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

Import modules

In [1]:
```
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

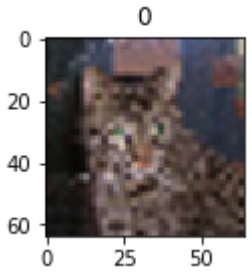
- Run the program with three num_steps : 100,200,300

In [15]:
```
reset_graph()

img_size = 32
num_channels = 3
img_size_flat = img_size * img_size * num_channels
img_shape = (img_size, img_size)
trainpath='./train'
testpath='./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 [16]:
```
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_CU
BIC)
            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 [17]:
```
def cnn_model_fn(features, labels, mode):
    # Input Layer
    input_layer = tf.reshape(features['x'], [-1, img_size, img_size, num_chann
els])

    # Conv Layer 1 - 32 filters of size 5X5
    convolution1 = tf.layers.conv2d( inputs = input_layer, filters=32, kernel_
size=[5,5], padding='same',
                                     activation=tf.nn.relu)

    # Pool Layer 1 - 2X2 with stride 2
    pool1 = tf.layers.max_pooling2d(inputs = convolution1, pool_size=[2,2], st
rides=2 )

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

    #pool Layer 2
    pool2= tf.layers.max_pooling2d(inputs = convolution2, pool_size=[2,2], str
ides=2 )

    #Fully Connected Layer
    #Flatten pool2 before we connect the fully connected layer
    pool2_outputshape= pool2.get_shape()
    num_features_pool2= pool2_outputshape[1:4].num_elements()
    print("Pool2 output no of features per image is:", num_features_pool2)
    pool2Flattened= tf.reshape(pool2, [-1, num_features_pool2])
    denselayer= tf.layers.dense(inputs= pool2Flattened, units= fc_size, activa
tion= tf.nn.relu)

    #Droput Layer
    dropout= tf.layers.dropout(inputs= denselayer, rate=0.4, training=mode==tf
.estimator.ModeKeys.TRAIN)

    #logits Layer
    logits= tf.layers.dense(inputs= dropout, units=2)

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

    #if the mode is to predict
    if mode==tf.estimator.ModeKeys.PREDICT:
        return tf.estimator.EstimatorSpec
    #if the mode is for training or eval
    onehotlabels= tf.one_hot(indices= tf.cast(labels, tf.int32), depth=2)
    loss=tf.losses.softmax_cross_entropy(onehot_labels= onehotlabels, logits=l
ogits)

    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_glob
al_step())
```

```
        return tf.estimator.EstimatorSpec(mode=mode, loss=loss, train_op= trai
n_op)

    eval_metric_ops= {"accuracy": tf.metrics.accuracy(labels= labels, predicti
ons= predictions['classes'])}
    return tf.estimator.EstimatorSpec(mode=mode, loss=loss, eval_metric_ops= e
val_metric_ops)
```

Run the tensorflow model

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

In [18]:
```
#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=50)
train_input_fn = tf.estimator.inputs.numpy_input_fn(x={"x": X_train}, y=y_train, batch_size=10,
                                                    num_epochs=None, shuffle=True)
pets_classifier.train(input_fn=train_input_fn, steps=num_steps, hooks=[logging_hook])
eval_input_fn = tf.estimator.inputs.numpy_input_fn(x={"x": X_test}, y=y_test, num_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_model', '_tf_
random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': No
ne, '_save_checkpoints_secs': 600, '_session_config': allow_soft_placement: t
rue
graph_options {
  rewrite_options {
    meta_optimizer_iterations: ONE
  }
}
, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_s
tep_count_steps': 100, '_train_distribute': None, '_device_fn': None, '_proto
col': None, '_eval_distribute': None, '_experimental_distribute': None, '_ser
vice': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterS
pec object at 0x7f6acc56a278>, '_task_type': 'worker', '_task_id': 0, '_globa
l_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': Tr
ue, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
Pool2 output no of features per image is: 4096
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /tmp/pets_convnet_model/model.ckpt-
300
WARNING:tensorflow:From /opt/anaconda3/lib/python3.7/site-packages/tensorflo
w/python/training/saver.py:1070: get_checkpoint_mtimes (from tensorflow.pytho
n.training.checkpoint_management) is deprecated and will be removed in a futu
re version.
Instructions for updating:
Use standard file utilities to get mtimes.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 300 into /tmp/pets_convnet_model/mode
l.ckpt.
INFO:tensorflow:probabilities = [[0.54515284 0.4548472 ]
 [0.50122124 0.4987788 ]
 [0.47502568 0.5249743 ]
 [0.437582   0.56241804]
 [0.49561867 0.50438136]
 [0.45828566 0.5417144 ]
 [0.5131456  0.4868543 ]
 [0.46441782 0.5355822 ]
 [0.4681592  0.5318408 ]
 [0.5028304  0.49716958]]
INFO:tensorflow:loss = 0.655409, step = 301
INFO:tensorflow:probabilities = [[0.39304876 0.60695124]
 [0.53736717 0.4626328 ]
 [0.5821672  0.41783282]
 [0.46414208 0.5358579 ]
 [0.6856927  0.31430724]
 [0.42264667 0.57735336]
 [0.4586594  0.54134065]
 [0.5377175  0.46228248]
 [0.352313   0.64768696]
 [0.59965456 0.4003454 ]] (0.684 sec)
INFO:tensorflow:global_step/sec: 77.241
INFO:tensorflow:probabilities = [[0.3505446  0.6494554 ]
```

```
 [0.5515197  0.44848037]
 [0.41413414 0.58586586]
 [0.36355495 0.63644505]
 [0.35358614 0.64641386]
 [0.32072437 0.6792756 ]
 [0.45931464 0.54068536]
 [0.43934038 0.5606596 ]
 [0.40598804 0.59401196]
 [0.3681875  0.6318126 ]] (0.611 sec)
INFO:tensorflow:loss = 0.578959, step = 401 (1.295 sec)
INFO:tensorflow:probabilities = [[0.32225668 0.6777433 ]
 [0.5260288  0.47397113]
 [0.2706222  0.7293778 ]
 [0.44456798 0.555432  ]
 [0.25955793 0.74044204]
 [0.35589617 0.6441038 ]
 [0.363725   0.63627505]
 [0.527555   0.472445  ]
 [0.332785   0.66721493]
 [0.42815298 0.5718471 ]] (0.606 sec)
INFO:tensorflow:global_step/sec: 82.2728
INFO:tensorflow:probabilities = [[0.7123596  0.28764036]
 [0.4942741  0.5057259 ]
 [0.43520257 0.5647974 ]
 [0.66043097 0.33956906]
 [0.68739355 0.31260642]
 [0.6576145  0.34238544]
 [0.54949224 0.4505077 ]
 [0.7189929  0.28100714]
 [0.55318373 0.4468163 ]
 [0.8269837  0.17301637]] (0.609 sec)
INFO:tensorflow:loss = 0.78216594, step = 501 (1.215 sec)
INFO:tensorflow:probabilities = [[0.748219   0.25178102]
 [0.41325736 0.58674264]
 [0.7309432  0.26905683]
 [0.4039498  0.5960502 ]
 [0.65757275 0.34242728]
 [0.36518157 0.6348185 ]
 [0.4435116  0.55648845]
 [0.64203906 0.35796097]
 [0.88920945 0.11079051]
 [0.5157581  0.48424196]] (0.606 sec)
INFO:tensorflow:global_step/sec: 82.1119
INFO:tensorflow:probabilities = [[0.38214445 0.6178556 ]
 [0.5867723  0.41322768]
 [0.38652208 0.6134779 ]
 [0.53418696 0.46581304]
 [0.5646593  0.4353407 ]
 [0.93163913 0.06836094]
 [0.32658437 0.67341566]
 [0.17952222 0.82047784]
 [0.4171148  0.58288515]
 [0.10848393 0.89151603]] (0.612 sec)
INFO:tensorflow:loss = 0.43550682, step = 601 (1.218 sec)
INFO:tensorflow:probabilities = [[0.4576032  0.54239684]
 [0.9150843  0.08491572]
 [0.9078689  0.09213112]
```

```
 [0.11780886 0.8821911 ]
 [0.7369378  0.2630622 ]
 [0.88122463 0.11877544]
 [0.16580577 0.83419424]
 [0.18679032 0.8132097 ]
 [0.77628464 0.22371532]
 [0.93988436 0.06011565]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.1759
INFO:tensorflow:probabilities = [[0.32768044 0.6723196 ]
 [0.9219811  0.07801896]
 [0.3527612  0.6472388 ]
 [0.19959219 0.80040777]
 [0.08430239 0.91569763]
 [0.64334303 0.35665697]
 [0.42535105 0.5746489 ]
 [0.22931808 0.77068186]
 [0.31204817 0.6879518 ]
 [0.7401784  0.25982156]] (0.608 sec)
INFO:tensorflow:loss = 0.38731432, step = 701 (1.217 sec)
INFO:tensorflow:probabilities = [[0.8279144  0.17208558]
 [0.04612342 0.95387655]
 [0.85595524 0.1440447 ]
 [0.29348952 0.7065105 ]
 [0.11136172 0.8886383 ]
 [0.72487205 0.2751279 ]
 [0.8530624  0.14693755]
 [0.02324936 0.9767506 ]
 [0.66205746 0.33794263]
 [0.04581498 0.954185  ]] (0.612 sec)
INFO:tensorflow:global_step/sec: 82.2034
INFO:tensorflow:probabilities = [[0.9211855  0.07881448]
 [0.29375532 0.7062447 ]
 [0.01676443 0.9832356 ]
 [0.9547128  0.04528714]
 [0.21360242 0.7863975 ]
 [0.73641217 0.26358777]
 [0.58342856 0.4165715 ]
 [0.93962634 0.06037363]
 [0.62471306 0.37528694]
 [0.10072111 0.8992789 ]] (0.605 sec)
INFO:tensorflow:loss = 0.27267295, step = 801 (1.217 sec)
INFO:tensorflow:probabilities = [[0.08719698 0.91280305]
 [0.3586187  0.6413813 ]
 [0.99316615 0.00683387]
 [0.92160386 0.07839613]
 [0.9101068  0.08989324]
 [0.74312305 0.25687695]
 [0.9253145  0.07468549]
 [0.98772126 0.01227874]
 [0.9595641  0.04043588]
 [0.4032929  0.59670705]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.9414
INFO:tensorflow:probabilities = [[0.40121982 0.5987802 ]
 [0.0052744  0.99472564]
 [0.9543502  0.04564985]
 [0.9758472  0.02415277]
 [0.9813557  0.01864433]
```

