Deep Learning Project: Pet Classifier using CNN

Prepration

- Extract the ipynb file and the data in the same folder

Data Set

- A production grade program as 10,000 training images
- This is a small program with 20 images of cats and 20 images of dogs.
- The evaluation set has 10 images of cats and 10 images of dogs

Runs

- The student is expected to run the 100-300 training step
- A production grade code would have about 20k-50k training steps

In [8]:

```
# To support both python 2 and python 3
from __future__ import division, print_function, unicode_literals
```

In [14]:

```
#!pip install opencv-python
```

```
Collecting opencv-python
  Downloading https://files.pythonhosted.org/packages/6a/a8/f051a1ec
9a08312d76a5b8b663d831c91de24ec80a073a3303a1617aaef1/opencv_python-
4.1.1.26-cp37-cp37m-macosx_10_8_x86_64.macosx_10_9_intel.macosx_10_9
_x86_64.macosx_10_10_intel.macosx_10_10_x86_64.whl (51.6MB)
     |████████████████████████████████| 51.6MB 826kB/s eta 0:00:011
Requirement already satisfied: numpy>=1.14.5 in /Users/subhasish/ana
conda3/lib/python3.7/site-packages (from opencv-python) (1.16.4)
Installing collected packages: opencv-python
Successfully installed opencv-python-4.1.1.26
```

Import modules

In [15]:

```
from __future__ import absolute_import
from __future__ import division
from __future__ import print_function
import os
import cv2
import glob
import matplotlib.pyplot as plt
import numpy as np
import tensorflow as tf
import random
import sys


# to make this notebook's output stable across runs
def reset_graph(seed=42):
    tf.reset_default_graph()
    tf.set_random_seed(seed)
    np.random.seed(seed)
```

Set hyper parameters

- Run the program with three num_steps : 100,200,300

In [91]:

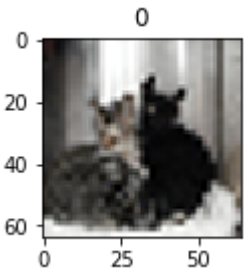
```
reset_graph()

img_size = 32
num_channels = 3
img_size_flat = img_size * img_size * num_channels
img_shape = (img_size, img_size)
trainpath='./data/train'
testpath='./data/test'
labels = {'cats': 0, 'dogs': 1}
fc_size=32 #size of the output of final FC layer
num_steps=15000 #Try 100, 200, 300. number of steps that training data should be looped. Usually 20K
tf.logging.set_verbosity(tf.logging.INFO)
```

Read the image dataset

In [92]:

```
def read_images_classes(basepath,imgSize=img_size):
    image_stack = []
    label_stack = []

    for counter, l in enumerate(labels):
        path = os.path.join(basepath, l,'*g')
        for img in glob.glob(path):
            one_hot_vector =np.zeros(len(labels),dtype=np.int16)
            one_hot_vector[counter]=1
            image = cv2.imread(img)
            im_resize = cv2.resize(image,img_shape, interpolation=cv2.INTER_CUBI
C)
            image_stack.append(im_resize)
            label_stack.append(labels[l])
    return np.array(image_stack), np.array(label_stack)

X_train, y_train=read_images_classes(trainpath)
X_test, y_test=read_images_classes(testpath)

#test a sample image
print('length of train image set',len(X_train))
print('X_data shape:', X_train.shape)
print('y_data shape:', y_train.shape)

fig1 = plt.figure()
ax1 = fig1.add_subplot(2,2,1)
img = cv2.resize(X_train[0],(64,64), interpolation=cv2.INTER_CUBIC)
ax1.imshow(cv2.cvtColor(img, cv2.COLOR_BGR2RGB))
plt.title(y_train[0])
plt.show()
```

```
length of train image set 40
X_data shape: (40, 32, 32, 3)
y_data shape: (40,)
```



Assignment: Define the tensorflow model

The model should have the following layers

- input later
- conv layer 1 with 32 filters of kernel size[5,5],
- pooling layer 1 with pool size[2,2] and stride 2
- conv layer 2 with 64 filters of kernel size[5,5],
- pooling layer 2 with pool size[2,2] and stride 2
- dense layer whose output size is fixed in the hyper parameter: fc_size=32
- drop out layer with droput probability 0.4
- predict the class by doing a softmax on the output of the dropout layers

Training

- For training fefine the loss function and minimize it
- For evaluation calculate the accuracy

Reading Material

- For ideas look at tensorflow layers tutorial

The cnn_model_fn has to be defined here by the student

In [93]:

```
def cnn_model_fn(features, labels, mode):

    n_fc1=32
    n_outputs = 2
    #Input Layer
    input_layer=tf.reshape(features['x'], [-1,img_size,img_size,num_channels])
    #Conv Layer 1
    convolution1= tf.layers.conv2d(inputs=input_layer, filters=32,kernel_size=[5
,5],padding='same',activation=tf.nn.relu)
    #Poll Layer 1
    pool1=tf.layers.max_pooling2d(inputs=convolution1, pool_size=[2,2], strides=
2)
    # Conv 2

    convolution2= tf.layers.conv2d(inputs=pool1, filters=64,kernel_size=[5,5],pa
dding='same',activation=tf.nn.relu)
    #pool Layer 2

    pool2=tf.layers.max_pooling2d(inputs=convolution2, pool_size=[2,2], strides=
2)

    #FC layer
    #Flatten the Pool 2 Layer before we connect to FC layer

    pool2Output_shape=pool2.get_shape()
    num_fetures_pool2=pool2Output_shape[1:4].num_elements()
    print("Pool2 output no of feature per image :",num_fetures_pool2)
    pool2Flattened=tf.reshape(pool2,[-1,num_fetures_pool2])

    denseLayer = tf.layers.dense(inputs=pool2Flattened, units=n_fc1, activation=
tf.nn.relu)

    #Dropout Layer

    dropout=tf.layers.dropout(inputs=denseLayer, training=mode==tf.estimator.Mod
eKeys.TRAIN)

    #Logits Layer
    logits = tf.layers.dense(inputs=dropout, units=n_outputs)


    #Evaluation Training

    predictions={"classes": tf.argmax(input=logits, axis=1),
                 "probabilities":tf.nn.softmax(logits, name="softmax_tensor")
                }

    if mode == tf.estimator.ModeKeys.PREDICT:
        return tf.estimator.EstimatorSpec(mode=mode,predictions=predictions)


    # if the mode is for Training or Evalution

    onehotlabels=tf.one_hot(indices=tf.cast(labels,tf.int32),depth=2)
    loss=tf.losses.softmax_cross_entropy(onehot_labels=onehotlabels, logits=logi
ts)
    #train step

    if mode == tf.estimator.ModeKeys.TRAIN:
```

```
        optimizer = tf.train.GradientDescentOptimizer(learning_rate=0.01)
        train_op = optimizer.minimize(loss=loss,global_step=tf.train.get_global_
step())
        return tf.estimator.EstimatorSpec(mode=mode,loss=loss,train_op=train_op)


#eval step
    eval_metrics_ops={"accuracy": tf.metrics.accuracy(labels=labels,predictions=
predictions['classes'])}
    return tf.estimator.EstimatorSpec(mode=mode,loss=loss,eval_metric_ops=eval_m
etrics_ops)
```

Run the tensorflow model

This section will use the model defined by the student and run the training and evaluation step

In [94]:

```
#X_train = np.array((X_train/255.0),dtype=np.float16)
#X_test = np.array((X_test/255.0), dtype=np.float16)
X_train = np.array((X_train/255.0),dtype=np.float32)
X_test = np.array((X_test/255.0), dtype=np.float32)

pets_classifier = tf.estimator.Estimator(model_fn=cnn_model_fn, model_dir="/tmp/
pets_convnet_model")
#pets_classifier = tf.estimator.Estimator(model_fn=cnn_model_fn)
tensors_to_log = {"probabilities": "softmax_tensor"}
logging_hook = tf.train.LoggingTensorHook(tensors=tensors_to_log, every_n_iter=5
0)
train_input_fn = tf.estimator.inputs.numpy_input_fn(x={"x": X_train}, y=y_train,
batch_size=10,
                                                    num_epochs=None, shuffle=T
rue)
pets_classifier.train(input_fn=train_input_fn, steps=num_steps, hooks=[logging_h
ook])
eval_input_fn = tf.estimator.inputs.numpy_input_fn(x={"x": X_test}, y=y_test, nu
m_epochs=1,shuffle=False)
eval_results = pets_classifier.evaluate(input_fn=eval_input_fn)
print(eval_results)
```

```
INFO:tensorflow:Using default config.
INFO:tensorflow:Using config: {'_model_dir': '/tmp/pets_convnet_mode
l', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_chec
kpoints_steps': None, '_save_checkpoints_secs': 600, '_session_confi
g': allow_soft_placement: true
graph_options {
  rewrite_options {
    meta_optimizer_iterations: ONE
  }
}
, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 1000
0, '_log_step_count_steps': 100, '_train_distribute': None, '_device
_fn': None, '_protocol': None, '_eval_distribute': None, '_experimen
tal_distribute': None, '_experimental_max_worker_delay_secs': None,
'_service': None, '_cluster_spec': <tensorflow.python.training.serve
r_lib.ClusterSpec object at 0x642358390>, '_task_type': 'worker', '_
task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation
_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker
_replicas': 1}
INFO:tensorflow:Calling model_fn.
WARNING:tensorflow:Entity <bound method Conv.call of <tensorflow.pyt
hon.layers.convolutional.Conv2D object at 0x6424a0588>> could not be
transformed and will be executed as-is. Please report this to the Au
tgoGraph team. When filing the bug, set the verbosity to 10 (on Linu
x, `export AUTOGRAPH_VERBOSITY=10`) and attach the full output. Caus
e: converting <bound method Conv.call of <tensorflow.python.layers.c
onvolutional.Conv2D object at 0x6424a0588>>: AssertionError: Bad arg
ument number for Name: 3, expecting 4
WARNING: Entity <bound method Conv.call of <tensorflow.python.layer
s.convolutional.Conv2D object at 0x6424a0588>> could not be transfor
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t AUTOGRAPH_VERBOSITY=10`) and attach the full output. Cause: conver
ting <bound method Conv.call of <tensorflow.python.layers.convolutio
nal.Conv2D object at 0x6424a0588>>: AssertionError: Bad argument num
ber for Name: 3, expecting 4
WARNING:tensorflow:Entity <bound method Pooling2D.call of <tensorflo
w.python.layers.pooling.MaxPooling2D object at 0x6424a0588>> could n
ot be transformed and will be executed as-is. Please report this to
the AutgoGraph team. When filing the bug, set the verbosity to 10 (o
n Linux, `export AUTOGRAPH_VERBOSITY=10`) and attach the full outpu
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hon.layers.pooling.MaxPooling2D object at 0x6424a0588>>: AssertionEr
ror: Bad argument number for Name: 3, expecting 4
WARNING: Entity <bound method Pooling2D.call of <tensorflow.python.l
ayers.pooling.MaxPooling2D object at 0x6424a0588>> could not be tran
sformed and will be executed as-is. Please report this to the AutgoG
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export AUTOGRAPH_VERBOSITY=10`) and attach the full output. Cause: c
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pooling.MaxPooling2D object at 0x6424a0588>>: AssertionError: Bad ar
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ument number for Name: 3, expecting 4
WARNING: Entity <bound method Conv.call of <tensorflow.python.layer
```

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s.convolutional.Conv2D object at 0x6424a0588>> could not be transfor
med and will be executed as-is. Please report this to the AutgoGraph
team. When filing the bug, set the verbosity to 10 (on Linux, `expor
t AUTOGRAPH_VERBOSITY=10`) and attach the full output. Cause: conver
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nal.Conv2D object at 0x6424a0588>>: AssertionError: Bad argument num
ber for Name: 3, expecting 4
WARNING:tensorflow:Entity <bound method Pooling2D.call of <tensorflo
w.python.layers.pooling.MaxPooling2D object at 0x6424a0588>> could n
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 (on Linux, `export AUTOGRAPH_VERBOSITY=10`) and attach the full out
put. Cause: converting <bound method Pooling2D.call of <tensorflow.p
ython.layers.pooling.MaxPooling2D object at 0x6424a0588>>: Assertion
Error: Bad argument number for Name: 3, expecting 4
WARNING: Entity <bound method Pooling2D.call of <tensorflow.python.l
ayers.pooling.MaxPooling2D object at 0x6424a0588>> could not be tran
sformed and will be executed as-is. Please report this to the AutgoG
raph team. When filing the bug, set the verbosity to 10 (on Linux, `
export AUTOGRAPH_VERBOSITY=10`) and attach the full output. Cause: c
onverting <bound method Pooling2D.call of <tensorflow.python.layers.
pooling.MaxPooling2D object at 0x6424a0588>>: AssertionError: Bad ar
gument number for Name: 3, expecting 4
Pool2 output no of feature per image : 4096
WARNING:tensorflow:Entity <bound method Dense.call of <tensorflow.py
thon.layers.core.Dense object at 0x642a0ecc0>> could not be transfor
med and will be executed as-is. Please report this to the AutgoGraph
team. When filing the bug, set the verbosity to 10 (on Linux, `expor
t AUTOGRAPH_VERBOSITY=10`) and attach the full output. Cause: conver
ting <bound method Dense.call of <tensorflow.python.layers.core.Dens
e object at 0x642a0ecc0>>: AssertionError: Bad argument number for N
ame: 3, expecting 4
WARNING: Entity <bound method Dense.call of <tensorflow.python.layer
s.core.Dense object at 0x642a0ecc0>> could not be transformed and wi
ll be executed as-is. Please report this to the AutgoGraph team. Whe
n filing the bug, set the verbosity to 10 (on Linux, `export AUTOGRA
PH_VERBOSITY=10`) and attach the full output. Cause: converting <bou
nd method Dense.call of <tensorflow.python.layers.core.Dense object
 at 0x642a0ecc0>>: AssertionError: Bad argument number for Name: 3,
 expecting 4
WARNING:tensorflow:Entity <bound method Dropout.call of <tensorflow.
python.layers.core.Dropout object at 0x642a0ecc0>> could not be tran
sformed and will be executed as-is. Please report this to the AutgoG
raph team. When filing the bug, set the verbosity to 10 (on Linux, `
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re.Dropout object at 0x642a0ecc0>>: AssertionError: Bad argument num
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ers.core.Dropout object at 0x642a0ecc0>> could not be transformed an
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When filing the bug, set the verbosity to 10 (on Linux, `export AUTO
GRAPH_VERBOSITY=10`) and attach the full output. Cause: converting <
bound method Dropout.call of <tensorflow.python.layers.core.Dropout
 object at 0x642a0ecc0>>: AssertionError: Bad argument number for Na
me: 3, expecting 4
WARNING:tensorflow:Entity <bound method Dense.call of <tensorflow.py
thon.layers.core.Dense object at 0x642a0ecc0>> could not be transfor
med and will be executed as-is. Please report this to the AutgoGraph
team. When filing the bug, set the verbosity to 10 (on Linux, `expor
t AUTOGRAPH_VERBOSITY=10`) and attach the full output. Cause: conver
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```
ting <bound method Dense.call of <tensorflow.python.layers.core.Dens
e object at 0x642a0ecc0>>: AssertionError: Bad argument number for N
ame: 3, expecting 4
WARNING: Entity <bound method Dense.call of <tensorflow.python.layer
s.core.Dense object at 0x642a0ecc0>> could not be transformed and wi
ll be executed as-is. Please report this to the AutgoGraph team. Whe
n filing the bug, set the verbosity to 10 (on Linux, `export AUTOGRA
PH_VERBOSITY=10`) and attach the full output. Cause: converting <bou
nd method Dense.call of <tensorflow.python.layers.core.Dense object
 at 0x642a0ecc0>>: AssertionError: Bad argument number for Name: 3,
 expecting 4
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /tmp/pets_convnet_model/mo
del.ckpt-2800
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 2800 into /tmp/pets_convnet_m
odel/model.ckpt.
INFO:tensorflow:probabilities = [[0.00759799 0.99240196]
 [0.97259223 0.02740781]
 [0.9999994  0.00000065]
 [0.00000507 0.9999949 ]
 [0.99933237 0.0006676 ]
 [0.00000172 0.99999833]
 [0.00008224 0.99991775]
 [0.99047697 0.00952307]
 [0.00005686 0.99994314]
 [0.00005979 0.99994016]]
INFO:tensorflow:loss = 0.0045860256, step = 2801
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.00000005]
 [0.00577469 0.9942253 ]
 [0.99999607 0.00000399]
 [0.9993493  0.00065064]
 [0.00000012 0.9999999 ]
 [0.99998546 0.00001449]
 [0.9804521  0.01954792]
 [0.02900591 0.97099406]
 [0.00000382 0.9999962 ]] (0.757 sec)
INFO:tensorflow:global_step/sec: 71.069
INFO:tensorflow:probabilities = [[0.9999976  0.00000235]
 [1.         0.00000002]
 [0.99972695 0.00027301]
 [0.07712834 0.92287165]
 [0.01257865 0.9874213 ]
 [0.9998785  0.00012142]
 [0.99952364 0.00047641]
 [0.9998845  0.00011545]
 [0.99980766 0.00019232]
 [0.00000055 0.9999994 ]] (0.651 sec)
INFO:tensorflow:loss = 0.009410549, step = 2901 (1.408 sec)
INFO:tensorflow:probabilities = [[0.00003855 0.9999615 ]
 [0.9999862  0.00001379]
 [0.99994504 0.00005495]
 [0.9964014  0.00359858]
 [0.99541605 0.0045839 ]
 [0.99209666 0.00790327]
 [0.9999999  0.00000013]
 [0.9999963  0.00000372]
```

```
 [0.0029718  0.9970282 ]
 [0.9999956  0.00000443]] (0.667 sec)
INFO:tensorflow:global_step/sec: 74.2413
INFO:tensorflow:probabilities = [[0.9995028  0.00049725]
 [0.00145592 0.9985441 ]
 [0.00001549 0.9999845 ]
 [0.99999785 0.00000213]
 [0.9999844  0.0000156 ]
 [0.9999988  0.0000012 ]
 [0.99999714 0.00000281]
 [0.00000237 0.9999976 ]
 [0.9999511  0.00004886]
 [0.0001924  0.99980766]] (0.680 sec)
INFO:tensorflow:loss = 0.00022352798, step = 3001 (1.347 sec)
INFO:tensorflow:probabilities = [[0.99786633 0.00213364]
 [0.00003872 0.99996126]
 [0.00000002 1.        ]
 [0.9997217  0.00027833]
 [1.         0.        ]
 [1.         0.00000002]
 [0.49149618 0.50850385]
 [0.00040153 0.99959844]
 [0.99999976 0.00000028]
 [0.9999976  0.00000236]] (0.666 sec)
INFO:tensorflow:global_step/sec: 74.214
INFO:tensorflow:probabilities = [[0.00166579 0.9983342 ]
 [0.00001942 0.99998057]
 [0.         1.        ]
 [1.         0.        ]
 [0.9999999  0.00000013]
 [0.9998305  0.00016949]
 [1.         0.00000001]
 [0.00001723 0.9999827 ]
 [0.00661125 0.9933888 ]
 [0.9996985  0.00030151]] (0.682 sec)
INFO:tensorflow:loss = 0.00088082405, step = 3101 (1.347 sec)
INFO:tensorflow:probabilities = [[0.9836879  0.01631213]
 [0.00003218 0.9999678 ]
 [0.9999989  0.00000106]
 [0.00013291 0.9998671 ]
 [0.99992025 0.00007979]
 [0.99992394 0.000076  ]
 [0.01727241 0.9827276 ]
 [0.96251786 0.03748207]
 [1.         0.00000001]
 [0.99998593 0.00001405]] (0.681 sec)
INFO:tensorflow:global_step/sec: 73.9635
INFO:tensorflow:probabilities = [[0.00000039 0.99999964]
 [0.999054   0.00094599]
 [0.99999976 0.00000025]
 [0.00478592 0.9952141 ]
 [0.99992394 0.00007609]
 [0.9999958  0.00000413]
 [0.01626417 0.98373586]
 [0.99966896 0.00033101]
 [0.9999974  0.0000026 ]
 [0.99998355 0.0000165 ]] (0.671 sec)
INFO:tensorflow:loss = 0.0022572647, step = 3201 (1.352 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.07068613 0.9293139 ]
 [0.00008047 0.99991953]
```

```
 [0.9999577  0.00004234]
 [0.00006807 0.99993193]
 [1.         0.00000001]
 [0.9976615  0.00233852]
 [0.00082757 0.99917245]
 [0.00025614 0.9997439 ]
 [0.00000809 0.9999919 ]] (0.666 sec)
INFO:tensorflow:global_step/sec: 73.419
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.00004141 0.99995863]
 [0.0008477  0.9991523 ]
 [1.         0.        ]
 [0.00000405 0.99999595]
 [0.14108871 0.85891134]
 [0.00010247 0.9998975 ]
 [0.99999964 0.00000034]
 [0.98111534 0.01888467]
 [0.00001101 0.99998903]] (0.696 sec)
INFO:tensorflow:loss = 0.017216217, step = 3301 (1.362 sec)
INFO:tensorflow:probabilities = [[0.0000003  0.99999964]
 [0.00016546 0.99983454]
 [0.00001004 0.99999   ]
 [0.030848   0.96915203]
 [0.00315934 0.9968407 ]
 [0.00003085 0.9999691 ]
 [1.         0.00000005]
 [0.00013904 0.9998609 ]
 [0.         1.        ]
 [0.00003122 0.99996877]] (0.674 sec)
INFO:tensorflow:global_step/sec: 73.8629
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00005906 0.999941  ]
 [0.9999999  0.00000007]
 [0.00001001 0.99999   ]
 [0.9991019  0.00089818]
 [0.00000961 0.99999034]
 [0.00004242 0.99995756]
 [0.00000013 0.9999999 ]
 [1.         0.00000001]
 [0.00012193 0.99987805]] (0.680 sec)
INFO:tensorflow:loss = 0.000114184935, step = 3401 (1.354 sec)
INFO:tensorflow:probabilities = [[0.9999895  0.00001054]
 [0.00001009 0.99998987]
 [0.9997876  0.00021235]
 [0.04224529 0.95775473]
 [0.00001208 0.99998796]
 [0.00000001 1.        ]
 [0.2727316  0.7272684 ]
 [0.9999709  0.00002909]
 [0.99988234 0.00011768]
 [1.         0.        ]] (0.666 sec)
INFO:tensorflow:global_step/sec: 74.9569
INFO:tensorflow:probabilities = [[0.00000248 0.9999975 ]
 [1.         0.        ]
 [1.         0.00000003]
 [0.9999943  0.00000573]
 [0.00000032 0.99999964]
 [0.00001279 0.99998724]
 [0.00252714 0.9974728 ]
 [0.00005178 0.99994826]
 [0.9983084  0.00169163]
```

```
 [0.00000006 1.        ]] (0.668 sec)
INFO:tensorflow:loss = 0.00042964317, step = 3501 (1.334 sec)
INFO:tensorflow:probabilities = [[0.99992466 0.00007534]
 [1.         0.        ]
 [0.00000002 1.        ]
 [0.9998374  0.00016254]
 [0.00012964 0.9998703 ]
 [0.9999933  0.00000671]
 [0.9999627  0.00003733]
 [0.00000748 0.9999925 ]
 [0.99999154 0.00000842]
 [0.9664757  0.03352428]] (0.671 sec)
INFO:tensorflow:global_step/sec: 74.9648
INFO:tensorflow:probabilities = [[0.00025702 0.9997429 ]
 [0.9986677  0.00133224]
 [0.00043269 0.99956733]
 [0.9999994  0.00000059]
 [1.         0.        ]
 [0.99999917 0.00000079]
 [1.         0.        ]
 [0.9998865  0.00011346]
 [0.00003182 0.9999682 ]
 [0.00024099 0.999759  ]] (0.663 sec)
INFO:tensorflow:loss = 0.00024107906, step = 3601 (1.334 sec)
INFO:tensorflow:probabilities = [[0.00000022 0.99999976]
 [0.         1.        ]
 [0.9963911  0.00360881]
 [0.00000098 0.99999905]
 [0.00000158 0.99999845]
 [1.         0.        ]
 [0.00017527 0.9998247 ]
 [0.00000027 0.99999976]
 [0.00000002 1.        ]
 [0.9565774  0.04342255]] (0.685 sec)
INFO:tensorflow:global_step/sec: 72.5055
INFO:tensorflow:probabilities = [[0.00000372 0.9999963 ]
 [1.         0.00000002]
 [0.99999666 0.00000336]
 [0.00000162 0.99999833]
 [0.9999993  0.00000069]
 [0.00002599 0.999974  ]
 [0.9999937  0.00000631]
 [0.99997973 0.00002026]
 [1.         0.        ]
 [1.         0.00000001]] (0.695 sec)
INFO:tensorflow:loss = 6.198825e-06, step = 3701 (1.379 sec)
INFO:tensorflow:probabilities = [[0.00282578 0.99717414]
 [0.00000176 0.9999982 ]
 [0.9999913  0.00000875]
 [0.94742286 0.05257719]
 [0.00000032 0.99999964]
 [0.         1.        ]
 [0.9999683  0.00003175]
 [1.         0.        ]
 [0.00200605 0.99799395]
 [0.00973566 0.9902643 ]] (0.677 sec)
INFO:tensorflow:global_step/sec: 74.522
INFO:tensorflow:probabilities = [[0.00014879 0.9998512 ]
 [0.8034837  0.19651626]
 [0.99999917 0.00000087]
 [0.         1.        ]
```

```
 [0.9992574  0.00074261]
 [0.00000091 0.99999905]
 [0.00000006 0.9999999 ]
 [0.00000613 0.9999939 ]
 [0.00000009 0.9999999 ]
 [0.00079474 0.9992053 ]] (0.664 sec)
INFO:tensorflow:loss = 0.022049313, step = 3801 (1.342 sec)
INFO:tensorflow:probabilities = [[0.00032043 0.99967957]
 [0.00279228 0.9972077 ]
 [0.00013354 0.9998665 ]
 [0.9994549  0.00054504]
 [0.9987557  0.00124431]
 [0.9930547  0.00694533]
 [0.9999995  0.00000051]
 [0.9988134  0.00118669]
 [0.00029469 0.99970526]
 [0.00001417 0.9999858 ]] (0.652 sec)
INFO:tensorflow:global_step/sec: 76.6526
INFO:tensorflow:probabilities = [[0.9964954  0.00350455]
 [0.99999976 0.00000028]
 [0.00000966 0.99999034]
 [0.0005221  0.9994779 ]
 [0.99999666 0.00000338]
 [0.99995863 0.00004138]
 [0.00000001 1.        ]
 [0.00242564 0.9975744 ]
 [0.00000221 0.99999774]
 [0.         1.        ]] (0.653 sec)
INFO:tensorflow:loss = 0.0006518404, step = 3901 (1.304 sec)
INFO:tensorflow:probabilities = [[0.99926895 0.00073099]
 [0.99996936 0.00003059]
 [0.9999976  0.00000237]
 [0.9408828  0.05911717]
 [1.         0.00000003]
 [0.00000005 1.        ]
 [0.00012726 0.9998727 ]
 [0.00000064 0.9999994 ]
 [0.99832624 0.00167381]
 [0.0000039  0.99999607]] (0.669 sec)
INFO:tensorflow:global_step/sec: 75.8443
INFO:tensorflow:probabilities = [[0.99999964 0.00000036]
 [0.00000049 0.9999995 ]
 [0.00000083 0.99999917]
 [0.00000489 0.9999951 ]
 [0.00178891 0.99821115]
 [0.9999925  0.00000755]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.00000197 0.999998  ]
 [0.00005133 0.9999486 ]] (0.649 sec)
INFO:tensorflow:loss = 0.00018579405, step = 4001 (1.319 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00001812 0.9999819 ]
 [0.00018214 0.9998179 ]
 [0.9999876  0.00001234]
 [1.         0.00000004]
 [0.00000002 1.        ]
 [0.00805156 0.99194837]
 [0.00121318 0.99878687]
 [0.00001764 0.99998236]
 [0.00153238 0.9984676 ]] (0.671 sec)
```

```
INFO:tensorflow:global_step/sec: 71.3164
INFO:tensorflow:probabilities = [[0.00000082 0.99999917]
 [0.9999999  0.00000007]
 [0.9999989  0.00000109]
 [0.00397486 0.9960251 ]
 [0.00004364 0.99995637]
 [0.95534223 0.04465779]
 [0.00001624 0.9999838 ]
 [0.00002872 0.9999713 ]
 [0.         1.        ]
 [0.00027076 0.9997292 ]] (0.731 sec)
INFO:tensorflow:loss = 0.005002987, step = 4101 (1.402 sec)
INFO:tensorflow:probabilities = [[0.99993753 0.00006246]
 [0.9903441  0.00965589]
 [0.00000766 0.9999924 ]
 [0.00034699 0.999653  ]
 [0.9999981  0.00000196]
 [1.         0.        ]
 [0.00000009 0.9999999 ]
 [0.00001701 0.99998295]
 [0.0002777  0.9997223 ]
 [0.9999821  0.00001791]] (0.642 sec)
INFO:tensorflow:global_step/sec: 79.8801
INFO:tensorflow:probabilities = [[0.99999607 0.00000397]
 [0.00025988 0.99974006]
 [0.00000009 0.9999999 ]
 [0.99999976 0.0000002 ]
 [0.99973375 0.00026622]
 [0.9999956  0.00000443]
 [0.00065175 0.9993482 ]
 [0.0000119  0.9999881 ]
 [0.0002303  0.99976975]
 [0.97569287 0.02430714]] (0.610 sec)
INFO:tensorflow:loss = 0.0026036585, step = 4201 (1.252 sec)
INFO:tensorflow:probabilities = [[0.9999999  0.00000009]
 [0.00000522 0.99999475]
 [0.9999987  0.00000131]
 [0.99998164 0.00001841]
 [0.00000001 1.        ]
 [0.99999917 0.00000088]
 [0.         1.        ]
 [0.4593416  0.5406584 ]
 [0.9979937  0.00200632]
 [0.9999964  0.00000361]] (0.641 sec)
INFO:tensorflow:global_step/sec: 78.1343
INFO:tensorflow:probabilities = [[0.9999994  0.00000059]
 [0.00000125 0.9999988 ]
 [0.99976736 0.00023269]
 [0.00070932 0.9992907 ]
 [0.00000007 0.9999999 ]
 [0.00000283 0.99999714]
 [0.9997845  0.00021545]
 [0.99999416 0.00000581]
 [0.99999654 0.0000035 ]
 [1.         0.        ]] (0.639 sec)
INFO:tensorflow:loss = 0.00011717637, step = 4301 (1.280 sec)
INFO:tensorflow:probabilities = [[0.00000281 0.99999714]
 [0.01795627 0.98204374]
 [0.00000001 1.        ]
 [0.00000028 0.99999976]
 [0.00010928 0.9998907 ]
```

```
 [0.99992764 0.00007234]
 [0.00000222 0.99999774]
 [0.00046437 0.9995357 ]
 [0.99983287 0.00016713]
 [0.         1.        ]] (0.636 sec)
INFO:tensorflow:global_step/sec: 77.6478
INFO:tensorflow:probabilities = [[0.00000108 0.9999989 ]
 [0.9998536  0.00014642]
 [0.99506027 0.00493972]
 [0.00000003 1.        ]
 [0.99997354 0.00002646]
 [1.         0.00000001]
 [0.00060308 0.9993969 ]
 [0.00000001 1.        ]
 [0.9999045  0.00009548]
 [0.         1.        ]] (0.652 sec)
INFO:tensorflow:loss = 0.0005824604, step = 4401 (1.288 sec)
INFO:tensorflow:probabilities = [[0.99965763 0.00034242]
 [0.9999944  0.00000557]
 [0.0000006  0.9999994 ]
 [0.99999464 0.0000054 ]
 [0.00000002 1.        ]
 [0.9999908  0.00000917]
 [0.99999    0.00001007]
 [0.00000003 1.        ]
 [1.         0.00000006]
 [0.99886346 0.00113651]] (0.677 sec)
INFO:tensorflow:global_step/sec: 73.1635
INFO:tensorflow:probabilities = [[0.9999999  0.00000012]
 [0.9999685  0.00003146]
 [0.00000074 0.9999993 ]
 [0.9999999  0.00000007]
 [0.         1.        ]
 [0.00002184 0.9999782 ]
 [0.9999498  0.00005018]
 [0.99999785 0.00000209]
 [1.         0.        ]
 [1.         0.        ]] (0.690 sec)
INFO:tensorflow:loss = 1.06571115e-05, step = 4501 (1.367 sec)
INFO:tensorflow:probabilities = [[0.9999347  0.0000653 ]
 [0.99999297 0.00000699]
 [1.         0.        ]
 [0.00000767 0.9999924 ]
 [0.00016772 0.9998323 ]
 [0.00000719 0.99999285]
 [0.00002292 0.9999771 ]
 [0.999951   0.00004904]
 [0.99985325 0.00014669]
 [0.00001838 0.99998164]] (0.644 sec)
INFO:tensorflow:global_step/sec: 78.1895
INFO:tensorflow:probabilities = [[0.9999682  0.00003185]
 [0.9972229  0.00277707]
 [0.00003828 0.99996173]
 [0.9999764  0.00002358]
 [0.00000007 0.9999999 ]
 [0.00000007 0.9999999 ]
 [0.7872891  0.21271083]
 [0.0002438  0.99975616]
 [0.00000009 0.9999999 ]
 [0.99945384 0.00054613]] (0.635 sec)
INFO:tensorflow:loss = 0.024282496, step = 4601 (1.279 sec)
```

```
INFO:tensorflow:probabilities = [[0.9999999  0.00000009]
 [1.         0.        ]
 [0.9999987  0.00000126]
 [0.00017675 0.9998233 ]
 [0.99996936 0.0000306 ]
 [0.9999938  0.00000623]
 [0.00117519 0.9988248 ]
 [1.         0.        ]
 [0.99999976 0.00000027]
 [0.99974006 0.0002599 ]] (0.633 sec)
INFO:tensorflow:global_step/sec: 78.64
INFO:tensorflow:probabilities = [[0.9997836  0.00021638]
 [0.00000051 0.9999995 ]
 [0.9999516  0.00004836]
 [0.99993694 0.00006304]
 [0.99459606 0.00540391]
 [0.99749017 0.00250985]
 [0.9999999  0.00000008]
 [0.00051718 0.99948275]
 [0.9999999  0.00000014]
 [0.         1.        ]] (0.638 sec)
INFO:tensorflow:loss = 0.00087775907, step = 4701 (1.271 sec)
INFO:tensorflow:probabilities = [[0.00001895 0.99998105]
 [0.         1.        ]
 [0.00136386 0.99863607]
 [0.00639322 0.9936068 ]
 [0.00000022 0.99999976]
 [0.         1.        ]
 [0.99999964 0.00000034]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.00000001]] (0.615 sec)
INFO:tensorflow:global_step/sec: 80.9308
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.00000848 0.99999154]
 [0.0000055  0.9999945 ]
 [0.00000255 0.9999975 ]
 [0.00004235 0.9999577 ]
 [0.9707499  0.02925013]
 [0.99999857 0.00000144]
 [1.         0.00000004]
 [0.99999976 0.00000021]
 [0.00000004 1.        ]] (0.621 sec)
INFO:tensorflow:loss = 0.0029746864, step = 4801 (1.236 sec)
INFO:tensorflow:probabilities = [[0.9999963  0.0000037 ]
 [0.0000103  0.99998975]
 [0.9987834  0.00121664]
 [0.00021084 0.9997892 ]
 [0.00003177 0.9999682 ]
 [0.9009508  0.09904922]
 [0.         1.        ]
 [0.9997924  0.00020756]
 [0.00004573 0.9999542 ]
 [0.00003148 0.9999685 ]] (0.631 sec)
INFO:tensorflow:global_step/sec: 78.0947
INFO:tensorflow:probabilities = [[0.9999994  0.00000065]
 [1.         0.00000006]
 [0.9999815  0.00001845]
 [0.00000206 0.999998  ]
 [0.00000365 0.9999963 ]
 [0.00000013 0.9999999 ]
```

```
 [0.00000005 1.        ]
 [0.00120319 0.9987968 ]
 [1.         0.00000003]
 [0.99997175 0.00002821]] (0.649 sec)
INFO:tensorflow:loss = 0.00012570518, step = 4901 (1.281 sec)
INFO:tensorflow:probabilities = [[0.00000371 0.9999963 ]
 [0.99996567 0.00003431]
 [0.00043007 0.99956995]
 [0.99999964 0.00000038]
 [0.00034215 0.99965787]
 [0.         1.        ]
 [0.9968496  0.00315043]
 [1.         0.00000002]
 [1.         0.        ]
 [0.00007443 0.9999256 ]] (0.626 sec)
INFO:tensorflow:global_step/sec: 79.5983
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.         1.        ]
 [0.9999473  0.0000527 ]
 [0.         1.        ]
 [0.00000059 0.9999994 ]
 [0.9999999  0.00000015]
 [0.99985635 0.00014364]
 [0.00000261 0.9999974 ]
 [0.00001046 0.9999895 ]
 [0.0000003  0.99999976]] (0.630 sec)
INFO:tensorflow:loss = 2.1039265e-05, step = 5001 (1.256 sec)
INFO:tensorflow:probabilities = [[0.00000008 0.9999999 ]
 [0.00000132 0.9999987 ]
 [0.99999416 0.00000581]
 [0.00000114 0.9999988 ]
 [0.         1.        ]
 [0.00000011 0.9999999 ]
 [1.         0.        ]
 [0.00000392 0.99999607]
 [0.9999999  0.0000001 ]
 [0.99760556 0.00239444]] (0.626 sec)
INFO:tensorflow:global_step/sec: 79.6109
INFO:tensorflow:probabilities = [[0.99999976 0.00000018]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.00823408 0.9917659 ]
 [0.999995   0.00000504]
 [0.1879592  0.8120408 ]
 [0.9994148  0.00058519]
 [0.00000953 0.99999046]
 [1.         0.00000001]
 [1.         0.        ]] (0.630 sec)
INFO:tensorflow:loss = 0.021707306, step = 5101 (1.256 sec)
INFO:tensorflow:probabilities = [[0.99999404 0.00000591]
 [0.9999989  0.00000104]
 [0.9999962  0.00000377]
 [0.03434598 0.9656541 ]
 [0.9999989  0.00000101]
 [0.99927706 0.00072302]
 [0.9999999  0.00000008]
 [1.         0.        ]
 [0.00013375 0.99986625]
 [1.         0.        ]] (0.625 sec)
INFO:tensorflow:global_step/sec: 80.3024
INFO:tensorflow:probabilities = [[0.00002857 0.9999714 ]
```

```
 [0.9999999  0.00000011]
 [0.01246672 0.9875332 ]
 [0.9966079  0.00339208]
 [0.         1.        ]
 [0.00001283 0.9999871 ]
 [0.00000209 0.99999785]
 [0.00000548 0.9999945 ]
 [0.00027935 0.99972063]
 [0.00047424 0.9995258 ]] (0.620 sec)
INFO:tensorflow:loss = 0.0016745969, step = 5201 (1.245 sec)
INFO:tensorflow:probabilities = [[0.00000473 0.99999523]
 [0.00000047 0.9999995 ]
 [0.999998   0.00000205]
 [0.9999999  0.0000001 ]
 [0.9998294  0.00017056]
 [0.00000011 0.9999999 ]
 [0.99966836 0.00033164]
 [1.         0.        ]
 [0.00306921 0.9969308 ]
 [0.00037839 0.9996216 ]] (0.623 sec)
INFO:tensorflow:global_step/sec: 80.083
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00044378 0.99955624]
 [0.         1.        ]
 [0.99999976 0.0000002 ]
 [0.9983902  0.00160982]
 [0.         1.        ]
 [0.00000014 0.9999999 ]
 [0.00000019 0.99999976]
 [1.         0.00000001]
 [0.99999714 0.0000028 ]] (0.625 sec)
INFO:tensorflow:loss = 0.000205842, step = 5301 (1.249 sec)
INFO:tensorflow:probabilities = [[0.99998105 0.00001893]
 [0.00000008 0.9999999 ]
 [0.         1.        ]
 [0.99999654 0.00000341]
 [0.00005862 0.99994135]
 [0.00000371 0.9999963 ]
 [0.00001794 0.999982  ]
 [0.5367491  0.46325085]
 [1.         0.00000004]
 [0.00000046 0.9999995 ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.1521
INFO:tensorflow:probabilities = [[0.99982256 0.00017744]
 [0.9999691  0.00003082]
 [0.99914515 0.0008548 ]
 [1.         0.        ]
 [0.00000588 0.99999416]
 [0.00034442 0.9996556 ]
 [0.9965737  0.00342629]
 [0.90344596 0.09655396]
 [0.00009645 0.99990356]
 [1.         0.        ]] (0.623 sec)
INFO:tensorflow:loss = 0.010648146, step = 5401 (1.232 sec)
INFO:tensorflow:probabilities = [[0.00000455 0.99999547]
 [0.00000339 0.99999666]
 [0.9999988  0.00000118]
 [0.99960333 0.00039668]
 [0.9999995  0.00000047]
 [0.9975968  0.00240323]
 [0.00000029 0.99999976]
```

```
 [0.9999237  0.00007633]
 [0.99999976 0.00000022]
 [0.00000829 0.99999166]] (0.638 sec)
INFO:tensorflow:global_step/sec: 78.5233
INFO:tensorflow:probabilities = [[0.999979   0.00002096]
 [0.99998426 0.00001574]
 [0.00001306 0.9999869 ]
 [0.00000013 0.9999999 ]
 [0.00000036 0.99999964]
 [0.00000026 0.99999976]
 [1.         0.        ]
 [0.00000274 0.99999726]
 [0.99999964 0.00000038]
 [1.         0.        ]] (0.636 sec)
INFO:tensorflow:loss = 5.364375e-06, step = 5501 (1.274 sec)
INFO:tensorflow:probabilities = [[0.00008499 0.999915  ]
 [0.00005402 0.999946  ]
 [0.9999999  0.00000012]
 [1.         0.        ]
 [0.9999994  0.00000064]
 [1.         0.        ]
 [0.9999999  0.00000008]
 [0.99656314 0.0034369 ]
 [0.9999994  0.00000064]
 [0.9999999  0.00000014]] (0.638 sec)
INFO:tensorflow:global_step/sec: 78.2858
INFO:tensorflow:probabilities = [[0.00044698 0.999553  ]
 [0.99999285 0.0000071 ]
 [0.00000001 1.        ]
 [1.         0.00000005]
 [0.00031071 0.99968934]
 [0.00000162 0.99999833]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000003 1.        ]
 [0.         1.        ]] (0.639 sec)
INFO:tensorflow:loss = 7.6660595e-05, step = 5601 (1.276 sec)
INFO:tensorflow:probabilities = [[0.9999409  0.00005909]
 [0.9999964  0.0000036 ]
 [1.         0.        ]
 [0.00000243 0.9999976 ]
 [0.00010596 0.999894  ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000284 0.99999714]
 [0.00000003 1.        ]
 [0.00000001 1.        ]] (0.657 sec)
INFO:tensorflow:global_step/sec: 76.9318
INFO:tensorflow:probabilities = [[0.000004   0.99999595]
 [1.         0.        ]
 [0.00019553 0.99980444]
 [1.         0.        ]
 [0.588744   0.41125605]
 [0.99994147 0.00005857]
 [1.         0.        ]
 [0.00000394 0.99999607]
 [0.         1.        ]
 [1.         0.        ]] (0.643 sec)
INFO:tensorflow:loss = 0.08888014, step = 5701 (1.300 sec)
INFO:tensorflow:probabilities = [[0.00072988 0.99927014]
 [0.00008419 0.99991584]
```

```
 [0.0001847  0.9998153 ]
 [0.00007962 0.99992037]
 [0.9999999  0.0000001 ]
 [0.00643139 0.99356854]
 [0.99999976 0.00000021]
 [0.00020033 0.99979967]
 [1.         0.        ]
 [1.         0.        ]] (0.631 sec)
INFO:tensorflow:global_step/sec: 79.4252
INFO:tensorflow:probabilities = [[0.99927026 0.00072969]
 [0.9999999  0.00000009]
 [0.00086159 0.99913836]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [0.00026276 0.9997372 ]
 [0.00012149 0.9998785 ]
 [0.00000214 0.99999785]
 [0.00025283 0.9997472 ]] (0.627 sec)
INFO:tensorflow:loss = 0.00022313627, step = 5801 (1.259 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.99968636 0.00031365]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000023 0.99999976]
 [1.         0.00000001]
 [1.         0.        ]
 [0.00000635 0.9999937 ]
 [0.99985516 0.00014486]
 [0.00000013 0.9999999 ]] (0.648 sec)
INFO:tensorflow:global_step/sec: 75.53
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [0.9999999  0.0000001 ]
 [0.         1.        ]
 [0.00343908 0.9965609 ]
 [0.9999993  0.00000076]
 [0.         1.        ]
 [0.99988306 0.00011692]
 [0.9999608  0.00003926]
 [0.9993284  0.00067167]] (0.676 sec)
INFO:tensorflow:loss = 0.0004273916, step = 5901 (1.324 sec)
INFO:tensorflow:probabilities = [[0.00000009 0.9999999 ]
 [1.         0.        ]
 [0.9999994  0.00000063]
 [0.00000413 0.9999958 ]
 [0.00001392 0.99998605]
 [1.         0.        ]
 [0.00000005 1.        ]
 [0.00000318 0.9999968 ]
 [0.00022217 0.99977785]
 [0.         1.        ]] (0.589 sec)
INFO:tensorflow:global_step/sec: 80.9951
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000073 0.9999993 ]
 [1.         0.        ]
 [0.9999962  0.00000379]
 [0.00000183 0.9999982 ]
 [0.00372894 0.996271  ]
 [0.99999976 0.00000019]
 [0.999992   0.00000798]
```

```
 [1.         0.        ]
 [0.00001308 0.9999869 ]] (0.645 sec)
INFO:tensorflow:loss = 0.00037636026, step = 6001 (1.235 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.00000002]
 [0.00000031 0.99999964]
 [0.00005454 0.9999454 ]
 [0.00000009 0.9999999 ]
 [1.         0.00000005]
 [0.00000064 0.9999994 ]
 [0.00029641 0.9997036 ]
 [0.00000009 0.9999999 ]
 [0.00000006 0.9999999 ]] (0.636 sec)
INFO:tensorflow:global_step/sec: 79.2676
INFO:tensorflow:probabilities = [[1.         0.00000005]
 [1.         0.        ]
 [0.         1.        ]
 [0.9999988  0.00000114]
 [0.99999654 0.00000342]
 [0.00001174 0.9999883 ]
 [0.00003761 0.99996233]
 [0.9998505  0.00014944]
 [1.         0.        ]
 [0.99999976 0.00000022]] (0.625 sec)
INFO:tensorflow:loss = 2.0371672e-05, step = 6101 (1.262 sec)
INFO:tensorflow:probabilities = [[0.00002589 0.99997413]
 [0.9984565  0.00154347]
 [0.00465076 0.9953492 ]
 [0.00000645 0.99999356]
 [0.9999999  0.0000001 ]
 [0.00000001 1.        ]
 [0.99999976 0.0000002 ]
 [0.0000017  0.99999833]
 [0.00000831 0.99999166]
 [0.00003414 0.9999659 ]] (0.622 sec)
INFO:tensorflow:global_step/sec: 80.0833
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00001351 0.9999865 ]
 [0.9999999  0.0000001 ]
 [0.9999976  0.00000234]
 [0.00000472 0.99999523]
 [0.0000366  0.9999634 ]
 [0.9999999  0.00000006]
 [0.999997   0.00000295]
 [0.99970776 0.00029224]
 [0.99991703 0.00008293]] (0.627 sec)
INFO:tensorflow:loss = 4.3566302e-05, step = 6201 (1.249 sec)
INFO:tensorflow:probabilities = [[0.00000002 1.        ]
 [1.         0.        ]
 [0.00000003 1.        ]
 [0.00016492 0.999835  ]
 [0.00103407 0.998966  ]
 [0.9999106  0.00008944]
 [0.99999964 0.00000033]
 [1.         0.00000002]
 [1.         0.        ]
 [1.         0.00000004]] (0.624 sec)
INFO:tensorflow:global_step/sec: 80.5062
INFO:tensorflow:probabilities = [[0.00003268 0.99996734]
 [1.         0.        ]
 [1.         0.        ]
```

```
 [0.00028236 0.99971765]
 [0.9999845  0.00001546]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000032 0.99999964]
 [0.00018188 0.99981815]] (0.618 sec)
INFO:tensorflow:loss = 5.1278133e-05, step = 6301 (1.242 sec)
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.00344407 0.9965559 ]
 [0.0002033  0.9997967 ]
 [0.         1.        ]
 [0.9997366  0.00026337]
 [0.00001088 0.99998915]
 [0.00000498 0.999995  ]
 [0.9999999  0.00000017]
 [0.99994695 0.00005304]
 [0.         1.        ]] (0.625 sec)
INFO:tensorflow:global_step/sec: 80.5708
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999989  0.00000111]
 [0.99997056 0.00002945]
 [1.         0.        ]
 [0.9999999  0.00000006]
 [0.99999833 0.0000017 ]
 [0.00000518 0.9999949 ]
 [0.00000401 0.99999595]] (0.616 sec)
INFO:tensorflow:loss = 4.1484373e-06, step = 6401 (1.241 sec)
INFO:tensorflow:probabilities = [[0.00000061 0.9999994 ]
 [1.         0.00000004]
 [0.9999933  0.00000672]
 [0.9999974  0.00000268]
 [0.00000069 0.9999993 ]
 [0.00000148 0.99999857]
 [0.99880445 0.0011955 ]
 [0.00001355 0.9999864 ]
 [0.99931145 0.0006886 ]
 [0.00000193 0.9999981 ]] (0.656 sec)
INFO:tensorflow:global_step/sec: 78.0235
INFO:tensorflow:probabilities = [[0.9998375  0.00016247]
 [1.         0.        ]
 [0.00013929 0.99986064]
 [0.9999925  0.00000745]
 [0.         1.        ]
 [0.9999912  0.00000883]
 [0.9998969  0.00010316]
 [0.00001186 0.9999881 ]
 [0.00474402 0.995256  ]
 [1.         0.00000001]] (0.625 sec)
INFO:tensorflow:loss = 0.0005188437, step = 6501 (1.281 sec)
INFO:tensorflow:probabilities = [[0.99994445 0.00005555]
 [0.         1.        ]
 [0.         1.        ]
 [0.00139921 0.9986008 ]
 [1.         0.00000001]
 [0.         1.        ]
 [0.00000007 0.9999999 ]
 [0.         1.        ]
 [0.99999976 0.00000028]
```

```
 [0.         1.        ]] (0.632 sec)
INFO:tensorflow:global_step/sec: 76.5137
INFO:tensorflow:probabilities = [[0.00000551 0.9999945 ]
 [0.99999964 0.00000039]
 [0.9999999  0.00000008]
 [0.00000428 0.9999957 ]
 [1.         0.00000005]
 [0.00000009 0.9999999 ]
 [0.99989974 0.0001003 ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9758548  0.02414523]] (0.675 sec)
INFO:tensorflow:loss = 0.0024552082, step = 6601 (1.307 sec)
INFO:tensorflow:probabilities = [[0.00000422 0.9999958 ]
 [0.         1.        ]
 [0.99999833 0.00000163]
 [0.99999976 0.00000028]
 [0.00000588 0.99999416]
 [0.9999286  0.00007139]
 [0.00000002 1.        ]
 [0.99870515 0.00129481]
 [0.00000004 1.        ]
 [1.         0.        ]] (0.689 sec)
INFO:tensorflow:global_step/sec: 70.2353
INFO:tensorflow:probabilities = [[0.00000597 0.99999404]
 [0.00000038 0.99999964]
 [0.0000005  0.9999995 ]
 [0.99999964 0.00000037]
 [0.00001502 0.999985  ]
 [1.         0.        ]
 [0.000293   0.9997069 ]
 [0.996117   0.00388307]
 [0.00000018 0.99999976]
 [0.9998216  0.0001784 ]] (0.735 sec)
INFO:tensorflow:loss = 0.000438451, step = 6701 (1.424 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00004441 0.99995553]
 [0.         1.        ]
 [0.99867153 0.00132844]
 [0.9999969  0.00000314]
 [0.00077916 0.99922085]
 [0.00000082 0.99999917]
 [0.9999721  0.00002787]
 [0.9999994  0.00000064]
 [1.         0.00000003]] (0.666 sec)
INFO:tensorflow:global_step/sec: 74.4468
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9998363  0.00016363]
 [0.00001109 0.9999889 ]
 [0.99999714 0.00000287]
 [0.00000003 1.        ]
 [0.00000034 0.99999964]
 [0.00001145 0.99998856]
 [0.00039132 0.9996087 ]
 [1.         0.00000003]
 [0.00001179 0.9999882 ]] (0.678 sec)
INFO:tensorflow:loss = 5.926184e-05, step = 6801 (1.343 sec)
INFO:tensorflow:probabilities = [[0.9999964  0.00000363]
 [1.         0.00000003]
 [0.541573   0.45842695]
 [0.         1.        ]
```

```
 [0.0011807  0.9988193 ]
 [1.         0.        ]
 [0.00001156 0.99998844]
 [1.         0.        ]
 [0.00008494 0.999915  ]
 [0.9999927  0.00000723]] (0.680 sec)
INFO:tensorflow:global_step/sec: 73.0442
INFO:tensorflow:probabilities = [[0.00000917 0.9999908 ]
 [0.000119   0.999881  ]
 [1.         0.        ]
 [0.00003417 0.9999658 ]
 [0.00608636 0.9939136 ]
 [1.         0.        ]
 [0.2556196  0.7443805 ]
 [1.         0.        ]
 [0.9999902  0.00000982]
 [0.00000081 0.99999917]] (0.689 sec)
INFO:tensorflow:loss = 0.030148095, step = 6901 (1.369 sec)
INFO:tensorflow:probabilities = [[0.00007335 0.9999267 ]
 [1.         0.00000003]
 [0.         1.        ]
 [0.00004141 0.99995863]
 [0.9999999  0.00000013]
 [0.9999634  0.00003663]
 [0.         1.        ]
 [0.00000765 0.9999924 ]
 [0.99999464 0.00000542]
 [0.         1.        ]] (0.705 sec)
INFO:tensorflow:global_step/sec: 73.6436
INFO:tensorflow:probabilities = [[0.99966633 0.00033366]
 [0.00083422 0.9991658 ]
 [0.         1.        ]
 [0.99997365 0.00002632]
 [0.00000009 0.9999999 ]
 [1.         0.        ]
 [0.9949185  0.0050814 ]
 [0.09523759 0.90476245]
 [0.00000001 1.        ]
 [0.00000022 0.99999976]] (0.653 sec)
INFO:tensorflow:loss = 0.01063723, step = 7001 (1.358 sec)
INFO:tensorflow:probabilities = [[0.00000015 0.9999999 ]
 [1.         0.        ]
 [0.99999976 0.0000002 ]
 [0.         1.        ]
 [0.9999989  0.00000106]
 [0.99995756 0.00004245]
 [1.         0.        ]
 [0.00000007 0.9999999 ]
 [0.99997675 0.00002321]
 [1.         0.        ]] (0.683 sec)
INFO:tensorflow:global_step/sec: 76.0101
INFO:tensorflow:probabilities = [[0.00000539 0.99999464]
 [1.         0.        ]
 [1.         0.        ]
 [0.06113715 0.93886286]
 [0.9999839  0.00001615]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.0005611  0.99943894]
 [0.00240239 0.99759763]] (0.632 sec)
```

```
INFO:tensorflow:loss = 0.006607379, step = 7101 (1.316 sec)
INFO:tensorflow:probabilities = [[0.00000101 0.99999905]
 [0.00000055 0.9999994 ]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.00000001]
 [0.99999917 0.00000087]
 [1.         0.        ]
 [0.99944216 0.00055782]
 [0.         1.        ]] (0.664 sec)
INFO:tensorflow:global_step/sec: 71.9289
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000116 0.9999988 ]
 [0.99998784 0.00001218]
 [0.05036849 0.9496315 ]
 [0.9999999  0.00000013]
 [1.         0.        ]
 [0.99999034 0.00000969]
 [0.9936336  0.00636635]
 [0.07346597 0.926534  ]
 [0.99902606 0.000974  ]] (0.727 sec)
INFO:tensorflow:loss = 0.013537005, step = 7201 (1.390 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000485 0.9999951 ]
 [0.99997854 0.00002151]
 [0.01255088 0.98744905]
 [0.9999572  0.00004277]
 [0.99999535 0.00000463]
 [0.9999999  0.00000006]
 [0.00000733 0.9999927 ]
 [0.00000448 0.99999547]
 [1.         0.00000005]] (0.821 sec)
INFO:tensorflow:global_step/sec: 58.7325
INFO:tensorflow:probabilities = [[0.9999999  0.00000009]
 [1.         0.00000004]
 [0.00824716 0.9917529 ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9996238  0.0003762 ]
 [0.00015212 0.9998479 ]
 [0.9999999  0.00000012]
 [0.00000004 1.        ]] (0.882 sec)
INFO:tensorflow:loss = 0.00088099093, step = 7301 (1.703 sec)
INFO:tensorflow:probabilities = [[0.99999547 0.00000456]
 [0.00089391 0.9991061 ]
 [0.00000045 0.9999995 ]
 [0.         1.        ]
 [0.9999701  0.00002997]
 [0.99998355 0.00001647]
 [0.99999964 0.00000032]
 [0.00000217 0.99999785]
 [0.9999993  0.00000073]
 [0.2237234  0.7762766 ]] (0.826 sec)
INFO:tensorflow:global_step/sec: 58.9965
INFO:tensorflow:probabilities = [[1.         0.00000004]
 [1.         0.        ]
 [0.00000041 0.99999964]
 [0.99999034 0.00000964]
 [0.99887484 0.00112517]
```

```
 [0.00054653 0.9994535 ]
 [0.9999628  0.00003716]
 [0.9999435  0.00005645]
 [0.00000004 1.        ]
 [0.00024728 0.9997527 ]] (0.869 sec)
INFO:tensorflow:loss = 0.00020234768, step = 7401 (1.695 sec)
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.00375029 0.99624974]
 [0.00000618 0.9999938 ]
 [0.         1.        ]
 [0.9999902  0.00000983]
 [0.00000006 0.9999999 ]
 [0.9999999  0.00000007]
 [1.         0.        ]
 [0.9954977  0.00450236]
 [0.00022112 0.9997789 ]] (0.944 sec)
INFO:tensorflow:global_step/sec: 51.764
INFO:tensorflow:probabilities = [[1.         0.00000005]
 [0.00000024 0.99999976]
 [0.9999999  0.00000012]
 [0.00065004 0.99935   ]
 [0.9935992  0.0064008 ]
 [0.00003879 0.99996126]
 [0.9999608  0.00003924]
 [0.         1.        ]
 [1.         0.        ]
 [0.9999739  0.00002605]] (0.988 sec)
INFO:tensorflow:loss = 0.0007176028, step = 7501 (1.932 sec)
INFO:tensorflow:probabilities = [[0.0000626  0.9999374 ]
 [0.00000004 1.        ]
 [0.         1.        ]
 [0.99957174 0.00042827]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000632 0.9999937 ]
 [0.         1.        ]
 [0.00000068 0.9999993 ]
 [0.00009608 0.9999039 ]] (0.981 sec)
INFO:tensorflow:global_step/sec: 49.3924
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.9999988  0.00000114]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999999  0.00000006]
 [1.         0.00000001]
 [1.         0.        ]
 [0.999734   0.00026605]
 [1.         0.        ]] (1.044 sec)
INFO:tensorflow:loss = 2.6735104e-05, step = 7601 (2.026 sec)
INFO:tensorflow:probabilities = [[0.99932384 0.00067612]
 [0.9999802  0.00001976]
 [1.         0.        ]
 [0.00000292 0.99999714]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00001153 0.99998844]
 [0.         1.        ]
 [1.         0.00000001]] (1.093 sec)
INFO:tensorflow:global_step/sec: 44.4928
```

```
INFO:tensorflow:probabilities = [[0.00000006 1.        ]
 [0.         1.        ]
 [0.0000034  0.99999654]
 [0.00000003 1.        ]
 [0.00027207 0.9997279 ]
 [0.00139874 0.99860126]
 [0.00000023 0.99999976]
 [0.99937505 0.00062493]
 [0.         1.        ]
 [0.00000038 0.99999964]] (1.155 sec)
INFO:tensorflow:loss = 0.00023010765, step = 7701 (2.247 sec)
INFO:tensorflow:probabilities = [[0.00000026 0.99999976]
 [0.9999988  0.00000115]
 [0.9997961  0.00020398]
 [1.         0.00000001]
 [0.         1.        ]
 [0.00259604 0.9974039 ]
 [0.99999666 0.00000329]
 [0.00002775 0.9999722 ]
 [0.00000012 0.9999999 ]
 [0.00000025 0.99999976]] (1.312 sec)
INFO:tensorflow:global_step/sec: 37.3828
INFO:tensorflow:probabilities = [[0.00000328 0.99999666]
 [0.00000004 1.        ]
 [1.         0.        ]
 [0.99999976 0.00000026]
 [0.9999981  0.00000191]
 [1.         0.        ]
 [0.0131356  0.9868644 ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.         1.        ]] (1.364 sec)
INFO:tensorflow:loss = 0.0013228111, step = 7801 (2.675 sec)
INFO:tensorflow:probabilities = [[0.00004546 0.9999546 ]
 [0.00000795 0.999992  ]
 [0.00000043 0.9999995 ]
 [1.         0.        ]
 [0.00002406 0.9999759 ]
 [0.0000006  0.9999994 ]
 [0.9999931  0.0000069 ]
 [0.         1.        ]
 [0.9999924  0.00000766]
 [0.00194547 0.9980545 ]] (1.465 sec)
INFO:tensorflow:global_step/sec: 32.5025
INFO:tensorflow:probabilities = [[0.99999917 0.00000087]
 [0.9881192  0.01188084]
 [0.00431052 0.99568945]
 [1.         0.        ]
 [0.99997675 0.00002324]
 [0.00000007 0.9999999 ]
 [0.00000012 0.9999999 ]
 [0.9999995  0.0000005 ]
 [0.00000005 1.        ]
 [1.         0.        ]] (1.612 sec)
INFO:tensorflow:loss = 0.0016296633, step = 7901 (3.077 sec)
INFO:tensorflow:probabilities = [[0.00000025 0.99999976]
 [0.99998343 0.00001656]
 [0.         1.        ]
 [0.9999409  0.00005914]
 [0.         1.        ]
 [0.00000132 0.9999987 ]
```

```
 [0.         1.        ]
 [1.         0.00000001]
 [0.99999976 0.00000021]
 [0.         1.        ]] (1.740 sec)
INFO:tensorflow:global_step/sec: 27.5284
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.00000005]
 [0.00000054 0.9999994 ]
 [0.         1.        ]
 [0.99999964 0.00000036]
 [0.9999645  0.00003557]
 [1.         0.        ]
 [0.00000078 0.99999917]
 [0.99999976 0.00000023]
 [1.         0.        ]] (1.893 sec)
INFO:tensorflow:loss = 3.7550296e-06, step = 8001 (3.633 sec)
INFO:tensorflow:probabilities = [[0.00102442 0.99897563]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000014 0.9999999 ]
 [0.00002283 0.99997723]
 [0.99927396 0.0007261 ]
 [1.         0.        ]
 [0.9999974  0.0000026 ]
 [0.99999785 0.00000215]] (2.091 sec)
INFO:tensorflow:global_step/sec: 22.0161
INFO:tensorflow:probabilities = [[0.99642086 0.00357912]
 [0.         1.        ]
 [1.         0.        ]
 [0.00019202 0.999808  ]
 [1.         0.        ]
 [0.00108318 0.99891686]
 [0.         1.        ]
 [0.01242479 0.98757523]
 [0.00000668 0.9999933 ]
 [0.00019457 0.9998055 ]] (2.451 sec)
INFO:tensorflow:loss = 0.0017565178, step = 8101 (4.543 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [1.         0.00000003]
 [0.9999976  0.00000244]
 [0.00000056 0.9999994 ]
 [0.00000007 0.9999999 ]
 [0.9999994  0.00000056]
 [0.00038197 0.99961805]
 [0.99999964 0.00000035]
 [1.         0.        ]] (2.654 sec)
INFO:tensorflow:global_step/sec: 17.3925
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000007 0.9999999 ]
 [0.00774528 0.99225473]
 [0.99809796 0.00190201]
 [1.         0.        ]
 [0.00000422 0.9999958 ]
 [0.9999788  0.00002121]
 [1.         0.        ]
 [0.99998915 0.0000108 ]
 [0.0000503  0.9999497 ]] (3.096 sec)
INFO:tensorflow:loss = 0.0009765929, step = 8201 (5.759 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
```

```
 [0.00002024 0.99997973]
 [0.00000004 1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.00000002]
 [0.         1.        ]
 [1.         0.        ]
 [0.99999976 0.00000025]
 [0.0010711  0.99892884]] (3.310 sec)
INFO:tensorflow:global_step/sec: 13.5613
INFO:tensorflow:probabilities = [[0.00000002 1.        ]
 [0.9999981  0.00000196]
 [0.00000013 0.9999999 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.9999329  0.0000671 ]
 [0.         1.        ]
 [0.9999999  0.00000012]
 [1.         0.        ]
 [0.99870956 0.0012904 ]] (4.064 sec)
INFO:tensorflow:loss = 0.0001360534, step = 8301 (7.375 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.99861085 0.00138908]
 [0.9971318  0.00286821]
 [0.9999999  0.00000016]
 [0.9999999  0.00000015]
 [0.45601168 0.54398835]
 [0.00001936 0.9999807 ]
 [0.         1.        ]
 [0.9999881  0.00001195]
 [1.         0.00000001]] (4.290 sec)
INFO:tensorflow:global_step/sec: 12.2437
INFO:tensorflow:probabilities = [[0.00000002 1.        ]
 [1.         0.        ]
 [0.9999944  0.00000563]
 [0.00001128 0.9999887 ]
 [0.99999714 0.00000292]
 [0.00000083 0.99999917]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999895  0.00001045]
 [0.9992563  0.00074372]] (3.889 sec)
INFO:tensorflow:loss = 7.750603e-05, step = 8401 (8.169 sec)
INFO:tensorflow:probabilities = [[0.00000092 0.99999905]
 [1.         0.00000001]
 [0.00000002 1.        ]
 [0.99999905 0.00000099]
 [0.00000006 0.9999999 ]
 [0.00006789 0.99993205]
 [0.         1.        ]
 [0.99999964 0.00000037]
 [1.         0.        ]
 [0.00000277 0.99999726]] (4.171 sec)
INFO:tensorflow:global_step/sec: 12.3612
INFO:tensorflow:probabilities = [[0.00000057 0.9999994 ]
 [0.9999995  0.00000042]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.0013027  0.99869734]
 [1.         0.00000001]
 [0.99999976 0.00000018]
```

```
 [0.00000946 0.9999906 ]
 [1.         0.00000004]
 [0.9999347  0.00006537]] (3.907 sec)
INFO:tensorflow:loss = 0.00013795914, step = 8501 (8.089 sec)
INFO:tensorflow:probabilities = [[0.99998415 0.00001587]
 [0.9996793  0.00032069]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000759 0.9999924 ]
 [0.00000008 0.9999999 ]
 [0.00006477 0.99993527]
 [0.00000042 0.9999995 ]
 [0.9999981  0.00000187]
 [0.00000023 0.99999976]] (2.961 sec)
INFO:tensorflow:global_step/sec: 16.9837
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000008 0.9999999 ]
 [0.99999905 0.0000009 ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00507994 0.9949201 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.99999785 0.0000021 ]] (2.928 sec)
INFO:tensorflow:loss = 0.00050960813, step = 8601 (5.879 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00008323 0.9999168 ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.00000002]
 [0.00000001 1.        ]] (2.693 sec)
INFO:tensorflow:global_step/sec: 19.7782
INFO:tensorflow:probabilities = [[0.999495   0.00050494]
 [0.99999833 0.00000161]
 [0.00002401 0.99997604]
 [0.9999963  0.00000368]
 [0.00461198 0.9953881 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000996 0.99999   ]
 [0.         1.        ]
 [0.00000007 0.9999999 ]] (2.362 sec)
INFO:tensorflow:loss = 0.0005167146, step = 8701 (5.055 sec)
INFO:tensorflow:probabilities = [[0.00025244 0.9997476 ]
 [0.00000001 1.        ]
 [0.9999975  0.00000248]
 [0.00000194 0.9999981 ]
 [0.00000008 0.9999999 ]
 [0.9999906  0.00000942]
 [1.         0.        ]
 [0.00019931 0.99980074]
 [1.         0.        ]
 [0.00339181 0.99660826]] (2.167 sec)
INFO:tensorflow:global_step/sec: 22.8527
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.99996805 0.0000319 ]
```

```
 [1.         0.        ]
 [0.9999939  0.00000611]
 [0.01266013 0.98733985]
 [1.         0.        ]
 [0.         1.        ]
 [0.45527992 0.5447201 ]
 [0.99999917 0.00000088]
 [0.00012576 0.99987423]] (2.208 sec)
INFO:tensorflow:loss = 0.062038876, step = 8801 (4.375 sec)
INFO:tensorflow:probabilities = [[0.9995066  0.00049334]
 [1.         0.        ]
 [0.00000093 0.99999905]
 [1.         0.        ]
 [0.00000002 1.        ]
 [0.00000028 0.99999976]
 [1.         0.        ]
 [0.99945694 0.00054302]
 [0.9999982  0.00000184]
 [0.         1.        ]] (2.096 sec)
INFO:tensorflow:global_step/sec: 24.4063
INFO:tensorflow:probabilities = [[0.9999385  0.00006148]
 [0.         1.        ]
 [0.00000059 0.9999994 ]
 [1.         0.00000003]
 [1.         0.        ]
 [0.00000076 0.9999993 ]
 [1.         0.        ]
 [0.9998747  0.00012523]
 [1.         0.        ]
 [0.99961215 0.00038793]] (2.000 sec)
INFO:tensorflow:loss = 5.760535e-05, step = 8901 (4.096 sec)
INFO:tensorflow:probabilities = [[0.00002263 0.99997735]
 [1.         0.00000001]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000607 0.9999939 ]
 [0.00000652 0.99999344]
 [0.99999785 0.00000215]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.9999999  0.00000006]] (1.770 sec)
INFO:tensorflow:global_step/sec: 29.1421
INFO:tensorflow:probabilities = [[0.00008378 0.9999162 ]
 [1.         0.        ]
 [0.02241088 0.97758913]
 [0.9985446  0.00145545]
 [0.00019283 0.9998072 ]
 [0.00015116 0.99984884]
 [1.         0.        ]
 [1.         0.00000001]
 [0.99999213 0.00000781]
 [1.         0.        ]] (1.662 sec)
INFO:tensorflow:loss = 0.0024558026, step = 9001 (3.431 sec)
INFO:tensorflow:probabilities = [[0.00002816 0.99997187]
 [0.99999774 0.00000222]
 [0.99999964 0.00000033]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000052 0.9999995 ]
 [0.00000002 1.        ]
 [0.00000001 1.        ]
```

```
 [0.9999987  0.00000125]
 [1.         0.        ]] (1.644 sec)
INFO:tensorflow:global_step/sec: 31.4361
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [0.00000486 0.9999951 ]
 [0.9969862  0.00301378]
 [1.         0.        ]
 [0.00033077 0.9996692 ]
 [0.00005861 0.99994135]
 [0.00084434 0.99915564]
 [1.         0.        ]
 [0.00000001 1.        ]] (1.537 sec)
INFO:tensorflow:loss = 0.00042574736, step = 9101 (3.181 sec)
INFO:tensorflow:probabilities = [[0.9999969  0.00000304]
 [0.         1.        ]
 [0.9999999  0.00000016]
 [0.99999976 0.00000027]
 [0.         1.        ]
 [1.         0.00000001]
 [0.0000002  0.99999976]
 [1.         0.        ]
 [1.         0.00000001]
 [1.         0.00000001]] (1.434 sec)
INFO:tensorflow:global_step/sec: 35.822
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9998915  0.00010852]
 [0.00000106 0.9999989 ]
 [1.         0.        ]
 [0.00336264 0.99663734]
 [0.00000114 0.9999988 ]
 [0.00000007 0.9999999 ]
 [0.9993569  0.00064304]
 [1.         0.        ]
 [0.9999994  0.0000006 ]] (1.358 sec)
INFO:tensorflow:loss = 0.00041230413, step = 9201 (2.791 sec)
INFO:tensorflow:probabilities = [[0.00005759 0.9999424 ]
 [0.99490476 0.00509526]
 [0.00002174 0.9999783 ]
 [1.         0.        ]
 [0.99999976 0.00000026]
 [0.00000257 0.9999974 ]
 [1.         0.        ]
 [0.00000062 0.9999994 ]
 [0.00000039 0.99999964]
 [1.         0.        ]] (1.402 sec)
INFO:tensorflow:global_step/sec: 35.2137
INFO:tensorflow:probabilities = [[0.00000082 0.99999917]
 [0.         1.        ]
 [0.97838813 0.02161191]
 [0.00000011 0.9999999 ]
 [0.9999995  0.00000042]
 [1.         0.        ]
 [0.9999987  0.00000134]
 [1.         0.        ]
 [0.99999964 0.00000034]
 [0.00006239 0.99993765]] (1.438 sec)
INFO:tensorflow:loss = 0.0021914253, step = 9301 (2.840 sec)
INFO:tensorflow:probabilities = [[0.99999976 0.00000018]
 [0.00000505 0.999995  ]
 [0.         1.        ]
```

```
 [1.         0.        ]
 [0.00000004 1.        ]
 [1.         0.        ]
 [0.999997   0.00000295]
 [0.00000002 1.        ]
 [1.         0.        ]
 [0.0000003  0.99999964]] (1.335 sec)
INFO:tensorflow:global_step/sec: 39.1414
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [0.         1.        ]
 [0.00000019 0.99999976]
 [0.00000002 1.        ]
 [1.         0.        ]
 [0.00000055 0.9999994 ]
 [0.9999995  0.00000049]
 [0.00015338 0.9998466 ]
 [0.99977    0.00023006]
 [1.         0.        ]] (1.219 sec)
INFO:tensorflow:loss = 3.8476934e-05, step = 9401 (2.554 sec)
INFO:tensorflow:probabilities = [[0.99721515 0.00278485]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999964  0.00000354]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000026 0.99999976]
 [0.00000001 1.        ]
 [0.00006087 0.9999391 ]] (1.143 sec)
INFO:tensorflow:global_step/sec: 44.6432
INFO:tensorflow:probabilities = [[0.9998994  0.00010064]
 [0.99353206 0.00646792]
 [1.         0.        ]
 [0.9999975  0.00000252]
 [0.         1.        ]
 [0.9999747  0.00002522]
 [0.         1.        ]
 [0.00000101 0.9999989 ]
 [0.00000142 0.99999857]
 [0.00000005 1.        ]] (1.097 sec)
INFO:tensorflow:loss = 0.0006619807, step = 9501 (2.240 sec)
INFO:tensorflow:probabilities = [[0.99996674 0.00003325]
 [1.         0.00000002]
 [0.0001976  0.9998024 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.00000097 0.99999905]
 [0.99999857 0.00000147]
 [0.0003482  0.9996518 ]
 [1.         0.        ]] (1.167 sec)
INFO:tensorflow:global_step/sec: 44.2581
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [0.         1.        ]
 [0.         1.        ]
 [0.9997564  0.00024363]
 [0.         1.        ]
 [0.00000008 0.9999999 ]
 [1.         0.00000001]
 [0.00000003 1.        ]
 [1.         0.        ]
```

```
 [0.         1.        ]] (1.093 sec)
INFO:tensorflow:loss = 2.4375331e-05, step = 9601 (2.259 sec)
INFO:tensorflow:probabilities = [[0.00000002 1.        ]
 [1.         0.00000002]
 [0.17494479 0.8250551 ]
 [0.00000023 0.99999976]
 [0.00000001 1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999999  0.00000011]
 [0.99999905 0.00000097]
 [0.         1.        ]] (1.118 sec)
INFO:tensorflow:global_step/sec: 45.0108
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000128 0.9999987 ]
 [0.9999622  0.00003777]
 [0.968099   0.03190095]
 [0.00012333 0.9998766 ]
 [0.9999993  0.0000007 ]
 [0.00000057 0.9999994 ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]] (1.104 sec)
INFO:tensorflow:loss = 0.0032584693, step = 9701 (2.222 sec)
INFO:tensorflow:probabilities = [[0.00002072 0.99997926]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [0.99872226 0.00127767]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000023 0.99999976]
 [0.00003887 0.99996114]
 [0.99999726 0.00000276]] (1.099 sec)
INFO:tensorflow:global_step/sec: 47.6371
INFO:tensorflow:probabilities = [[0.00000012 0.9999999 ]
 [0.00035867 0.9996413 ]
 [0.00002248 0.99997747]
 [0.00000702 0.99999297]
 [1.         0.00000001]
 [1.         0.        ]
 [0.9999995  0.0000005 ]
 [0.9999994  0.00000054]
 [0.9997851  0.00021494]
 [0.00158904 0.99841094]] (1.000 sec)
INFO:tensorflow:loss = 0.00021947206, step = 9801 (2.099 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000005 1.        ]
 [0.99999774 0.00000221]
 [0.9999548  0.00004516]
 [1.         0.        ]
 [1.         0.00000002]
 [0.9999523  0.00004772]
 [1.         0.        ]
 [0.00003797 0.999962  ]
 [0.         1.        ]] (1.008 sec)
INFO:tensorflow:global_step/sec: 49.2565
INFO:tensorflow:probabilities = [[0.00000006 0.9999999 ]
 [0.9999459  0.00005411]
 [0.9998596  0.00014043]
 [0.99999976 0.00000024]
```

```
 [0.99999845 0.00000153]
 [0.00000018 0.9999999 ]
 [0.9999987  0.00000137]
 [0.         1.        ]
 [1.         0.00000001]
 [0.00000001 1.        ]] (1.022 sec)
INFO:tensorflow:loss = 1.9787609e-05, step = 9901 (2.030 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000434 0.9999957 ]
 [0.00000008 0.9999999 ]
 [0.00001608 0.9999839 ]
 [0.0000016  0.99999845]
 [0.00000002 1.        ]
 [0.9998987  0.00010133]
 [0.99999964 0.00000036]
 [0.9997969  0.00020315]
 [1.         0.        ]] (1.043 sec)
INFO:tensorflow:global_step/sec: 48.5917
INFO:tensorflow:probabilities = [[0.00000003 1.        ]
 [0.00000045 0.9999995 ]
 [0.99999964 0.00000037]
 [0.0000002  0.99999976]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000002 1.        ]
 [0.         1.        ]
 [0.99658597 0.00341405]
 [0.00000002 1.        ]] (1.015 sec)
INFO:tensorflow:loss = 0.00034209358, step = 10001 (2.058 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9993268  0.00067319]
 [0.00000934 0.9999907 ]
 [0.         1.        ]
 [0.99998844 0.00001153]
 [0.99999976 0.00000029]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [0.9999521  0.00004787]] (0.953 sec)
INFO:tensorflow:global_step/sec: 52.3139
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000004 1.        ]
 [0.00034928 0.9996507 ]
 [0.9999906  0.00000947]
 [1.         0.        ]
 [0.9999975  0.00000255]
 [0.00000011 0.9999999 ]
 [0.00000032 0.99999964]
 [0.00000001 1.        ]
 [0.00000015 0.9999999 ]] (0.959 sec)
INFO:tensorflow:loss = 3.6185833e-05, step = 10101 (1.911 sec)
INFO:tensorflow:probabilities = [[0.00000003 1.        ]
 [0.00004672 0.99995327]
 [0.00021401 0.99978596]
 [0.9747751  0.02522497]
 [0.00004328 0.9999567 ]
 [1.         0.        ]
 [0.00001035 0.9999896 ]
 [0.99250644 0.00749358]
 [0.9999999  0.00000007]
 [0.9999999  0.00000017]] (0.923 sec)
```

```
INFO:tensorflow:global_step/sec: 58.0971
INFO:tensorflow:probabilities = [[0.00000031 0.99999964]
 [1.         0.        ]
 [0.999998   0.00000207]
 [0.         1.        ]
 [0.99998164 0.00001832]
 [0.99989283 0.00010715]
 [0.00000091 0.99999905]
 [1.         0.00000001]
 [0.9999974  0.00000262]
 [0.00000579 0.99999416]] (0.798 sec)
INFO:tensorflow:loss = 1.3732318e-05, step = 10201 (1.721 sec)
INFO:tensorflow:probabilities = [[0.9999858  0.00001414]
 [1.         0.        ]
 [0.00000105 0.9999989 ]
 [0.00000006 0.9999999 ]
 [0.00004989 0.99995005]
 [0.99985945 0.00014055]
 [0.00033174 0.99966824]
 [0.00007432 0.99992573]
 [0.         1.        ]
 [1.         0.        ]] (0.925 sec)
INFO:tensorflow:global_step/sec: 54.239
INFO:tensorflow:probabilities = [[0.9999999  0.00000012]
 [0.99998915 0.00001087]
 [0.0000031  0.9999969 ]
 [0.00000056 0.9999994 ]
 [0.         1.        ]
 [0.00000076 0.9999993 ]
 [1.         0.        ]
 [0.9999894  0.00001057]
 [0.9999794  0.00002062]
 [0.         1.        ]] (0.919 sec)
INFO:tensorflow:loss = 4.66105e-06, step = 10301 (1.844 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.00000535 0.99999464]
 [0.         1.        ]
 [1.         0.        ]
 [0.9999876  0.00001241]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.0001054  0.9998946 ]] (0.928 sec)
INFO:tensorflow:global_step/sec: 53.6928
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00002612 0.9999739 ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000013 0.9999999 ]] (0.935 sec)
INFO:tensorflow:loss = 2.6225703e-06, step = 10401 (1.862 sec)
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.9999999  0.00000012]
 [0.99999976 0.00000025]
 [1.         0.00000002]
 [1.         0.        ]
```

```
 [0.00000028 0.99999976]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999999  0.00000009]
 [0.00079003 0.9992099 ]] (0.883 sec)
INFO:tensorflow:global_step/sec: 56.4614
INFO:tensorflow:probabilities = [[0.9999999  0.00000008]
 [0.         1.        ]
 [0.00000006 0.9999999 ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.9999999  0.00000014]
 [0.00010375 0.9998963 ]
 [0.         1.        ]
 [1.         0.00000002]
 [0.         1.        ]] (0.888 sec)
INFO:tensorflow:loss = 1.0406433e-05, step = 10501 (1.771 sec)
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [1.         0.00000005]
 [0.00013855 0.9998615 ]
 [1.         0.        ]
 [0.00022897 0.99977106]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000029 0.99999976]
 [0.00012135 0.99987864]
 [0.00000001 1.        ]] (0.840 sec)
INFO:tensorflow:global_step/sec: 58.1826
INFO:tensorflow:probabilities = [[0.00213104 0.9978689 ]
 [0.         1.        ]
 [0.00025853 0.9997415 ]
 [1.         0.        ]
 [0.00003337 0.9999666 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000349 0.99999654]
 [0.00000013 0.9999999 ]
 [0.         1.        ]] (0.879 sec)
INFO:tensorflow:loss = 0.0002428843, step = 10601 (1.719 sec)
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [0.00000051 0.9999995 ]
 [1.         0.        ]
 [0.00000014 0.9999999 ]
 [0.00005701 0.999943  ]
 [1.         0.        ]
 [0.00000031 0.99999964]
 [0.00000018 0.99999976]
 [0.00000256 0.9999975 ]
 [1.         0.00000002]] (0.893 sec)
INFO:tensorflow:global_step/sec: 56.2714
INFO:tensorflow:probabilities = [[0.99999976 0.00000023]
 [0.9961599  0.00384006]
 [0.         1.        ]
 [0.9996376  0.00036243]
 [0.0024019  0.9975981 ]
 [0.9999993  0.00000067]
 [0.00000001 1.        ]
 [0.99999905 0.00000092]
 [1.         0.00000004]
 [1.         0.00000004]] (0.885 sec)
INFO:tensorflow:loss = 0.00066165935, step = 10701 (1.777 sec)
```

```
INFO:tensorflow:probabilities = [[0.00003502 0.99996495]
 [0.         1.        ]
 [0.00000042 0.9999995 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00034443 0.9996556 ]
 [0.00022696 0.9997731 ]
 [0.00000039 0.99999964]
 [0.         1.        ]
 [1.         0.        ]] (0.881 sec)
INFO:tensorflow:global_step/sec: 57.1013
INFO:tensorflow:probabilities = [[0.9999999  0.00000015]
 [1.         0.00000001]
 [1.         0.        ]
 [0.00000593 0.99999404]
 [0.9999999  0.00000008]
 [0.00000004 1.        ]
 [0.99737984 0.00262016]
 [0.9999963  0.00000373]
 [0.         1.        ]
 [1.         0.        ]] (0.870 sec)
INFO:tensorflow:loss = 0.0002633465, step = 10801 (1.751 sec)
INFO:tensorflow:probabilities = [[0.0000001  0.9999999 ]
 [1.         0.        ]
 [0.9999752  0.00002474]
 [0.         1.        ]
 [0.         1.        ]
 [0.00003224 0.9999678 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]] (0.891 sec)
INFO:tensorflow:global_step/sec: 56.6003
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.         1.        ]
 [0.00002987 0.9999701 ]
 [0.00000003 1.        ]
 [0.9999951  0.00000495]
 [0.         1.        ]
 [0.99999154 0.00000844]
 [0.00000001 1.        ]
 [1.         0.00000001]
 [1.         0.        ]] (0.876 sec)
INFO:tensorflow:loss = 4.3272476e-06, step = 10901 (1.767 sec)
INFO:tensorflow:probabilities = [[0.00331851 0.9966815 ]
 [0.00000001 1.        ]
 [0.00000159 0.99999845]
 [0.99999964 0.0000003 ]
 [0.9999999  0.00000012]
 [1.         0.        ]
 [0.9999964  0.00000353]
 [0.00000006 1.        ]
 [1.         0.        ]
 [0.99999106 0.000009  ]] (0.897 sec)
INFO:tensorflow:global_step/sec: 55.8445
INFO:tensorflow:probabilities = [[0.00001699 0.99998295]
 [0.00000016 0.9999999 ]
 [0.00001974 0.9999802 ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000002 1.        ]
```

```
 [1.         0.00000001]
 [0.9999945  0.00000543]
 [0.99997807 0.00002193]
 [0.00000066 0.9999993 ]] (0.894 sec)
INFO:tensorflow:loss = 6.5087675e-06, step = 11001 (1.791 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000118 0.9999988 ]
 [1.         0.        ]
 [1.         0.00000005]
 [1.         0.        ]
 [0.9972711  0.00272889]
 [0.00000737 0.9999926 ]
 [0.00000004 1.        ]
 [0.9973641  0.00263588]
 [0.99999917 0.00000087]] (0.853 sec)
INFO:tensorflow:global_step/sec: 57.133
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000043 0.9999995 ]
 [0.9999943  0.00000572]
 [0.00003615 0.9999639 ]
 [0.11376289 0.8862371 ]
 [0.         1.        ]
 [1.         0.00000003]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000024 0.99999976]] (0.897 sec)
INFO:tensorflow:loss = 0.012081333, step = 11101 (1.750 sec)
INFO:tensorflow:probabilities = [[0.999995   0.00000501]
 [0.9999541  0.00004587]
 [0.99999607 0.00000394]
 [0.         1.        ]
 [0.0000002  0.99999976]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.00000007 0.9999999 ]
 [0.         1.        ]] (0.880 sec)
INFO:tensorflow:global_step/sec: 56.9821
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000402 0.99999595]
 [1.         0.        ]
 [0.9999995  0.00000052]
 [1.         0.00000004]
 [0.         1.        ]
 [0.00001722 0.99998283]
 [1.         0.        ]
 [1.         0.        ]
 [0.00002919 0.9999708 ]] (0.875 sec)
INFO:tensorflow:loss = 5.0901785e-06, step = 11201 (1.755 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00258114 0.9974189 ]
 [0.         1.        ]
 [0.00000003 1.        ]
 [0.00012942 0.99987054]
 [0.00000001 1.        ]
 [0.00001746 0.9999826 ]
 [0.9999862  0.00001381]
 [0.9999956  0.00000438]
 [0.9999833  0.00001671]] (0.861 sec)
INFO:tensorflow:global_step/sec: 57.7221
INFO:tensorflow:probabilities = [[0.00046096 0.999539  ]
```

```
 [0.99997115 0.00002891]
 [1.         0.00000003]
 [0.         1.        ]
 [0.00000086 0.99999917]
 [1.         0.        ]
 [0.00004069 0.99995935]
 [0.45471904 0.545281  ]
 [1.         0.        ]
 [0.99995863 0.00004139]] (0.871 sec)
INFO:tensorflow:loss = 0.06070269, step = 11301 (1.732 sec)
INFO:tensorflow:probabilities = [[0.0003139  0.9996861 ]
 [0.999863   0.00013699]
 [0.9999982  0.00000181]
 [0.00026661 0.9997334 ]
 [0.00541089 0.9945891 ]
 [0.00000006 0.9999999 ]
 [0.9999988  0.00000123]
 [0.         1.        ]
 [0.99999046 0.00000956]
 [0.         1.        ]] (0.887 sec)
INFO:tensorflow:global_step/sec: 56.3737
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000103 0.9999989 ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]] (0.887 sec)
INFO:tensorflow:loss = 1.072883e-07, step = 11401 (1.774 sec)
INFO:tensorflow:probabilities = [[1.         0.00000004]
 [0.00000617 0.9999938 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.00000003]
 [0.         1.        ]
 [0.00001329 0.99998665]] (0.884 sec)
INFO:tensorflow:global_step/sec: 57.2726
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9997242  0.00027579]
 [0.00000001 1.        ]
 [0.999972   0.00002797]
 [0.9999025  0.00009751]
 [0.9999995  0.0000005 ]
 [0.00000506 0.999995  ]
 [0.00000239 0.9999976 ]
 [0.9999969  0.00000313]
 [0.         1.        ]] (0.862 sec)
INFO:tensorflow:loss = 4.123017e-05, step = 11501 (1.746 sec)
INFO:tensorflow:probabilities = [[0.00129317 0.9987068 ]
 [1.         0.        ]
 [1.         0.00000002]
 [0.00000001 1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.00000001]
```

```
 [0.         1.        ]
 [0.         1.        ]
 [0.999997   0.00000301]] (0.855 sec)
INFO:tensorflow:global_step/sec: 56.1738
INFO:tensorflow:probabilities = [[0.9999995  0.00000051]
 [1.         0.        ]
 [1.         0.00000001]
 [0.00000413 0.9999958 ]
 [1.         0.00000002]
 [0.99991155 0.00008848]
 [0.         1.        ]
 [1.         0.        ]
 [0.9999968  0.00000327]
 [0.00002192 0.99997807]] (0.925 sec)
INFO:tensorflow:loss = 1.1825145e-05, step = 11601 (1.780 sec)
INFO:tensorflow:probabilities = [[0.9999999  0.00000012]
 [0.00000001 1.        ]
 [0.99999905 0.000001  ]
 [0.00000864 0.9999914 ]
 [0.9999888  0.00001122]
 [0.00000079 0.99999917]
 [0.         1.        ]
 [0.99999964 0.00000036]
 [0.01423145 0.9857685 ]
 [0.9999957  0.0000043 ]] (0.915 sec)
INFO:tensorflow:global_step/sec: 54.1813
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000006 0.9999999 ]
 [1.         0.        ]
 [0.99998903 0.00001094]
 [0.00000001 1.        ]
 [0.00000009 0.9999999 ]
 [0.99999964 0.00000039]
 [0.         1.        ]
 [0.9886981  0.01130193]
 [0.00000305 0.9999969 ]] (0.931 sec)
INFO:tensorflow:loss = 0.0011380919, step = 11701 (1.846 sec)
INFO:tensorflow:probabilities = [[0.9999324  0.00006761]
 [1.         0.00000002]
 [0.00000038 0.99999964]
 [0.99998903 0.00001093]
 [0.9998696  0.00013036]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999981  0.00000195]
 [1.         0.00000004]] (0.923 sec)
INFO:tensorflow:global_step/sec: 55.393
INFO:tensorflow:probabilities = [[0.0000216  0.9999784 ]
 [0.99879164 0.00120834]
 [0.00000694 0.9999931 ]
 [0.         1.        ]
 [0.00004082 0.99995923]
 [0.         1.        ]
 [0.00001598 0.999984  ]
 [0.         1.        ]
 [0.99996984 0.00003016]
 [0.9954724  0.0045276 ]] (0.883 sec)
INFO:tensorflow:loss = 0.00058623974, step = 11801 (1.805 sec)
INFO:tensorflow:probabilities = [[0.9988556  0.0011444 ]
 [0.00000132 0.9999987 ]
```

```
 [1.         0.00000002]
 [0.99999976 0.0000002 ]
 [0.00000042 0.9999995 ]
 [1.         0.        ]
 [0.00002018 0.99997985]
 [0.00001492 0.9999851 ]
 [1.         0.        ]
 [0.9999976  0.00000235]] (0.947 sec)
INFO:tensorflow:global_step/sec: 54.4235
INFO:tensorflow:probabilities = [[0.9999944  0.0000056 ]
 [1.         0.        ]
 [0.9999993  0.00000069]
 [0.00000012 0.9999999 ]
 [0.         1.        ]
 [0.00001321 0.99998677]
 [0.999997   0.00000296]
 [1.         0.        ]
 [0.00032604 0.99967396]
 [0.9999999  0.00000011]] (0.891 sec)
INFO:tensorflow:loss = 3.488723e-05, step = 11901 (1.838 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.00001658 0.99998343]
 [0.         1.        ]
 [1.         0.        ]
 [0.99999785 0.00000213]
 [0.00000006 1.        ]
 [0.00009738 0.9999026 ]
 [0.99999976 0.00000026]
 [0.00000112 0.9999989 ]] (1.000 sec)
INFO:tensorflow:global_step/sec: 51.4383
INFO:tensorflow:probabilities = [[0.9999999  0.00000007]
 [0.95323217 0.04676784]
 [0.00002689 0.99997306]
 [0.         1.        ]
 [0.99948597 0.00051404]
 [0.00052349 0.9994765 ]
 [1.         0.        ]
 [0.00000004 1.        ]
 [0.00000018 0.99999976]
 [0.9999974  0.00000265]] (0.944 sec)
INFO:tensorflow:loss = 0.004896451, step = 12001 (1.944 sec)
INFO:tensorflow:probabilities = [[0.99229866 0.00770131]
 [0.99999905 0.00000091]
 [0.99999034 0.00000971]
 [0.         1.        ]
 [0.00000784 0.99999213]
 [0.         1.        ]
 [0.99998236 0.00001762]
 [1.         0.        ]
 [0.00001206 0.99998796]
 [0.999982   0.00001797]] (0.975 sec)
INFO:tensorflow:global_step/sec: 49.9994
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000045 0.9999995 ]
 [0.00000138 0.99999857]
 [0.9999342  0.00006579]
 [0.00000006 1.        ]
 [0.99999976 0.00000019]
```

```
 [1.         0.        ]
 [0.00000036 0.99999964]] (1.025 sec)
INFO:tensorflow:loss = 6.8304753e-06, step = 12101 (2.000 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000127 0.9999987 ]
 [1.         0.00000003]
 [0.00000016 0.9999999 ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.00000653 0.99999344]
 [1.         0.        ]] (1.051 sec)
INFO:tensorflow:global_step/sec: 47.7082
INFO:tensorflow:probabilities = [[0.00000004 1.        ]
 [0.00000007 0.9999999 ]
 [0.00603777 0.9939622 ]
 [0.00074962 0.99925035]
 [0.00000001 1.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [0.00000004 1.        ]
 [1.         0.00000002]
 [0.00000003 1.        ]] (1.045 sec)
INFO:tensorflow:loss = 0.00068060757, step = 12201 (2.096 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000002 1.        ]
 [0.99999464 0.00000532]
 [1.         0.00000001]
 [1.         0.        ]
 [0.9999999  0.00000015]
 [0.9987697  0.00123022]
 [0.00000023 0.99999976]
 [0.00000023 0.99999976]
 [0.         1.        ]] (1.024 sec)
INFO:tensorflow:global_step/sec: 48.2482
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.0000154  0.9999846 ]
 [0.         1.        ]
 [1.         0.00000003]
 [0.         1.        ]
 [0.99998784 0.00001216]
 [1.         0.        ]
 [0.00000002 1.        ]
 [0.         1.        ]
 [0.00000578 0.9999943 ]] (1.049 sec)
INFO:tensorflow:loss = 3.325918e-06, step = 12301 (2.073 sec)
INFO:tensorflow:probabilities = [[0.99999774 0.00000224]
 [1.         0.00000002]
 [0.0001421  0.9998579 ]
 [1.         0.00000001]
 [1.         0.        ]
 [0.00000017 0.9999999 ]
 [0.9999982  0.00000182]
 [0.00000826 0.9999918 ]
 [0.         1.        ]
 [1.         0.        ]] (1.023 sec)
INFO:tensorflow:global_step/sec: 46.7871
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.0000001  0.9999999 ]
 [0.00364426 0.9963558 ]
```

```
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.9998636  0.00013641]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]] (1.114 sec)
INFO:tensorflow:loss = 0.0003787392, step = 12401 (2.138 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.00000002]
 [1.         0.        ]
 [1.         0.00000002]
 [0.00000562 0.9999944 ]
 [1.         0.        ]
 [0.00000003 1.        ]
 [0.9977724  0.00222762]
 [1.         0.        ]
 [0.         1.        ]] (1.132 sec)
INFO:tensorflow:global_step/sec: 43.6026
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.00000286 0.99999714]
 [0.         1.        ]
 [0.99999964 0.00000032]
 [0.00000009 0.9999999 ]
 [0.         1.        ]
 [0.00026632 0.9997336 ]
 [1.         0.        ]] (1.162 sec)
INFO:tensorflow:loss = 2.6973514e-05, step = 12501 (2.294 sec)
INFO:tensorflow:probabilities = [[1.         0.00000005]
 [0.00000001 1.        ]
 [0.99999905 0.0000009 ]
 [0.00000028 0.99999976]
 [0.00001523 0.99998474]
 [0.9999862  0.00001381]
 [1.         0.        ]
 [0.9999999  0.00000007]
 [0.         1.        ]
 [0.         1.        ]] (1.189 sec)
INFO:tensorflow:global_step/sec: 43.6639
INFO:tensorflow:probabilities = [[0.00000251 0.9999975 ]
 [1.         0.        ]
 [0.00000004 1.        ]
 [0.084392   0.915608  ]
 [0.00000008 0.9999999 ]
 [1.         0.        ]
 [1.         0.00000003]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000212 0.99999785]] (1.102 sec)
INFO:tensorflow:loss = 0.008817175, step = 12601 (2.290 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9999993  0.00000077]
 [1.         0.00000004]
 [0.00108705 0.99891293]
 [0.00021215 0.99978787]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.99952185 0.00047813]
```

```
 [0.         1.        ]] (1.224 sec)
INFO:tensorflow:global_step/sec: 39.9697
INFO:tensorflow:probabilities = [[0.9999417  0.00005835]
 [0.00000002 1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000083 0.99999917]
 [0.00001677 0.9999832 ]
 [0.         1.        ]
 [0.9999943  0.00000569]
 [0.         1.        ]
 [1.         0.        ]] (1.278 sec)
INFO:tensorflow:loss = 8.165651e-06, step = 12701 (2.502 sec)
INFO:tensorflow:probabilities = [[0.99999976 0.0000002 ]
 [0.99999845 0.00000154]
 [0.99999964 0.00000037]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999999  0.00000006]
 [1.         0.        ]
 [0.00000637 0.9999937 ]
 [1.         0.        ]] (1.311 sec)
INFO:tensorflow:global_step/sec: 38.6943
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.99999845 0.00000154]
 [0.9999982  0.00000183]
 [0.00000495 0.9999951 ]
 [0.         1.        ]
 [0.00000317 0.9999968 ]
 [0.         1.        ]
 [0.99999356 0.00000648]
 [0.00001339 0.99998665]
 [0.00467955 0.9953205 ]] (1.274 sec)
INFO:tensorflow:loss = 0.00047217106, step = 12801 (2.584 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [0.9999981  0.00000193]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000063 0.9999994 ]
 [1.         0.        ]] (1.279 sec)
INFO:tensorflow:global_step/sec: 36.9957
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000003 1.        ]
 [0.0000002  0.99999976]
 [0.00000037 0.99999964]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000002 1.        ]
 [0.         1.        ]
 [1.         0.00000001]
 [1.         0.        ]] (1.424 sec)
INFO:tensorflow:loss = 5.9604634e-08, step = 12901 (2.703 sec)
INFO:tensorflow:probabilities = [[0.00000121 0.9999988 ]
 [0.         1.        ]
 [0.00000004 1.        ]
 [1.         0.        ]
```

```
 [0.         1.        ]
 [1.         0.00000001]
 [0.9999869  0.00001307]
 [0.         1.        ]
 [0.         1.        ]
 [0.999984   0.00001603]] (1.371 sec)
INFO:tensorflow:global_step/sec: 36.9549
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [0.00000002 1.        ]
 [0.99999976 0.00000025]
 [0.12512779 0.8748722 ]
 [0.00022526 0.99977475]
 [1.         0.        ]
 [0.00000035 0.99999964]
 [0.         1.        ]
 [0.00000002 1.        ]] (1.335 sec)
INFO:tensorflow:loss = 0.013390332, step = 13001 (2.706 sec)
INFO:tensorflow:probabilities = [[0.9999987  0.00000126]
 [0.00084955 0.9991504 ]
 [0.         1.        ]
 [1.         0.00000003]
 [0.00000003 1.        ]
 [0.00000157 0.99999845]
 [0.00000705 0.99999297]
 [0.00000004 1.        ]
 [0.99870217 0.00129785]
 [0.99997807 0.00002198]] (1.386 sec)
INFO:tensorflow:global_step/sec: 34.2426
INFO:tensorflow:probabilities = [[0.00000005 1.        ]
 [0.00000047 0.9999995 ]
 [0.00000397 0.99999607]
 [0.9999918  0.00000828]
 [0.00001404 0.99998593]
 [0.999997   0.00000298]
 [0.         1.        ]
 [0.00006726 0.99993277]
 [0.99999964 0.00000034]
 [0.         1.        ]] (1.534 sec)
INFO:tensorflow:loss = 9.727237e-06, step = 13101 (2.921 sec)
INFO:tensorflow:probabilities = [[0.00000135 0.9999987 ]
 [0.         1.        ]
 [0.00000066 0.9999994 ]
 [0.99999964 0.00000032]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000003 1.        ]
 [0.9998172  0.00018279]
 [0.00000442 0.9999956 ]] (1.505 sec)
INFO:tensorflow:global_step/sec: 33.8966
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00018679 0.99981326]
 [0.9999995  0.00000043]
 [0.00000003 1.        ]
 [1.         0.        ]
 [0.9999956  0.00000439]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000002 1.        ]
 [0.9999436  0.00005634]] (1.446 sec)
```

```
INFO:tensorflow:loss = 2.4805548e-05, step = 13201 (2.950 sec)
INFO:tensorflow:probabilities = [[0.99999976 0.00000021]
 [0.00000021 0.99999976]
 [1.         0.        ]
 [0.         1.        ]
 [0.00003943 0.99996054]
 [1.         0.        ]
 [1.         0.00000002]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]] (1.538 sec)
INFO:tensorflow:global_step/sec: 32.9726
INFO:tensorflow:probabilities = [[0.00013941 0.9998605 ]
 [0.99997795 0.0000221 ]
 [0.         1.        ]
 [0.99999774 0.00000225]
 [0.9999862  0.00001382]
 [0.00000393 0.99999607]
 [0.         1.        ]
 [0.00000011 0.9999999 ]
 [0.00018504 0.99981505]
 [0.         1.        ]] (1.495 sec)
INFO:tensorflow:loss = 3.666606e-05, step = 13301 (3.032 sec)
INFO:tensorflow:probabilities = [[0.00000006 1.        ]
 [0.9999809  0.00001904]
 [0.9999962  0.00000383]
 [1.         0.00000004]
 [0.99999726 0.0000027 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00005718 0.9999428 ]
 [1.         0.        ]
 [1.         0.00000005]] (1.497 sec)
INFO:tensorflow:global_step/sec: 33.5279
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9999994  0.00000061]
 [0.00000122 0.9999988 ]
 [1.         0.        ]
 [0.00000006 1.        ]
 [0.00000094 0.99999905]
 [1.         0.        ]
 [0.99999547 0.00000456]
 [1.         0.        ]
 [0.         1.        ]] (1.486 sec)
INFO:tensorflow:loss = 7.2717546e-07, step = 13401 (2.983 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000041 0.99999964]
 [0.99999905 0.00000092]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999949  0.00000508]
 [0.         1.        ]
 [0.99999976 0.00000019]
 [0.0000095  0.99999046]] (1.542 sec)
INFO:tensorflow:global_step/sec: 32.9602
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.00106201 0.998938  ]
 [1.         0.        ]
 [0.00000015 0.9999999 ]
 [0.94945043 0.05054956]
```

```
 [0.         1.        ]
 [0.0000256  0.99997437]
 [1.         0.        ]
 [0.00067849 0.9993216 ]
 [1.         0.        ]] (1.492 sec)
INFO:tensorflow:loss = 0.0053638937, step = 13501 (3.034 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [0.0000005  0.9999995 ]
 [1.         0.        ]] (1.575 sec)
INFO:tensorflow:global_step/sec: 31.5526
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9999962  0.00000383]
 [1.         0.        ]
 [0.9999987  0.0000013 ]
 [1.         0.00000001]
 [0.         1.        ]
 [1.         0.00000001]
 [0.0075433  0.9924567 ]
 [0.         1.        ]
 [1.         0.        ]] (1.594 sec)
INFO:tensorflow:loss = 0.0007577052, step = 13601 (3.169 sec)
INFO:tensorflow:probabilities = [[0.00000778 0.99999225]
 [1.         0.        ]
 [0.00000298 0.999997  ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.00000256 0.9999975 ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000075 0.9999993 ]
 [0.00000291 0.99999714]] (1.372 sec)
INFO:tensorflow:global_step/sec: 35.1949
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000003 1.        ]
 [0.99986064 0.00013932]
 [1.         0.        ]
 [0.00000002 1.        ]
 [0.00000003 1.        ]
 [1.         0.        ]
 [0.99999595 0.00000406]] (1.469 sec)
INFO:tensorflow:loss = 1.4339906e-05, step = 13701 (2.842 sec)
INFO:tensorflow:probabilities = [[0.99268675 0.00731326]
 [0.9999988  0.0000012 ]
 [1.         0.        ]
 [0.00000993 0.9999901 ]
 [1.         0.        ]
 [0.9999999  0.00000016]
 [1.         0.        ]
 [0.         1.        ]
 [0.00002132 0.99997866]
 [1.         0.        ]] (1.561 sec)
INFO:tensorflow:global_step/sec: 33.3509
```

```
INFO:tensorflow:probabilities = [[0.99998736 0.0000126 ]
 [0.99999964 0.00000032]
 [0.00000051 0.9999995 ]
 [1.         0.        ]
 [0.00004463 0.9999554 ]
 [0.9992976  0.00070239]
 [1.         0.        ]
 [0.00000254 0.9999975 ]
 [1.         0.        ]
 [0.00066996 0.99933004]] (1.437 sec)
INFO:tensorflow:loss = 0.00014333767, step = 13801 (2.998 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [0.00000001 1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000007 0.9999999 ]
 [1.         0.        ]
 [0.         1.        ]] (1.457 sec)
INFO:tensorflow:global_step/sec: 34.1103
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [0.99999976 0.00000026]
 [0.         1.        ]
 [0.999689   0.00031104]
 [1.         0.        ]
 [0.99999094 0.00000908]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]] (1.475 sec)
INFO:tensorflow:loss = 3.2038613e-05, step = 13901 (2.932 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.99995553 0.00004449]
 [0.0041495  0.99585044]
 [0.9999858  0.00001418]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000003 1.        ]
 [1.         0.        ]] (1.542 sec)
INFO:tensorflow:global_step/sec: 31.4965
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00025686 0.99974316]
 [0.99999976 0.00000021]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000011 0.9999999 ]
 [1.         0.        ]
 [0.00000023 0.99999976]
 [0.0000006  0.9999994 ]] (1.633 sec)
INFO:tensorflow:loss = 2.5805512e-05, step = 14001 (3.175 sec)
INFO:tensorflow:probabilities = [[1.         0.00000005]
 [1.         0.        ]
 [0.00000015 0.9999999 ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.00000457 0.99999547]
```

```
 [1.         0.        ]
 [0.9999994  0.00000063]
 [1.         0.        ]
 [1.         0.        ]] (1.679 sec)
INFO:tensorflow:global_step/sec: 29.9269
INFO:tensorflow:probabilities = [[0.99999845 0.00000152]
 [1.         0.        ]
 [1.         0.        ]
 [0.99999857 0.00000141]
 [1.         0.        ]
 [1.         0.00000003]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.00000136 0.9999987 ]
 [0.00000108 0.9999989 ]] (1.662 sec)
INFO:tensorflow:loss = 5.3644146e-07, step = 14101 (3.341 sec)
INFO:tensorflow:probabilities = [[0.00000002 1.        ]
 [0.00000001 1.        ]
 [0.00000008 0.9999999 ]
 [1.         0.00000002]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00006316 0.9999368 ]] (1.508 sec)
INFO:tensorflow:global_step/sec: 31.3243
INFO:tensorflow:probabilities = [[0.00000042 0.9999995 ]
 [0.99795353 0.0020465 ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00001644 0.99998355]
 [0.         1.        ]
 [0.00000915 0.9999908 ]
 [0.9999932  0.00000675]
 [0.         1.        ]
 [1.         0.00000005]] (1.684 sec)
INFO:tensorflow:loss = 0.000208144, step = 14201 (3.192 sec)
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000006 1.        ]
 [0.0000004  0.99999964]
 [0.         1.        ]
 [0.00000017 0.9999999 ]] (1.677 sec)
INFO:tensorflow:global_step/sec: 29.6531
INFO:tensorflow:probabilities = [[0.00000475 0.99999523]
 [1.         0.        ]
 [1.         0.        ]
 [0.00001795 0.999982  ]
 [1.         0.00000002]
 [0.00088422 0.99911577]
 [0.9999999  0.00000013]
 [0.9999982  0.00000185]
 [1.         0.        ]
 [0.00000805 0.9999919 ]] (1.696 sec)
INFO:tensorflow:loss = 9.174007e-05, step = 14301 (3.373 sec)
INFO:tensorflow:probabilities = [[0.9999999  0.00000012]
```

```
 [1.         0.        ]
 [0.         1.        ]
 [0.00005651 0.9999435 ]
 [1.         0.00000003]
 [0.00198381 0.99801624]
 [0.00000004 1.        ]
 [0.0001123  0.9998877 ]
 [1.         0.        ]
 [0.06481562 0.9351844 ]] (1.800 sec)
INFO:tensorflow:global_step/sec: 27.41
INFO:tensorflow:probabilities = [[0.99999166 0.00000829]
 [1.         0.00000003]
 [0.         1.        ]
 [0.9999999  0.00000015]
 [1.         0.        ]
 [0.00000909 0.99999094]
 [1.         0.        ]
 [0.9999989  0.0000011 ]
 [0.00000034 0.99999964]
 [1.         0.        ]] (1.848 sec)
INFO:tensorflow:loss = 1.89542e-06, step = 14401 (3.648 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00696163 0.99303836]
 [0.999979   0.00002095]
 [0.00000216 0.99999785]
 [0.         1.        ]
 [0.999998   0.00000206]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00056588 0.99943405]] (1.822 sec)
INFO:tensorflow:global_step/sec: 27.174
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00001982 0.9999802 ]
 [1.         0.        ]
 [0.00000006 0.9999999 ]
 [0.9999989  0.00000109]
 [1.         0.        ]
 [0.99999964 0.00000036]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000009 0.9999999 ]] (1.858 sec)
INFO:tensorflow:loss = 2.1457477e-06, step = 14501 (3.680 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [0.00000049 0.9999995 ]
 [0.00000012 0.9999999 ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.03769926 0.9623007 ]] (1.823 sec)
INFO:tensorflow:global_step/sec: 28.1967
INFO:tensorflow:probabilities = [[0.00000012 0.9999999 ]
 [0.00000068 0.9999993 ]
 [0.         1.        ]
 [0.00000406 0.99999595]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000028 0.99999976]
```

```
 [0.9999981  0.00000192]
 [0.0000003  0.99999976]
 [0.00024867 0.9997514 ]] (1.723 sec)
INFO:tensorflow:loss = 2.5591144e-05, step = 14601 (3.547 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00001357 0.9999864 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999999  0.00000011]
 [0.99999976 0.00000026]
 [0.9999422  0.00005776]] (1.833 sec)
INFO:tensorflow:global_step/sec: 27.1782
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00010141 0.99989855]
 [0.00068114 0.99931884]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000001 1.        ]] (1.847 sec)
INFO:tensorflow:loss = 7.828485e-05, step = 14701 (3.679 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000541 0.99999464]
 [0.9984497  0.00155026]
 [0.00198846 0.99801147]
 [0.         1.        ]] (1.729 sec)
INFO:tensorflow:global_step/sec: 28.0742
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.99999976 0.00000021]
 [0.         1.        ]
 [0.11955117 0.8804488 ]
 [0.00000017 0.9999999 ]
 [0.00000002 1.        ]
 [0.9999995  0.00000049]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000001 1.        ]] (1.833 sec)
INFO:tensorflow:loss = 0.012732434, step = 14801 (3.562 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.0000001  0.9999999 ]
 [0.99999964 0.0000003 ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.9999999  0.00000013]
 [1.         0.        ]
 [0.00009522 0.99990475]
 [1.         0.00000004]
 [1.         0.        ]] (1.834 sec)
INFO:tensorflow:global_step/sec: 27.9846
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00004587 0.9999541 ]
```

```
 [1.         0.        ]
 [0.9999831  0.00001689]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.9999764  0.00002366]
 [1.         0.        ]
 [1.         0.        ]] (1.739 sec)
INFO:tensorflow:loss = 8.642526e-06, step = 14901 (3.573 sec)
INFO:tensorflow:probabilities = [[0.9996302  0.00036974]
 [0.         1.        ]
 [0.00000205 0.999998  ]
 [0.99999726 0.00000274]
 [0.00002356 0.9999764 ]
 [0.9999722  0.00002783]
 [1.         0.        ]
 [0.00000823 0.9999918 ]
 [0.00000003 1.        ]
 [1.         0.        ]] (1.690 sec)
INFO:tensorflow:global_step/sec: 30.2144
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.00000012 0.9999999 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000011 0.9999999 ]
 [0.         1.        ]
 [0.00000023 0.99999976]
 [1.         0.00000003]
 [1.         0.        ]
 [1.         0.        ]] (1.620 sec)
INFO:tensorflow:loss = 4.7683713e-08, step = 15001 (3.310 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00009503 0.999905  ]
 [0.00000001 1.        ]
 [1.         0.00000003]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.0003588  0.9996412 ]
 [0.9999937  0.00000626]] (1.720 sec)
INFO:tensorflow:global_step/sec: 29.7666
INFO:tensorflow:probabilities = [[0.00000507 0.9999949 ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.99999857 0.00000147]] (1.639 sec)
INFO:tensorflow:loss = 6.5564967e-07, step = 15101 (3.359 sec)
INFO:tensorflow:probabilities = [[0.99999976 0.00000019]
 [0.         1.        ]
 [0.         1.        ]
 [0.0000007  0.9999993 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.99999976 0.00000021]
 [0.         1.        ]
```

```
 [0.9999995  0.00000048]
 [1.         0.        ]] (1.496 sec)
INFO:tensorflow:global_step/sec: 33.6065
INFO:tensorflow:probabilities = [[0.0011283  0.9988716 ]
 [0.         1.        ]
 [0.9999999  0.00000014]
 [0.00000026 0.99999976]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.00000003]] (1.479 sec)
INFO:tensorflow:loss = 0.00011293472, step = 15201 (2.975 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.9999988  0.00000122]
 [0.         1.        ]
 [0.00000194 0.9999981 ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.         1.        ]] (1.414 sec)
INFO:tensorflow:global_step/sec: 35.2782
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000001 1.        ]
 [1.         0.        ]
 [1.         0.00000004]
 [0.9997086  0.00029138]
 [0.00000002 1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00035489 0.9996451 ]
 [0.00153932 0.99846065]] (1.421 sec)
INFO:tensorflow:loss = 0.0002186913, step = 15301 (2.835 sec)
INFO:tensorflow:probabilities = [[0.00001613 0.9999839 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.99997735 0.0000226 ]
 [0.9999951  0.00000491]
 [1.         0.        ]
 [0.99400324 0.00599675]
 [0.99994504 0.00005491]
 [0.         1.        ]
 [1.         0.00000001]] (1.437 sec)
INFO:tensorflow:global_step/sec: 35.8732
INFO:tensorflow:probabilities = [[0.99999964 0.0000003 ]
 [0.00000003 1.        ]
 [0.00000449 0.99999547]
 [1.         0.        ]
 [0.00000079 0.99999917]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]] (1.350 sec)
INFO:tensorflow:loss = 5.722035e-07, step = 15401 (2.787 sec)
INFO:tensorflow:probabilities = [[0.0000044  0.9999956 ]
 [1.         0.00000004]
 [1.         0.00000001]
```

```
 [0.9999937  0.00000626]
 [0.00000172 0.99999833]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.99999905 0.00000098]
 [0.         1.        ]] (1.327 sec)
INFO:tensorflow:global_step/sec: 39.5124
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9999968  0.00000327]
 [0.00000003 1.        ]
 [1.         0.        ]
 [0.9999999  0.00000006]
 [0.9999852  0.00001473]
 [0.00000066 0.9999993 ]
 [1.         0.        ]
 [0.9999995  0.00000051]
 [0.000036   0.999964  ]] (1.204 sec)
INFO:tensorflow:loss = 5.531235e-06, step = 15501 (2.531 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000026 0.99999976]
 [0.00036968 0.99963033]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00007861 0.9999213 ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]] (1.366 sec)
INFO:tensorflow:global_step/sec: 38.7849
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.99990404 0.00009595]
 [0.00000344 0.99999654]
 [0.99999905 0.0000009 ]
 [0.00000001 1.        ]
 [0.00000033 0.99999964]
 [0.99999976 0.00000022]
 [1.         0.        ]
 [1.         0.        ]
 [0.99999654 0.00000341]] (1.212 sec)
INFO:tensorflow:loss = 1.0442272e-05, step = 15601 (2.578 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00001012 0.99998987]
 [0.00010934 0.9998907 ]
 [0.         1.        ]
 [0.00000007 0.9999999 ]
 [0.         1.        ]
 [1.         0.00000002]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]] (1.249 sec)
INFO:tensorflow:global_step/sec: 40.2741
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9999993  0.0000007 ]
 [1.         0.00000001]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.00000002]
 [0.         1.        ]
 [0.         1.        ]
```

```
 [0.00296008 0.99703985]] (1.234 sec)
INFO:tensorflow:loss = 0.00029652243, step = 15701 (2.483 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00741278 0.99258727]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000042 0.9999995 ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]] (1.207 sec)
INFO:tensorflow:global_step/sec: 40.8167
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000076 0.9999993 ]
 [0.00000006 1.        ]
 [0.00000266 0.9999974 ]
 [0.00001731 0.9999827 ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00005028 0.9999497 ]
 [0.99999964 0.00000034]
 [0.         1.        ]] (1.242 sec)
INFO:tensorflow:loss = 7.1285735e-06, step = 15801 (2.450 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [1.         0.00000002]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.00000002]
 [0.00000002 1.        ]
 [0.00000786 0.99999213]
 [0.00000034 0.99999964]] (1.242 sec)
INFO:tensorflow:global_step/sec: 42.3031
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9761888  0.02381115]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000031 0.99999964]
 [0.         1.        ]
 [0.9999999  0.00000012]
 [0.9999994  0.00000054]
 [0.9999956  0.00000437]
 [1.         0.        ]] (1.121 sec)
INFO:tensorflow:loss = 0.0024104759, step = 15901 (2.364 sec)
INFO:tensorflow:probabilities = [[0.45412672 0.5458733 ]
 [0.         1.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [0.9999999  0.0000001 ]
 [0.99979836 0.00020165]
 [1.         0.        ]
 [0.00000002 1.        ]
 [0.         1.        ]
 [0.00001466 0.99998534]] (1.125 sec)
INFO:tensorflow:global_step/sec: 43.9619
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9999999  0.00000007]
 [1.         0.        ]
 [0.00000039 0.99999964]
```

```
 [0.00000005 1.        ]
 [0.         1.        ]
 [0.9999429  0.00005706]
 [0.9999958  0.00000412]
 [0.9999999  0.00000007]
 [1.         0.        ]] (1.150 sec)
INFO:tensorflow:loss = 6.1867986e-06, step = 16001 (2.275 sec)
INFO:tensorflow:probabilities = [[0.99999    0.00001004]
 [0.99999785 0.00000218]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000792 0.99999213]
 [0.9999999  0.00000011]
 [0.00000001 1.        ]
 [0.00000015 0.9999999 ]
 [0.99999785 0.00000209]] (1.107 sec)
INFO:tensorflow:global_step/sec: 44.8236
INFO:tensorflow:probabilities = [[1.         0.00000006]
 [0.00008251 0.9999175 ]
 [0.         1.        ]
 [0.00000003 1.        ]
 [0.00000026 0.99999976]
 [0.99999547 0.00000457]
 [0.96750736 0.03249263]
 [1.         0.        ]
 [0.00000002 1.        ]
 [0.06486149 0.9351385 ]] (1.124 sec)
INFO:tensorflow:loss = 0.010018009, step = 16101 (2.231 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.         1.        ]
 [0.00077864 0.9992213 ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [1.         0.00000004]
 [0.9999995  0.00000044]] (1.156 sec)
INFO:tensorflow:global_step/sec: 43.2249
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000026 0.99999976]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999999  0.00000011]] (1.158 sec)
INFO:tensorflow:loss = 3.5762785e-08, step = 16201 (2.314 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00725975 0.9927402 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.9994854  0.00051456]
 [1.         0.        ]
 [0.99999976 0.00000026]
 [0.0000011  0.9999989 ]
 [1.         0.        ]
 [0.00002537 0.9999746 ]] (1.124 sec)
```

```
INFO:tensorflow:global_step/sec: 44.8087
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9999913  0.00000866]
 [0.00000036 0.99999964]
 [1.         0.        ]
 [0.9999989  0.00000113]
 [0.9996722  0.00032787]
 [0.99999297 0.00000699]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.00000015 0.9999999 ]] (1.108 sec)
INFO:tensorflow:loss = 3.4517627e-05, step = 16301 (2.232 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9974892  0.00251076]
 [1.         0.00000001]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.00000002]
 [1.         0.        ]
 [0.00000044 0.9999995 ]
 [0.         1.        ]
 [0.         1.        ]] (1.151 sec)
INFO:tensorflow:global_step/sec: 43.0766
INFO:tensorflow:probabilities = [[0.00000002 1.        ]
 [0.00001889 0.99998116]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00007769 0.9999223 ]
 [0.9999994  0.00000059]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]] (1.170 sec)
INFO:tensorflow:loss = 9.715237e-06, step = 16401 (2.321 sec)
INFO:tensorflow:probabilities = [[0.00000603 0.9999939 ]
 [1.         0.        ]
 [1.         0.00000003]
 [0.814564   0.18543598]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.9999968  0.0000032 ]] (1.200 sec)
INFO:tensorflow:global_step/sec: 41.7155
INFO:tensorflow:probabilities = [[0.00000019 0.99999976]
 [0.00172331 0.9982767 ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000128 0.9999987 ]
 [0.         1.        ]
 [0.00001689 0.9999831 ]
 [1.         0.        ]
 [0.0003704  0.9996296 ]
 [0.00000044 0.9999995 ]] (1.198 sec)
INFO:tensorflow:loss = 0.00021141695, step = 16501 (2.398 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [0.00022793 0.99977213]
 [0.         1.        ]
 [1.         0.        ]
```

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 [1.         0.        ]
 [1.         0.        ]
 [0.99990594 0.00009405]
 [0.00174646 0.9982535 ]
 [1.         0.        ]] (1.118 sec)
INFO:tensorflow:global_step/sec: 44.4041
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.00000001]
 [0.9999999  0.00000018]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000003 1.        ]
 [0.00044784 0.9995522 ]
 [0.         1.        ]
 [0.0007457  0.9992543 ]
 [0.         1.        ]] (1.134 sec)
INFO:tensorflow:loss = 0.000119397926, step = 16601 (2.252 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.0006802  0.9993198 ]
 [1.         0.        ]
 [0.00336822 0.9966318 ]
 [0.         1.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [1.         0.00000003]
 [0.00004385 0.99995613]] (1.206 sec)
INFO:tensorflow:global_step/sec: 40.8309
INFO:tensorflow:probabilities = [[0.99989843 0.00010161]
 [0.00007582 0.9999242 ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.0000001  0.9999999 ]
 [0.9999994  0.00000054]
 [0.         1.        ]] (1.243 sec)
INFO:tensorflow:loss = 1.7809065e-05, step = 16701 (2.449 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [0.00000097 0.99999905]
 [1.         0.        ]
 [0.05294953 0.9470504 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000024 0.99999976]
 [0.0000011  0.9999989 ]
 [0.00000025 0.99999976]] (1.308 sec)
INFO:tensorflow:global_step/sec: 38.5413
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.00000002 1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.99971205 0.00028798]
 [0.01276895 0.9872311 ]
 [1.         0.        ]
 [1.         0.        ]] (1.287 sec)
INFO:tensorflow:loss = 0.0013139126, step = 16801 (2.595 sec)
```

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INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000055 0.9999994 ]
 [0.00000273 0.99999726]
 [0.00002752 0.99997246]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00009124 0.9999088 ]] (1.336 sec)
INFO:tensorflow:global_step/sec: 36.9125
INFO:tensorflow:probabilities = [[0.99958354 0.0004165 ]
 [0.00000172 0.99999833]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.99999857 0.00000147]
 [0.00000026 0.99999976]
 [0.00928167 0.9907183 ]
 [0.00000263 0.9999974 ]
 [1.         0.        ]] (1.373 sec)
INFO:tensorflow:loss = 0.00097475544, step = 16901 (2.709 sec)
INFO:tensorflow:probabilities = [[0.992446   0.00755403]
 [1.         0.        ]
 [0.00000005 1.        ]
 [0.00000062 0.9999994 ]
 [0.00000042 0.9999995 ]
 [1.         0.00000001]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.99999905 0.000001  ]] (1.375 sec)
INFO:tensorflow:global_step/sec: 36.2042
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999094  0.00009058]
 [0.99997056 0.00002942]
 [0.9999994  0.00000064]
 [0.99999917 0.00000078]
 [1.         0.        ]
 [0.         1.        ]
 [0.99999917 0.0000008 ]] (1.387 sec)
INFO:tensorflow:loss = 1.2230419e-05, step = 17001 (2.762 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [0.99999297 0.00000699]
 [0.99860966 0.00139033]
 [1.         0.        ]
 [0.00011502 0.99988496]
 [0.         1.        ]
 [1.         0.00000002]
 [0.00000001 1.        ]
 [0.00000019 0.99999976]] (1.375 sec)
INFO:tensorflow:global_step/sec: 34.7809
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.00049436 0.99950564]
 [0.00000208 0.999998  ]
 [1.         0.00000001]
```

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 [0.00021063 0.9997894 ]
 [1.         0.        ]
 [0.00000037 0.99999964]
 [0.00000001 1.        ]] (1.500 sec)
INFO:tensorflow:loss = 7.0748196e-05, step = 17101 (2.876 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00035738 0.9996426 ]
 [0.00044392 0.999556  ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000173 0.9999982 ]
 [0.00000004 1.        ]
 [0.00000003 1.        ]
 [0.00000185 0.9999981 ]
 [0.         1.        ]] (1.477 sec)
INFO:tensorflow:global_step/sec: 33.9639
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.00000002]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00003026 0.9999697 ]
 [0.9986998  0.0013002 ]
 [1.         0.        ]
 [0.         1.        ]] (1.467 sec)
INFO:tensorflow:loss = 0.00013313166, step = 17201 (2.944 sec)
INFO:tensorflow:probabilities = [[0.99999964 0.00000033]
 [0.         1.        ]
 [0.00000037 0.99999964]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000571 0.9999943 ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [1.         0.        ]
 [1.         0.        ]] (1.477 sec)
INFO:tensorflow:global_step/sec: 33.5617
INFO:tensorflow:probabilities = [[0.00000066 0.9999993 ]
 [0.         1.        ]
 [0.         1.        ]
 [0.99991393 0.000086  ]
 [0.00000478 0.99999523]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]] (1.502 sec)
INFO:tensorflow:loss = 9.154902e-06, step = 17301 (2.980 sec)
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.99999917 0.00000085]
 [1.         0.        ]
 [0.000001   0.99999905]
 [0.00000119 0.9999988 ]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]] (1.558 sec)
INFO:tensorflow:global_step/sec: 31.1889
INFO:tensorflow:probabilities = [[0.         1.        ]
```

```
 [0.         1.        ]
 [0.9999993  0.00000072]
 [0.00000009 0.9999999 ]
 [1.         0.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [1.         0.        ]
 [0.99999285 0.00000719]
 [1.         0.        ]] (1.649 sec)
INFO:tensorflow:loss = 7.986997e-07, step = 17401 (3.206 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [0.45329627 0.5467037 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.00000593 0.99999404]] (1.589 sec)
INFO:tensorflow:global_step/sec: 31.7772
INFO:tensorflow:probabilities = [[0.99999857 0.0000014 ]
 [0.99999976 0.00000026]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000001 1.        ]
 [1.         0.00000005]
 [0.00000004 1.        ]
 [0.99999964 0.00000036]
 [1.         0.        ]] (1.558 sec)
INFO:tensorflow:loss = 2.0265568e-07, step = 17501 (3.147 sec)
INFO:tensorflow:probabilities = [[0.00015934 0.9998406 ]
 [1.         0.        ]
 [0.         1.        ]
 [0.9999747  0.00002527]
 [0.         1.        ]
 [1.         0.        ]
 [0.0000001  0.9999999 ]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999603  0.00003975]] (1.622 sec)
INFO:tensorflow:global_step/sec: 31.8002
INFO:tensorflow:probabilities = [[0.99999976 0.00000027]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.9999994  0.00000054]
 [0.00000005 1.        ]
 [0.         1.        ]
 [0.         1.        ]] (1.522 sec)
INFO:tensorflow:loss = 8.344648e-08, step = 17601 (3.145 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.         1.        ]
 [1.         0.00000001]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
```

```
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.00000018 0.9999999 ]] (1.700 sec)
INFO:tensorflow:global_step/sec: 28.4996
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999957  0.00000424]
 [0.         1.        ]
 [0.00000007 0.9999999 ]
 [0.         1.        ]] (1.810 sec)
INFO:tensorflow:loss = 4.4107347e-07, step = 17701 (3.509 sec)
INFO:tensorflow:probabilities = [[0.99999833 0.00000172]
 [0.9999999  0.00000009]
 [1.         0.        ]
 [1.         0.        ]
 [0.99999774 0.00000231]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.999997   0.00000301]
 [1.         0.        ]] (1.674 sec)
INFO:tensorflow:Saving checkpoints for 17800 into /tmp/pets_convnet_
model/model.ckpt.
INFO:tensorflow:Loss for final step: 9.929654e-06.
INFO:tensorflow:Calling model_fn.
WARNING:tensorflow:Entity <bound method Conv.call of <tensorflow.pyt
hon.layers.convolutional.Conv2D object at 0x6414d6c88>> could not be
transformed and will be executed as-is. Please report this to the Au
tgoGraph team. When filing the bug, set the verbosity to 10 (on Linu
x, `export AUTOGRAPH_VERBOSITY=10`) and attach the full output. Caus
e: converting <bound method Conv.call of <tensorflow.python.layers.c
onvolutional.Conv2D object at 0x6414d6c88>>: AssertionError: Bad arg
ument number for Name: 3, expecting 4
WARNING: Entity <bound method Conv.call of <tensorflow.python.layer
s.convolutional.Conv2D object at 0x6414d6c88>> could not be transfor
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t AUTOGRAPH_VERBOSITY=10`) and attach the full output. Cause: conver
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nal.Conv2D object at 0x6414d6c88>>: AssertionError: Bad argument num
ber for Name: 3, expecting 4
WARNING:tensorflow:Entity <bound method Pooling2D.call of <tensorflo
w.python.layers.pooling.MaxPooling2D object at 0x6414d6c88>> could n
ot be transformed and will be executed as-is. Please report this to
 the AutgoGraph team. When filing the bug, set the verbosity to 10
 (on Linux, `export AUTOGRAPH_VERBOSITY=10`) and attach the full out
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WARNING: Entity <bound method Pooling2D.call of <tensorflow.python.l
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```

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WARNING: Entity <bound method Conv.call of <tensorflow.python.layer
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ayers.pooling.MaxPooling2D object at 0x6414d6c88>> could not be tran
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onverting <bound method Pooling2D.call of <tensorflow.python.layers.
pooling.MaxPooling2D object at 0x6414d6c88>>: AssertionError: Bad ar
gument number for Name: 3, expecting 4
Pool2 output no of feature per image : 4096
WARNING:tensorflow:Entity <bound method Dense.call of <tensorflow.py
thon.layers.core.Dense object at 0x641e4b2b0>> could not be transfor
med and will be executed as-is. Please report this to the AutgoGraph
team. When filing the bug, set the verbosity to 10 (on Linux, `expor
t AUTOGRAPH_VERBOSITY=10`) and attach the full output. Cause: conver
ting <bound method Dense.call of <tensorflow.python.layers.core.Dens
e object at 0x641e4b2b0>>: AssertionError: Bad argument number for N
ame: 3, expecting 4
WARNING: Entity <bound method Dense.call of <tensorflow.python.layer
s.core.Dense object at 0x641e4b2b0>> could not be transformed and wi
ll be executed as-is. Please report this to the AutgoGraph team. Whe
n filing the bug, set the verbosity to 10 (on Linux, `export AUTOGRA
PH_VERBOSITY=10`) and attach the full output. Cause: converting <bou
nd method Dense.call of <tensorflow.python.layers.core.Dense object
 at 0x641e4b2b0>>: AssertionError: Bad argument number for Name: 3,
 expecting 4
WARNING:tensorflow:Entity <bound method Dropout.call of <tensorflow.
python.layers.core.Dropout object at 0x641c60b00>> could not be tran
sformed and will be executed as-is. Please report this to the AutgoG
raph team. When filing the bug, set the verbosity to 10 (on Linux, `
export AUTOGRAPH_VERBOSITY=10`) and attach the full output. Cause: c
onverting <bound method Dropout.call of <tensorflow.python.layers.co
re.Dropout object at 0x641c60b00>>: AssertionError: Bad argument num
ber for Name: 3, expecting 4
WARNING: Entity <bound method Dropout.call of <tensorflow.python.lay
ers.core.Dropout object at 0x641c60b00>> could not be transformed an
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When filing the bug, set the verbosity to 10 (on Linux, `export AUTO
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GRAPH_VERBOSITY=10`) and attach the full output. Cause: converting <
bound method Dropout.call of <tensorflow.python.layers.core.Dropout
 object at 0x641c60b00>>: AssertionError: Bad argument number for Na
me: 3, expecting 4
WARNING:tensorflow:Entity <bound method Dense.call of <tensorflow.py
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WARNING: Entity <bound method Dense.call of <tensorflow.python.layer
s.core.Dense object at 0x641c60b00>> could not be transformed and wi
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nd method Dense.call of <tensorflow.python.layers.core.Dense object
 at 0x641c60b00>>: AssertionError: Bad argument number for Name: 3,
 expecting 4
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2019-10-12T23:25:46Z
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /tmp/pets_convnet_model/mo
del.ckpt-17800
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Finished evaluation at 2019-10-12-23:25:47
INFO:tensorflow:Saving dict for global step 17800: accuracy = 0.55,
 global_step = 17800, loss = 5.625337
INFO:tensorflow:Saving 'checkpoint_path' summary for global step 178
00: /tmp/pets_convnet_model/model.ckpt-17800
{'accuracy': 0.55, 'loss': 5.625337, 'global_step': 17800}
```

In [ ]: