94

step 2900, training accuracy 0.96

step 3000, training accuracy 0.96

step 3100, training accuracy 0.94

step 3200, training accuracy 1

step 3300, training accuracy 0.98

step 3400, training accuracy 1

step 3500, training accuracy 0.96

step 3600, training accuracy 1

step 3700, training accuracy 0.98

step 3800, training accuracy 1

step 3900, training accuracy 0.98

step 4000, training accuracy 0.94

step 4100, training accuracy 1

step 4200, training accuracy 1

step 4300, training accuracy 1

step 4400, training accuracy 1

step 4500, training accuracy 1

step 4600, training accuracy 0.98

step 4700, training accuracy 1

step 4800, training accuracy 1

step 4900, training accuracy 1

step 5000, training accuracy 0.98

step 5100, training accuracy 0.96

step 5200, training accuracy 1

step 5300, training accuracy 1

step 5400, training accuracy 0.96

step 5500, training accuracy 0.98

step 5600, training accuracy 0.98

step 5700, training accuracy 1

step 5800, training accuracy 1

step 5900, training accuracy 0.98

step 6000, training accuracy 1

step 6100, training accuracy 1

step 6200, training accuracy 1

step 6300, training accuracy 0.96

step 6400, training accuracy 1

step 6500, training accuracy 1

step 6600, training accuracy 1

step 6700, training accuracy 1

step 6800, training accuracy 0.98

step 6900, training accuracy 1

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step 7200, training accuracy 1

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step 9600, training accuracy 0.98

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step 10100, training accuracy 0.98

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step 19700, training accuracy 1

step 19800, training accuracy 1

step 19900, training accuracy 1

2019-08-24 16:05:57.271553: W tensorflow/core/framework/allocator.cc:107] Allocation of 1003520000 exceeds 10% of system memory.

test accuracy 0.9915