```
 [0.01759793 0.982402  ]
 [0.00319351 0.9968065 ]
 [0.04600899 0.953991  ]
 [0.49736217 0.5026378 ]
 [0.16120689 0.8387931 ]] (0.608 sec)
INFO:tensorflow:loss = 0.15504256, step = 901 (1.220 sec)
INFO:tensorflow:probabilities = [[0.9986914  0.00130867]
 [0.983444   0.01655596]
 [0.00253621 0.9974638 ]
 [0.9320357  0.06796429]
 [0.30897504 0.69102496]
 [0.8956089  0.10439109]
 [0.03817094 0.9618291 ]
 [0.01238585 0.98761415]
 [0.98022527 0.01977473]
 [0.7380825  0.2619175 ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.0546
INFO:tensorflow:probabilities = [[0.9884371  0.01156286]
 [0.9807329  0.01926706]
 [0.15432231 0.8456776 ]
 [0.99493754 0.00506248]
 [0.00367232 0.9963277 ]
 [0.9910115  0.00898856]
 [0.01005961 0.98994035]
 [0.00440669 0.99559325]
 [0.96524626 0.03475368]
 [0.08073916 0.9192608 ]] (0.610 sec)
INFO:tensorflow:loss = 0.03505703, step = 1001 (1.219 sec)
INFO:tensorflow:probabilities = [[0.00051937 0.99948066]
 [0.9978115  0.00218852]
 [0.02194127 0.9780587 ]
 [0.9802264  0.01977355]
 [0.99211323 0.00788672]
 [0.00168236 0.9983177 ]
 [0.17518656 0.8248134 ]
 [0.00209175 0.99790823]
 [0.14943331 0.8505666 ]
 [0.05019705 0.94980294]] (0.607 sec)
INFO:tensorflow:global_step/sec: 81.717
INFO:tensorflow:probabilities = [[0.00826081 0.99173915]
 [0.9041891  0.09581093]
 [0.997038   0.00296206]
 [0.05356246 0.94643754]
 [0.9975285  0.00247157]
 [0.99928826 0.00071182]
 [0.14221539 0.8577846 ]
 [0.9936604  0.0063396 ]
 [0.24917087 0.75082916]
 [0.42834407 0.5716559 ]] (0.616 sec)
INFO:tensorflow:loss = 0.11757724, step = 1101 (1.224 sec)
INFO:tensorflow:probabilities = [[0.01998456 0.98001546]
 [0.00786592 0.9921341 ]
 [0.00111267 0.99888736]
 [0.00455545 0.99544454]
 [0.21010825 0.7898918 ]
 [0.9968645  0.00313544]
 [0.00744369 0.9925564 ]
```

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 [0.9881309  0.01186908]
 [0.99986935 0.00013065]
 [0.2261575  0.7738426 ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.8049
INFO:tensorflow:probabilities = [[0.1242505  0.87574947]
 [0.0324957  0.9675043 ]
 [0.18389006 0.81610996]
 [0.99600047 0.00399946]
 [0.98550814 0.01449188]
 [0.97667754 0.02332254]
 [0.07272352 0.92727643]
 [0.9981517  0.00184828]
 [0.9999982  0.0000018 ]
 [0.00000207 0.999998  ]] (0.613 sec)
INFO:tensorflow:loss = 0.04884783, step = 1201 (1.222 sec)
INFO:tensorflow:probabilities = [[0.0162593  0.98374075]
 [0.00026034 0.9997397 ]
 [0.9591274  0.04087264]
 [0.70054185 0.29945818]
 [0.9331584  0.06684162]
 [0.99957114 0.00042882]
 [0.63319623 0.36680377]
 [0.99945396 0.00054602]
 [0.00196907 0.99803096]
 [0.00006341 0.9999366 ]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.2444
INFO:tensorflow:probabilities = [[0.00006684 0.9999331 ]
 [0.99988484 0.00011516]
 [0.00000028 0.99999976]
 [0.95310396 0.04689604]
 [0.999757   0.00024306]
 [0.0214887  0.9785113 ]
 [0.00031495 0.99968505]
 [0.01507603 0.98492396]
 [0.99334246 0.00665754]
 [0.00231815 0.99768186]] (0.618 sec)
INFO:tensorflow:loss = 0.0094686095, step = 1301 (1.231 sec)
INFO:tensorflow:probabilities = [[0.99999726 0.00000271]
 [0.01238578 0.98761415]
 [0.91483    0.08517002]
 [0.9976337  0.00236627]
 [0.9998771  0.00012285]
 [0.00162016 0.9983798 ]
 [0.00661886 0.99338114]
 [0.01306654 0.98693347]
 [0.99858665 0.00141334]
 [0.1839093  0.8160907 ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.758
INFO:tensorflow:probabilities = [[0.0006942  0.99930584]
 [0.99800223 0.00199782]
 [0.00002199 0.99997807]
 [0.99690163 0.00309845]
 [0.01813284 0.9818672 ]
 [0.9757976  0.02420242]
 [0.9999888  0.00001121]
 [0.9985007  0.00149925]
 [0.9999378  0.00006225]
```

```
 [0.9996138  0.00038616]] (0.615 sec)
INFO:tensorflow:loss = 0.005057874, step = 1401 (1.223 sec)
INFO:tensorflow:probabilities = [[0.0441996  0.9558004 ]
 [0.01688002 0.98311996]
 [0.9883061  0.01169387]
 [0.00946061 0.99053943]
 [0.99721164 0.00278835]
 [0.96698415 0.03301578]
 [0.00215019 0.9978498 ]
 [0.9999709  0.00002904]
 [0.9923652  0.00763482]
 [0.9871796  0.01282039]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.0351
INFO:tensorflow:probabilities = [[0.13953184 0.8604682 ]
 [0.99179286 0.00820709]
 [0.0000067  0.9999933 ]
 [0.00006958 0.9999304 ]
 [0.9994217  0.00057826]
 [0.00060969 0.99939024]
 [0.98607165 0.01392831]
 [0.00081727 0.99918276]
 [0.95184755 0.04815246]
 [0.00172741 0.99827254]] (0.610 sec)
INFO:tensorflow:loss = 0.022570748, step = 1501 (1.219 sec)
INFO:tensorflow:probabilities = [[0.0121967  0.9878033 ]
 [0.9811313  0.01886865]
 [0.00004858 0.99995136]
 [0.97978216 0.02021777]
 [0.99582195 0.00417806]
 [0.00011578 0.99988425]
 [0.00129515 0.9987048 ]
 [0.9998123  0.00018774]
 [0.8007376  0.19926238]
 [0.9831117  0.01688826]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.2002
INFO:tensorflow:probabilities = [[0.999928   0.00007195]
 [0.79178685 0.2082132 ]
 [0.9962554  0.00374463]
 [0.00720176 0.9927982 ]
 [0.00009096 0.99990904]
 [0.00027435 0.99972564]
 [0.9999869  0.00001316]
 [0.7970403  0.20295975]
 [0.05650221 0.94349784]
 [0.9999281  0.00007187]] (0.608 sec)
INFO:tensorflow:loss = 0.05299761, step = 1601 (1.217 sec)
INFO:tensorflow:probabilities = [[0.9783785  0.02162156]
 [0.99829143 0.0017086 ]
 [0.0000581  0.99994195]
 [0.99602664 0.00397338]
 [0.00008882 0.9999112 ]
 [0.00052727 0.9994728 ]
 [0.00413807 0.9958619 ]
 [0.00061728 0.99938273]
 [0.9994715  0.00052856]
 [0.00266777 0.9973322 ]] (0.615 sec)
INFO:tensorflow:global_step/sec: 81.5053
```

```
INFO:tensorflow:probabilities = [[0.00000084 0.99999917]
 [0.8092645  0.19073556]
 [0.00002602 0.999974  ]
 [0.9995555  0.00044443]
 [0.06849921 0.9315008 ]
 [0.999933   0.00006698]
 [0.00103732 0.99896264]
 [0.9997421  0.00025784]
 [0.00003708 0.9999629 ]
 [0.00123355 0.9987664 ]] (0.612 sec)
INFO:tensorflow:loss = 0.02856934, step = 1701 (1.227 sec)
INFO:tensorflow:probabilities = [[0.00007792 0.99992204]
 [0.6357464  0.36425358]
 [0.01512736 0.9848726 ]
 [0.9998821  0.00011784]
 [0.9999758  0.00002425]
 [0.00196855 0.99803144]
 [0.9999957  0.00000432]
 [0.99913955 0.00086039]
 [0.00004366 0.99995637]
 [0.00488798 0.995112  ]] (0.615 sec)
INFO:tensorflow:global_step/sec: 81.7023
INFO:tensorflow:probabilities = [[0.00097919 0.9990208 ]
 [0.90930897 0.090691  ]
 [0.00066879 0.99933124]
 [0.9985984  0.00140163]
 [0.00060068 0.9993993 ]
 [0.99933004 0.00066993]
 [0.13243017 0.8675698 ]
 [0.9996408  0.0003592 ]
 [0.00013793 0.9998621 ]
 [0.00008913 0.99991083]] (0.609 sec)
INFO:tensorflow:loss = 0.02420383, step = 1801 (1.224 sec)
INFO:tensorflow:probabilities = [[0.00000009 0.9999999 ]
 [0.00914054 0.99085945]
 [0.9999994  0.00000065]
 [0.00358798 0.996412  ]
 [0.9999989  0.00000105]
 [0.00000124 0.9999988 ]
 [0.9927222  0.00727777]
 [0.99961495 0.00038499]
 [0.00115291 0.9988471 ]
 [0.00085245 0.99914753]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.6805
INFO:tensorflow:probabilities = [[0.01728517 0.98271483]
 [0.00002675 0.9999733 ]
 [0.00089682 0.9991032 ]
 [0.00000161 0.99999845]
 [0.99898344 0.00101649]
 [0.00001906 0.9999809 ]
 [0.9999615  0.00003846]
 [0.00055278 0.99944717]
 [0.9442674  0.05573262]
 [0.00018242 0.99981755]] (0.615 sec)
INFO:tensorflow:loss = 0.0077517815, step = 1901 (1.224 sec)
INFO:tensorflow:probabilities = [[0.99944025 0.00055978]
 [0.99762136 0.00237866]
```

```
 [0.00069933 0.9993007 ]
 [0.9999951  0.00000485]
 [0.00043638 0.99956363]
 [0.04475186 0.9552481 ]
 [0.99985194 0.00014802]
 [0.02166891 0.9783311 ]
 [0.9999982  0.00000181]
 [0.00535621 0.9946438 ]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.9684
INFO:tensorflow:probabilities = [[0.0010341  0.99896586]
 [0.99999964 0.00000041]
 [0.99977225 0.0002277 ]
 [0.00002935 0.9999707 ]
 [0.00062509 0.9993749 ]
 [0.9996043  0.00039573]
 [0.99995875 0.0000413 ]
 [0.00001329 0.99998665]
 [0.00000369 0.9999963 ]
 [0.00000389 0.99999607]] (0.609 sec)
INFO:tensorflow:loss = 0.00023754811, step = 2001 (1.220 sec)
INFO:tensorflow:probabilities = [[0.99993837 0.0000616 ]
 [0.9999995  0.00000048]
 [0.00201807 0.9979819 ]
 [0.9830824  0.01691761]
 [0.00003137 0.99996865]
 [0.99999106 0.00000895]
 [0.00000653 0.99999344]
 [0.00014842 0.9998516 ]
 [0.00031397 0.999686  ]
 [0.00296953 0.9970305 ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.8902
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [0.00000166 0.99999833]
 [0.00005015 0.9999498 ]
 [0.0000068  0.9999932 ]
 [0.00068375 0.9993162 ]
 [0.04408007 0.95591986]
 [0.9998254  0.00017457]
 [0.98989034 0.01010966]
 [0.99938977 0.0006102 ]
 [0.00003634 0.99996364]] (0.612 sec)
INFO:tensorflow:loss = 0.005680634, step = 2101 (1.221 sec)
INFO:tensorflow:probabilities = [[0.27183232 0.72816765]
 [0.9999907  0.00000934]
 [0.00113654 0.99886346]
 [0.00002524 0.9999747 ]
 [0.02565522 0.9743448 ]
 [0.00046611 0.9995339 ]
 [1.         0.        ]
 [0.9987463  0.00125372]
 [0.75844324 0.24155681]
 [0.999275   0.000725  ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.4896
INFO:tensorflow:probabilities = [[0.00082488 0.99917513]
 [0.99998915 0.00001079]
 [0.9990133  0.00098672]
 [0.11351588 0.88648415]
```

```
 [0.00096998 0.99903   ]
 [0.99057055 0.00942947]
 [0.99969006 0.00031002]
 [0.00000022 0.99999976]
 [0.00000005 1.        ]
 [0.00437154 0.9956285 ]] (0.619 sec)
INFO:tensorflow:loss = 0.013745127, step = 2201 (1.227 sec)
INFO:tensorflow:probabilities = [[0.9999306  0.00006932]
 [0.9962968  0.00370315]
 [0.00462067 0.9953793 ]
 [0.9999424  0.0000576 ]
 [0.9984328  0.00156719]
 [0.99995935 0.00004066]
 [0.97934705 0.02065291]
 [0.9997104  0.00028955]
 [0.9996885  0.00031153]
 [0.9999975  0.0000025 ]] (0.616 sec)
INFO:tensorflow:global_step/sec: 81.4696
INFO:tensorflow:probabilities = [[0.9998066  0.00019348]
 [0.00063146 0.9993686 ]
 [0.9999826  0.00001743]
 [0.00024325 0.99975675]
 [0.99996567 0.0000343 ]
 [0.00000593 0.99999404]
 [0.07798588 0.9220141 ]
 [0.9994178  0.0005822 ]
 [0.99920577 0.00079422]
 [0.9983247  0.00167526]] (0.612 sec)
INFO:tensorflow:loss = 0.008537445, step = 2301 (1.228 sec)
INFO:tensorflow:probabilities = [[0.870946   0.12905398]
 [0.0000023  0.99999774]
 [0.03553718 0.9644628 ]
 [1.         0.        ]
 [0.999992   0.00000799]
 [0.00000076 0.9999993 ]
 [0.00184598 0.998154  ]
 [0.99856514 0.00143492]
 [0.00471779 0.99528223]
 [0.96791357 0.03208636]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.7359
INFO:tensorflow:probabilities = [[0.9975967  0.00240332]
 [0.9963063  0.00369373]
 [0.7900905  0.20990951]
 [0.0027222  0.9972778 ]
 [0.99696416 0.00303581]
 [0.30991223 0.69008774]
 [0.9884975  0.01150247]
 [0.00000309 0.9999969 ]
 [0.00002514 0.99997485]
 [0.01069736 0.9893027 ]] (0.614 sec)
INFO:tensorflow:loss = 0.06407698, step = 2401 (1.224 sec)
INFO:tensorflow:probabilities = [[0.00193326 0.9980667 ]
 [0.99988556 0.00011444]
 [0.9999113  0.00008864]
 [0.99790597 0.00209407]
 [0.999998   0.00000197]
 [0.99264127 0.00735868]
```

```
 [0.9999976  0.00000239]
 [0.00667803 0.99332196]
 [0.99999976 0.00000024]
 [0.00445096 0.9955491 ]] (0.608 sec)
INFO:tensorflow:global_step/sec: 82.065
INFO:tensorflow:probabilities = [[0.99999964 0.00000031]
 [0.9998282  0.00017178]
 [0.00003585 0.9999641 ]
 [0.9997943  0.00020577]
 [0.00001377 0.9999862 ]
 [0.00000373 0.9999963 ]
 [0.9999504  0.00004963]
 [0.00001536 0.9999846 ]
 [0.00002122 0.9999788 ]
 [1.         0.        ]] (0.611 sec)
INFO:tensorflow:loss = 5.174493e-05, step = 2501 (1.219 sec)
INFO:tensorflow:probabilities = [[0.9999999  0.00000008]
 [0.00000144 0.99999857]
 [0.00000016 0.9999999 ]
 [0.9998771  0.00012289]
 [0.00034788 0.99965215]
 [0.00000594 0.99999404]
 [0.00001362 0.9999864 ]
 [0.988214   0.01178596]
 [0.9998764  0.00012356]
 [0.25112528 0.7488747 ]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.9943
INFO:tensorflow:probabilities = [[0.06367107 0.9363289 ]
 [0.99999726 0.00000272]
 [0.00001332 0.99998665]
 [0.9999927  0.00000723]
 [0.99998426 0.00001578]
 [0.00000014 0.9999999 ]
 [0.69268537 0.30731466]
 [0.00170609 0.99829394]
 [0.99998677 0.00001323]
 [0.0000411  0.9999589 ]] (0.608 sec)
INFO:tensorflow:loss = 0.043476902, step = 2601 (1.219 sec)
INFO:tensorflow:probabilities = [[0.00000301 0.999997  ]
 [0.00014611 0.99985385]
 [0.999899   0.00010102]
 [0.9999701  0.0000299 ]
 [0.99565613 0.00434386]
 [0.00038094 0.999619  ]
 [0.9999467  0.00005334]
 [0.00003732 0.9999627 ]
 [0.00033231 0.99966764]
 [0.9992053  0.00079468]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.6331
INFO:tensorflow:probabilities = [[0.9842014  0.0157986 ]
 [0.0000265  0.99997354]
 [0.9999888  0.0000112 ]
 [0.00012892 0.999871  ]
 [0.00021898 0.9997811 ]
 [0.00000575 0.9999943 ]
 [0.00000204 0.999998  ]
 [0.99999523 0.00000474]
```

```
 [0.00062573 0.99937433]
 [0.00000763 0.9999924 ]] (0.612 sec)
INFO:tensorflow:loss = 0.0016956417, step = 2701 (1.225 sec)
INFO:tensorflow:probabilities = [[0.0000006  0.9999994 ]
 [0.0003451  0.9996549 ]
 [0.9926362  0.00736371]
 [0.00000179 0.9999982 ]
 [0.9999553  0.00004476]
 [0.9870302  0.01296979]
 [0.0000401  0.99995995]
 [0.9991665  0.00083355]
 [0.9999975  0.00000255]
 [0.9998901  0.00010995]] (0.614 sec)
INFO:tensorflow:global_step/sec: 81.7467
INFO:tensorflow:probabilities = [[0.99999964 0.00000036]
 [0.99868375 0.00131623]
 [0.99977356 0.00022641]
 [0.08733267 0.9126673 ]
 [0.00002425 0.9999758 ]
 [0.00011669 0.9998833 ]
 [0.9999788  0.00002124]
 [0.99652475 0.00347523]
 [0.9990482  0.00095182]
 [0.9998673  0.00013264]] (0.609 sec)
INFO:tensorflow:loss = 0.009765616, step = 2801 (1.223 sec)
INFO:tensorflow:probabilities = [[0.0015366  0.9984634 ]
 [0.00509224 0.9949078 ]
 [0.99906176 0.00093827]
 [0.         1.        ]
 [0.99993265 0.00006735]
 [0.9767181  0.02328191]
 [0.00234005 0.9976599 ]
 [0.0035058  0.99649423]
 [0.9999989  0.00000103]
 [0.9999933  0.00000666]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.7239
INFO:tensorflow:probabilities = [[0.9985745  0.0014255 ]
 [0.9999999  0.00000008]
 [0.01589848 0.9841015 ]
 [0.00000393 0.99999607]
 [0.9450794  0.05492055]
 [0.00000036 0.99999964]
 [0.00092841 0.9990716 ]
 [0.9986242  0.00137579]
 [0.0000015  0.99999845]
 [0.00168011 0.9983198 ]] (0.612 sec)
INFO:tensorflow:loss = 0.0077932193, step = 2901 (1.224 sec)
INFO:tensorflow:probabilities = [[0.00000008 0.9999999 ]
 [0.9999963  0.0000037 ]
 [0.99999785 0.00000212]
 [0.99256116 0.00743885]
 [0.00024925 0.9997508 ]
 [0.9994584  0.00054162]
 [0.9999927  0.00000725]
 [0.00053517 0.9994648 ]
 [0.00162186 0.99837816]
 [0.9563411  0.04365895]] (0.617 sec)
```

```
INFO:tensorflow:global_step/sec: 81.1889
INFO:tensorflow:probabilities = [[0.00064258 0.9993574 ]
 [0.00000151 0.99999845]
 [0.00000015 0.9999999 ]
 [1.         0.00000001]
 [0.0022935  0.9977064 ]
 [0.9999995  0.00000046]
 [0.9999999  0.00000018]
 [0.00000103 0.9999989 ]
 [0.9833022  0.01669778]
 [0.00003799 0.999962  ]] (0.615 sec)
INFO:tensorflow:loss = 0.001981916, step = 3001 (1.232 sec)
INFO:tensorflow:probabilities = [[0.00022117 0.9997788 ]
 [0.99999726 0.00000271]
 [0.99999905 0.00000095]
 [0.00270352 0.9972965 ]
 [0.00000939 0.9999906 ]
 [0.00106612 0.99893385]
 [0.00000881 0.9999912 ]
 [0.0016048  0.99839514]
 [0.98890686 0.01109315]
 [0.0000371  0.9999629 ]] (0.608 sec)
INFO:tensorflow:global_step/sec: 81.7925
INFO:tensorflow:probabilities = [[0.0000099  0.9999901 ]
 [0.99999034 0.00000967]
 [0.99923015 0.00076985]
 [0.00328931 0.99671066]
 [0.00000113 0.9999989 ]
 [0.9674762  0.03252374]
 [0.9989222  0.00107785]
 [1.         0.        ]
 [0.9999536  0.00004635]
 [0.99734026 0.00265979]] (0.615 sec)
INFO:tensorflow:loss = 0.0040938, step = 3101 (1.223 sec)
INFO:tensorflow:probabilities = [[0.99894756 0.00105241]
 [0.99975187 0.00024816]
 [0.00003983 0.9999602 ]
 [0.99999845 0.00000151]
 [0.9984895  0.00151051]
 [0.99998105 0.00001892]
 [0.9999622  0.00003776]
 [0.9998889  0.00011115]
 [0.99999976 0.00000021]
 [0.9997422  0.00025778]] (0.605 sec)
INFO:tensorflow:global_step/sec: 81.8393
INFO:tensorflow:probabilities = [[0.00395398 0.996046  ]
 [0.00058727 0.9994128 ]
 [0.99996066 0.0000393 ]
 [0.97448504 0.02551492]
 [0.00016102 0.99983895]
 [0.00000113 0.9999988 ]
 [0.00000002 1.        ]
 [0.99998605 0.00001394]
 [1.         0.        ]
 [0.00058572 0.9994143 ]] (0.619 sec)
INFO:tensorflow:loss = 0.00311967, step = 3201 (1.223 sec)
INFO:tensorflow:probabilities = [[0.00159722 0.9984028 ]
```

```
 [0.99998736 0.00001269]
 [0.00000642 0.99999356]
 [0.99992526 0.00007478]
 [0.00019435 0.9998056 ]
 [1.         0.        ]
 [0.9992455  0.00075454]
 [0.00000011 0.9999999 ]
 [0.00001206 0.99998796]
 [0.99875426 0.00124578]] (0.606 sec)
INFO:tensorflow:global_step/sec: 82.0736
INFO:tensorflow:probabilities = [[0.999881   0.00011896]
 [0.98868537 0.01131462]
 [0.00017154 0.99982846]
 [0.000207   0.999793  ]
 [0.00018667 0.9998134 ]
 [0.0000239  0.99997604]
 [0.00001879 0.99998116]
 [0.9999994  0.00000065]
 [0.99999964 0.00000034]
 [0.9999478  0.00005217]] (0.611 sec)
INFO:tensorflow:loss = 0.0012159267, step = 3301 (1.217 sec)
INFO:tensorflow:probabilities = [[0.00669487 0.99330515]
 [0.00002199 0.99997807]
 [0.00000064 0.9999994 ]
 [0.99954176 0.00045833]
 [0.00165564 0.9983443 ]
 [0.00000317 0.9999968 ]
 [0.00015583 0.9998442 ]
 [0.92689157 0.07310838]
 [0.9999565  0.00004353]
 [0.00000022 0.99999976]] (0.608 sec)
INFO:tensorflow:global_step/sec: 81.9611
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.00000029 0.99999976]
 [0.00008794 0.999912  ]
 [0.9969753  0.00302472]
 [0.99982905 0.00017097]
 [0.9297123  0.07028771]
 [0.01358754 0.9864124 ]
 [1.         0.00000006]
 [0.00008737 0.9999126 ]
 [0.9999933  0.00000669]] (0.612 sec)
INFO:tensorflow:loss = 0.008994333, step = 3401 (1.220 sec)
INFO:tensorflow:probabilities = [[0.0000135  0.9999865 ]
 [0.99905735 0.00094265]
 [0.00003348 0.9999665 ]
 [1.         0.00000004]
 [0.16222063 0.8377794 ]
 [0.99999785 0.00000213]
 [0.00050405 0.999496  ]
 [0.00004398 0.999956  ]
 [0.99964786 0.00035211]
 [0.9999981  0.00000189]] (0.611 sec)
INFO:tensorflow:global_step/sec: 82.0572
INFO:tensorflow:probabilities = [[0.0005375  0.99946254]
 [0.00001066 0.9999894 ]
 [0.00001191 0.9999881 ]
```

```
 [0.9999441  0.00005586]
 [0.999961   0.00003901]
 [0.00002095 0.999979  ]
 [0.99811184 0.00188813]
 [0.10916428 0.8908357 ]
 [0.9986576  0.0013424 ]
 [0.00087445 0.99912554]] (0.607 sec)
INFO:tensorflow:loss = 0.012037935, step = 3501 (1.218 sec)
INFO:tensorflow:probabilities = [[0.99835193 0.00164804]
 [0.00000002 1.        ]
 [0.00012936 0.99987066]
 [0.00185795 0.998142  ]
 [0.00008979 0.99991024]
 [0.99983835 0.00016164]
 [0.00000338 0.99999666]
 [0.99977225 0.00022771]
 [0.00017306 0.99982697]
 [0.00059448 0.9994055 ]] (0.614 sec)
INFO:tensorflow:global_step/sec: 81.9283
INFO:tensorflow:probabilities = [[0.00269165 0.9973084 ]
 [0.99999964 0.00000038]
 [0.00002198 0.99997807]
 [0.99999774 0.00000225]
 [0.00000038 0.99999964]
 [0.00065292 0.99934703]
 [0.9999305  0.0000695 ]
 [0.00015508 0.9998449 ]
 [0.9999995  0.00000051]
 [0.9053726  0.09462736]] (0.607 sec)
INFO:tensorflow:loss = 0.010300705, step = 3601 (1.221 sec)
INFO:tensorflow:probabilities = [[0.00000004 1.        ]
 [1.         0.00000001]
 [0.00000667 0.9999933 ]
 [0.00107233 0.99892765]
 [0.99999845 0.00000157]
 [0.99999964 0.00000034]
 [0.99999726 0.00000278]
 [0.00000883 0.9999912 ]
 [0.00004286 0.9999571 ]
 [0.00000019 0.99999976]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.8987
INFO:tensorflow:probabilities = [[0.9999471  0.00005296]
 [0.         1.        ]
 [0.99999726 0.00000274]
 [0.00019454 0.9998055 ]
 [0.         1.        ]
 [0.99997234 0.00002767]
 [0.99999595 0.000004  ]
 [0.9999995  0.00000048]
 [0.0007641  0.99923587]
 [0.00001345 0.9999865 ]] (0.611 sec)
INFO:tensorflow:loss = 0.00010602919, step = 3701 (1.221 sec)
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.99994254 0.00005751]
 [0.00000089 0.99999917]
 [0.99998724 0.00001276]
 [0.9993156  0.00068442]
```

```
 [0.00000805 0.999992  ]
 [1.         0.        ]
 [0.00007839 0.99992156]
 [0.00000018 0.9999999 ]
 [1.         0.00000001]] (0.605 sec)
INFO:tensorflow:global_step/sec: 82.1635
INFO:tensorflow:probabilities = [[0.96232706 0.0376729 ]
 [1.         0.00000003]
 [0.99998724 0.00001278]
 [0.99988425 0.00011571]
 [0.9995541  0.00044588]
 [0.999997   0.00000292]
 [0.9999784  0.00002152]
 [0.         1.        ]
 [0.00000238 0.9999976 ]
 [0.99997294 0.00002703]] (0.612 sec)
INFO:tensorflow:loss = 0.003902937, step = 3801 (1.217 sec)
INFO:tensorflow:probabilities = [[0.9999993  0.00000072]
 [0.99999416 0.00000584]
 [0.00000023 0.99999976]
 [0.00005578 0.9999442 ]
 [0.0000003  0.99999964]
 [0.00000201 0.999998  ]
 [0.9999989  0.00000102]
 [0.00011595 0.999884  ]
 [0.99991524 0.0000848 ]
 [0.9999895  0.00001048]] (0.615 sec)
INFO:tensorflow:global_step/sec: 81.5376
INFO:tensorflow:probabilities = [[0.9991603  0.00083975]
 [0.999961   0.000039  ]
 [0.8703189  0.12968105]
 [0.00000064 0.9999994 ]
 [0.00007314 0.9999268 ]
 [0.99973863 0.00026135]
 [0.00740738 0.99259263]
 [0.9997974  0.00020267]
 [0.9991222  0.00087778]
 [0.0000041  0.99999595]] (0.611 sec)
INFO:tensorflow:loss = 0.014862959, step = 3901 (1.226 sec)
INFO:tensorflow:probabilities = [[0.0000012  0.9999988 ]
 [0.999529   0.00047107]
 [1.         0.        ]
 [0.99859816 0.00140189]
 [0.99912983 0.00087019]
 [0.9999981  0.00000193]
 [1.         0.00000001]
 [0.00006439 0.9999356 ]
 [0.991608   0.00839205]
 [0.00000003 1.        ]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.4577
INFO:tensorflow:probabilities = [[0.00005053 0.99994946]
 [0.0000483  0.9999517 ]
 [0.00532381 0.99467623]
 [0.00004066 0.99995935]
 [0.99999905 0.00000096]
 [0.99885917 0.00114085]
 [0.99863285 0.00136715]
```

```
 [0.00001497 0.999985  ]
 [0.00000144 0.99999857]
 [0.99997747 0.00002255]] (0.616 sec)
INFO:tensorflow:loss = 0.0008026948, step = 4001 (1.228 sec)
INFO:tensorflow:probabilities = [[0.9999945  0.00000554]
 [0.00000239 0.9999976 ]
 [0.         1.        ]
 [0.9341057  0.06589431]
 [0.99999976 0.00000022]
 [0.00000008 0.9999999 ]
 [0.00000005 1.        ]
 [0.00000014 0.9999999 ]
 [0.00000011 0.9999999 ]
 [0.00000024 0.99999976]] (0.604 sec)
INFO:tensorflow:global_step/sec: 82.1956
INFO:tensorflow:probabilities = [[0.00000884 0.9999912 ]
 [0.00007125 0.9999287 ]
 [0.9999999  0.00000007]
 [0.00016103 0.99983895]
 [0.9996227  0.00037723]
 [0.00000847 0.99999154]
 [0.00001382 0.9999862 ]
 [0.9471935  0.05280649]
 [0.9999907  0.00000927]
 [0.99999976 0.00000028]] (0.613 sec)
INFO:tensorflow:loss = 0.005490232, step = 4101 (1.217 sec)
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.9979551  0.00204486]
 [0.000096   0.99990404]
 [0.         1.        ]
 [0.00000091 0.99999905]
 [0.9999999  0.00000012]
 [0.93834835 0.06165164]
 [0.00055532 0.99944466]
 [0.99999976 0.00000029]
 [0.99999154 0.00000851]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.9446
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9999672  0.00003284]
 [0.9998578  0.00014221]
 [0.9999802  0.00001975]
 [0.00677866 0.9932213 ]
 [0.99999905 0.00000093]
 [0.99999964 0.00000042]
 [0.00001395 0.99998605]
 [0.00000055 0.9999994 ]
 [0.00000001 1.        ]] (0.609 sec)
INFO:tensorflow:loss = 0.0007012417, step = 4201 (1.220 sec)
INFO:tensorflow:probabilities = [[0.00000004 1.        ]
 [0.00000002 1.        ]
 [0.00002451 0.99997544]
 [0.00000586 0.99999416]
 [0.99999976 0.0000002 ]
 [0.99998546 0.00001453]
 [0.9999969  0.00000314]
 [0.00068442 0.9993156 ]
 [0.00000001 1.        ]
```

```
 [0.00000583 0.99999416]] (0.606 sec)
INFO:tensorflow:global_step/sec: 82.2653
INFO:tensorflow:probabilities = [[0.00000042 0.9999995 ]
 [0.994392   0.00560809]
 [0.99999714 0.00000285]
 [1.         0.        ]
 [0.00077823 0.9992218 ]
 [0.9999211  0.00007888]
 [0.00790271 0.99209726]
 [0.00002659 0.9999734 ]
 [0.9999752  0.00002477]
 [0.99994683 0.00005313]] (0.609 sec)
INFO:tensorflow:loss = 0.0014523242, step = 4301 (1.215 sec)
INFO:tensorflow:probabilities = [[0.00000583 0.99999416]
 [0.00055892 0.9994411 ]
 [0.9999877  0.00001232]
 [0.9999895  0.00001055]
 [0.76826036 0.23173964]
 [0.00156923 0.9984308 ]
 [0.9997427  0.00025729]
 [0.00084612 0.99915385]
 [0.9989919  0.00100806]
 [0.9694929  0.03050716]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.7619
INFO:tensorflow:probabilities = [[0.0000159  0.99998415]
 [0.99998105 0.000019  ]
 [0.00000308 0.9999969 ]
 [0.9999672  0.0000328 ]
 [0.00543886 0.99456114]
 [0.00000013 0.9999999 ]
 [0.00000162 0.99999833]
 [0.00583037 0.9941696 ]
 [0.00004283 0.9999572 ]
 [0.57048136 0.42951867]] (0.613 sec)
INFO:tensorflow:loss = 0.08565066, step = 4401 (1.223 sec)
INFO:tensorflow:probabilities = [[0.9999914  0.00000859]
 [0.99999964 0.00000034]
 [0.00000013 0.9999999 ]
 [0.00005789 0.99994206]
 [0.00000607 0.9999939 ]
 [0.00000014 0.9999999 ]
 [0.00213802 0.99786204]
 [0.00018108 0.999819  ]
 [0.00001314 0.9999869 ]
 [0.00005453 0.9999455 ]] (0.616 sec)
INFO:tensorflow:global_step/sec: 81.7026
INFO:tensorflow:probabilities = [[0.00128476 0.9987153 ]
 [0.00000032 0.99999964]
 [0.00000431 0.9999957 ]
 [0.00355432 0.9964457 ]
 [1.         0.        ]
 [0.9999987  0.00000131]
 [0.00022423 0.9997758 ]
 [0.00000007 0.9999999 ]
 [0.99999607 0.00000395]
 [0.00000782 0.99999213]] (0.608 sec)
INFO:tensorflow:loss = 0.0005088284, step = 4501 (1.224 sec)
```

```
INFO:tensorflow:probabilities = [[0.00172229 0.99827766]
 [0.00000004 1.        ]
 [0.00000166 0.99999833]
 [0.00000309 0.9999969 ]
 [0.00008475 0.99991524]
 [0.01750427 0.9824958 ]
 [0.00002923 0.9999708 ]
 [0.9999658  0.00003421]
 [1.         0.00000003]
 [0.0000002  0.99999976]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.7388
INFO:tensorflow:probabilities = [[0.00000148 0.99999857]
 [0.9999989  0.00000103]
 [0.99981254 0.00018753]
 [0.00000872 0.9999913 ]
 [0.         1.        ]
 [0.00000797 0.999992  ]
 [0.9999006  0.00009945]
 [0.99999976 0.00000025]
 [0.00048976 0.9995103 ]
 [0.18470101 0.815299  ]] (0.615 sec)
INFO:tensorflow:loss = 0.020499656, step = 4601 (1.223 sec)
INFO:tensorflow:probabilities = [[0.00000007 0.9999999 ]
 [0.9870004  0.0129996 ]
 [0.9999999  0.00000014]
 [0.01498065 0.9850193 ]
 [0.00000047 0.9999995 ]
 [0.99664646 0.00335352]
 [0.99999595 0.00000403]
 [1.         0.00000005]
 [0.00001403 0.99998593]
 [0.04652617 0.9534738 ]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.5832
INFO:tensorflow:probabilities = [[0.01080622 0.98919386]
 [0.9999993  0.00000074]
 [0.9987871  0.00121294]
 [0.0262964  0.97370356]
 [0.00139897 0.998601  ]
 [0.0000161  0.9999839 ]
 [0.99999654 0.00000345]
 [0.0000003  0.99999976]
 [0.00003328 0.99996674]
 [0.0000034  0.99999654]] (0.615 sec)
INFO:tensorflow:loss = 0.00401842, step = 4701 (1.226 sec)
INFO:tensorflow:probabilities = [[0.00000043 0.9999995 ]
 [0.9999981  0.00000187]
 [0.00000672 0.9999933 ]
 [0.9988952  0.00110477]
 [0.99999976 0.00000019]
 [0.00167035 0.9983297 ]
 [0.99669003 0.00330998]
 [0.99999964 0.00000035]
 [0.00000158 0.99999845]
 [0.0061614  0.9938386 ]] (0.606 sec)
INFO:tensorflow:global_step/sec: 81.8444
INFO:tensorflow:probabilities = [[0.99935216 0.00064779]
 [1.         0.        ]
```

```
 [0.         1.        ]
 [0.9999999  0.00000008]
 [0.9999988  0.00000122]
 [0.9999999  0.00000011]
 [0.99676406 0.00323594]
 [0.00042856 0.9995714 ]
 [1.         0.00000002]
 [0.9999995  0.00000048]] (0.616 sec)
INFO:tensorflow:loss = 0.00043198297, step = 4801 (1.222 sec)
INFO:tensorflow:probabilities = [[0.9999987  0.00000137]
 [1.         0.        ]
 [0.00007488 0.99992514]
 [1.         0.        ]
 [0.05051624 0.94948375]
 [0.         1.        ]
 [0.9999833  0.00001664]
 [0.9999492  0.00005073]
 [0.00002912 0.9999709 ]
 [0.9999982  0.00000176]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.7141
INFO:tensorflow:probabilities = [[0.00045023 0.9995497 ]
 [0.00000016 0.9999999 ]
 [0.999969   0.00003104]
 [0.00000006 1.        ]
 [0.00074661 0.99925333]
 [0.00100523 0.99899477]
 [0.9985266  0.00147342]
 [0.9998863  0.00011367]
 [0.9999962  0.00000384]
 [0.00000688 0.9999931 ]] (0.612 sec)
INFO:tensorflow:loss = 0.0003833101, step = 4901 (1.224 sec)
INFO:tensorflow:probabilities = [[0.00051916 0.9994809 ]
 [0.00001368 0.9999863 ]
 [0.00000031 0.99999964]
 [1.         0.        ]
 [0.00000383 0.9999962 ]
 [0.00000109 0.9999989 ]
 [0.99999905 0.00000093]
 [0.00000026 0.99999976]
 [0.00000157 0.99999845]
 [1.         0.        ]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.6965
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [0.00004271 0.9999573 ]
 [0.99999917 0.00000085]
 [0.00000176 0.9999982 ]
 [1.         0.00000001]
 [0.         1.        ]
 [0.9999106  0.0000894 ]
 [0.99998856 0.00001141]
 [0.9998945  0.00010546]
 [0.00000002 1.        ]] (0.614 sec)
INFO:tensorflow:loss = 2.5164027e-05, step = 5001 (1.224 sec)
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.9999945  0.00000547]
 [0.00000039 0.99999964]
 [1.         0.00000002]
```

```
 [0.99977964 0.00022038]
 [0.00231381 0.99768615]
 [0.00000039 0.99999964]
 [0.00000001 1.        ]
 [0.99956566 0.00043436]
 [0.00005993 0.99994004]] (0.610 sec)
INFO:tensorflow:global_step/sec: 82.1501
INFO:tensorflow:probabilities = [[0.00000286 0.99999714]
 [0.999946   0.00005405]
 [0.00671852 0.9932815 ]
 [0.00126636 0.9987337 ]
 [0.9999361  0.00006385]
 [0.9983889  0.00161119]
 [0.00004587 0.9999541 ]
 [0.00001065 0.9999894 ]
 [0.00083259 0.99916744]
 [0.0002715  0.9997285 ]] (0.608 sec)
INFO:tensorflow:loss = 0.0010902412, step = 5101 (1.217 sec)
INFO:tensorflow:probabilities = [[0.9999993  0.00000074]
 [1.         0.00000002]
 [0.9338073  0.06619267]
 [0.99999535 0.00000466]
 [0.00012499 0.99987495]
 [0.00000085 0.99999917]
 [0.9999993  0.00000075]
 [0.00000003 1.        ]
 [0.00031383 0.99968624]
 [0.9995877  0.00041225]] (0.615 sec)
INFO:tensorflow:global_step/sec: 81.548
INFO:tensorflow:probabilities = [[0.63809395 0.36190608]
 [0.99999857 0.00000148]
 [0.9996284  0.00037153]
 [0.99094766 0.00905236]
 [0.00000087 0.99999917]
 [0.00059789 0.99940217]
 [0.0000175  0.9999825 ]
 [0.9999465  0.00005352]
 [0.9977428  0.00225726]
 [0.00020163 0.99979836]] (0.611 sec)
INFO:tensorflow:loss = 0.046186775, step = 5201 (1.226 sec)
INFO:tensorflow:probabilities = [[0.99999547 0.00000454]
 [0.99990594 0.00009408]
 [0.99999404 0.00000598]
 [0.03315286 0.96684706]
 [0.00000239 0.9999976 ]
 [0.9999982  0.00000178]
 [0.00003333 0.9999666 ]
 [0.99998593 0.0000141 ]
 [0.99999464 0.00000535]
 [0.00000046 0.9999995 ]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.9327
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000072 0.9999993 ]
 [0.99999964 0.0000003 ]
 [1.         0.        ]
 [0.99835473 0.00164528]
 [0.00006557 0.99993443]
```

```
 [0.00000417 0.9999958 ]
 [0.00000589 0.99999416]
 [0.99999833 0.00000166]
 [0.99999845 0.00000149]] (0.608 sec)
INFO:tensorflow:loss = 0.00017264609, step = 5301 (1.221 sec)
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [1.         0.        ]
 [0.99895346 0.0010465 ]
 [0.00246538 0.99753463]
 [0.9999354  0.00006466]
 [0.99999607 0.00000398]
 [0.9999956  0.00000447]
 [0.         1.        ]
 [0.0000009  0.99999905]
 [0.9997881  0.00021195]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.9987
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.99999785 0.00000215]
 [0.00003126 0.99996877]
 [0.00000004 1.        ]
 [0.9999975  0.00000253]
 [0.999998   0.00000199]
 [0.99470913 0.0052908 ]
 [0.00003132 0.99996865]
 [0.9999995  0.00000045]
 [0.00000002 1.        ]] (0.609 sec)
INFO:tensorflow:loss = 0.000537464, step = 5401 (1.219 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000011 0.9999999 ]
 [0.00073183 0.9992681 ]
 [0.9999989  0.00000105]
 [0.9999695  0.00003047]
 [0.9999912  0.0000088 ]
 [0.9999987  0.00000137]
 [0.99985707 0.00014294]
 [0.99999857 0.00000144]
 [0.         1.        ]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.7318
INFO:tensorflow:probabilities = [[0.9999608  0.00003925]
 [0.00000283 0.99999714]
 [0.00049983 0.99950016]
 [0.         1.        ]
 [0.00001031 0.99998975]
 [1.         0.        ]
 [0.00000004 1.        ]
 [0.00024031 0.99975973]
 [1.         0.        ]
 [0.9999844  0.0000156 ]] (0.613 sec)
INFO:tensorflow:loss = 8.082034e-05, step = 5501 (1.224 sec)
INFO:tensorflow:probabilities = [[0.9999931  0.00000687]
 [0.00000017 0.9999999 ]
 [0.00139894 0.998601  ]
 [0.00000004 1.        ]
 [0.00000716 0.99999285]
 [0.9559604  0.04403955]
 [1.         0.        ]
 [0.00000002 1.        ]
```

```
 [1.         0.        ]
 [0.00003768 0.99996233]] (0.615 sec)
INFO:tensorflow:global_step/sec: 81.4108
INFO:tensorflow:probabilities = [[0.9999989  0.00000106]
 [0.9749996  0.02500037]
 [0.9997204  0.0002796 ]
 [0.99999976 0.00000023]
 [0.00005561 0.9999443 ]
 [1.         0.        ]
 [0.9999975  0.0000025 ]
 [0.9999974  0.00000265]
 [0.9999976  0.00000244]
 [0.         1.        ]] (0.614 sec)
INFO:tensorflow:loss = 0.0025662328, step = 5601 (1.228 sec)
INFO:tensorflow:probabilities = [[0.9999981  0.0000019 ]
 [0.9999709  0.00002907]
 [0.999589   0.00041096]
 [0.00000027 0.99999976]
 [0.00202578 0.9979742 ]
 [0.00000002 1.        ]
 [0.0000001  0.9999999 ]
 [1.         0.        ]
 [0.00001211 0.99998784]
 [0.00000019 0.99999976]] (0.608 sec)
INFO:tensorflow:global_step/sec: 81.9569
INFO:tensorflow:probabilities = [[0.99927276 0.00072721]
 [0.99998426 0.00001571]
 [0.9999999  0.00000011]
 [0.00000013 0.9999999 ]
 [0.9999851  0.00001494]
 [0.99999964 0.00000041]
 [0.99999964 0.00000039]
 [1.         0.        ]
 [0.99999917 0.00000079]
 [0.00000185 0.9999982 ]] (0.612 sec)
INFO:tensorflow:loss = 7.617208e-05, step = 5701 (1.220 sec)
INFO:tensorflow:probabilities = [[0.99999976 0.00000019]
 [0.         1.        ]
 [0.00016513 0.9998349 ]
 [0.00000029 0.99999976]
 [1.         0.        ]
 [0.00000095 0.99999905]
 [0.00033533 0.99966466]
 [0.00000333 0.99999666]
 [0.00001884 0.99998116]
 [0.00004089 0.9999591 ]] (0.607 sec)
INFO:tensorflow:global_step/sec: 82.0229
INFO:tensorflow:probabilities = [[1.         0.00000005]
 [0.00059166 0.99940836]
 [0.99996746 0.00003255]
 [0.99657094 0.00342903]
 [0.00010313 0.9998969 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.9999794  0.0000206 ]
 [0.9999684  0.00003158]
 [0.99999774 0.00000228]] (0.612 sec)
```

```
INFO:tensorflow:loss = 0.0004216901, step = 5801 (1.219 sec)
INFO:tensorflow:probabilities = [[0.0000517  0.99994826]
 [0.99999774 0.00000223]
 [0.00001532 0.9999846 ]
 [0.99977237 0.00022761]
 [0.00000002 1.        ]
 [0.         1.        ]
 [0.00090444 0.99909556]
 [0.00000024 0.99999976]
 [0.00000009 0.9999999 ]
 [0.00000078 0.99999917]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.8237
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.9999999  0.00000015]
 [0.00000764 0.9999924 ]
 [0.00795926 0.9920407 ]
 [0.00000003 1.        ]
 [0.99999166 0.00000831]
 [0.00000001 1.        ]
 [0.9999343  0.00006565]
 [0.999987   0.00001295]
 [0.9989759  0.00102411]] (0.610 sec)
INFO:tensorflow:loss = 0.0009110573, step = 5901 (1.222 sec)
INFO:tensorflow:probabilities = [[0.99993634 0.00006366]
 [0.00045233 0.99954766]
 [0.00000059 0.9999994 ]
 [0.00002671 0.9999733 ]
 [0.00000022 0.99999976]
 [0.9999918  0.00000827]
 [0.         1.        ]
 [0.         1.        ]
 [0.00002815 0.99997187]
 [1.         0.00000001]] (0.608 sec)
INFO:tensorflow:global_step/sec: 82.1646
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.9999999  0.00000009]
 [0.00002936 0.9999707 ]
 [0.99999976 0.00000027]
 [0.01749811 0.98250186]
 [0.00000005 1.        ]
 [1.         0.        ]
 [0.9999999  0.00000008]
 [0.00000009 0.9999999 ]
 [0.00000001 1.        ]] (0.609 sec)
INFO:tensorflow:loss = 0.0017682936, step = 6001 (1.217 sec)
INFO:tensorflow:probabilities = [[0.99946314 0.00053681]
 [0.00003215 0.9999678 ]
 [0.0000153  0.99998474]
 [1.         0.        ]
 [1.         0.        ]
 [0.9993494  0.00065055]
 [1.         0.00000002]
 [0.9999988  0.00000124]
 [0.9947072  0.0052927 ]
 [0.         1.        ]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.5846
INFO:tensorflow:probabilities = [[0.         1.        ]
```

```
 [0.         1.        ]
 [0.0000001  0.9999999 ]
 [0.0021296  0.99787045]
 [0.9999684  0.00003164]
 [0.00000003 1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.99991643 0.00008353]
 [1.         0.00000003]] (0.613 sec)
INFO:tensorflow:loss = 0.00022470823, step = 6101 (1.226 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.00000003]
 [0.99999845 0.00000153]
 [0.00014504 0.9998549 ]
 [1.         0.        ]
 [0.00002864 0.9999714 ]
 [1.         0.00000004]
 [0.00000703 0.99999297]
 [0.9999999  0.00000016]
 [0.00000034 0.99999964]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.9829
INFO:tensorflow:probabilities = [[0.99995315 0.00004679]
 [0.999998   0.00000199]
 [0.9999976  0.00000235]
 [1.         0.00000002]
 [0.8919675  0.10803249]
 [0.00000132 0.9999987 ]
 [0.00003836 0.9999616 ]
 [0.9999993  0.00000073]
 [1.         0.00000001]
 [0.9972479  0.00275209]] (0.609 sec)
INFO:tensorflow:loss = 0.011717318, step = 6201 (1.220 sec)
INFO:tensorflow:probabilities = [[0.9996954  0.00030461]
 [0.9999993  0.00000067]
 [0.00000242 0.9999976 ]
 [0.99956363 0.0004364 ]
 [1.         0.00000004]
 [0.00000003 1.        ]
 [0.9999999  0.00000011]
 [0.99998987 0.00001011]
 [0.00000133 0.9999987 ]
 [0.999923   0.00007701]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.9924
INFO:tensorflow:probabilities = [[0.97911364 0.02088635]
 [0.00000615 0.9999938 ]
 [0.99999774 0.0000023 ]
 [0.99999595 0.00000403]
 [0.00000078 0.99999917]
 [0.         1.        ]
 [0.99999976 0.00000026]
 [0.         1.        ]
 [1.         0.00000003]
 [1.         0.        ]] (0.610 sec)
INFO:tensorflow:loss = 0.0021121155, step = 6301 (1.220 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000002 1.        ]
 [0.99997735 0.00002265]
```

```
 [0.00029347 0.99970645]
 [0.00000028 0.99999976]
 [0.9994117  0.00058833]
 [0.999371   0.00062903]
 [0.00000543 0.9999945 ]
 [0.00000191 0.9999981 ]
 [0.00000802 0.999992  ]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.7709
INFO:tensorflow:probabilities = [[0.9999988  0.00000124]
 [0.00000006 1.        ]
 [0.00548361 0.99451643]
 [0.         1.        ]
 [0.00000026 0.99999976]
 [0.9835316  0.01646834]
 [0.99999976 0.00000023]
 [0.00111101 0.998889  ]
 [0.99999964 0.00000034]
 [0.00000007 0.9999999 ]] (0.612 sec)
INFO:tensorflow:loss = 0.0023217893, step = 6401 (1.223 sec)
INFO:tensorflow:probabilities = [[0.00061325 0.9993868 ]
 [0.00000015 0.9999999 ]
 [0.9994221  0.00057799]
 [0.9999373  0.0000627 ]
 [0.9995346  0.00046544]
 [0.99993813 0.00006189]
 [0.99984026 0.00015966]
 [0.999997   0.00000296]
 [0.00001186 0.9999882 ]
 [0.         1.        ]] (0.607 sec)
INFO:tensorflow:global_step/sec: 81.9613
INFO:tensorflow:probabilities = [[0.00083633 0.9991636 ]
 [0.0000001  0.9999999 ]
 [0.00000004 1.        ]
 [0.9999578  0.00004215]
 [0.9999987  0.00000134]
 [0.00000857 0.9999914 ]
 [0.00000001 1.        ]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.00000137 0.99999857]] (0.613 sec)
INFO:tensorflow:loss = 8.903807e-05, step = 6501 (1.220 sec)
INFO:tensorflow:probabilities = [[0.9999906  0.00000939]
 [1.         0.00000002]
 [0.         1.        ]
 [0.         1.        ]
 [0.99999666 0.00000337]
 [0.00000011 0.9999999 ]
 [0.00000007 0.9999999 ]
 [0.00000073 0.9999993 ]
 [0.99999607 0.00000397]
 [0.00002245 0.9999776 ]] (0.605 sec)
INFO:tensorflow:global_step/sec: 82.0354
INFO:tensorflow:probabilities = [[0.00000034 0.99999964]
 [0.00003499 0.99996495]
 [0.00024918 0.9997508 ]
 [0.99999857 0.00000142]
 [0.9999993  0.00000068]
```

```
 [0.00003782 0.9999622 ]
 [0.00001506 0.999985  ]
 [0.00000137 0.9999987 ]
 [0.00000002 1.        ]
 [0.99997795 0.00002207]] (0.614 sec)
INFO:tensorflow:loss = 3.6295958e-05, step = 6601 (1.219 sec)
INFO:tensorflow:probabilities = [[0.9999999  0.00000015]
 [0.00000935 0.9999907 ]
 [0.000001   0.99999905]
 [1.         0.        ]
 [0.00000018 0.9999999 ]
 [1.         0.00000001]
 [0.9998568  0.00014314]
 [0.00000002 1.        ]
 [0.00000016 0.9999999 ]
 [0.00000006 0.9999999 ]] (0.606 sec)
INFO:tensorflow:global_step/sec: 82.0964
INFO:tensorflow:probabilities = [[0.00000009 0.9999999 ]
 [0.00000005 1.        ]
 [0.0000029  0.99999714]
 [0.00000049 0.9999995 ]
 [0.985719   0.01428095]
 [0.9999999  0.00000016]
 [0.00000056 0.9999994 ]
 [0.6964346  0.30356532]
 [0.00000049 0.9999995 ]
 [0.00221224 0.9977877 ]] (0.612 sec)
INFO:tensorflow:loss = 0.037838463, step = 6701 (1.218 sec)
INFO:tensorflow:probabilities = [[0.99998736 0.00001269]
 [0.99999976 0.00000029]
 [0.99990904 0.00009092]
 [0.99999964 0.0000003 ]
 [1.         0.00000004]
 [0.9999999  0.00000009]
 [0.10813753 0.8918625 ]
 [0.0000192  0.9999808 ]
 [0.0000001  0.9999999 ]
 [0.00000005 1.        ]] (0.608 sec)
INFO:tensorflow:global_step/sec: 81.8938
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [0.00405158 0.9959485 ]
 [0.00001189 0.9999881 ]
 [0.9999995  0.00000043]
 [1.         0.00000002]
 [0.99997246 0.00002752]
 [0.00000131 0.9999987 ]
 [0.00001275 0.99998724]
 [0.00000004 1.        ]
 [1.         0.00000004]] (0.614 sec)
INFO:tensorflow:loss = 0.00041137665, step = 6801 (1.221 sec)
INFO:tensorflow:probabilities = [[0.00000551 0.9999945 ]
 [0.9999963  0.00000366]
 [0.99922633 0.00077362]
 [0.99999964 0.00000036]
 [0.00000021 0.99999976]
 [0.00000008 0.9999999 ]
 [0.00001068 0.9999893 ]
```

```
 [0.         1.        ]
 [0.9999982  0.00000173]
 [1.         0.        ]] (0.608 sec)
INFO:tensorflow:global_step/sec: 81.8001
INFO:tensorflow:probabilities = [[0.00000015 0.9999999 ]
 [0.00000002 1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.99999976 0.00000027]
 [0.00000003 1.        ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.00000506 0.999995  ]
 [0.00000003 1.        ]] (0.614 sec)
INFO:tensorflow:loss = 5.3644055e-07, step = 6901 (1.223 sec)
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.00000007 0.9999999 ]
 [0.99987197 0.00012802]
 [0.         1.        ]
 [0.00000021 0.99999976]
 [0.00000397 0.99999607]
 [0.00000013 0.9999999 ]
 [0.00000002 1.        ]
 [0.9999994  0.00000061]
 [0.9999999  0.00000013]] (0.617 sec)
INFO:tensorflow:global_step/sec: 81.3848
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00001181 0.9999882 ]
 [0.00000161 0.99999845]
 [0.9999999  0.00000006]
 [0.9999548  0.00004518]
 [1.         0.        ]
 [0.00005483 0.99994516]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.0000001  0.9999999 ]] (0.612 sec)
INFO:tensorflow:loss = 1.13603855e-05, step = 7001 (1.229 sec)
INFO:tensorflow:probabilities = [[0.00003741 0.99996257]
 [0.00000005 1.        ]
 [0.00000001 1.        ]
 [0.9933503  0.00664965]
 [0.9999417  0.00005834]
 [0.         1.        ]
 [0.7443401  0.25565988]
 [0.         1.        ]
 [0.9999566  0.00004342]
 [0.9999994  0.00000059]] (0.611 sec)
INFO:tensorflow:global_step/sec: 82.0462
INFO:tensorflow:probabilities = [[0.00000032 0.99999964]
 [0.         1.        ]
 [0.9999852  0.00001478]
 [0.9999987  0.00000126]
 [1.         0.        ]
 [0.99999416 0.00000589]
 [0.00000022 0.99999976]
 [0.00000001 1.        ]
 [0.9999999  0.0000001 ]
```

```
 [0.00000001 1.        ]] (0.608 sec)
INFO:tensorflow:loss = 2.2649638e-06, step = 7101 (1.219 sec)
INFO:tensorflow:probabilities = [[0.999987   0.000013  ]
 [0.         1.        ]
 [0.00003167 0.9999683 ]
 [0.9998111  0.00018897]
 [0.00000349 0.99999654]
 [0.00000002 1.        ]
 [0.00000363 0.9999964 ]
 [0.00000001 1.        ]
 [0.99996686 0.00003317]
 [0.00000002 1.        ]] (0.626 sec)
INFO:tensorflow:global_step/sec: 80.4952
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000868 0.9999913 ]
 [1.         0.00000005]
 [1.         0.        ]
 [0.9999794  0.00002059]
 [0.00000001 1.        ]
 [0.00000011 0.9999999 ]
 [0.00003165 0.9999683 ]
 [1.         0.00000001]
 [0.         1.        ]] (0.617 sec)
INFO:tensorflow:loss = 6.1153614e-06, step = 7201 (1.243 sec)
INFO:tensorflow:probabilities = [[0.9999999  0.00000013]
 [0.         1.        ]
 [0.99999154 0.00000848]
 [0.00006525 0.9999348 ]
 [0.00000067 0.9999993 ]
 [0.9999951  0.00000487]
 [0.00000062 0.9999994 ]
 [0.9345338  0.06546623]
 [0.00000619 0.9999938 ]
 [0.99996424 0.00003577]] (0.605 sec)
INFO:tensorflow:global_step/sec: 81.9354
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.00000234 0.9999976 ]
 [0.00021906 0.99978095]
 [0.000005   0.999995  ]
 [0.0166886  0.9833114 ]
 [0.99998283 0.00001714]
 [0.00000001 1.        ]
 [0.0029078  0.9970921 ]
 [0.9999999  0.00000007]
 [0.99999905 0.00000099]] (0.615 sec)
INFO:tensorflow:loss = 0.0019986217, step = 7301 (1.220 sec)
INFO:tensorflow:probabilities = [[0.00001629 0.99998367]
 [0.9986173  0.00138267]
 [0.0000092  0.9999908 ]
 [0.00000002 1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000556 0.9999944 ]
 [0.9999999  0.00000012]
 [0.99999976 0.00000024]
 [0.0000001  0.9999999 ]] (0.608 sec)
INFO:tensorflow:global_step/sec: 82.0317
```

```
INFO:tensorflow:probabilities = [[0.99999917 0.00000089]
 [1.         0.00000002]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.99996936 0.00003068]
 [0.00000033 0.99999964]
 [0.00000105 0.9999989 ]
 [0.00000013 0.9999999 ]
 [1.         0.00000001]
 [0.00008927 0.9999107 ]] (0.611 sec)
INFO:tensorflow:loss = 1.2230428e-05, step = 7401 (1.219 sec)
INFO:tensorflow:probabilities = [[0.00000236 0.9999976 ]
 [0.00182581 0.9981742 ]
 [1.         0.        ]
 [0.00000027 0.99999976]
 [0.00000294 0.999997  ]
 [0.9999999  0.00000011]
 [0.00002283 0.99997723]
 [0.00000044 0.9999995 ]
 [0.         1.        ]
 [0.99942917 0.00057083]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.559
INFO:tensorflow:probabilities = [[0.99969757 0.00030251]
 [0.         1.        ]
 [0.99999833 0.00000167]
 [0.99890053 0.00109939]
 [0.00022814 0.9997719 ]
 [1.         0.        ]
 [0.00000003 1.        ]
 [0.00000054 0.9999994 ]
 [0.00000001 1.        ]
 [0.00006198 0.999938  ]] (0.613 sec)
INFO:tensorflow:loss = 0.0001694954, step = 7501 (1.226 sec)
INFO:tensorflow:probabilities = [[0.9999902  0.00000973]
 [0.9999999  0.0000001 ]
 [0.999985   0.000015  ]
 [0.0000118  0.9999882 ]
 [0.00000301 0.999997  ]
 [0.00007491 0.99992514]
 [0.00000007 0.9999999 ]
 [0.         1.        ]
 [0.00009497 0.999905  ]
 [0.00000099 0.99999905]] (0.611 sec)
INFO:tensorflow:global_step/sec: 82.1918
INFO:tensorflow:probabilities = [[0.9999975  0.00000245]
 [1.         0.        ]
 [0.00000009 0.9999999 ]
 [0.99990046 0.00009955]
 [0.00000008 0.9999999 ]
 [0.00014899 0.999851  ]
 [0.00000533 0.99999464]
 [0.         1.        ]
 [1.         0.00000001]
 [0.99999964 0.0000004 ]] (0.606 sec)
INFO:tensorflow:loss = 2.5699914e-05, step = 7601 (1.217 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
```

```
 [0.00000008 0.9999999 ]
 [0.999997   0.00000296]
 [0.9999999  0.00000017]
 [0.0000115  0.99998856]
 [1.         0.00000002]
 [0.00027566 0.9997243 ]
 [0.00000121 0.9999988 ]
 [0.00000001 1.        ]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.4604
INFO:tensorflow:probabilities = [[0.00000286 0.99999714]
 [0.00001081 0.99998915]
 [0.00000809 0.9999919 ]
 [0.00000004 1.        ]
 [0.999997   0.00000298]
 [0.00000019 0.99999976]
 [1.         0.00000003]
 [0.00000005 1.        ]
 [0.00000575 0.9999943 ]
 [0.00000531 0.99999464]] (0.615 sec)
INFO:tensorflow:loss = 3.6120284e-06, step = 7701 (1.228 sec)
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [1.         0.00000001]
 [0.00019427 0.99980575]
 [0.00045694 0.9995431 ]
 [1.         0.        ]
 [1.         0.        ]
 [0.001038   0.99896204]
 [0.99999654 0.00000342]
 [1.         0.00000001]
 [0.00000658 0.99999344]] (0.608 sec)
INFO:tensorflow:global_step/sec: 82.1806
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000233 0.9999976 ]
 [1.         0.        ]
 [0.00060652 0.99939346]
 [0.00000093 0.99999905]
 [0.00003161 0.9999684 ]
 [0.         1.        ]
 [0.9999987  0.00000129]
 [0.00000065 0.9999994 ]
 [0.99998415 0.00001585]] (0.609 sec)
INFO:tensorflow:loss = 6.5940025e-05, step = 7801 (1.217 sec)
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [0.00000059 0.9999994 ]
 [0.99999785 0.00000213]
 [0.         1.        ]
 [0.         1.        ]
 [0.00134185 0.9986582 ]
 [0.00000023 0.99999976]
 [0.00000071 0.9999993 ]
 [0.00000449 0.99999547]
 [0.00000002 1.        ]] (0.608 sec)
INFO:tensorflow:global_step/sec: 82.0962
INFO:tensorflow:probabilities = [[0.9999789  0.00002116]
 [0.9999981  0.00000191]
 [0.0000001  0.9999999 ]
 [0.9999995  0.0000005 ]
```

```
 [0.00029499 0.999705  ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00019177 0.99980825]
 [0.9999999  0.00000012]
 [1.         0.00000001]] (0.610 sec)
INFO:tensorflow:loss = 5.1051124e-05, step = 7901 (1.218 sec)
INFO:tensorflow:probabilities = [[0.9996426  0.00035735]
 [0.99999607 0.00000391]
 [0.99998236 0.00001762]
 [0.00000001 1.        ]
 [0.0000213  0.99997866]
 [0.9942561  0.00574393]
 [0.96856403 0.03143594]
 [1.         0.00000003]
 [0.         1.        ]
 [0.99999666 0.0000034 ]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.6755
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000004 1.        ]
 [0.00001235 0.9999876 ]
 [0.         1.        ]
 [0.9999738  0.00002623]
 [0.9999317  0.00006826]
 [0.99132794 0.00867202]
 [0.00002172 0.9999783 ]
 [0.9999949  0.00000512]
 [0.9999988  0.00000122]] (0.614 sec)
INFO:tensorflow:loss = 0.00088448357, step = 8001 (1.224 sec)
INFO:tensorflow:probabilities = [[0.00000007 0.9999999 ]
 [0.00003705 0.9999629 ]
 [1.         0.        ]
 [0.00000024 0.99999976]
 [0.         1.        ]
 [1.         0.00000001]
 [0.00137988 0.99862015]
 [0.00000296 0.999997  ]
 [0.99998736 0.00001261]
 [0.00000527 0.99999475]] (0.614 sec)
INFO:tensorflow:global_step/sec: 81.4996
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9999865  0.00001353]
 [0.00000001 1.        ]
 [0.         1.        ]
 [0.00000022 0.99999976]
 [1.         0.00000001]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000002 1.        ]
 [0.9999994  0.00000056]] (0.613 sec)
INFO:tensorflow:loss = 1.4305024e-06, step = 8101 (1.227 sec)
INFO:tensorflow:probabilities = [[0.00000584 0.99999416]
 [0.00022948 0.9997706 ]
 [0.00001088 0.99998915]
 [0.99999964 0.0000003 ]
 [0.00000028 0.99999976]
 [0.00000013 0.9999999 ]
```

```
 [1.         0.        ]
 [0.99999845 0.00000154]
 [0.         1.        ]
 [0.99991703 0.00008293]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.678
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000002 1.        ]
 [0.         1.        ]
 [0.00000032 0.99999964]
 [0.9999989  0.00000103]
 [0.00012247 0.9998776 ]
 [0.99987423 0.00012575]
 [0.00000038 0.99999964]
 [0.9999007  0.00009931]
 [0.9998636  0.00013632]] (0.613 sec)
INFO:tensorflow:loss = 4.8562903e-05, step = 8201 (1.224 sec)
INFO:tensorflow:probabilities = [[0.00000029 0.99999976]
 [0.00000002 1.        ]
 [0.00009032 0.99990964]
 [0.98281324 0.01718676]
 [0.00000002 1.        ]
 [0.9999528  0.00004719]
 [0.         1.        ]
 [0.00000072 0.9999993 ]
 [0.9997141  0.00028586]
 [0.00000738 0.9999926 ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.1274
INFO:tensorflow:probabilities = [[0.999064   0.00093593]
 [0.00000023 0.99999976]
 [0.9999958  0.00000412]
 [1.         0.        ]
 [0.00000068 0.9999993 ]
 [0.00000199 0.999998  ]
 [1.         0.        ]
 [0.00000011 0.9999999 ]
 [0.00000002 1.        ]
 [0.00008908 0.99991095]] (0.608 sec)
INFO:tensorflow:loss = 0.00010327443, step = 8301 (1.218 sec)
INFO:tensorflow:probabilities = [[0.99997854 0.00002144]
 [0.00000011 0.9999999 ]
 [0.99999964 0.0000003 ]
 [0.00000017 0.9999999 ]
 [0.00000002 1.        ]
 [0.00000013 0.9999999 ]
 [0.9997048  0.00029525]
 [0.         1.        ]
 [0.99991107 0.00008887]
 [0.9979899  0.00201007]] (0.614 sec)
INFO:tensorflow:global_step/sec: 81.7161
INFO:tensorflow:probabilities = [[0.99995136 0.00004862]
 [0.         1.        ]
 [0.9952524  0.00474765]
 [0.9999989  0.00000103]
 [0.9999999  0.00000007]
 [0.9999988  0.00000118]
 [0.99996626 0.00003371]
 [1.         0.00000002]
```

```
 [0.9960936  0.00390647]
 [1.         0.        ]] (0.610 sec)
INFO:tensorflow:loss = 0.000875777, step = 8401 (1.224 sec)
INFO:tensorflow:probabilities = [[0.9993038  0.00069623]
 [0.9998197  0.00018029]
 [0.9987457  0.00125424]
 [0.00000473 0.99999523]
 [0.00182159 0.9981785 ]
 [0.00000617 0.9999938 ]
 [0.00000874 0.9999913 ]
 [0.00000007 0.9999999 ]
 [1.         0.        ]
 [0.         1.        ]] (0.614 sec)
INFO:tensorflow:global_step/sec: 81.9834
INFO:tensorflow:probabilities = [[1.         0.00000004]
 [0.         1.        ]
 [1.         0.00000001]
 [0.9999995  0.0000005 ]
 [0.00000202 0.999998  ]
 [0.00000052 0.9999995 ]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.9999821  0.00001792]
 [0.         1.        ]] (0.606 sec)
INFO:tensorflow:loss = 2.0861464e-06, step = 8501 (1.220 sec)
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [0.00000061 0.9999994 ]
 [1.         0.        ]
 [1.         0.00000002]
 [0.00000128 0.9999987 ]
 [0.9999893  0.00001074]
 [0.00000023 0.99999976]
 [0.99999714 0.00000289]
 [0.         1.        ]
 [0.00001051 0.9999895 ]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.9974
INFO:tensorflow:probabilities = [[0.00005642 0.9999436 ]
 [0.9956825  0.00431755]
 [0.99999917 0.00000087]
 [0.00012258 0.99987745]
 [1.         0.        ]
 [0.9999993  0.0000007 ]
 [0.         1.        ]
 [1.         0.00000006]
 [0.         1.        ]
 [0.9999881  0.00001191]] (0.608 sec)
INFO:tensorflow:loss = 0.00045192582, step = 8601 (1.220 sec)
INFO:tensorflow:probabilities = [[0.00000033 0.99999964]
 [1.         0.        ]
 [0.09136833 0.90863174]
 [0.         1.        ]
 [0.9999907  0.00000933]
 [0.00002856 0.9999714 ]
 [0.99966466 0.00033533]
 [0.9999845  0.00001545]
 [1.         0.        ]
 [0.9999999  0.00000006]] (0.604 sec)
```

```
INFO:tensorflow:global_step/sec: 82.2311
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000002 1.        ]
 [0.9999058  0.0000942 ]
 [1.         0.00000001]
 [0.00000121 0.9999988 ]
 [0.9999902  0.00000981]
 [0.9999995  0.00000051]
 [1.         0.        ]
 [0.00000009 0.9999999 ]
 [0.99992776 0.00007229]] (0.612 sec)
INFO:tensorflow:loss = 1.7797236e-05, step = 8701 (1.216 sec)
INFO:tensorflow:probabilities = [[0.89712465 0.10287531]
 [0.00730603 0.992694  ]
 [0.00000375 0.9999963 ]
 [1.         0.        ]
 [0.9999976  0.00000237]
 [0.00000014 0.9999999 ]
 [1.         0.        ]
 [0.9999956  0.00000435]
 [0.99903405 0.000966  ]
 [0.99986076 0.00013917]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.8993
INFO:tensorflow:probabilities = [[0.99986315 0.00013688]
 [0.00000001 1.        ]
 [0.99999976 0.00000026]
 [0.99998593 0.00001408]
 [0.         1.        ]
 [1.         0.        ]
 [0.9999243  0.00007564]
 [0.99999976 0.00000028]
 [0.07709554 0.92290443]
 [0.00000001 1.        ]] (0.612 sec)
INFO:tensorflow:loss = 0.008045665, step = 8801 (1.221 sec)
INFO:tensorflow:probabilities = [[0.9999999  0.00000008]
 [0.02369784 0.9763022 ]
 [0.9999883  0.00001171]
 [0.00001469 0.99998534]
 [1.         0.        ]
 [1.         0.        ]
 [0.99983513 0.00016487]
 [0.9999132  0.00008677]
 [0.00000065 0.9999994 ]
 [0.00000006 1.        ]] (0.604 sec)
INFO:tensorflow:global_step/sec: 81.9797
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.99785966 0.00214034]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.9999367  0.0000633 ]
 [0.00000001 1.        ]
 [0.9999982  0.0000018 ]
 [0.00000012 0.9999999 ]
 [0.9999385  0.0000615 ]] (0.616 sec)
INFO:tensorflow:loss = 0.00022693511, step = 8901 (1.220 sec)
INFO:tensorflow:probabilities = [[0.9997776  0.00022244]
```

```
 [0.00000158 0.99999845]
 [0.00002704 0.99997294]
 [0.00000052 0.9999995 ]
 [0.9999968  0.00000324]
 [0.         1.        ]
 [0.0000954  0.99990463]
 [0.00079246 0.99920756]
 [0.00000004 1.        ]
 [0.00000002 1.        ]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.4668
INFO:tensorflow:probabilities = [[0.99987507 0.00012492]
 [0.9999964  0.00000357]
 [0.99990857 0.00009148]
 [1.         0.        ]
 [0.00000002 1.        ]
 [1.         0.00000002]
 [0.999997   0.00000295]
 [0.99999964 0.0000004 ]
 [0.00000004 1.        ]
 [0.99807715 0.00192279]] (0.617 sec)
INFO:tensorflow:loss = 0.0002147955, step = 9001 (1.227 sec)
INFO:tensorflow:probabilities = [[0.99999976 0.00000029]
 [0.00055221 0.99944776]
 [0.         1.        ]
 [0.00000637 0.9999937 ]
 [1.         0.00000003]
 [0.00001196 0.9999881 ]
 [0.99996805 0.00003192]
 [1.         0.00000003]
 [0.00015509 0.9998449 ]
 [1.         0.00000005]] (0.607 sec)
INFO:tensorflow:global_step/sec: 81.9639
INFO:tensorflow:probabilities = [[0.00000134 0.9999987 ]
 [0.00000424 0.9999957 ]
 [0.9999987  0.00000133]
 [0.         1.        ]
 [0.00000003 1.        ]
 [0.00144407 0.99855596]
 [0.00000008 0.9999999 ]
 [1.         0.00000001]
 [0.         1.        ]
 [1.         0.        ]] (0.613 sec)
INFO:tensorflow:loss = 0.00014521167, step = 9101 (1.220 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00003269 0.99996734]
 [0.9999993  0.00000073]
 [0.99555546 0.00444455]
 [0.98720413 0.0127959 ]
 [0.         1.        ]
 [0.99996936 0.00003065]
 [0.99269557 0.00730448]
 [0.         1.        ]
 [0.00000026 0.99999976]] (0.608 sec)
INFO:tensorflow:global_step/sec: 82.2645
INFO:tensorflow:probabilities = [[0.0000153  0.99998474]
 [0.00005532 0.9999447 ]
 [0.00001102 0.99998903]
```

```
 [0.99995124 0.00004878]
 [0.00019061 0.99980944]
 [0.9999584  0.00004165]
 [0.99999833 0.00000163]
 [1.         0.        ]
 [0.9999324  0.0000676 ]
 [0.00000274 0.99999726]] (0.608 sec)
INFO:tensorflow:loss = 4.3449363e-05, step = 9201 (1.216 sec)
INFO:tensorflow:probabilities = [[0.00002105 0.9999789 ]
 [0.99999917 0.0000008 ]
 [0.00000026 0.99999976]
 [1.         0.00000001]
 [1.         0.        ]
 [0.999977   0.00002304]
 [0.         1.        ]
 [1.         0.        ]
 [0.99998915 0.0000108 ]
 [1.         0.        ]] (0.614 sec)
INFO:tensorflow:global_step/sec: 82.0377
INFO:tensorflow:probabilities = [[1.         0.00000003]
 [1.         0.00000001]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999999  0.00000013]
 [1.         0.        ]
 [0.00000002 1.        ]
 [0.00000001 1.        ]
 [0.00000016 0.9999999 ]
 [1.         0.        ]] (0.605 sec)
INFO:tensorflow:loss = 2.3841856e-08, step = 9301 (1.219 sec)
INFO:tensorflow:probabilities = [[0.99999785 0.00000209]
 [0.9999999  0.00000008]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.00000001]
 [0.00012198 0.99987805]
 [0.988431   0.01156898]
 [0.00004829 0.9999517 ]
 [0.00000247 0.9999975 ]
 [0.00000094 0.99999905]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.8071
INFO:tensorflow:probabilities = [[0.99994516 0.00005482]
 [1.         0.        ]
 [1.         0.        ]
 [0.99999654 0.0000035 ]
 [0.9984855  0.00151457]
 [1.         0.        ]
 [1.         0.00000001]
 [0.00000005 1.        ]
 [0.00000035 0.99999964]
 [1.         0.        ]] (0.609 sec)
INFO:tensorflow:loss = 0.00015743192, step = 9401 (1.222 sec)
INFO:tensorflow:probabilities = [[0.99999964 0.0000004 ]
 [0.0000022  0.99999785]
 [0.99992466 0.00007534]
 [1.         0.        ]
 [0.93064284 0.06935712]
```

```
 [0.9999994  0.00000063]
 [0.9999862  0.00001379]
 [0.81685114 0.18314885]
 [0.         1.        ]
 [0.9999968  0.0000032 ]] (0.614 sec)
INFO:tensorflow:global_step/sec: 81.6221
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999999  0.0000001 ]
 [0.99999917 0.0000008 ]
 [0.99953127 0.0004688 ]
 [0.9996809  0.0003191 ]
 [0.00000021 0.99999976]
 [0.9992908  0.00070915]
 [0.9997217  0.00027833]] (0.612 sec)
INFO:tensorflow:loss = 0.00017769591, step = 9501 (1.225 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.00000056 0.9999994 ]
 [0.00000002 1.        ]
 [0.00000051 0.9999995 ]
 [0.9410374  0.05896259]
 [0.99999833 0.00000169]
 [0.00000001 1.        ]
 [1.         0.00000005]
 [0.00004557 0.99995446]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.8794
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000004 1.        ]
 [0.00000011 0.9999999 ]
 [1.         0.00000001]
 [0.         1.        ]
 [0.00000034 0.99999964]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.00000005]] (0.613 sec)
INFO:tensorflow:loss = 4.768371e-08, step = 9601 (1.221 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000172 0.99999833]
 [0.99999714 0.00000282]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000044 0.9999995 ]
 [0.9998373  0.00016267]
 [0.9994783  0.00052173]
 [0.00000065 0.9999994 ]
 [0.99997425 0.00002578]] (0.606 sec)
INFO:tensorflow:global_step/sec: 81.6576
INFO:tensorflow:probabilities = [[0.99999857 0.00000144]
 [1.         0.00000001]
 [0.00000316 0.9999968 ]
 [0.00000022 0.99999976]
 [0.9999919  0.00000805]
 [0.00000422 0.9999958 ]
 [0.         1.        ]
```

```
 [0.9988803  0.00111964]
 [0.99999964 0.00000036]
 [1.         0.        ]] (0.619 sec)
INFO:tensorflow:loss = 0.00011378209, step = 9701 (1.224 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.0013668  0.9986332 ]
 [1.         0.        ]
 [0.00009384 0.9999062 ]
 [0.99999976 0.00000023]
 [0.         1.        ]
 [0.99271226 0.00728774]
 [0.9999865  0.00001343]] (0.605 sec)
INFO:tensorflow:global_step/sec: 82.1811
INFO:tensorflow:probabilities = [[0.00017528 0.9998247 ]
 [0.00118693 0.99881315]
 [1.         0.        ]
 [0.9999995  0.00000049]
 [0.         1.        ]
 [0.00000568 0.9999943 ]
 [1.         0.        ]
 [0.9983016  0.00169835]
 [1.         0.        ]
 [0.9989818  0.00101825]] (0.611 sec)
INFO:tensorflow:loss = 0.00040876237, step = 9801 (1.217 sec)
INFO:tensorflow:probabilities = [[0.9999888  0.00001124]
 [1.         0.        ]
 [0.0000045  0.99999547]
 [0.99999964 0.00000039]
 [0.00010221 0.9998977 ]
 [0.9999776  0.00002236]
 [0.         1.        ]
 [0.0019757  0.99802434]
 [0.81623113 0.18376891]
 [0.00000003 1.        ]] (0.607 sec)
INFO:tensorflow:global_step/sec: 81.9438
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.0000032  0.9999968 ]
 [0.03048172 0.9695183 ]
 [1.         0.        ]
 [0.99999976 0.00000019]
 [0.9998864  0.00011361]
 [1.         0.        ]] (0.613 sec)
INFO:tensorflow:loss = 0.003107296, step = 9901 (1.220 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00212867 0.9978713 ]
 [0.99999404 0.00000597]
 [0.0000068  0.9999932 ]
 [0.00000021 0.99999976]
 [0.9999999  0.00000008]
 [0.         1.        ]
 [0.00000951 0.99999046]
 [0.9999999  0.00000012]
```

```
 [0.         1.        ]] (0.616 sec)
INFO:tensorflow:global_step/sec: 81.5383
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.99999535 0.00000468]
 [0.00000001 1.        ]
 [0.99999964 0.00000041]
 [1.         0.00000001]
 [0.00000459 0.99999535]
 [0.00399229 0.9960077 ]
 [0.00016449 0.9998355 ]
 [0.00000079 0.99999917]
 [0.99935335 0.00064669]] (0.611 sec)
INFO:tensorflow:loss = 0.0004822126, step = 10001 (1.227 sec)
INFO:tensorflow:probabilities = [[0.9999999  0.00000006]
 [1.         0.00000004]
 [0.99999607 0.00000394]
 [0.00000015 0.9999999 ]
 [0.99999714 0.00000282]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.00000004]
 [1.         0.        ]
 [0.00000006 1.        ]] (0.616 sec)
INFO:tensorflow:global_step/sec: 81.8757
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [1.         0.        ]
 [0.00000291 0.99999714]
 [0.00000003 1.        ]
 [0.9996979  0.00030214]
 [0.00021456 0.9997855 ]
 [0.00000058 0.9999994 ]
 [0.99984086 0.00015915]
 [0.9999987  0.00000132]
 [0.00000003 1.        ]] (0.605 sec)
INFO:tensorflow:loss = 6.806037e-05, step = 10101 (1.221 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9999517  0.00004833]
 [0.00000026 0.99999976]
 [0.00001454 0.99998546]
 [0.00141581 0.9985843 ]
 [0.00000518 0.9999949 ]
 [1.         0.00000001]
 [1.         0.        ]
 [0.00000004 1.        ]
 [0.         1.        ]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.9817
INFO:tensorflow:probabilities = [[0.00000286 0.99999714]
 [0.00000001 1.        ]
 [0.00000001 1.        ]
 [0.00000119 0.9999988 ]
 [0.00000002 1.        ]
 [0.         1.        ]
 [0.9999945  0.00000552]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000068 0.9999993 ]] (0.607 sec)
INFO:tensorflow:loss = 1.0251979e-06, step = 10201 (1.220 sec)
```

```
INFO:tensorflow:probabilities = [[0.00011353 0.9998865 ]
 [0.99994886 0.00005118]
 [0.00006711 0.9999329 ]
 [0.00092488 0.99907506]
 [0.9999466  0.00005344]
 [0.99924326 0.00075671]
 [0.00000128 0.9999987 ]
 [1.         0.        ]
 [0.99999774 0.00000232]
 [0.         1.        ]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.8867
INFO:tensorflow:probabilities = [[0.9999789  0.00002111]
 [0.00000002 1.        ]
 [0.99998295 0.00001709]
 [0.9999999  0.00000016]
 [0.         1.        ]
 [0.9999962  0.0000038 ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]] (0.610 sec)
INFO:tensorflow:loss = 4.2080505e-06, step = 10301 (1.221 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [0.00000047 0.9999995 ]
 [0.00000765 0.9999924 ]
 [0.000008   0.999992  ]
 [1.         0.00000004]
 [0.99999976 0.00000023]
 [1.         0.        ]
 [0.00000026 0.99999976]
 [0.         1.        ]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.9083
INFO:tensorflow:probabilities = [[0.00007971 0.99992025]
 [0.03811965 0.9618804 ]
 [0.00000007 0.9999999 ]
 [1.         0.        ]
 [0.99999225 0.0000077 ]
 [1.         0.        ]
 [0.99696094 0.003039  ]
 [0.00000344 0.99999654]
 [0.         1.        ]
 [0.9999548  0.00004519]] (0.610 sec)
INFO:tensorflow:loss = 0.004204508, step = 10401 (1.221 sec)
INFO:tensorflow:probabilities = [[0.00000026 0.99999976]
 [0.9999993  0.00000066]
 [1.         0.        ]
 [0.9999343  0.00006567]
 [1.         0.00000001]
 [0.         1.        ]
 [1.         0.00000005]
 [1.         0.        ]
 [0.9999999  0.0000001 ]
 [0.00000048 0.9999995 ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.895
INFO:tensorflow:probabilities = [[0.00000036 0.99999964]
 [0.00000014 0.9999999 ]
```

```
 [1.         0.        ]
 [1.         0.        ]
 [0.97048956 0.02951041]
 [0.9998553  0.00014472]
 [0.9999449  0.00005501]
 [1.         0.00000002]
 [0.         1.        ]
 [0.99999917 0.00000082]] (0.612 sec)
INFO:tensorflow:loss = 0.0030155727, step = 10501 (1.221 sec)
INFO:tensorflow:probabilities = [[0.9999988  0.00000122]
 [0.0001196  0.99988043]
 [0.00034253 0.9996575 ]
 [1.         0.00000002]
 [0.99999964 0.00000037]
 [1.         0.        ]
 [0.99878913 0.00121095]
 [0.9999999  0.00000011]
 [0.         1.        ]
 [0.00000013 0.9999999 ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.9486
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9996437  0.00035635]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999982  0.00000183]
 [0.9993575  0.00064253]
 [1.         0.00000002]
 [0.9999894  0.00001065]
 [1.         0.        ]
 [1.         0.00000001]] (0.611 sec)
INFO:tensorflow:loss = 0.00010114592, step = 10601 (1.220 sec)
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [0.00035101 0.9996489 ]
 [1.         0.00000001]
 [0.0000636  0.99993634]
 [0.9999126  0.00008742]
 [0.99999976 0.0000003 ]
 [0.9999982  0.0000018 ]
 [1.         0.        ]
 [0.00007554 0.9999244 ]
 [0.00004095 0.999959  ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.0269
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [0.00000097 0.99999905]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.9999999  0.00000008]
 [0.99999976 0.00000028]
 [0.00003901 0.999961  ]
 [1.         0.        ]
 [0.00000034 0.99999964]
 [0.00000029 0.99999976]] (0.610 sec)
INFO:tensorflow:loss = 4.0888026e-06, step = 10701 (1.219 sec)
INFO:tensorflow:probabilities = [[0.99982786 0.00017216]
 [0.9998952  0.00010479]
 [0.00011246 0.99988747]
 [0.99999344 0.00000656]
```

```
 [0.9999989  0.00000102]
 [1.         0.        ]
 [0.99999404 0.00000601]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.99999976 0.00000024]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.4461
INFO:tensorflow:probabilities = [[0.00000062 0.9999994 ]
 [0.00000091 0.99999905]
 [0.00003043 0.9999696 ]
 [0.01282315 0.98717684]
 [0.00000002 1.        ]
 [0.00000482 0.99999523]
 [1.         0.        ]
 [0.00000142 0.99999857]
 [1.         0.00000001]
 [0.         1.        ]] (0.617 sec)
INFO:tensorflow:loss = 0.0012944264, step = 10801 (1.228 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.         1.        ]
 [0.9999999  0.00000006]
 [1.         0.        ]
 [0.0000038  0.9999962 ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000008 0.9999999 ]
 [0.         1.        ]
 [0.00000111 0.9999989 ]] (0.608 sec)
INFO:tensorflow:global_step/sec: 81.9723
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [0.00000054 0.9999994 ]
 [0.9994091  0.00059098]
 [1.         0.00000001]
 [1.         0.        ]
 [0.99958414 0.00041582]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999994  0.00000058]
 [0.00000026 0.99999976]] (0.612 sec)
INFO:tensorflow:loss = 0.000100848774, step = 10901 (1.220 sec)
INFO:tensorflow:probabilities = [[0.9999263  0.00007361]
 [0.         1.        ]
 [0.9999995  0.00000047]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.99999344 0.0000065 ]
 [1.         0.00000005]
 [0.03832097 0.96167904]
 [0.9999995  0.00000047]
 [0.         1.        ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.1203
INFO:tensorflow:probabilities = [[1.         0.00000002]
 [1.         0.        ]
 [1.         0.00000005]
 [0.99981886 0.00018111]
 [0.00000137 0.9999987 ]
 [0.         1.        ]
```

```
 [1.         0.00000003]
 [0.00000018 0.99999976]
 [1.         0.        ]
 [0.00001283 0.9999871 ]] (0.608 sec)
INFO:tensorflow:loss = 1.9560594e-05, step = 11001 (1.218 sec)
INFO:tensorflow:probabilities = [[0.00000582 0.99999416]
 [0.00000029 0.99999976]
 [0.00000013 0.9999999 ]
 [0.00001286 0.9999871 ]
 [0.00000044 0.9999995 ]
 [0.99998796 0.000012  ]
 [0.99999976 0.00000023]
 [0.00000525 0.99999475]
 [0.99999964 0.00000039]
 [0.9999999  0.00000011]] (0.616 sec)
INFO:tensorflow:global_step/sec: 81.5923
INFO:tensorflow:probabilities = [[0.9999846  0.00001535]
 [0.9999875  0.00001253]
 [0.00000005 1.        ]
 [0.99999976 0.00000019]
 [0.9999999  0.00000011]
 [0.9999974  0.00000257]
 [0.00000037 0.99999964]
 [0.         1.        ]
 [1.         0.00000003]
 [0.99999976 0.0000002 ]] (0.610 sec)
INFO:tensorflow:loss = 3.1471052e-06, step = 11101 (1.226 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000008 0.9999999 ]
 [0.91302323 0.08697677]
 [0.99999964 0.00000037]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000004 1.        ]
 [1.         0.00000001]
 [0.00000367 0.9999963 ]] (0.615 sec)
INFO:tensorflow:global_step/sec: 81.475
INFO:tensorflow:probabilities = [[0.00000002 1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.9993617  0.00063826]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999999  0.00000015]
 [0.00000003 1.        ]
 [0.00001292 0.9999871 ]
 [1.         0.        ]] (0.612 sec)
INFO:tensorflow:loss = 6.5151326e-05, step = 11201 (1.227 sec)
INFO:tensorflow:probabilities = [[0.99981886 0.00018114]
 [0.00000838 0.99999166]
 [0.00000469 0.99999535]
 [0.         1.        ]
 [0.9986571  0.00134291]
 [0.9999995  0.00000043]
 [0.98005944 0.01994055]
 [0.99999905 0.00000098]
```

```
 [0.         1.        ]
 [0.00000008 0.9999999 ]] (0.617 sec)
INFO:tensorflow:global_step/sec: 81.2389
INFO:tensorflow:probabilities = [[1.         0.00000001]
 [1.         0.        ]
 [0.9999995  0.00000046]
 [0.         1.        ]
 [0.99999905 0.00000098]
 [0.99841046 0.00158954]
 [1.         0.00000002]
 [0.00000244 0.9999976 ]
 [0.00000031 0.99999964]
 [0.00010954 0.99989045]] (0.613 sec)
INFO:tensorflow:loss = 0.00017044938, step = 11301 (1.231 sec)
INFO:tensorflow:probabilities = [[0.00000155 0.99999845]
 [0.9999999  0.00000013]
 [0.9996853  0.00031478]
 [0.99999654 0.00000341]
 [1.         0.        ]
 [0.00000003 1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999981  0.00000188]
 [0.00000033 0.99999964]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.0073
INFO:tensorflow:probabilities = [[0.00012993 0.99987006]
 [0.00003461 0.9999654 ]
 [0.         1.        ]
 [1.         0.00000001]
 [0.00000043 0.9999995 ]
 [0.         1.        ]
 [0.9998636  0.00013637]
 [1.         0.        ]
 [0.00000415 0.9999958 ]
 [0.00000634 0.9999937 ]] (0.622 sec)
INFO:tensorflow:loss = 3.1183314e-05, step = 11401 (1.235 sec)
INFO:tensorflow:probabilities = [[0.99999917 0.00000084]
 [0.9999993  0.00000077]
 [0.00000021 0.99999976]
 [0.9999999  0.00000007]
 [1.         0.00000001]
 [0.00000047 0.9999995 ]
 [0.00000014 0.9999999 ]
 [0.0000006  0.9999994 ]
 [0.00000422 0.9999958 ]
 [0.00000001 1.        ]] (0.615 sec)
INFO:tensorflow:global_step/sec: 81.6605
INFO:tensorflow:probabilities = [[0.99999976 0.00000025]
 [0.00000389 0.99999607]
 [0.9999927  0.00000732]
 [0.9999999  0.0000001 ]
 [0.00000011 0.9999999 ]
 [0.00000007 0.9999999 ]
 [0.         1.        ]
 [0.99999905 0.00000093]
 [0.         1.        ]
 [0.00000049 0.9999995 ]] (0.609 sec)
```

```
INFO:tensorflow:loss = 1.3232196e-06, step = 11501 (1.224 sec)
INFO:tensorflow:probabilities = [[0.9956917  0.00430831]
 [0.00001444 0.9999856 ]
 [0.00000341 0.99999654]
 [1.         0.        ]
 [0.996698   0.00330195]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.7085
INFO:tensorflow:probabilities = [[0.99999964 0.00000033]
 [0.00000385 0.9999962 ]
 [0.9999999  0.00000006]
 [0.00003304 0.999967  ]
 [0.99998546 0.00001457]
 [1.         0.00000001]
 [0.00000008 0.9999999 ]
 [0.00000004 1.        ]
 [1.         0.00000001]
 [0.9999745  0.00002547]] (0.614 sec)
INFO:tensorflow:loss = 7.748506e-06, step = 11601 (1.224 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [1.         0.        ]
 [0.999997   0.00000297]
 [1.         0.        ]
 [0.00000041 0.99999964]
 [0.00000155 0.99999845]
 [1.         0.        ]
 [0.00000778 0.99999225]] (0.604 sec)
INFO:tensorflow:global_step/sec: 82.0289
INFO:tensorflow:probabilities = [[0.00005263 0.9999473 ]
 [0.00000024 0.99999976]
 [0.00001163 0.9999883 ]
 [1.         0.00000002]
 [1.         0.        ]
 [0.9941385  0.00586149]
 [0.99996686 0.00003314]
 [0.00000262 0.9999974 ]
 [0.         1.        ]
 [0.99999917 0.00000088]] (0.616 sec)
INFO:tensorflow:loss = 0.00059799844, step = 11701 (1.219 sec)
INFO:tensorflow:probabilities = [[0.99994767 0.00005234]
 [1.         0.        ]
 [0.00000014 0.9999999 ]
 [0.00036612 0.9996339 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00004111 0.9999589 ]
 [0.00001207 0.99998796]
 [0.00000001 1.        ]
 [1.         0.        ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.1169
INFO:tensorflow:probabilities = [[0.99999094 0.0000091 ]
```

```
 [1.         0.00000004]
 [0.99999917 0.00000086]
 [0.99515814 0.0048419 ]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.00000001 1.        ]
 [0.9999995  0.00000053]
 [0.9999708  0.00002922]
 [1.         0.00000001]] (0.609 sec)
INFO:tensorflow:loss = 0.0004893187, step = 11801 (1.218 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00203485 0.9979652 ]
 [0.00001631 0.99998367]
 [0.         1.        ]
 [0.9993542  0.00064577]
 [0.9844296  0.01557038]
 [1.         0.00000001]
 [0.99999976 0.00000023]
 [0.99996877 0.00003117]
 [0.         1.        ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.8672
INFO:tensorflow:probabilities = [[0.99999976 0.00000029]
 [1.         0.        ]
 [0.9999995  0.00000049]
 [0.99995375 0.00004624]
 [0.0000076  0.9999924 ]
 [0.         1.        ]
 [0.9999994  0.0000006 ]
 [0.9999999  0.0000001 ]
 [1.         0.00000004]
 [0.0000006  0.9999994 ]] (0.612 sec)
INFO:tensorflow:loss = 5.590806e-06, step = 11901 (1.221 sec)
INFO:tensorflow:probabilities = [[0.99998045 0.00001957]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000027 0.99999976]
 [1.         0.        ]
 [0.00000028 0.99999976]
 [0.         1.        ]
 [0.9999999  0.00000018]
 [0.         1.        ]
 [0.         1.        ]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.6347
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [0.99999964 0.00000037]
 [1.         0.        ]
 [0.00000232 0.99999774]
 [0.         1.        ]
 [0.00001047 0.9999895 ]
 [0.99999344 0.00000657]
 [1.         0.00000002]
 [1.         0.        ]] (0.612 sec)
INFO:tensorflow:loss = 1.9669455e-06, step = 12001 (1.225 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.9999584  0.00004166]
 [0.9998989  0.00010113]
```

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 [0.00033907 0.99966097]
 [1.         0.        ]
 [1.         0.00000001]
 [0.         1.        ]
 [0.9999994  0.00000063]
 [0.00000001 1.        ]
 [0.00000009 0.9999999 ]] (0.617 sec)
INFO:tensorflow:global_step/sec: 81.3141
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.99999976 0.00000023]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000005 1.        ]
 [0.00000008 0.9999999 ]
 [0.         1.        ]
 [0.00000012 0.9999999 ]
 [1.         0.        ]
 [1.         0.        ]] (0.613 sec)
INFO:tensorflow:loss = 4.7683713e-08, step = 12101 (1.230 sec)
INFO:tensorflow:probabilities = [[0.00000209 0.99999785]
 [1.         0.        ]
 [0.00002988 0.9999701 ]
 [0.99999976 0.00000024]
 [0.00000002 1.        ]
 [1.         0.00000001]
 [1.         0.00000001]
 [0.9981615  0.0018385 ]
 [1.         0.00000006]
 [0.9993399  0.00066009]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.9957
INFO:tensorflow:probabilities = [[0.9999969  0.00000311]
 [0.98735356 0.01264646]
 [0.0005475  0.99945253]
 [0.         1.        ]
 [0.00000002 1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.00000257 0.9999974 ]
 [0.00000007 0.9999999 ]
 [0.         1.        ]] (0.609 sec)
INFO:tensorflow:loss = 0.0013280566, step = 12201 (1.220 sec)
INFO:tensorflow:probabilities = [[0.00000006 1.        ]
 [0.         1.        ]
 [1.         0.00000004]
 [0.99999976 0.00000028]
 [0.00009915 0.9999008 ]
 [0.00000005 1.        ]
 [1.         0.00000003]
 [0.00000025 0.99999976]
 [0.00000062 0.9999994 ]
 [1.         0.        ]] (0.614 sec)
INFO:tensorflow:global_step/sec: 81.5057
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000002 1.        ]
 [0.9999999  0.00000014]
 [0.9690184  0.03098166]
 [1.         0.00000001]
```

```
 [0.0000021  0.99999785]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.99992025 0.00007973]] (0.613 sec)
INFO:tensorflow:loss = 0.0031553712, step = 12301 (1.227 sec)
INFO:tensorflow:probabilities = [[1.         0.00000003]
 [1.         0.00000005]
 [0.         1.        ]
 [0.9999989  0.00000103]
 [0.00000005 1.        ]
 [0.999987   0.00001301]
 [1.         0.        ]
 [0.00000015 0.9999999 ]
 [1.         0.00000002]
 [0.999995   0.00000501]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.7949
INFO:tensorflow:probabilities = [[0.99993753 0.00006252]
 [0.00000006 0.9999999 ]
 [0.99999917 0.00000089]
 [1.         0.        ]
 [1.         0.00000004]
 [0.         1.        ]
 [0.99999976 0.00000024]
 [0.00000108 0.9999989 ]
 [1.         0.        ]
 [0.00000012 0.9999999 ]] (0.611 sec)
INFO:tensorflow:loss = 6.4847904e-06, step = 12401 (1.222 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.0000014  0.99999857]
 [0.99996483 0.00003521]
 [0.02049391 0.97950613]
 [0.00000128 0.9999987 ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]] (0.607 sec)
INFO:tensorflow:global_step/sec: 82.0629
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00006543 0.99993455]
 [0.00000004 1.        ]
 [0.99995124 0.00004879]
 [1.         0.        ]
 [0.9988018  0.00119816]
 [0.         1.        ]
 [0.00000004 1.        ]
 [1.         0.        ]
 [1.         0.00000006]] (0.612 sec)
INFO:tensorflow:loss = 0.00013130833, step = 12501 (1.219 sec)
INFO:tensorflow:probabilities = [[0.00000261 0.9999974 ]
 [1.         0.00000001]
 [0.         1.        ]
 [1.         0.00000002]
 [0.999997   0.000003  ]
 [0.         1.        ]
 [0.00086781 0.9991322 ]
```

```
 [0.9999999  0.00000016]
 [1.         0.00000001]
 [0.         1.        ]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.7843
INFO:tensorflow:probabilities = [[0.00000002 1.        ]
 [0.         1.        ]
 [0.00000075 0.9999993 ]
 [0.9999974  0.00000259]
 [1.         0.        ]
 [0.99999964 0.00000032]
 [0.99999464 0.00000538]
 [0.00000029 0.99999976]
 [0.         1.        ]
 [0.00000076 0.9999993 ]] (0.613 sec)
INFO:tensorflow:loss = 1.0013562e-06, step = 12601 (1.223 sec)
INFO:tensorflow:probabilities = [[0.00000028 0.99999976]
 [0.99999976 0.00000028]
 [0.00000001 1.        ]
 [0.00000503 0.999995  ]
 [0.9999995  0.00000045]
 [0.9991804  0.00081966]
 [1.         0.        ]
 [1.         0.        ]
 [0.00085946 0.9991405 ]
 [0.00000285 0.99999714]] (0.615 sec)
INFO:tensorflow:global_step/sec: 81.7149
INFO:tensorflow:probabilities = [[0.9999999  0.00000012]
 [0.9999999  0.00000007]
 [0.00000002 1.        ]
 [0.99980694 0.0001931 ]
 [1.         0.        ]
 [0.99761224 0.00238775]
 [0.99998724 0.00001272]
 [0.00000001 1.        ]
 [0.00000229 0.99999774]
 [0.9999634  0.00003654]] (0.609 sec)
INFO:tensorflow:loss = 0.00026355803, step = 12701 (1.224 sec)
INFO:tensorflow:probabilities = [[0.00000012 0.9999999 ]
 [0.99999976 0.00000022]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999999  0.00000008]
 [1.         0.        ]
 [0.         1.        ]
 [0.00000984 0.9999901 ]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.9164
INFO:tensorflow:probabilities = [[0.9999982  0.00000185]
 [0.95041555 0.04958443]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.99985147 0.0001485 ]
 [0.00006481 0.99993515]
 [0.00630366 0.9936964 ]
```

```
 [0.         1.        ]] (0.608 sec)
INFO:tensorflow:loss = 0.005739471, step = 12801 (1.221 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.99996316 0.00003681]
 [0.00367257 0.99632746]
 [0.00002956 0.99997044]
 [0.00025612 0.9997439 ]
 [0.         1.        ]
 [0.00008725 0.99991274]
 [1.         0.        ]
 [0.01077555 0.9892244 ]
 [0.9999653  0.00003465]] (0.611 sec)
INFO:tensorflow:global_step/sec: 82.0379
INFO:tensorflow:probabilities = [[0.00000516 0.9999949 ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.9999999  0.00000013]
 [0.00003897 0.999961  ]
 [0.99999964 0.00000038]
 [0.00000022 0.99999976]
 [0.99999404 0.00000598]
 [0.         1.        ]
 [0.99999774 0.00000229]] (0.608 sec)
INFO:tensorflow:loss = 5.304734e-06, step = 12901 (1.219 sec)
INFO:tensorflow:probabilities = [[0.00000001 1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999981  0.00000187]
 [0.00000078 0.99999917]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.00000006]
 [0.00000482 0.99999523]
 [0.99999964 0.00000038]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.845
INFO:tensorflow:probabilities = [[0.00000023 0.99999976]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999933  0.00000668]
 [0.00000226 0.99999774]
 [1.         0.        ]
 [0.99999726 0.00000279]
 [0.99997413 0.00002587]
 [1.         0.        ]
 [0.00000199 0.999998  ]] (0.609 sec)
INFO:tensorflow:loss = 3.9815536e-06, step = 13001 (1.222 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000001 1.        ]
 [0.9999999  0.00000016]
 [0.00247948 0.9975205 ]
 [0.00000126 0.9999987 ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000069 0.9999993 ]
 [1.         0.        ]
 [0.9999981  0.00000194]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.8027
```

```
INFO:tensorflow:probabilities = [[0.00000051 0.9999995 ]
 [0.00000057 0.9999994 ]
 [0.999941   0.00005905]
 [0.00000162 0.99999833]
 [1.         0.        ]
 [0.9999995  0.00000047]
 [0.         1.        ]
 [0.9974005  0.0025995 ]
 [0.00000002 1.        ]
 [0.00001538 0.9999846 ]] (0.609 sec)
INFO:tensorflow:loss = 0.00026804855, step = 13101 (1.223 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000001 1.        ]
 [0.00574012 0.99425983]
 [0.9999993  0.00000071]
 [0.         1.        ]
 [1.         0.00000004]
 [0.00020391 0.9997961 ]
 [1.         0.        ]
 [0.00000002 1.        ]
 [0.         1.        ]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.6892
INFO:tensorflow:probabilities = [[0.00000211 0.99999785]
 [0.00025016 0.99974984]
 [0.00000014 0.9999999 ]
 [0.9999989  0.00000109]
 [0.         1.        ]
 [0.9999511  0.00004888]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.9999969  0.00000309]] (0.611 sec)
INFO:tensorflow:loss = 3.055009e-05, step = 13201 (1.224 sec)
INFO:tensorflow:probabilities = [[0.00000659 0.99999344]
 [0.9999994  0.00000059]
 [0.00000011 0.9999999 ]
 [1.         0.        ]
 [0.99999905 0.00000092]
 [1.         0.        ]
 [0.9980666  0.00193344]
 [0.00000024 0.99999976]
 [0.         1.        ]
 [0.0000321  0.99996793]] (0.609 sec)
INFO:tensorflow:global_step/sec: 81.7403
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.00001361 0.9999864 ]
 [0.00000005 1.        ]
 [0.9999858  0.00001423]
 [0.00000039 0.99999964]
 [1.         0.        ]
 [0.99999976 0.00000027]
 [0.9999999  0.00000011]
 [0.         1.        ]] (0.614 sec)
INFO:tensorflow:loss = 2.8490826e-06, step = 13301 (1.223 sec)
INFO:tensorflow:probabilities = [[0.9999869  0.00001305]
 [0.9990497  0.00095023]
```

```
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00045047 0.99954945]
 [0.00006454 0.9999355 ]
 [0.00000033 0.99999964]
 [0.99884737 0.00115256]
 [0.00000292 0.999997  ]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.4347
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.0000004  0.99999964]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999989  0.00000111]
 [0.00107795 0.9989221 ]
 [0.99951863 0.00048137]
 [0.9996773  0.0003227 ]] (0.616 sec)
INFO:tensorflow:loss = 0.00018841875, step = 13401 (1.228 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.         1.        ]
 [0.00015354 0.99984646]
 [0.99999607 0.00000396]
 [0.         1.        ]
 [1.         0.00000005]
 [1.         0.00000002]
 [1.         0.        ]
 [0.00000153 0.99999845]
 [0.00000007 0.9999999 ]] (0.608 sec)
INFO:tensorflow:global_step/sec: 81.9165
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.99649566 0.00350435]
 [0.         1.        ]
 [0.9999994  0.00000065]
 [0.9999969  0.00000309]
 [0.00000067 0.9999993 ]
 [0.0003539  0.99964607]
 [0.9999695  0.00003055]
 [0.9978638  0.00213617]
 [0.00000028 0.99999976]] (0.613 sec)
INFO:tensorflow:loss = 0.0006038132, step = 13501 (1.221 sec)
INFO:tensorflow:probabilities = [[0.9997391  0.00026088]
 [0.9999999  0.00000007]
 [0.9999981  0.00000196]
 [0.0003449  0.9996551 ]
 [0.99999964 0.00000035]
 [0.00000004 1.        ]
 [0.00000006 0.9999999 ]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.9999745  0.00002547]] (0.608 sec)
INFO:tensorflow:global_step/sec: 82.0554
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
```

```
 [0.9999999  0.00000011]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999993  0.00000067]
 [0.99999964 0.00000036]
 [1.         0.        ]] (0.611 sec)
INFO:tensorflow:loss = 1.1920927e-07, step = 13601 (1.219 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [0.00010523 0.99989474]
 [0.99999964 0.00000036]
 [0.9999999  0.00000008]
 [0.0000094  0.9999906 ]
 [0.         1.        ]
 [1.         0.00000001]
 [0.00364454 0.99635553]
 [0.00000006 0.9999999 ]] (0.610 sec)
INFO:tensorflow:global_step/sec: 81.6537
INFO:tensorflow:probabilities = [[0.00002997 0.9999701 ]
 [1.         0.00000002]
 [0.         1.        ]
 [0.00000002 1.        ]
 [1.         0.00000001]
 [1.         0.00000001]
 [0.         1.        ]
 [0.00000932 0.9999907 ]
 [0.00000307 0.9999969 ]
 [0.00000006 1.        ]] (0.615 sec)
INFO:tensorflow:loss = 4.23188e-06, step = 13701 (1.224 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.00000004]
 [0.00000142 0.99999857]
 [1.         0.        ]
 [0.9999943  0.00000572]
 [0.9999994  0.00000058]
 [1.         0.00000005]
 [0.9999845  0.0000155 ]
 [1.         0.        ]
 [0.00000007 0.9999999 ]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.8308
INFO:tensorflow:probabilities = [[0.99999917 0.00000082]
 [0.00042662 0.9995734 ]
 [1.         0.        ]
 [1.         0.00000004]
 [1.         0.        ]
 [0.99999964 0.00000036]
 [1.         0.00000001]
 [0.00000657 0.99999344]
 [1.         0.        ]
 [0.0000654  0.99993455]] (0.609 sec)
INFO:tensorflow:loss = 4.998706e-05, step = 13801 (1.222 sec)
INFO:tensorflow:probabilities = [[0.9999962  0.00000379]
 [0.9993235  0.00067654]
 [0.         1.        ]
 [0.00000217 0.99999785]
 [0.00000002 1.        ]
 [0.99999034 0.0000096 ]
```

```
 [0.9998393  0.00016066]
 [0.9999999  0.00000008]
 [0.9999987  0.00000134]
 [0.         1.        ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.0053
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.00000109 0.9999989 ]
 [0.         1.        ]
 [0.00000675 0.9999932 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.         1.        ]] (0.610 sec)
INFO:tensorflow:loss = 7.8677897e-07, step = 13901 (1.219 sec)
INFO:tensorflow:probabilities = [[0.9999988  0.00000123]
 [1.         0.        ]
 [0.9999927  0.0000073 ]
 [0.00000413 0.9999958 ]
 [0.9999875  0.00001255]
 [1.         0.00000004]
 [0.999998   0.00000205]
 [0.9999968  0.00000321]
 [0.00007776 0.9999223 ]
 [0.00164558 0.99835443]] (0.618 sec)
INFO:tensorflow:global_step/sec: 81.4784
INFO:tensorflow:probabilities = [[0.00000035 0.99999964]
 [0.9999995  0.00000049]
 [1.         0.        ]
 [0.9999988  0.00000116]
 [1.         0.        ]
 [0.99999976 0.00000026]
 [1.         0.        ]
 [0.00000003 1.        ]
 [0.00000032 0.99999964]
 [0.0000039  0.99999607]] (0.610 sec)
INFO:tensorflow:loss = 6.5565024e-07, step = 14001 (1.227 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.99999964 0.00000036]
 [1.         0.        ]
 [0.00012483 0.9998752 ]
 [1.         0.        ]
 [0.99980766 0.00019241]
 [0.99999976 0.00000027]
 [0.         1.        ]
 [0.00000001 1.        ]
 [0.         1.        ]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.613
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.99988747 0.00011256]
 [0.00000002 1.        ]
 [0.99998975 0.0000102 ]
 [0.9999999  0.00000013]
 [0.00002303 0.999977  ]
```

```
 [1.         0.00000002]
 [1.         0.        ]] (0.613 sec)
INFO:tensorflow:loss = 1.4590552e-05, step = 14101 (1.225 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00006532 0.9999347 ]
 [0.00000004 1.        ]
 [0.9999999  0.00000007]
 [0.00000389 0.99999607]
 [1.         0.        ]
 [0.0009227  0.9990773 ]
 [0.00000019 0.99999976]
 [0.9999931  0.00000689]
 [1.         0.00000002]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.7741
INFO:tensorflow:probabilities = [[0.9999982  0.0000018 ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [0.         1.        ]
 [0.99353164 0.00646844]
 [0.99999785 0.00000213]
 [0.         1.        ]
 [1.         0.        ]
 [0.00000138 0.99999857]] (0.612 sec)
INFO:tensorflow:loss = 0.0006494759, step = 14201 (1.223 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9999995  0.00000045]
 [0.00000004 1.        ]
 [0.00000124 0.9999988 ]
 [0.         1.        ]
 [0.999742   0.00025807]
 [0.9999968  0.00000323]
 [1.         0.00000001]
 [0.         1.        ]
 [0.00000015 0.9999999 ]] (0.609 sec)
INFO:tensorflow:global_step/sec: 82.1448
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00001133 0.9999887 ]
 [0.99999154 0.00000845]
 [1.         0.        ]
 [0.00000001 1.        ]
 [0.00001018 0.99998987]
 [0.9999999  0.00000015]
 [0.0000015  0.99999845]
 [1.         0.        ]
 [1.         0.        ]] (0.608 sec)
INFO:tensorflow:loss = 3.159031e-06, step = 14301 (1.217 sec)
INFO:tensorflow:probabilities = [[0.9999907  0.00000936]
 [1.         0.        ]
 [1.         0.00000002]
 [0.00000164 0.99999833]
 [0.9999999  0.00000016]
 [0.9999956  0.00000444]
 [0.9999999  0.00000017]
 [0.99999964 0.00000037]
 [1.         0.        ]
 [1.         0.        ]] (0.602 sec)
```

```
INFO:tensorflow:global_step/sec: 82.1788
INFO:tensorflow:probabilities = [[0.00018801 0.99981207]
 [1.         0.        ]
 [0.00005154 0.9999485 ]
 [0.00000019 0.99999976]
 [0.         1.        ]
 [1.         0.00000001]
 [0.00000232 0.99999774]
 [0.00000022 0.99999976]
 [0.         1.        ]
 [1.         0.00000003]] (0.615 sec)
INFO:tensorflow:loss = 2.4221428e-05, step = 14401 (1.217 sec)
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [0.9999976  0.00000243]
 [0.9999777  0.00002234]
 [0.00075455 0.9992455 ]] (0.607 sec)
INFO:tensorflow:global_step/sec: 81.857
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.00000008 0.9999999 ]
 [1.         0.        ]
 [1.         0.        ]
 [0.9999999  0.00000007]
 [1.         0.        ]
 [0.99999976 0.00000019]
 [0.         1.        ]
 [1.         0.00000002]
 [0.         1.        ]] (0.615 sec)
INFO:tensorflow:loss = 4.7683713e-08, step = 14501 (1.222 sec)
INFO:tensorflow:probabilities = [[0.00000333 0.99999666]
 [0.0000003  0.99999976]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.00000005]
 [1.         0.        ]
 [1.         0.        ]
 [0.99960405 0.00039594]
 [1.         0.00000002]] (0.611 sec)
INFO:tensorflow:global_step/sec: 81.8288
INFO:tensorflow:probabilities = [[0.9999989  0.00000107]
 [0.9999944  0.00000563]
 [0.         1.        ]
 [0.00000088 0.99999917]
 [0.9999927  0.00000729]
 [0.9999112  0.00008877]
 [1.         0.00000004]
 [0.0000017  0.99999833]
 [0.00000004 1.        ]
 [1.         0.        ]] (0.611 sec)
INFO:tensorflow:loss = 1.0525781e-05, step = 14601 (1.222 sec)
INFO:tensorflow:probabilities = [[0.00000005 1.        ]
```

```
 [1.         0.        ]
 [0.99999976 0.00000023]
 [0.99999845 0.00000161]
 [1.         0.        ]
 [0.00000038 0.99999964]
 [1.         0.00000003]
 [1.         0.00000002]
 [0.         1.        ]
 [0.00000703 0.99999297]] (0.612 sec)
INFO:tensorflow:global_step/sec: 81.7594
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [1.         0.00000001]
 [0.         1.        ]
 [0.         1.        ]
 [1.         0.00000002]
 [0.00031084 0.9996892 ]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]] (0.611 sec)
INFO:tensorflow:loss = 3.108495e-05, step = 14701 (1.223 sec)
INFO:tensorflow:probabilities = [[0.9999819  0.00001807]
 [0.         1.        ]
 [0.         1.        ]
 [0.9999999  0.00000012]
 [0.         1.        ]
 [0.00000002 1.        ]
 [0.00000003 1.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.9999999  0.00000008]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.72
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.         1.        ]
 [0.00005557 0.99994445]
 [0.99997973 0.00002025]
 [1.         0.        ]
 [0.         1.        ]
 [1.         0.        ]
 [0.99992514 0.00007486]
 [0.         1.        ]
 [0.         1.        ]] (0.612 sec)
INFO:tensorflow:loss = 1.50676005e-05, step = 14801 (1.225 sec)
INFO:tensorflow:probabilities = [[0.00000012 0.9999999 ]
 [0.         1.        ]
 [1.         0.        ]
 [0.00001032 0.9999896 ]
 [0.00000002 1.        ]
 [0.99986017 0.00013985]
 [1.         0.00000004]
 [0.00000016 0.9999999 ]
 [0.00000004 1.        ]
 [1.         0.        ]] (0.613 sec)
INFO:tensorflow:global_step/sec: 81.4338
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.9999999  0.00000013]
 [0.99999464 0.00000542]
```

```
 [1.         0.        ]
 [0.         1.        ]
 [0.         1.        ]
 [0.99998343 0.00001657]
 [0.9999857  0.00001429]
 [0.         1.        ]
 [0.9974275  0.00257247]] (0.614 sec)
INFO:tensorflow:loss = 0.00026121314, step = 14901 (1.227 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.99998665 0.00001337]
 [1.         0.        ]
 [0.         1.        ]
 [0.999998   0.00000204]
 [0.0000001  0.9999999 ]
 [0.0000005  0.9999995 ]
 [1.         0.        ]
 [0.99999774 0.00000229]
 [0.99967456 0.0003254 ]] (0.607 sec)
INFO:tensorflow:global_step/sec: 81.6878
INFO:tensorflow:probabilities = [[1.         0.        ]
 [1.         0.        ]
 [1.         0.00000002]
 [0.00000024 0.99999976]
 [0.         1.        ]
 [0.9999994  0.00000061]
 [1.         0.        ]
 [0.00000609 0.9999939 ]
 [1.         0.        ]
 [0.00000001 1.        ]] (0.617 sec)
INFO:tensorflow:loss = 6.91412e-07, step = 15001 (1.224 sec)
INFO:tensorflow:probabilities = [[0.97717434 0.02282559]
 [0.         1.        ]
 [0.99999094 0.00000905]
 [0.9999999  0.00000007]
 [1.         0.        ]
 [0.00005574 0.9999442 ]
 [0.         1.        ]
 [0.0050644  0.99493563]
 [0.         1.        ]
 [0.00000218 0.99999785]] (0.606 sec)
INFO:tensorflow:global_step/sec: 81.9597
INFO:tensorflow:probabilities = [[1.         0.        ]
 [0.00000299 0.999997  ]
 [1.         0.00000002]
 [0.         1.        ]
 [0.00000095 0.99999905]
 [0.9999999  0.00000007]
 [0.         1.        ]
 [1.         0.        ]
 [1.         0.        ]
 [1.         0.        ]] (0.614 sec)
INFO:tensorflow:loss = 4.0531108e-07, step = 15101 (1.220 sec)
INFO:tensorflow:probabilities = [[0.99999976 0.00000023]
 [0.00003038 0.9999696 ]
 [0.000009   0.99999094]
 [0.         1.        ]
 [1.         0.00000006]
```

```
 [0.00000007 0.9999999 ]
 [0.9999981  0.00000191]
 [0.00000053 0.9999995 ]
 [1.         0.00000003]
 [1.         0.        ]] (0.606 sec)
INFO:tensorflow:global_step/sec: 82.1181
INFO:tensorflow:probabilities = [[0.         1.        ]
 [1.         0.        ]
 [0.0000664  0.9999336 ]
 [0.99999976 0.00000024]
 [0.99999845 0.00000158]
 [0.         1.        ]
 [0.99945205 0.0005479 ]
 [0.00001472 0.99998534]
 [1.         0.00000002]
 [0.99999    0.00001   ]] (0.612 sec)
INFO:tensorflow:loss = 6.40955e-05, step = 15201 (1.218 sec)
INFO:tensorflow:probabilities = [[0.         1.        ]
 [0.99997854 0.00002143]
 [1.         0.        ]
 [0.9999949  0.00000508]
 [0.         1.        ]
 [0.99999905 0.00000095]
 [1.         0.00000001]
 [0.9951454  0.00485463]
 [0.99973506 0.00026494]
 [0.         1.        ]] (0.612 sec)
INFO:tensorflow:Saving checkpoints for 15300 into /tmp/pets_convnet_model/mod
el.ckpt.
INFO:tensorflow:Loss for final step: 2.288809e-06.
INFO:tensorflow:Calling model_fn.
Pool2 output no of features per image is: 4096
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2019-10-14T16:59:01Z
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /tmp/pets_convnet_model/model.ckpt-
15300
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Finished evaluation at 2019-10-14-16:59:01
INFO:tensorflow:Saving dict for global step 15300: accuracy = 0.5, global_ste
p = 15300, loss = 4.586206
INFO:tensorflow:Saving 'checkpoint_path' summary for global step 15300: /tmp/
pets_convnet_model/model.ckpt-15300
{'accuracy': 0.5, 'loss': 4.586206, 'global_step': 15300}
```

In [ ]: