

Artificial Neural Network

```
In [1]: # imports
import scipy.io as sio
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
import seaborn as sns
import math
import random
import tensorflow as tf
%config InlineBackend.figure_format = 'retina'
```

```
In [3]: # Input function for the classifier
def input_fn(features, labels, batch_size):
    """An input function for training"""
    # Convert the inputs to a Dataset.
    dataset = tf.data.Dataset.from_tensor_slices((dict(features), labels))
    # Shuffle, repeat, and batch the examples.
    return dataset.shuffle(4000).repeat().batch(batch_size)
```

```
In [4]: # train the classifier on the given datasets
def fit(clf, tf_x, tf_y):
    return clf.train(
        input_fn=lambda: input_fn(
            tf_x,
            tf_y,
            batch_size=batch_size
        ),
        steps=steps
    )
```

```
In [57]: # evaluate the performance of the paramater on the given datasets
def evaluate(clf, tf_x, tf_y):
    return clf.evaluate(
        input_fn=lambda: input_fn(
            tf_x,
            tf_y,
            batch_size=batch_size
        ),
        steps=steps
    )
```

```
In [6]: # default values from the tensorflow API documentation
steps = 1000
batch_size = 100
learning_rate = 0.00001
layers = 2
# values used in the paper to optimize
num_hu = [1,2,4,8,32,128]
hidden_units = [[i for j in range(layers)] for i in num_hu]
momentums = [0,0.2,0.5,0.9]
```

```
In [21]: # display the accuracies w.r.t hidden units and momentums
def draw_heatmap(accuracies, momentum_list, hu_list):
    plt.figure(figsize = (5,4))
    ax = sns.heatmap(
        accuracies,
        annot=True,
        fmt='.3f',
        xticklabels=hu_list,
        yticklabels=momentum_list
    )
    ax.collections[0].colorbar.set_label("accuracy")
    ax.set(xlabel = '$hidden units$', ylabel='$momentums$')
    plt.title('accuracy w.r.t $momentum$ and $hidden units$')
    sns.set_style("whitegrid", {'axes.grid' : False})
    plt.show()
```

Adult

```
In [8]: arr = np.load('adult.npy') # load the data
np.random.shuffle(arr) # Shuffle the data.
x = arr[:, :-1] # First column to second last column: Features (numerical values)
y = arr[:, -1:] # Last column: Labels (0 or 1)
print(arr.shape, x.shape, y.shape) # Check the shapes.

(32561, 203) (32561, 202) (32561, 1)
```

```
In [41]: # Take the first 4000 entries as training data (this will be random as the data has been shuffled)
x_train = x[:4000]
y_train = y[:4000]
# Take the next 1000 as validation data
x_val = x[4000:5000]
y_val = y[4000:5000]
# the rest is the test set
x_test = x[5000:]
y_test = y[5000:]
print(x_train.shape, y_train.shape, x_test.shape, y_test.shape) # check the shapes

(4000, 202) (4000, 1) (27000, 202) (27000, 1)
```

```
In [42]: feature_columns = [tf.feature_column.numeric_column(key=str(i)) for i in
    range(0, len(x_test[0]))]
```

```
In [43]: # define tf sets
tf_x_train = {}
for i in range(0, len(x_train[0])):
    tf_x_train[str(i)] = x_train[:, i]
tf_x_val = {}
for i in range(0, len(x_val[0])):
    tf_x_val[str(i)] = x_val[:, i]
tf_x_test = {}
for i in range(0, len(x_test[0])):
    tf_x_test[str(i)] = x_test[:, i]
```

```
In [12]: # validation accuracy matrix
val_accuracies = [[0 for i in range(len(hidden_units))] for j in range(len(momentums))]
# for each momentum and # of hidden units to test:
for i in range(len(momentums)):
    for j in range(len(hidden_units)):
        # optimize based on momentum
        optimizer = tf.train.MomentumOptimizer(
            learning_rate=learning_rate,
            momentum=momentums[i]
        )
        # instantiate the classifier
        classifier = tf.estimator.DNNClassifier(
            feature_columns=feature_columns,
            hidden_units=hidden_units[j],
            n_classes=2,
            optimizer=optimizer
        )
        # train
        classifier = fit(classifier, tf_x_train, y_train)
        # predict
        eval_result = evaluate(classifier, tf_x_val, y_val)
        # store
        val_accuracies[i][j] = eval_result['accuracy']
```

INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpus3idx9w
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpus3idx9w', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11477ceb8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpus3idx9w/model.ckpt.
INFO:tensorflow:loss = 37744.1, step = 1
INFO:tensorflow:global_step/sec: 34.7586
INFO:tensorflow:loss = 68.4898, step = 101 (2.878 sec)
INFO:tensorflow:global_step/sec: 41.1273
INFO:tensorflow:loss = 67.6993, step = 201 (2.432 sec)
INFO:tensorflow:global_step/sec: 46.9704
INFO:tensorflow:loss = 67.626, step = 301 (2.129 sec)
INFO:tensorflow:global_step/sec: 39.8714
INFO:tensorflow:loss = 66.2101, step = 401 (2.508 sec)
INFO:tensorflow:global_step/sec: 44.2045
INFO:tensorflow:loss = 66.1365, step = 501 (2.263 sec)
INFO:tensorflow:global_step/sec: 37.8292
INFO:tensorflow:loss = 66.0346, step = 601 (2.643 sec)
INFO:tensorflow:global_step/sec: 44.12
INFO:tensorflow:loss = 64.7197, step = 701 (2.267 sec)
INFO:tensorflow:global_step/sec: 44.6444
INFO:tensorflow:loss = 64.1857, step = 801 (2.239 sec)
INFO:tensorflow:global_step/sec: 39.5359
INFO:tensorflow:loss = 63.6685, step = 901 (2.529 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpus3idx9w/model.ckpt.
INFO:tensorflow:Loss for final step: 65.7688.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:30:01
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpus3idx9w/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]

INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:30:32
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.640011, global_step = 1000, label/mean = 0.245, loss = 64.0011, prediction/mean = 0.441395
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpm94c4bgi
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpm94c4bgi', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x1109ccd30>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpm94c4bgi/model.ckpt.
INFO:tensorflow:loss = 237294.0, step = 1
INFO:tensorflow:global_step/sec: 32.4021
INFO:tensorflow:loss = 68.7564, step = 101 (3.087 sec)
INFO:tensorflow:global_step/sec: 38.0429
INFO:tensorflow:loss = 68.2144, step = 201 (2.629 sec)
INFO:tensorflow:global_step/sec: 46.4991
INFO:tensorflow:loss = 67.8547, step = 301 (2.151 sec)
INFO:tensorflow:global_step/sec: 37.522
INFO:tensorflow:loss = 67.018, step = 401 (2.666 sec)
INFO:tensorflow:global_step/sec: 48.879
INFO:tensorflow:loss = 66.6389, step = 501 (2.046 sec)
INFO:tensorflow:global_step/sec: 43.6761
INFO:tensorflow:loss = 66.3307, step = 601 (2.289 sec)
INFO:tensorflow:global_step/sec: 51.7753
INFO:tensorflow:loss = 64.7252, step = 701 (1.931 sec)
INFO:tensorflow:global_step/sec: 45.653
INFO:tensorflow:loss = 64.7641, step = 801 (2.190 sec)
INFO:tensorflow:global_step/sec: 51.732
INFO:tensorflow:loss = 64.0994, step = 901 (1.933 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpm94c4bgi/model.ckpt.
INFO:tensorflow:Loss for final step: 65.063.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:31:07
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpm94c4bgi/model.ckpt-1000
INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:31:32
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.64001, global_step = 1000, label/mean = 0.245, loss = 64.001, prediction/mean = 0.441395
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3zpek_kd
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3zpek_kd', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x12708add8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3zpek_kd/model.ckpt.
INFO:tensorflow:loss = 147864.0, step = 1
INFO:tensorflow:global_step/sec: 34.0843
INFO:tensorflow:loss = 68.6661, step = 101 (2.935 sec)
INFO:tensorflow:global_step/sec: 29.3626
INFO:tensorflow:loss = 67.816, step = 201 (3.407 sec)
INFO:tensorflow:global_step/sec: 37.4394
INFO:tensorflow:loss = 67.1865, step = 301 (2.670 sec)
INFO:tensorflow:global_step/sec: 33.8622
INFO:tensorflow:loss = 66.324, step = 401 (2.953 sec)
INFO:tensorflow:global_step/sec: 46.9472
INFO:tensorflow:loss = 65.4054, step = 501 (2.130 sec)
INFO:tensorflow:global_step/sec: 40.8769
INFO:tensorflow:loss = 65.6004, step = 601 (2.446 sec)
INFO:tensorflow:global_step/sec: 46.3067
INFO:tensorflow:loss = 64.9109, step = 701 (2.160 sec)
INFO:tensorflow:global_step/sec: 42.2898
INFO:tensorflow:loss = 64.1955, step = 801 (2.365 sec)
INFO:tensorflow:global_step/sec: 51.6384
INFO:tensorflow:loss = 64.1077, step = 901 (1.936 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3zpek_kd/model.ckpt.

INFO:tensorflow:Loss for final step: 63.8951.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:32:11
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3zpek_kd/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:32:44
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.640085, global_step = 1000, label/mean = 0.245, loss = 64.0085, prediction/mean = 0.441487
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp99wzx2a0
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp99wzx2a0', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x127dd5cf8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp99wzx2a0/model.ckpt.
INFO:tensorflow:loss = 437848.0, step = 1
INFO:tensorflow:global_step/sec: 35.9769
INFO:tensorflow:loss = 68.4741, step = 101 (2.781 sec)
INFO:tensorflow:global_step/sec: 39.0699
INFO:tensorflow:loss = 68.0098, step = 201 (2.559 sec)
INFO:tensorflow:global_step/sec: 49.6543
INFO:tensorflow:loss = 67.3248, step = 301 (2.014 sec)
INFO:tensorflow:global_step/sec: 36.7738
INFO:tensorflow:loss = 65.606, step = 401 (2.719 sec)
INFO:tensorflow:global_step/sec: 41.6921
INFO:tensorflow:loss = 66.3906, step = 501 (2.398 sec)
INFO:tensorflow:global_step/sec: 38.0937
INFO:tensorflow:loss = 66.9238, step = 601 (2.628 sec)

INFO:tensorflow:global_step/sec: 40.8682
INFO:tensorflow:loss = 65.75, step = 701 (2.444 sec)
INFO:tensorflow:global_step/sec: 38.0126
INFO:tensorflow:loss = 64.3796, step = 801 (2.631 sec)
INFO:tensorflow:global_step/sec: 50.6674
INFO:tensorflow:loss = 64.3154, step = 901 (1.973 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp99wzx2a0/model.ckpt.
INFO:tensorflow:Loss for final step: 65.0639.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:33:22
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp99wzx2a0/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:33:46
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.64002, global_step = 1000, label/mean = 0.245, loss = 64.002, prediction/mean = 0.441406
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2igt0tsr
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2igt0tsr', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x1286759e8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2igt0tsr/model.ckpt.
INFO:tensorflow:loss = 200808.0, step = 1
INFO:tensorflow:global_step/sec: 28.1137
INFO:tensorflow:loss = 48.8085, step = 101 (3.557 sec)
INFO:tensorflow:global_step/sec: 39.2906
INFO:tensorflow:loss = 59.6901, step = 201 (2.545 sec)

INFO:tensorflow:global_step/sec: 44.2106
INFO:tensorflow:loss = 57.2983, step = 301 (2.262 sec)
INFO:tensorflow:global_step/sec: 34.0154
INFO:tensorflow:loss = 51.4462, step = 401 (2.939 sec)
INFO:tensorflow:global_step/sec: 45.851
INFO:tensorflow:loss = 55.8198, step = 501 (2.181 sec)
INFO:tensorflow:global_step/sec: 41.7593
INFO:tensorflow:loss = 44.0133, step = 601 (2.395 sec)
INFO:tensorflow:global_step/sec: 43.5213
INFO:tensorflow:loss = 53.9298, step = 701 (2.298 sec)
INFO:tensorflow:global_step/sec: 38.9265
INFO:tensorflow:loss = 48.2383, step = 801 (2.569 sec)
INFO:tensorflow:global_step/sec: 50.1902
INFO:tensorflow:loss = 59.3255, step = 901 (1.992 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2igt0tsr/model.ckpt.
INFO:tensorflow:Loss for final step: 47.4186.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:34:28
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2igt0tsr/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:34:56
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.762, accuracy_baseline = 0.755, auc = 0.514286, auc_precision_recall = 0.633286, average_loss = 0.547121, global_step = 1000, label/mean = 0.245, loss = 54.7121, prediction/mean = 0.235254
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3hak1b_l
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3hak1b_l', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x113ea4d68>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3hak1b_1/model.ckpt.
INFO:tensorflow:loss = 845066.0, step = 1
INFO:tensorflow:global_step/sec: 36.6934
INFO:tensorflow:loss = 68.6281, step = 101 (2.726 sec)
INFO:tensorflow:global_step/sec: 40.8656
INFO:tensorflow:loss = 67.6909, step = 201 (2.447 sec)
INFO:tensorflow:global_step/sec: 45.8838
INFO:tensorflow:loss = 67.0701, step = 301 (2.179 sec)
INFO:tensorflow:global_step/sec: 41.4962
INFO:tensorflow:loss = 65.5098, step = 401 (2.410 sec)
INFO:tensorflow:global_step/sec: 40.6874
INFO:tensorflow:loss = 65.8565, step = 501 (2.458 sec)
INFO:tensorflow:global_step/sec: 23.3789
INFO:tensorflow:loss = 64.6389, step = 601 (4.278 sec)
INFO:tensorflow:global_step/sec: 23.7674
INFO:tensorflow:loss = 64.8603, step = 701 (4.207 sec)
INFO:tensorflow:global_step/sec: 29.1448
INFO:tensorflow:loss = 62.5337, step = 801 (3.431 sec)
INFO:tensorflow:global_step/sec: 29.0986
INFO:tensorflow:loss = 63.8965, step = 901 (3.437 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3hak1b_1/model.ckpt.
INFO:tensorflow:Loss for final step: 62.8899.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:35:41
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3hak1b_1/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:36:09
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.762, accuracy_baseline = 0.755, auc = 0.514286, auc_precision_recall = 0.633286, average_loss = 0.633812, global_step = 1000, label/mean = 0.245, loss = 63.3812, prediction/mean = 0.444725
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbezlmudy
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbezlmudy', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.Cl

```
sterSpec object at 0x12768dcf8>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_
is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmpbezlmudy/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 34.0132
INFO:tensorflow:loss = 68.4137, step = 101 (2.942 sec)
INFO:tensorflow:global_step/sec: 40.0423
INFO:tensorflow:loss = 67.8177, step = 201 (2.497 sec)
INFO:tensorflow:global_step/sec: 43.4503
INFO:tensorflow:loss = 66.0778, step = 301 (2.301 sec)
INFO:tensorflow:global_step/sec: 38.441
INFO:tensorflow:loss = 65.1278, step = 401 (2.601 sec)
INFO:tensorflow:global_step/sec: 46.1508
INFO:tensorflow:loss = 66.5245, step = 501 (2.167 sec)
INFO:tensorflow:global_step/sec: 40.2098
INFO:tensorflow:loss = 65.3554, step = 601 (2.489 sec)
INFO:tensorflow:global_step/sec: 45.9995
INFO:tensorflow:loss = 64.4157, step = 701 (2.172 sec)
INFO:tensorflow:global_step/sec: 40.3007
INFO:tensorflow:loss = 62.6967, step = 801 (2.482 sec)
INFO:tensorflow:global_step/sec: 47.2092
INFO:tensorflow:loss = 63.6293, step = 901 (2.119 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmpbezlmudy/model.ckpt.
INFO:tensorflow:Loss for final step: 63.4693.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:36:46
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmpbezlmudy/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:37:11
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, acc
uracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, avera
ge_loss = 0.630361, global_step = 1000, label/mean = 0.245, loss = 63.0
361, prediction/mean = 0.42892
INFO:tensorflow:Using default config.
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WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5rnkqqu

INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5rnkqqu', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11bd29710>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}

INFO:tensorflow:Calling model_fn.

INFO:tensorflow:Done calling model_fn.

INFO:tensorflow:Create CheckpointSaverHook.

INFO:tensorflow:Graph was finalized.

INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5rnkqqu/model.ckpt.

INFO:tensorflow:loss = 277545.0, step = 1

INFO:tensorflow:global_step/sec: 23.8702

INFO:tensorflow:loss = 68.4592, step = 101 (4.190 sec)

INFO:tensorflow:global_step/sec: 23.5545

INFO:tensorflow:loss = 67.4795, step = 201 (4.245 sec)

INFO:tensorflow:global_step/sec: 36.3793

INFO:tensorflow:loss = 66.8298, step = 301 (2.749 sec)

INFO:tensorflow:global_step/sec: 36.0084

INFO:tensorflow:loss = 66.2422, step = 401 (2.777 sec)

INFO:tensorflow:global_step/sec: 39.2291

INFO:tensorflow:loss = 64.8232, step = 501 (2.549 sec)

INFO:tensorflow:global_step/sec: 29.5523

INFO:tensorflow:loss = 64.797, step = 601 (3.384 sec)

INFO:tensorflow:global_step/sec: 35.5291

INFO:tensorflow:loss = 64.4061, step = 701 (2.815 sec)

INFO:tensorflow:global_step/sec: 33.0841

INFO:tensorflow:loss = 62.2123, step = 801 (3.023 sec)

INFO:tensorflow:global_step/sec: 37.9731

INFO:tensorflow:loss = 64.1454, step = 901 (2.634 sec)

INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5rnkqqu/model.ckpt.

INFO:tensorflow:Loss for final step: 61.7445.

INFO:tensorflow:Calling model_fn.

INFO:tensorflow:Done calling model_fn.

INFO:tensorflow:Starting evaluation at 2018-03-20-22:37:56

INFO:tensorflow:Graph was finalized.

INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5rnkqqu/model.ckpt-1000

INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Evaluation [100/1000]

INFO:tensorflow:Evaluation [200/1000]

INFO:tensorflow:Evaluation [300/1000]

INFO:tensorflow:Evaluation [400/1000]

INFO:tensorflow:Evaluation [500/1000]

INFO:tensorflow:Evaluation [600/1000]

INFO:tensorflow:Evaluation [700/1000]

INFO:tensorflow:Evaluation [800/1000]

INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:42:33
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.63028, global_step = 1000, label/mean = 0.245, loss = 63.028, prediction/mean = 0.428816
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8y89ce4t
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8y89ce4t', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x127bdda58>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8y89ce4t/model.ckpt.
INFO:tensorflow:loss = 279323.0, step = 1
INFO:tensorflow:global_step/sec: 19.8154
INFO:tensorflow:loss = 68.3332, step = 101 (5.047 sec)
INFO:tensorflow:global_step/sec: 39.0987
INFO:tensorflow:loss = 67.5114, step = 201 (2.558 sec)
INFO:tensorflow:global_step/sec: 45.3427
INFO:tensorflow:loss = 66.6889, step = 301 (2.206 sec)
INFO:tensorflow:global_step/sec: 37.2441
INFO:tensorflow:loss = 66.6418, step = 401 (2.685 sec)
INFO:tensorflow:global_step/sec: 41.1943
INFO:tensorflow:loss = 65.4668, step = 501 (2.427 sec)
INFO:tensorflow:global_step/sec: 38.164
INFO:tensorflow:loss = 65.547, step = 601 (2.620 sec)
INFO:tensorflow:global_step/sec: 43.5913
INFO:tensorflow:loss = 62.7495, step = 701 (2.294 sec)
INFO:tensorflow:global_step/sec: 39.1627
INFO:tensorflow:loss = 62.7095, step = 801 (2.554 sec)
INFO:tensorflow:global_step/sec: 43.6667
INFO:tensorflow:loss = 63.3746, step = 901 (2.290 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8y89ce4t/model.ckpt.
INFO:tensorflow:Loss for final step: 62.0501.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:43:28
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8y89ce4t/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:43:52
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.630446, global_step = 1000, label/mean = 0.245, loss = 63.0446, prediction/mean = 0.429035
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpi2efreuz
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpi2efreuz', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d19e780>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpi2efreuz/model.ckpt.
INFO:tensorflow:loss = 177198.0, step = 1
INFO:tensorflow:global_step/sec: 23.8209
INFO:tensorflow:loss = 68.474, step = 101 (4.201 sec)
INFO:tensorflow:global_step/sec: 24.0745
INFO:tensorflow:loss = 67.7175, step = 201 (4.153 sec)
INFO:tensorflow:global_step/sec: 41.5458
INFO:tensorflow:loss = 66.9764, step = 301 (2.407 sec)
INFO:tensorflow:global_step/sec: 42.6459
INFO:tensorflow:loss = 67.0252, step = 401 (2.345 sec)
INFO:tensorflow:global_step/sec: 42.8832
INFO:tensorflow:loss = 66.5495, step = 501 (2.332 sec)
INFO:tensorflow:global_step/sec: 39.8027
INFO:tensorflow:loss = 64.6504, step = 601 (2.512 sec)
INFO:tensorflow:global_step/sec: 44.4511
INFO:tensorflow:loss = 62.7652, step = 701 (2.250 sec)
INFO:tensorflow:global_step/sec: 41.8233
INFO:tensorflow:loss = 65.3052, step = 801 (2.391 sec)
INFO:tensorflow:global_step/sec: 46.1821
INFO:tensorflow:loss = 62.3434, step = 901 (2.167 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpi2efreuz/model.ckpt.
INFO:tensorflow:Loss for final step: 62.0603.

INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:44:33
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpi2efreuz/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:44:55
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.630529, global_step = 1000, label/mean = 0.245, loss = 63.0529, prediction/mean = 0.429144
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp10hw7o3e
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp10hw7o3e', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11be75e48>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp10hw7o3e/model.ckpt.
INFO:tensorflow:loss = 1.50901e+06, step = 1
INFO:tensorflow:global_step/sec: 32.6027
INFO:tensorflow:loss = 68.4901, step = 101 (3.069 sec)
INFO:tensorflow:global_step/sec: 37.8961
INFO:tensorflow:loss = 67.8014, step = 201 (2.638 sec)
INFO:tensorflow:global_step/sec: 49.0853
INFO:tensorflow:loss = 66.0679, step = 301 (2.038 sec)
INFO:tensorflow:global_step/sec: 37.7968
INFO:tensorflow:loss = 65.2311, step = 401 (2.645 sec)
INFO:tensorflow:global_step/sec: 50.8703
INFO:tensorflow:loss = 64.1925, step = 501 (1.966 sec)
INFO:tensorflow:global_step/sec: 35.9014
INFO:tensorflow:loss = 66.2571, step = 601 (2.789 sec)
INFO:tensorflow:global_step/sec: 42.3463

INFO:tensorflow:loss = 63.7767, step = 701 (2.358 sec)
INFO:tensorflow:global_step/sec: 38.2763
INFO:tensorflow:loss = 62.4446, step = 801 (2.612 sec)
INFO:tensorflow:global_step/sec: 42.2983
INFO:tensorflow:loss = 62.837, step = 901 (2.365 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp10hw7o3e/model.ckpt.
INFO:tensorflow:Loss for final step: 62.8864.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:45:31
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp10hw7o3e/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:45:54
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.630253, global_step = 1000, label/mean = 0.245, loss = 63.0253, prediction/mean = 0.428778
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4i6l_1lh
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4i6l_1lh', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11bedf278>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4i6l_1lh/model.ckpt.
INFO:tensorflow:loss = 23252.3, step = 1
INFO:tensorflow:global_step/sec: 35.3008
INFO:tensorflow:loss = 44.0321, step = 101 (2.834 sec)
INFO:tensorflow:global_step/sec: 38.4685
INFO:tensorflow:loss = 55.2132, step = 201 (2.600 sec)
INFO:tensorflow:global_step/sec: 47.6016

INFO:tensorflow:loss = 49.1371, step = 301 (2.101 sec)
INFO:tensorflow:global_step/sec: 39.7993
INFO:tensorflow:loss = 52.4505, step = 401 (2.513 sec)
INFO:tensorflow:global_step/sec: 47.647
INFO:tensorflow:loss = 53.934, step = 501 (2.099 sec)
INFO:tensorflow:global_step/sec: 39.3628
INFO:tensorflow:loss = 44.1008, step = 601 (2.541 sec)
INFO:tensorflow:global_step/sec: 48.4839
INFO:tensorflow:loss = 51.4874, step = 701 (2.063 sec)
INFO:tensorflow:global_step/sec: 42.3568
INFO:tensorflow:loss = 50.4737, step = 801 (2.361 sec)
INFO:tensorflow:global_step/sec: 48.0833
INFO:tensorflow:loss = 49.9368, step = 901 (2.080 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4i6l_1lh/model.ckpt.
INFO:tensorflow:Loss for final step: 49.067.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:46:27
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4i6l_1lh/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:46:49
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.762, accuracy_baseline = 0.755, auc = 0.514286, auc_precision_recall = 0.633286, average_loss = 0.547163, global_step = 1000, label/mean = 0.245, loss = 54.7163, prediction/mean = 0.234521
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsla4r_3c
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsla4r_3c', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d05e5f8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsla4r_3c/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 17.1222
INFO:tensorflow:loss = 67.7524, step = 101 (5.841 sec)
INFO:tensorflow:global_step/sec: 22.5085
INFO:tensorflow:loss = 66.3079, step = 201 (4.443 sec)
INFO:tensorflow:global_step/sec: 23.874
INFO:tensorflow:loss = 65.1479, step = 301 (4.190 sec)
INFO:tensorflow:global_step/sec: 17.2943
INFO:tensorflow:loss = 63.2184, step = 401 (5.781 sec)
INFO:tensorflow:global_step/sec: 37.15
INFO:tensorflow:loss = 63.8849, step = 501 (2.693 sec)
INFO:tensorflow:global_step/sec: 27.255
INFO:tensorflow:loss = 64.4658, step = 601 (3.668 sec)
INFO:tensorflow:global_step/sec: 36.2945
INFO:tensorflow:loss = 64.8791, step = 701 (2.756 sec)
INFO:tensorflow:global_step/sec: 33.1234
INFO:tensorflow:loss = 59.6003, step = 801 (3.019 sec)
INFO:tensorflow:global_step/sec: 42.6258
INFO:tensorflow:loss = 55.6996, step = 901 (2.346 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsla4r_3c/model.ckpt.
INFO:tensorflow:Loss for final step: 60.5861.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:47:37
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsla4r_3c/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:48:01
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.607913, global_step = 1000, label/mean = 0.245, loss = 60.7913, prediction/mean = 0.396481
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgqamj6ns
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgqamj6ns', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c673dd8>, '_task_type': 'worker', '_task_id': 0,

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'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpggamj6ns/model.ckpt.
INFO:tensorflow:loss = 413.766, step = 1
INFO:tensorflow:global_step/sec: 34.608
INFO:tensorflow:loss = 68.3062, step = 101 (2.891 sec)
INFO:tensorflow:global_step/sec: 34.5321
INFO:tensorflow:loss = 67.4062, step = 201 (2.896 sec)
INFO:tensorflow:global_step/sec: 46.3821
INFO:tensorflow:loss = 65.1196, step = 301 (2.156 sec)
INFO:tensorflow:global_step/sec: 34.1237
INFO:tensorflow:loss = 65.909, step = 401 (2.931 sec)
INFO:tensorflow:global_step/sec: 49.7316
INFO:tensorflow:loss = 61.0236, step = 501 (2.011 sec)
INFO:tensorflow:global_step/sec: 37.3874
INFO:tensorflow:loss = 62.5178, step = 601 (2.675 sec)
INFO:tensorflow:global_step/sec: 42.3166
INFO:tensorflow:loss = 59.2011, step = 701 (2.363 sec)
INFO:tensorflow:global_step/sec: 37.1191
INFO:tensorflow:loss = 60.9936, step = 801 (2.694 sec)
INFO:tensorflow:global_step/sec: 46.9584
INFO:tensorflow:loss = 62.6603, step = 901 (2.129 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpggamj6ns/model.ckpt.
INFO:tensorflow:Loss for final step: 63.5201.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:48:36
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpggamj6ns/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:49:03
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.607829, global_step = 1000, label/mean = 0.245, loss = 60.7829, prediction/mean = 0.396344
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/fold
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ers/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkulr7qha
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkulr7qha', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d2f7ef0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkulr7qha/model.ckpt.
INFO:tensorflow:loss = 189887.0, step = 1
INFO:tensorflow:global_step/sec: 32.509
INFO:tensorflow:loss = 67.8884, step = 101 (3.077 sec)
INFO:tensorflow:global_step/sec: 24.7177
INFO:tensorflow:loss = 66.8372, step = 201 (4.046 sec)
INFO:tensorflow:global_step/sec: 49.0371
INFO:tensorflow:loss = 64.7359, step = 301 (2.040 sec)
INFO:tensorflow:global_step/sec: 27.0132
INFO:tensorflow:loss = 64.5876, step = 401 (3.702 sec)
INFO:tensorflow:global_step/sec: 50.0968
INFO:tensorflow:loss = 65.5377, step = 501 (1.995 sec)
INFO:tensorflow:global_step/sec: 32.9985
INFO:tensorflow:loss = 63.097, step = 601 (3.031 sec)
INFO:tensorflow:global_step/sec: 39.7571
INFO:tensorflow:loss = 63.3166, step = 701 (2.516 sec)
INFO:tensorflow:global_step/sec: 27.5092
INFO:tensorflow:loss = 60.3158, step = 801 (3.636 sec)
INFO:tensorflow:global_step/sec: 42.0469
INFO:tensorflow:loss = 63.4434, step = 901 (2.376 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkulr7qha/model.ckpt.
INFO:tensorflow:Loss for final step: 59.7589.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:49:43
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkulr7qha/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
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INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:50:10
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.608012, global_step = 1000, label/mean = 0.245, loss = 60.8012, prediction/mean = 0.39664
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpstkjuw4i
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpstkjuw4i', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c673128>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpstkjuw4i/model.ckpt.
INFO:tensorflow:loss = 25861.1, step = 1
INFO:tensorflow:global_step/sec: 40.6284
INFO:tensorflow:loss = 67.9627, step = 101 (2.463 sec)
INFO:tensorflow:global_step/sec: 43.1801
INFO:tensorflow:loss = 66.7088, step = 201 (2.316 sec)
INFO:tensorflow:global_step/sec: 52.4783
INFO:tensorflow:loss = 66.1715, step = 301 (1.906 sec)
INFO:tensorflow:global_step/sec: 42.3715
INFO:tensorflow:loss = 66.3045, step = 401 (2.360 sec)
INFO:tensorflow:global_step/sec: 48.8003
INFO:tensorflow:loss = 63.4076, step = 501 (2.049 sec)
INFO:tensorflow:global_step/sec: 38.4784
INFO:tensorflow:loss = 62.8047, step = 601 (2.599 sec)
INFO:tensorflow:global_step/sec: 50.3604
INFO:tensorflow:loss = 62.364, step = 701 (1.986 sec)
INFO:tensorflow:global_step/sec: 41.6379
INFO:tensorflow:loss = 57.837, step = 801 (2.402 sec)
INFO:tensorflow:global_step/sec: 39.8448
INFO:tensorflow:loss = 59.5751, step = 901 (2.510 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpstkjuw4i/model.ckpt.
INFO:tensorflow:Loss for final step: 62.2639.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:50:45
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpstkjuw4i/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
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INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:51:11
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.756, accuracy_baseline = 0.755, auc = 0.502041, auc_precision_recall = 0.624041, average_loss = 0.606966, global_step = 1000, label/mean = 0.245, loss = 60.6966, prediction/mean = 0.397048
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpmk_fyz24
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpmk_fyz24', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11be232b0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpmk_fyz24/model.ckpt.
INFO:tensorflow:loss = 74793.3, step = 1
INFO:tensorflow:global_step/sec: 36.8533
INFO:tensorflow:loss = 68.0827, step = 101 (2.715 sec)
INFO:tensorflow:global_step/sec: 34.0785
INFO:tensorflow:loss = 66.0874, step = 201 (2.935 sec)
INFO:tensorflow:global_step/sec: 39.1033
INFO:tensorflow:loss = 64.9811, step = 301 (2.557 sec)
INFO:tensorflow:global_step/sec: 41.9489
INFO:tensorflow:loss = 65.1359, step = 401 (2.384 sec)
INFO:tensorflow:global_step/sec: 46.9972
INFO:tensorflow:loss = 63.5246, step = 501 (2.128 sec)
INFO:tensorflow:global_step/sec: 40.6035
INFO:tensorflow:loss = 62.7949, step = 601 (2.463 sec)
INFO:tensorflow:global_step/sec: 51.1605
INFO:tensorflow:loss = 62.3406, step = 701 (1.955 sec)
INFO:tensorflow:global_step/sec: 37.1188
INFO:tensorflow:loss = 61.6995, step = 801 (2.694 sec)
INFO:tensorflow:global_step/sec: 48.2916
INFO:tensorflow:loss = 59.9459, step = 901 (2.071 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpmk_fyz24/model.ckpt.
INFO:tensorflow:Loss for final step: 62.6772.
INFO:tensorflow:Calling model_fn.
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INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:51:45
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpmk_fyz24/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:52:08
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.756, accuracy_baseline = 0.755, auc = 0.502041, auc_precision_recall = 0.624041, average_loss = 0.606882, global_step = 1000, label/mean = 0.245, loss = 60.6882, prediction/mean = 0.396916
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcsf3vpmc
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcsf3vpmc', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x1284b30b8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcsf3vpmc/model.ckpt.
INFO:tensorflow:loss = 117366.0, step = 1
INFO:tensorflow:global_step/sec: 37.2048
INFO:tensorflow:loss = 68.0101, step = 101 (2.689 sec)
INFO:tensorflow:global_step/sec: 35.2417
INFO:tensorflow:loss = 66.5568, step = 201 (2.838 sec)
INFO:tensorflow:global_step/sec: 33.7894
INFO:tensorflow:loss = 66.7932, step = 301 (2.960 sec)
INFO:tensorflow:global_step/sec: 37.0686
INFO:tensorflow:loss = 64.4138, step = 401 (2.698 sec)
INFO:tensorflow:global_step/sec: 41.78
INFO:tensorflow:loss = 62.9849, step = 501 (2.393 sec)
INFO:tensorflow:global_step/sec: 28.2017
INFO:tensorflow:loss = 63.3837, step = 601 (3.546 sec)
INFO:tensorflow:global_step/sec: 21.3417
INFO:tensorflow:loss = 61.7555, step = 701 (4.686 sec)

INFO:tensorflow:global_step/sec: 13.788
INFO:tensorflow:loss = 61.7298, step = 801 (7.255 sec)
INFO:tensorflow:global_step/sec: 28.6791
INFO:tensorflow:loss = 60.7453, step = 901 (3.486 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcsf3vpmc/model.ckpt.
INFO:tensorflow:Loss for final step: 59.7646.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:52:57
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcsf3vpmc/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:53:26
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.756, accuracy_baseline = 0.755, auc = 0.502041, auc_precision_recall = 0.624041, average_loss = 0.607142, global_step = 1000, label/mean = 0.245, loss = 60.7142, prediction/mean = 0.397323
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp0rla8ng6
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp0rla8ng6', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c0f0438>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp0rla8ng6/model.ckpt.
INFO:tensorflow:loss = 1.0922e+06, step = 1
INFO:tensorflow:global_step/sec: 19.5207
INFO:tensorflow:loss = 62.3187, step = 101 (5.125 sec)
INFO:tensorflow:global_step/sec: 36.4656
INFO:tensorflow:loss = 61.0707, step = 201 (2.742 sec)
INFO:tensorflow:global_step/sec: 38.5469
INFO:tensorflow:loss = 57.4349, step = 301 (2.594 sec)

INFO:tensorflow:global_step/sec: 36.8421
INFO:tensorflow:loss = 53.1921, step = 401 (2.714 sec)
INFO:tensorflow:global_step/sec: 38.6093
INFO:tensorflow:loss = 58.034, step = 501 (2.590 sec)
INFO:tensorflow:global_step/sec: 36.4273
INFO:tensorflow:loss = 60.236, step = 601 (2.745 sec)
INFO:tensorflow:global_step/sec: 35.6983
INFO:tensorflow:loss = 55.6612, step = 701 (2.802 sec)
INFO:tensorflow:global_step/sec: 21.6958
INFO:tensorflow:loss = 52.5839, step = 801 (4.609 sec)
INFO:tensorflow:global_step/sec: 29.3719
INFO:tensorflow:loss = 55.3209, step = 901 (3.405 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp0r1a8ng6/model.ckpt.
INFO:tensorflow:Loss for final step: 55.2427.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:54:10
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp0r1a8ng6/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:54:42
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.557583, global_step = 1000, label/mean = 0.245, loss = 55.7583, prediction/mean = 0.262558
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp33_f76hn
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp33_f76hn', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d1c28d0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7

```
fg3zltjt4s80wlc0000gn/T/tmp33_f76hn/model.ckpt.
INFO:tensorflow:loss = 51864.6, step = 1
INFO:tensorflow:global_step/sec: 18.832
INFO:tensorflow:loss = 63.1585, step = 101 (5.311 sec)
INFO:tensorflow:global_step/sec: 27.2785
INFO:tensorflow:loss = 63.199, step = 201 (3.666 sec)
INFO:tensorflow:global_step/sec: 30.7588
INFO:tensorflow:loss = 58.0695, step = 301 (3.250 sec)
INFO:tensorflow:global_step/sec: 33.0379
INFO:tensorflow:loss = 56.6472, step = 401 (3.027 sec)
INFO:tensorflow:global_step/sec: 37.287
INFO:tensorflow:loss = 52.6279, step = 501 (2.684 sec)
INFO:tensorflow:global_step/sec: 31.0035
INFO:tensorflow:loss = 52.5907, step = 601 (3.225 sec)
INFO:tensorflow:global_step/sec: 37.8963
INFO:tensorflow:loss = 52.0304, step = 701 (2.638 sec)
INFO:tensorflow:global_step/sec: 28.723
INFO:tensorflow:loss = 58.3382, step = 801 (3.481 sec)
INFO:tensorflow:global_step/sec: 41.9268
INFO:tensorflow:loss = 52.3354, step = 901 (2.385 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmp33_f76hn/model.ckpt.
INFO:tensorflow:Loss for final step: 61.435.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:55:31
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmp33_f76hn/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:56:01
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, acc
uracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, avera
ge_loss = 0.557594, global_step = 1000, label/mean = 0.245, loss = 55.7
594, prediction/mean = 0.262676
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/fold
ers/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpem9eusxr
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmpem9eusxr', '_tf_random_seed': None, '_save_s
ummary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints
_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep
_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_serv
ice': None, '_cluster_spec': <tensorflow.python.training.server_lib.Clus
terSpec object at 0x126e7d828>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '',
```

```
'_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpem9eusxr/model.ckpt.
INFO:tensorflow:loss = 161531.0, step = 1
INFO:tensorflow:global_step/sec: 27.3173
INFO:tensorflow:loss = 65.7703, step = 101 (3.662 sec)
INFO:tensorflow:global_step/sec: 23.1223
INFO:tensorflow:loss = 60.7388, step = 201 (4.325 sec)
INFO:tensorflow:global_step/sec: 39.5757
INFO:tensorflow:loss = 59.2097, step = 301 (2.526 sec)
INFO:tensorflow:global_step/sec: 27.8111
INFO:tensorflow:loss = 57.9877, step = 401 (3.596 sec)
INFO:tensorflow:global_step/sec: 30.2488
INFO:tensorflow:loss = 58.8209, step = 501 (3.307 sec)
INFO:tensorflow:global_step/sec: 27.5145
INFO:tensorflow:loss = 55.9881, step = 601 (3.634 sec)
INFO:tensorflow:global_step/sec: 27.9374
INFO:tensorflow:loss = 62.9477, step = 701 (3.579 sec)
INFO:tensorflow:global_step/sec: 37.2185
INFO:tensorflow:loss = 49.7002, step = 801 (2.687 sec)
INFO:tensorflow:global_step/sec: 47.0364
INFO:tensorflow:loss = 48.3335, step = 901 (2.126 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpem9eusxr/model.ckpt.
INFO:tensorflow:Loss for final step: 54.9368.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:56:51
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpem9eusxr/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:57:19
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.756, accuracy_baseline = 0.755, auc = 0.502041, auc_precision_recall = 0.624041, average_loss = 0.556235, global_step = 1000, label/mean = 0.245, loss = 55.6235, prediction/mean = 0.263179
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpyldgei6d
```

```
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpyldgei6d', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x128e8f080>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpyldgei6d/model.ckpt.
INFO:tensorflow:loss = 63595.2, step = 1
INFO:tensorflow:global_step/sec: 22.9062
INFO:tensorflow:loss = 62.1804, step = 101 (4.369 sec)
INFO:tensorflow:global_step/sec: 25.1017
INFO:tensorflow:loss = 65.1431, step = 201 (3.982 sec)
INFO:tensorflow:global_step/sec: 45.5076
INFO:tensorflow:loss = 56.3219, step = 301 (2.196 sec)
INFO:tensorflow:global_step/sec: 33.3588
INFO:tensorflow:loss = 57.9547, step = 401 (3.001 sec)
INFO:tensorflow:global_step/sec: 32.0469
INFO:tensorflow:loss = 58.8009, step = 501 (3.118 sec)
INFO:tensorflow:global_step/sec: 28.1518
INFO:tensorflow:loss = 58.5193, step = 601 (3.552 sec)
INFO:tensorflow:global_step/sec: 33.9396
INFO:tensorflow:loss = 51.9555, step = 701 (2.946 sec)
INFO:tensorflow:global_step/sec: 33.2699
INFO:tensorflow:loss = 52.5191, step = 801 (3.007 sec)
INFO:tensorflow:global_step/sec: 40.2353
INFO:tensorflow:loss = 59.3361, step = 901 (2.485 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpyldgei6d/model.ckpt.
INFO:tensorflow:Loss for final step: 58.0453.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:58:05
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpyldgei6d/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
```

INFO:tensorflow:Finished evaluation at 2018-03-20-22:58:32
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.76, accuracy_baseline = 0.755, auc = 0.512245, auc_precision_recall = 0.631745, average_loss = 0.550466, global_step = 1000, label/mean = 0.245, loss = 55.0466, prediction/mean = 0.264532
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp33on9_gk
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp33on9_gk', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d3e9a90>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp33on9_gk/model.ckpt.
INFO:tensorflow:loss = 19549.0, step = 1
INFO:tensorflow:global_step/sec: 35.6274
INFO:tensorflow:loss = 64.3683, step = 101 (2.808 sec)
INFO:tensorflow:global_step/sec: 39.9602
INFO:tensorflow:loss = 62.0181, step = 201 (2.503 sec)
INFO:tensorflow:global_step/sec: 46.7898
INFO:tensorflow:loss = 57.5397, step = 301 (2.137 sec)
INFO:tensorflow:global_step/sec: 40.0509
INFO:tensorflow:loss = 54.6384, step = 401 (2.497 sec)
INFO:tensorflow:global_step/sec: 48.0243
INFO:tensorflow:loss = 54.9889, step = 501 (2.083 sec)
INFO:tensorflow:global_step/sec: 39.0408
INFO:tensorflow:loss = 54.3091, step = 601 (2.561 sec)
INFO:tensorflow:global_step/sec: 48.7658
INFO:tensorflow:loss = 54.7644, step = 701 (2.050 sec)
INFO:tensorflow:global_step/sec: 40.0269
INFO:tensorflow:loss = 54.5076, step = 801 (2.498 sec)
INFO:tensorflow:global_step/sec: 48.2343
INFO:tensorflow:loss = 53.3396, step = 901 (2.074 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp33on9_gk/model.ckpt.
INFO:tensorflow:Loss for final step: 57.3075.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-22:59:08
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp33on9_gk/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]

INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-22:59:37
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.755, accuracy_baseline = 0.755, auc = 0.5, auc_precision_recall = 0.6225, average_loss = 0.557589, global_step = 1000, label/mean = 0.245, loss = 55.7589, prediction/mean = 0.262623
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp79clwals
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp79clwals', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x126813f28>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp79clwals/model.ckpt.
INFO:tensorflow:loss = 1.37446e+06, step = 1
INFO:tensorflow:global_step/sec: 24.2202
INFO:tensorflow:loss = 63.5539, step = 101 (4.129 sec)
INFO:tensorflow:global_step/sec: 21.3649
INFO:tensorflow:loss = 60.731, step = 201 (4.681 sec)
INFO:tensorflow:global_step/sec: 28.0728
INFO:tensorflow:loss = 55.8598, step = 301 (3.563 sec)
INFO:tensorflow:global_step/sec: 27.1735
INFO:tensorflow:loss = 54.7456, step = 401 (3.680 sec)
INFO:tensorflow:global_step/sec: 30.1788
INFO:tensorflow:loss = 54.0561, step = 501 (3.313 sec)
INFO:tensorflow:global_step/sec: 30.2084
INFO:tensorflow:loss = 53.4801, step = 601 (3.310 sec)
INFO:tensorflow:global_step/sec: 35.8938
INFO:tensorflow:loss = 58.0358, step = 701 (2.786 sec)
INFO:tensorflow:global_step/sec: 40.1061
INFO:tensorflow:loss = 44.2884, step = 801 (2.493 sec)
INFO:tensorflow:global_step/sec: 41.6425
INFO:tensorflow:loss = 49.8639, step = 901 (2.401 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp79clwals/model.ckpt.
INFO:tensorflow:Loss for final step: 50.6742.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.

```

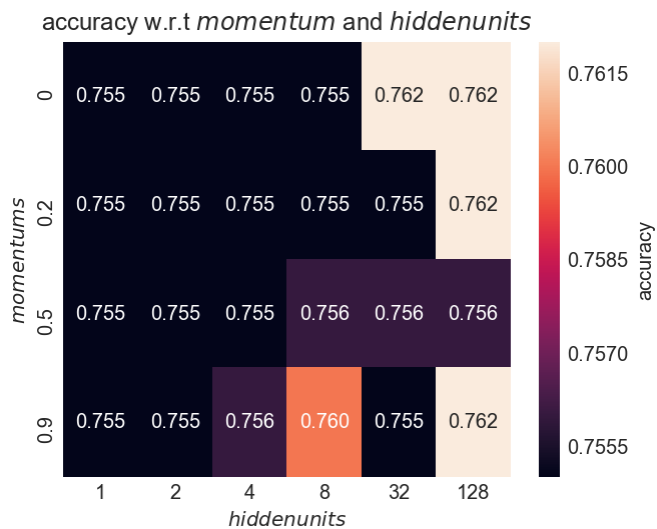
INFO:tensorflow:Starting evaluation at 2018-03-20-23:00:28
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmp79clwals/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:01:09
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.762, acc
uracy_baseline = 0.755, auc = 0.514286, auc_precision_recall = 0.63328
6, average_loss = 0.547747, global_step = 1000, label/mean = 0.245, los
s = 54.7747, prediction/mean = 0.26328

```

```

In [45]: # draw the heatmap of all of the accuracies
draw_heatmap(val_accuracies, momentums, num_hu)
print('Best momentum: 0')
print('Best # of hidden units: 128')

```



```

Best momentum: 0
Best # of hidden units: 128

```



```
In [60]: optimizer = tf.train.MomentumOptimizer(
        learning_rate=learning_rate,
        momentum=0
    )
    classifier = tf.estimator.DNNClassifier(
        feature_columns=feature_columns,
        hidden_units=[128,128],
        n_classes=2,
        optimizer=optimizer
    )
    classifier = fit(classifier, tf_x_train, y_train)
    eval_result = evaluate(classifier, tf_x_val, y_val)
    test_accuracy = eval_result['accuracy']
```

INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpu6nl9hl9
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpu6nl9hl9', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x13b4cab00>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpu6nl9hl9/model.ckpt.
INFO:tensorflow:loss = 145350.0, step = 1
INFO:tensorflow:global_step/sec: 36.5522
INFO:tensorflow:loss = 68.6886, step = 101 (2.737 sec)
INFO:tensorflow:global_step/sec: 30.5244
INFO:tensorflow:loss = 68.0374, step = 201 (3.276 sec)
INFO:tensorflow:global_step/sec: 42.7534
INFO:tensorflow:loss = 66.974, step = 301 (2.339 sec)
INFO:tensorflow:global_step/sec: 43.1554
INFO:tensorflow:loss = 66.8848, step = 401 (2.317 sec)
INFO:tensorflow:global_step/sec: 49.0408
INFO:tensorflow:loss = 63.4429, step = 501 (2.040 sec)
INFO:tensorflow:global_step/sec: 38.0202
INFO:tensorflow:loss = 64.796, step = 601 (2.629 sec)
INFO:tensorflow:global_step/sec: 46.6701
INFO:tensorflow:loss = 64.6725, step = 701 (2.143 sec)
INFO:tensorflow:global_step/sec: 41.2461
INFO:tensorflow:loss = 64.1283, step = 801 (2.425 sec)
INFO:tensorflow:global_step/sec: 49.0097
INFO:tensorflow:loss = 63.1757, step = 901 (2.040 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpu6nl9hl9/model.ckpt.
INFO:tensorflow:Loss for final step: 65.2584.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:24:32
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpu6nl9hl9/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]

```
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:24:57
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.762, accuracy_baseline = 0.755, auc = 0.514286, auc_precision_recall = 0.633286, average_loss = 0.633725, global_step = 1000, label/mean = 0.245, loss = 63.3725, prediction/mean = 0.444613
```

```
In [61]: # Evaluate test set
eval_result = evaluate(classifier, tf_x_test, y_test)
```

```
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:25:00
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpu6nl9hl9/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:25:30
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.76341, accuracy_baseline = 0.75786, auc = 0.511573, auc_precision_recall = 0.622875, average_loss = 8364.25, global_step = 1000, label/mean = 0.24214, loss = 836425.0, prediction/mean = 0.443892
```

```
In [62]: test_acc = eval_result['accuracy']
print('Test accuracy: {}'.format(test_acc))
```

```
Test accuracy: 0.7634099721908569
```

Cover Type

```
In [107]: arr = np.load('covtype.npy') # load the data
np.random.shuffle(arr) # Shuffle the data.
x = arr[:, :-1] # First column to second last column: Features (numerical values)
y = arr[:, -1:] # Last column: Labels (0 or 1)
print(arr.shape, x.shape, y.shape) # Check the shapes.
```

```
(581012, 55) (581012, 54) (581012, 1)
```

```
In [108]: # Take the first 4000 entries as training data (this will be random as the data has been shuffled)
x_train = x[:4000]
y_train = y[:4000]
# Take the next 1000 as validation data
x_val = x[4000:5000]
y_val = y[4000:5000]
# the rest is the test set
x_test = x[5000:]
y_test = y[5000:]
print(x_train.shape, y_train.shape, x_test.shape, y_test.shape) # check the shapes

(4000, 54) (4000, 1) (576012, 54) (576012, 1)
```

```
In [109]: feature_columns = [tf.feature_column.numeric_column(key=str(i)) for i in range(0, len(x_test[0]))]
```

```
In [110]: # define tf sets
tf_x_train = {}
for i in range(0, len(x_train[0])):
    tf_x_train[str(i)] = x_train[:, i]
tf_x_val = {}
for i in range(0, len(x_val[0])):
    tf_x_val[str(i)] = x_val[:, i]
tf_x_test = {}
for i in range(0, len(x_test[0])):
    tf_x_test[str(i)] = x_test[:, i]
```

```

In [111]: # validation accuracy matrix
val_accuracies = [[0 for i in range(len(hidden_units))] for j in range(len(momentums))]
# for each momentum and # of hidden units to test:
for i in range(len(momentums)):
    for j in range(len(hidden_units)):
        # optimize based on momentum
        optimizer = tf.train.MomentumOptimizer(
            learning_rate=learning_rate,
            momentum=momentums[i]
        )
        # instantiate the classifier
        classifier = tf.estimator.DNNClassifier(
            feature_columns=feature_columns,
            hidden_units=hidden_units[j],
            n_classes=2,
            optimizer=optimizer
        )
        # train
        classifier = fit(classifier, tf_x_train, y_train)
        # predict
        eval_result = evaluate(classifier, tf_x_val, y_val)
        # store
        val_accuracies[i][j] = eval_result['accuracy']

```

INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppt379b7k
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppt379b7k', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x128681780>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppt379b7k/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 128.728
INFO:tensorflow:loss = 69.3148, step = 101 (0.778 sec)
INFO:tensorflow:global_step/sec: 131.573
INFO:tensorflow:loss = 69.3139, step = 201 (0.760 sec)
INFO:tensorflow:global_step/sec: 160.739
INFO:tensorflow:loss = 69.3149, step = 301 (0.623 sec)
INFO:tensorflow:global_step/sec: 136.172
INFO:tensorflow:loss = 69.3166, step = 401 (0.734 sec)
INFO:tensorflow:global_step/sec: 151.231
INFO:tensorflow:loss = 69.3142, step = 501 (0.662 sec)
INFO:tensorflow:global_step/sec: 112.68
INFO:tensorflow:loss = 69.3158, step = 601 (0.887 sec)
INFO:tensorflow:global_step/sec: 149.839
INFO:tensorflow:loss = 69.3121, step = 701 (0.667 sec)
INFO:tensorflow:global_step/sec: 120.29
INFO:tensorflow:loss = 69.3162, step = 801 (0.831 sec)
INFO:tensorflow:global_step/sec: 149.107
INFO:tensorflow:loss = 69.3176, step = 901 (0.671 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppt379b7k/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3113.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:30:07
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppt379b7k/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]

INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:30:16
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693158, global_step = 1000, label/mean = 0.488, loss = 69.3158, prediction/mean = 0.500225
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpxuwk8wz9
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpxuwk8wz9', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d2bab70>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpxuwk8wz9/model.ckpt.
INFO:tensorflow:loss = 374.603, step = 1
INFO:tensorflow:global_step/sec: 112.18
INFO:tensorflow:loss = 69.3149, step = 101 (0.893 sec)
INFO:tensorflow:global_step/sec: 136.161
INFO:tensorflow:loss = 69.3139, step = 201 (0.736 sec)
INFO:tensorflow:global_step/sec: 136.908
INFO:tensorflow:loss = 69.3158, step = 301 (0.729 sec)
INFO:tensorflow:global_step/sec: 150.341
INFO:tensorflow:loss = 69.3141, step = 401 (0.666 sec)
INFO:tensorflow:global_step/sec: 173.326
INFO:tensorflow:loss = 69.3151, step = 501 (0.576 sec)
INFO:tensorflow:global_step/sec: 113.529
INFO:tensorflow:loss = 69.3152, step = 601 (0.881 sec)
INFO:tensorflow:global_step/sec: 161.229
INFO:tensorflow:loss = 69.3117, step = 701 (0.620 sec)
INFO:tensorflow:global_step/sec: 144.362
INFO:tensorflow:loss = 69.3173, step = 801 (0.693 sec)
INFO:tensorflow:global_step/sec: 167.512
INFO:tensorflow:loss = 69.316, step = 901 (0.597 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpxuwk8wz9/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3172.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:30:27
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpxuwk8wz9/model.ckpt-1000
INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:30:37
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693158, global_step = 1000, label/mean = 0.488, loss = 69.3158, prediction/mean = 0.500198
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpubzd53f1
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpubzd53f1', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x1296d2710>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpubzd53f1/model.ckpt.
INFO:tensorflow:loss = 20086.7, step = 1
INFO:tensorflow:global_step/sec: 133.488
INFO:tensorflow:loss = 69.3144, step = 101 (0.750 sec)
INFO:tensorflow:global_step/sec: 150.227
INFO:tensorflow:loss = 69.3147, step = 201 (0.666 sec)
INFO:tensorflow:global_step/sec: 179.38
INFO:tensorflow:loss = 69.315, step = 301 (0.557 sec)
INFO:tensorflow:global_step/sec: 138.332
INFO:tensorflow:loss = 69.3151, step = 401 (0.723 sec)
INFO:tensorflow:global_step/sec: 172.234
INFO:tensorflow:loss = 69.3154, step = 501 (0.581 sec)
INFO:tensorflow:global_step/sec: 150.449
INFO:tensorflow:loss = 69.3147, step = 601 (0.665 sec)
INFO:tensorflow:global_step/sec: 170.598
INFO:tensorflow:loss = 69.3171, step = 701 (0.586 sec)
INFO:tensorflow:global_step/sec: 151.666
INFO:tensorflow:loss = 69.3153, step = 801 (0.659 sec)
INFO:tensorflow:global_step/sec: 169.871
INFO:tensorflow:loss = 69.3185, step = 901 (0.589 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpubzd53f1/model.ckpt.

INFO:tensorflow:Loss for final step: 69.3152.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:30:47
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpubzd53f1/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:30:57
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693153, global_step = 1000, label/mean = 0.488, loss = 69.3153, prediction/mean = 0.50012
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpog6dtqsf
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpog6dtqsf', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d313e10>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpog6dtqsf/model.ckpt.
INFO:tensorflow:loss = 24769.7, step = 1
INFO:tensorflow:global_step/sec: 133.861
INFO:tensorflow:loss = 69.3102, step = 101 (0.749 sec)
INFO:tensorflow:global_step/sec: 149.619
INFO:tensorflow:loss = 69.3088, step = 201 (0.668 sec)
INFO:tensorflow:global_step/sec: 181.551
INFO:tensorflow:loss = 69.3177, step = 301 (0.551 sec)
INFO:tensorflow:global_step/sec: 128.957
INFO:tensorflow:loss = 69.3184, step = 401 (0.775 sec)
INFO:tensorflow:global_step/sec: 173.849
INFO:tensorflow:loss = 69.3083, step = 501 (0.575 sec)
INFO:tensorflow:global_step/sec: 142.505
INFO:tensorflow:loss = 69.3119, step = 601 (0.702 sec)

INFO:tensorflow:global_step/sec: 172.934
INFO:tensorflow:loss = 69.2994, step = 701 (0.579 sec)
INFO:tensorflow:global_step/sec: 143.581
INFO:tensorflow:loss = 69.3148, step = 801 (0.697 sec)
INFO:tensorflow:global_step/sec: 162.422
INFO:tensorflow:loss = 69.3176, step = 901 (0.615 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpog6dtqsf/model.ckpt.
INFO:tensorflow:Loss for final step: 69.2891.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:31:09
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpog6dtqsf/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:31:18
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.491, accuracy_baseline = 0.512, auc = 0.50293, auc_precision_recall = 0.744734, average_loss = 0.691915, global_step = 1000, label/mean = 0.488, loss = 69.1915, prediction/mean = 0.499687
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpznorllhb
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpznorllhb', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x129f87f98>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpznorllhb/model.ckpt.
INFO:tensorflow:loss = 14411.4, step = 1
INFO:tensorflow:global_step/sec: 122.926
INFO:tensorflow:loss = 69.3056, step = 101 (0.815 sec)
INFO:tensorflow:global_step/sec: 146.293
INFO:tensorflow:loss = 68.636, step = 201 (0.684 sec)

INFO:tensorflow:global_step/sec: 169.43
INFO:tensorflow:loss = 69.3109, step = 301 (0.590 sec)
INFO:tensorflow:global_step/sec: 140.882
INFO:tensorflow:loss = 69.4252, step = 401 (0.710 sec)
INFO:tensorflow:global_step/sec: 169.591
INFO:tensorflow:loss = 69.3107, step = 501 (0.590 sec)
INFO:tensorflow:global_step/sec: 144.055
INFO:tensorflow:loss = 69.3255, step = 601 (0.694 sec)
INFO:tensorflow:global_step/sec: 172.836
INFO:tensorflow:loss = 69.3314, step = 701 (0.578 sec)
INFO:tensorflow:global_step/sec: 147.765
INFO:tensorflow:loss = 69.0178, step = 801 (0.677 sec)
INFO:tensorflow:global_step/sec: 167.169
INFO:tensorflow:loss = 68.4473, step = 901 (0.599 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpznorllhb/model.ckpt.
INFO:tensorflow:Loss for final step: 68.92.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:31:29
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpznorllhb/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:31:38
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.529, accuracy_baseline = 0.512, auc = 0.520384, auc_precision_recall = 0.567972, average_loss = 0.690961, global_step = 1000, label/mean = 0.488, loss = 69.0961, prediction/mean = 0.510127
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5jq_wfzj
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5jq_wfzj', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x1268622e8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5jq_wfzj/model.ckpt.
INFO:tensorflow:loss = 18653.7, step = 1
INFO:tensorflow:global_step/sec: 122.287
INFO:tensorflow:loss = 69.3132, step = 101 (0.819 sec)
INFO:tensorflow:global_step/sec: 130.383
INFO:tensorflow:loss = 69.3196, step = 201 (0.767 sec)
INFO:tensorflow:global_step/sec: 155.641
INFO:tensorflow:loss = 69.331, step = 301 (0.642 sec)
INFO:tensorflow:global_step/sec: 133.387
INFO:tensorflow:loss = 69.317, step = 401 (0.750 sec)
INFO:tensorflow:global_step/sec: 151.839
INFO:tensorflow:loss = 68.6231, step = 501 (0.659 sec)
INFO:tensorflow:global_step/sec: 134.262
INFO:tensorflow:loss = 68.9684, step = 601 (0.745 sec)
INFO:tensorflow:global_step/sec: 149.038
INFO:tensorflow:loss = 68.6325, step = 701 (0.671 sec)
INFO:tensorflow:global_step/sec: 115.107
INFO:tensorflow:loss = 69.3082, step = 801 (0.869 sec)
INFO:tensorflow:global_step/sec: 140.246
INFO:tensorflow:loss = 69.3007, step = 901 (0.713 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5jq_wfzj/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3187.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:31:50
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp5jq_wfzj/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:31:59
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.499904, auc_precision_recall = 0.742927, average_loss = 0.693365, global_step = 1000, label/mean = 0.488, loss = 69.3365, prediction/mean = 0.500272
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmplaf59zlw
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmplaf59zlw', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.Cl

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sterSpec object at 0x12a225160>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '',
'_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmplaf59zlw/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 137.741
INFO:tensorflow:loss = 69.3146, step = 101 (0.727 sec)
INFO:tensorflow:global_step/sec: 119.423
INFO:tensorflow:loss = 69.314, step = 201 (0.837 sec)
INFO:tensorflow:global_step/sec: 137.483
INFO:tensorflow:loss = 69.3136, step = 301 (0.729 sec)
INFO:tensorflow:global_step/sec: 125.658
INFO:tensorflow:loss = 69.3119, step = 401 (0.794 sec)
INFO:tensorflow:global_step/sec: 163.246
INFO:tensorflow:loss = 69.313, step = 501 (0.613 sec)
INFO:tensorflow:global_step/sec: 135.113
INFO:tensorflow:loss = 69.3133, step = 601 (0.741 sec)
INFO:tensorflow:global_step/sec: 167.924
INFO:tensorflow:loss = 69.3124, step = 701 (0.596 sec)
INFO:tensorflow:global_step/sec: 100.46
INFO:tensorflow:loss = 69.3173, step = 801 (0.996 sec)
INFO:tensorflow:global_step/sec: 154.502
INFO:tensorflow:loss = 69.3147, step = 901 (0.646 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmplaf59zlw/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3079.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:32:11
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmplaf59zlw/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:32:20
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, acc
uracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, averag
e_loss = 0.693159, global_step = 1000, label/mean = 0.488, loss = 69.31
59, prediction/mean = 0.50027
INFO:tensorflow:Using default config.
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WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy8oulak4

INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy8oulak4', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d882f98>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}

INFO:tensorflow:Calling model_fn.

INFO:tensorflow:Done calling model_fn.

INFO:tensorflow:Create CheckpointSaverHook.

INFO:tensorflow:Graph was finalized.

INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy8oulak4/model.ckpt.

INFO:tensorflow:loss = 3555.02, step = 1

INFO:tensorflow:global_step/sec: 126.527

INFO:tensorflow:loss = 69.3133, step = 101 (0.792 sec)

INFO:tensorflow:global_step/sec: 134.472

INFO:tensorflow:loss = 69.3162, step = 201 (0.743 sec)

INFO:tensorflow:global_step/sec: 159.537

INFO:tensorflow:loss = 69.3196, step = 301 (0.627 sec)

INFO:tensorflow:global_step/sec: 145.809

INFO:tensorflow:loss = 69.3127, step = 401 (0.687 sec)

INFO:tensorflow:global_step/sec: 155.405

INFO:tensorflow:loss = 69.3154, step = 501 (0.643 sec)

INFO:tensorflow:global_step/sec: 147.999

INFO:tensorflow:loss = 69.3147, step = 601 (0.675 sec)

INFO:tensorflow:global_step/sec: 172.222

INFO:tensorflow:loss = 69.3139, step = 701 (0.581 sec)

INFO:tensorflow:global_step/sec: 116.512

INFO:tensorflow:loss = 69.3158, step = 801 (0.858 sec)

INFO:tensorflow:global_step/sec: 130.01

INFO:tensorflow:loss = 69.3079, step = 901 (0.769 sec)

INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy8oulak4/model.ckpt.

INFO:tensorflow:Loss for final step: 69.3099.

INFO:tensorflow:Calling model_fn.

INFO:tensorflow:Done calling model_fn.

INFO:tensorflow:Starting evaluation at 2018-03-21-23:32:32

INFO:tensorflow:Graph was finalized.

INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy8oulak4/model.ckpt-1000

INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Evaluation [100/1000]

INFO:tensorflow:Evaluation [200/1000]

INFO:tensorflow:Evaluation [300/1000]

INFO:tensorflow:Evaluation [400/1000]

INFO:tensorflow:Evaluation [500/1000]

INFO:tensorflow:Evaluation [600/1000]

INFO:tensorflow:Evaluation [700/1000]

INFO:tensorflow:Evaluation [800/1000]

INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:32:41
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693163, global_step = 1000, label/mean = 0.488, loss = 69.3163, prediction/mean = 0.500312
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa9j1lx2o
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa9j1lx2o', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x129cee748>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa9j1lx2o/model.ckpt.
INFO:tensorflow:loss = 6415.98, step = 1
INFO:tensorflow:global_step/sec: 119.225
INFO:tensorflow:loss = 69.3156, step = 101 (0.840 sec)
INFO:tensorflow:global_step/sec: 136.965
INFO:tensorflow:loss = 69.3145, step = 201 (0.730 sec)
INFO:tensorflow:global_step/sec: 154.91
INFO:tensorflow:loss = 69.3144, step = 301 (0.645 sec)
INFO:tensorflow:global_step/sec: 140.11
INFO:tensorflow:loss = 69.318, step = 401 (0.714 sec)
INFO:tensorflow:global_step/sec: 156.258
INFO:tensorflow:loss = 69.3135, step = 501 (0.641 sec)
INFO:tensorflow:global_step/sec: 131.37
INFO:tensorflow:loss = 69.3127, step = 601 (0.760 sec)
INFO:tensorflow:global_step/sec: 159.519
INFO:tensorflow:loss = 69.3147, step = 701 (0.629 sec)
INFO:tensorflow:global_step/sec: 135.863
INFO:tensorflow:loss = 69.3227, step = 801 (0.735 sec)
INFO:tensorflow:global_step/sec: 161.068
INFO:tensorflow:loss = 69.3026, step = 901 (0.621 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa9j1lx2o/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3097.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:32:52
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa9j1lx2o/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.

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INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:33:02
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693159, global_step = 1000, label/mean = 0.488, loss = 69.3159, prediction/mean = 0.50027
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3b0knand
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3b0knand', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x128bb0d68>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3b0knand/model.ckpt.
INFO:tensorflow:loss = 22866.2, step = 1
INFO:tensorflow:global_step/sec: 127.323
INFO:tensorflow:loss = 69.3113, step = 101 (0.786 sec)
INFO:tensorflow:global_step/sec: 140.476
INFO:tensorflow:loss = 69.319, step = 201 (0.712 sec)
INFO:tensorflow:global_step/sec: 156.795
INFO:tensorflow:loss = 69.3121, step = 301 (0.638 sec)
INFO:tensorflow:global_step/sec: 137.074
INFO:tensorflow:loss = 69.3115, step = 401 (0.730 sec)
INFO:tensorflow:global_step/sec: 165.488
INFO:tensorflow:loss = 69.309, step = 501 (0.604 sec)
INFO:tensorflow:global_step/sec: 139.427
INFO:tensorflow:loss = 69.3135, step = 601 (0.717 sec)
INFO:tensorflow:global_step/sec: 171.429
INFO:tensorflow:loss = 69.3098, step = 701 (0.584 sec)
INFO:tensorflow:global_step/sec: 142.381
INFO:tensorflow:loss = 69.3218, step = 801 (0.702 sec)
INFO:tensorflow:global_step/sec: 167.619
INFO:tensorflow:loss = 69.31, step = 901 (0.596 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3b0knand/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3085.
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INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:33:13
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp3b0knand/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:33:22
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693167, global_step = 1000, label/mean = 0.488, loss = 69.3167, prediction/mean = 0.500394
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpqokavv_2
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpqokavv_2', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d94e780>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpqokavv_2/model.ckpt.
INFO:tensorflow:loss = 9211.14, step = 1
INFO:tensorflow:global_step/sec: 132.317
INFO:tensorflow:loss = 68.9668, step = 101 (0.757 sec)
INFO:tensorflow:global_step/sec: 145.689
INFO:tensorflow:loss = 69.2447, step = 201 (0.687 sec)
INFO:tensorflow:global_step/sec: 166.112
INFO:tensorflow:loss = 71.0376, step = 301 (0.602 sec)
INFO:tensorflow:global_step/sec: 148.284
INFO:tensorflow:loss = 69.3898, step = 401 (0.674 sec)
INFO:tensorflow:global_step/sec: 164.635
INFO:tensorflow:loss = 69.0854, step = 501 (0.608 sec)
INFO:tensorflow:global_step/sec: 137.338
INFO:tensorflow:loss = 69.6452, step = 601 (0.728 sec)
INFO:tensorflow:global_step/sec: 168.656

INFO:tensorflow:loss = 69.1767, step = 701 (0.593 sec)
INFO:tensorflow:global_step/sec: 135.091
INFO:tensorflow:loss = 69.4797, step = 801 (0.740 sec)
INFO:tensorflow:global_step/sec: 155.427
INFO:tensorflow:loss = 69.2859, step = 901 (0.643 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpqokavv_2/model.ckpt.
INFO:tensorflow:Loss for final step: 69.4412.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:33:33
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpqokavv_2/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:33:42
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.494, accuracy_baseline = 0.512, auc = 0.505293, auc_precision_recall = 0.738546, average_loss = 0.692068, global_step = 1000, label/mean = 0.488, loss = 69.2068, prediction/mean = 0.498826
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjlta8p91
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjlta8p91', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11cfff0ef0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjlta8p91/model.ckpt.
INFO:tensorflow:loss = 24810.6, step = 1
INFO:tensorflow:global_step/sec: 117.433
INFO:tensorflow:loss = 69.0027, step = 101 (0.853 sec)
INFO:tensorflow:global_step/sec: 133.54
INFO:tensorflow:loss = 70.4474, step = 201 (0.748 sec)
INFO:tensorflow:global_step/sec: 160.498

INFO:tensorflow:loss = 69.5747, step = 301 (0.623 sec)
INFO:tensorflow:global_step/sec: 139.497
INFO:tensorflow:loss = 68.5235, step = 401 (0.717 sec)
INFO:tensorflow:global_step/sec: 157.285
INFO:tensorflow:loss = 68.8953, step = 501 (0.636 sec)
INFO:tensorflow:global_step/sec: 136.385
INFO:tensorflow:loss = 70.9228, step = 601 (0.733 sec)
INFO:tensorflow:global_step/sec: 155.042
INFO:tensorflow:loss = 70.038, step = 701 (0.645 sec)
INFO:tensorflow:global_step/sec: 136.453
INFO:tensorflow:loss = 68.6611, step = 801 (0.733 sec)
INFO:tensorflow:global_step/sec: 162.91
INFO:tensorflow:loss = 69.2835, step = 901 (0.614 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjlta8p91/model.ckpt.
INFO:tensorflow:Loss for final step: 68.3564.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:33:53
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjlta8p91/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:34:02
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.499, accuracy_baseline = 0.512, auc = 0.511042, auc_precision_recall = 0.721373, average_loss = 0.691587, global_step = 1000, label/mean = 0.488, loss = 69.1587, prediction/mean = 0.491489
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpf9ul2gds
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpf9ul2gds', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x129723d68>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpf9ul2gds/model.ckpt.
INFO:tensorflow:loss = 2418.13, step = 1
INFO:tensorflow:global_step/sec: 133.216
INFO:tensorflow:loss = 69.3142, step = 101 (0.752 sec)
INFO:tensorflow:global_step/sec: 139.132
INFO:tensorflow:loss = 69.3137, step = 201 (0.719 sec)
INFO:tensorflow:global_step/sec: 171.16
INFO:tensorflow:loss = 69.3152, step = 301 (0.584 sec)
INFO:tensorflow:global_step/sec: 139.318
INFO:tensorflow:loss = 69.3162, step = 401 (0.719 sec)
INFO:tensorflow:global_step/sec: 153.228
INFO:tensorflow:loss = 69.3144, step = 501 (0.652 sec)
INFO:tensorflow:global_step/sec: 133.931
INFO:tensorflow:loss = 69.3169, step = 601 (0.747 sec)
INFO:tensorflow:global_step/sec: 148.609
INFO:tensorflow:loss = 69.3199, step = 701 (0.672 sec)
INFO:tensorflow:global_step/sec: 135.544
INFO:tensorflow:loss = 69.3237, step = 801 (0.738 sec)
INFO:tensorflow:global_step/sec: 139.009
INFO:tensorflow:loss = 69.317, step = 901 (0.719 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpf9ul2gds/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3134.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:34:14
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpf9ul2gds/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:34:23
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693164, global_step = 1000, label/mean = 0.488, loss = 69.3164, prediction/mean = 0.500349
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4pg2br8v
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4pg2br8v', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x1109a7438>, '_task_type': 'worker', '_task_id': 0,

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'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '',
'_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp4pg2br8v/model.ckpt.
INFO:tensorflow:loss = 188.957, step = 1
INFO:tensorflow:global_step/sec: 130.392
INFO:tensorflow:loss = 69.3149, step = 101 (0.768 sec)
INFO:tensorflow:global_step/sec: 146.946
INFO:tensorflow:loss = 69.3182, step = 201 (0.680 sec)
INFO:tensorflow:global_step/sec: 147.837
INFO:tensorflow:loss = 69.3131, step = 301 (0.676 sec)
INFO:tensorflow:global_step/sec: 132.162
INFO:tensorflow:loss = 69.3138, step = 401 (0.757 sec)
INFO:tensorflow:global_step/sec: 168.25
INFO:tensorflow:loss = 69.3169, step = 501 (0.594 sec)
INFO:tensorflow:global_step/sec: 144.465
INFO:tensorflow:loss = 69.3196, step = 601 (0.692 sec)
INFO:tensorflow:global_step/sec: 155.9
INFO:tensorflow:loss = 69.3087, step = 701 (0.641 sec)
INFO:tensorflow:global_step/sec: 140.591
INFO:tensorflow:loss = 69.3044, step = 801 (0.711 sec)
INFO:tensorflow:global_step/sec: 160.795
INFO:tensorflow:loss = 69.311, step = 901 (0.622 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmp4pg2br8v/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3131.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:34:34
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmp4pg2br8v/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:34:42
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, acc
uracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, averag
e_loss = 0.693167, global_step = 1000, label/mean = 0.488, loss = 69.31
67, prediction/mean = 0.500417
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/fold
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ers/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpnjnykcj7
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpnjnykcj7', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x12a2a62b0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpnjnykcj7/model.ckpt.
INFO:tensorflow:loss = 42751.8, step = 1
INFO:tensorflow:global_step/sec: 126.062
INFO:tensorflow:loss = 69.3147, step = 101 (0.795 sec)
INFO:tensorflow:global_step/sec: 151.98
INFO:tensorflow:loss = 69.3143, step = 201 (0.658 sec)
INFO:tensorflow:global_step/sec: 172.288
INFO:tensorflow:loss = 69.3112, step = 301 (0.580 sec)
INFO:tensorflow:global_step/sec: 148.254
INFO:tensorflow:loss = 69.3125, step = 401 (0.674 sec)
INFO:tensorflow:global_step/sec: 172.152
INFO:tensorflow:loss = 69.3123, step = 501 (0.581 sec)
INFO:tensorflow:global_step/sec: 149.492
INFO:tensorflow:loss = 69.3168, step = 601 (0.669 sec)
INFO:tensorflow:global_step/sec: 164.496
INFO:tensorflow:loss = 69.3223, step = 701 (0.608 sec)
INFO:tensorflow:global_step/sec: 150.332
INFO:tensorflow:loss = 69.3174, step = 801 (0.665 sec)
INFO:tensorflow:global_step/sec: 173.603
INFO:tensorflow:loss = 69.3136, step = 901 (0.576 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpnjnykcj7/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3119.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:34:53
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpnjnykcj7/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
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INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:35:01
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693166, global_step = 1000, label/mean = 0.488, loss = 69.3167, prediction/mean = 0.50038
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpiwfomy9q
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpiwfomy9q', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x138386cc0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpiwfomy9q/model.ckpt.
INFO:tensorflow:loss = 65169.6, step = 1
INFO:tensorflow:global_step/sec: 128.353
INFO:tensorflow:loss = 69.3117, step = 101 (0.780 sec)
INFO:tensorflow:global_step/sec: 145.596
INFO:tensorflow:loss = 69.318, step = 201 (0.687 sec)
INFO:tensorflow:global_step/sec: 169.007
INFO:tensorflow:loss = 69.3086, step = 301 (0.592 sec)
INFO:tensorflow:global_step/sec: 150.091
INFO:tensorflow:loss = 69.3125, step = 401 (0.666 sec)
INFO:tensorflow:global_step/sec: 171.663
INFO:tensorflow:loss = 69.3153, step = 501 (0.582 sec)
INFO:tensorflow:global_step/sec: 145.296
INFO:tensorflow:loss = 69.3145, step = 601 (0.688 sec)
INFO:tensorflow:global_step/sec: 173.712
INFO:tensorflow:loss = 69.3142, step = 701 (0.575 sec)
INFO:tensorflow:global_step/sec: 145.656
INFO:tensorflow:loss = 69.315, step = 801 (0.687 sec)
INFO:tensorflow:global_step/sec: 173.749
INFO:tensorflow:loss = 69.3135, step = 901 (0.576 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpiwfomy9q/model.ckpt.
INFO:tensorflow:Loss for final step: 69.313.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:35:12
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpiwfomy9q/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
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INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:35:20
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693154, global_step = 1000, label/mean = 0.488, loss = 69.3154, prediction/mean = 0.500154
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa8egm19w
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa8egm19w', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11cc56518>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa8egm19w/model.ckpt.
INFO:tensorflow:loss = 9956.38, step = 1
INFO:tensorflow:global_step/sec: 134.553
INFO:tensorflow:loss = 69.3164, step = 101 (0.744 sec)
INFO:tensorflow:global_step/sec: 151.87
INFO:tensorflow:loss = 69.3165, step = 201 (0.658 sec)
INFO:tensorflow:global_step/sec: 173.487
INFO:tensorflow:loss = 69.3193, step = 301 (0.576 sec)
INFO:tensorflow:global_step/sec: 146.114
INFO:tensorflow:loss = 69.3148, step = 401 (0.685 sec)
INFO:tensorflow:global_step/sec: 178.223
INFO:tensorflow:loss = 69.3147, step = 501 (0.561 sec)
INFO:tensorflow:global_step/sec: 146.706
INFO:tensorflow:loss = 69.3163, step = 601 (0.682 sec)
INFO:tensorflow:global_step/sec: 171.259
INFO:tensorflow:loss = 69.3201, step = 701 (0.584 sec)
INFO:tensorflow:global_step/sec: 151.946
INFO:tensorflow:loss = 69.3153, step = 801 (0.658 sec)
INFO:tensorflow:global_step/sec: 172.004
INFO:tensorflow:loss = 69.3153, step = 901 (0.582 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa8egm19w/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3093.
INFO:tensorflow:Calling model_fn.
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INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:35:31
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmpa8egml9w/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:35:40
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, acc
uracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, averag
e_loss = 0.693157, global_step = 1000, label/mean = 0.488, loss = 69.31
57, prediction/mean = 0.500207
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/fold
ers/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7_yz83bn
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp7_yz83bn', '_tf_random_seed': None, '_save_s
ummary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints
_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep
_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_serv
ice': None, '_cluster_spec': <tensorflow.python.training.server_lib.Clus
terSpec object at 0x138dbadd8>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '',
'_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp7_yz83bn/model.ckpt.
INFO:tensorflow:loss = 8050.84, step = 1
INFO:tensorflow:global_step/sec: 118.1
INFO:tensorflow:loss = 69.2953, step = 101 (0.848 sec)
INFO:tensorflow:global_step/sec: 126.962
INFO:tensorflow:loss = 69.319, step = 201 (0.789 sec)
INFO:tensorflow:global_step/sec: 139.696
INFO:tensorflow:loss = 69.3079, step = 301 (0.715 sec)
INFO:tensorflow:global_step/sec: 125.196
INFO:tensorflow:loss = 69.3301, step = 401 (0.799 sec)
INFO:tensorflow:global_step/sec: 159.838
INFO:tensorflow:loss = 69.3194, step = 501 (0.626 sec)
INFO:tensorflow:global_step/sec: 136.291
INFO:tensorflow:loss = 69.3272, step = 601 (0.734 sec)
INFO:tensorflow:global_step/sec: 149.011
INFO:tensorflow:loss = 69.2998, step = 701 (0.673 sec)
```

INFO:tensorflow:global_step/sec: 133.51
INFO:tensorflow:loss = 69.3595, step = 801 (0.747 sec)
INFO:tensorflow:global_step/sec: 137.908
INFO:tensorflow:loss = 69.3285, step = 901 (0.725 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7_yz83bn/model.ckpt.
INFO:tensorflow:Loss for final step: 69.291.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:35:52
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7_yz83bn/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:36:01
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.6932, global_step = 1000, label/mean = 0.488, loss = 69.32, prediction/mean = 0.501028
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpolfcqilg
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpolfcqilg', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c7a3828>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpolfcqilg/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 111.817
INFO:tensorflow:loss = 69.3167, step = 101 (0.896 sec)
INFO:tensorflow:global_step/sec: 140.003
INFO:tensorflow:loss = 69.3188, step = 201 (0.715 sec)
INFO:tensorflow:global_step/sec: 163.028
INFO:tensorflow:loss = 69.3128, step = 301 (0.613 sec)

INFO:tensorflow:global_step/sec: 140.502
INFO:tensorflow:loss = 69.3148, step = 401 (0.712 sec)
INFO:tensorflow:global_step/sec: 167.936
INFO:tensorflow:loss = 69.3084, step = 501 (0.595 sec)
INFO:tensorflow:global_step/sec: 136.27
INFO:tensorflow:loss = 69.2994, step = 601 (0.734 sec)
INFO:tensorflow:global_step/sec: 160.767
INFO:tensorflow:loss = 69.2914, step = 701 (0.622 sec)
INFO:tensorflow:global_step/sec: 128.146
INFO:tensorflow:loss = 69.3185, step = 801 (0.781 sec)
INFO:tensorflow:global_step/sec: 147.703
INFO:tensorflow:loss = 69.311, step = 901 (0.677 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpolfcqilg/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3053.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:36:12
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpolfcqilg/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:36:20
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693186, global_step = 1000, label/mean = 0.488, loss = 69.3186, prediction/mean = 0.500808
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpopilsg7i5
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpopilsg7i5', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x127419b00>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7

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fg3zltjt4s80wlc0000gn/T/tmppilsg7i5/model.ckpt.
INFO:tensorflow:loss = 47399.0, step = 1
INFO:tensorflow:global_step/sec: 129.421
INFO:tensorflow:loss = 69.3004, step = 101 (0.774 sec)
INFO:tensorflow:global_step/sec: 145.124
INFO:tensorflow:loss = 69.3626, step = 201 (0.689 sec)
INFO:tensorflow:global_step/sec: 170.391
INFO:tensorflow:loss = 69.3192, step = 301 (0.587 sec)
INFO:tensorflow:global_step/sec: 148.171
INFO:tensorflow:loss = 69.3479, step = 401 (0.675 sec)
INFO:tensorflow:global_step/sec: 178.246
INFO:tensorflow:loss = 69.3591, step = 501 (0.561 sec)
INFO:tensorflow:global_step/sec: 147.621
INFO:tensorflow:loss = 69.3186, step = 601 (0.677 sec)
INFO:tensorflow:global_step/sec: 174.162
INFO:tensorflow:loss = 69.2801, step = 701 (0.574 sec)
INFO:tensorflow:global_step/sec: 145.559
INFO:tensorflow:loss = 69.3102, step = 801 (0.687 sec)
INFO:tensorflow:global_step/sec: 175.854
INFO:tensorflow:loss = 69.305, step = 901 (0.568 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmppilsg7i5/model.ckpt.
INFO:tensorflow:Loss for final step: 69.312.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:36:31
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmppilsg7i5/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:36:40
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, acc
uracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, averag
e_loss = 0.693184, global_step = 1000, label/mean = 0.488, loss = 69.31
84, prediction/mean = 0.500716
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/fold
ers/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjgmavag8
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmpjgmavag8', '_tf_random_seed': None, '_save_s
ummary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints
_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep
_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_serv
ice': None, '_cluster_spec': <tensorflow.python.training.server_lib.Clus
terSpec object at 0x138dc2f28>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '',
```

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'_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjgmavag8/model.ckpt.
INFO:tensorflow:loss = 176.456, step = 1
INFO:tensorflow:global_step/sec: 131.436
INFO:tensorflow:loss = 69.3285, step = 101 (0.762 sec)
INFO:tensorflow:global_step/sec: 147.82
INFO:tensorflow:loss = 69.3147, step = 201 (0.677 sec)
INFO:tensorflow:global_step/sec: 175.444
INFO:tensorflow:loss = 69.3149, step = 301 (0.570 sec)
INFO:tensorflow:global_step/sec: 127.079
INFO:tensorflow:loss = 69.312, step = 401 (0.791 sec)
INFO:tensorflow:global_step/sec: 139.929
INFO:tensorflow:loss = 69.3085, step = 501 (0.711 sec)
INFO:tensorflow:global_step/sec: 120.465
INFO:tensorflow:loss = 69.3148, step = 601 (0.831 sec)
INFO:tensorflow:global_step/sec: 159.451
INFO:tensorflow:loss = 69.3009, step = 701 (0.626 sec)
INFO:tensorflow:global_step/sec: 148.367
INFO:tensorflow:loss = 69.2986, step = 801 (0.674 sec)
INFO:tensorflow:global_step/sec: 170.868
INFO:tensorflow:loss = 69.2908, step = 901 (0.585 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjgmavag8/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3074.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:36:51
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjgmavag8/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:37:00
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693195, global_step = 1000, label/mean = 0.488, loss = 69.3195, prediction/mean = 0.500937
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6w4djry_
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INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6w4djry_', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x126df23c8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6w4djry_/model.ckpt.
INFO:tensorflow:loss = 4166.6, step = 1
INFO:tensorflow:global_step/sec: 134.084
INFO:tensorflow:loss = 69.3602, step = 101 (0.747 sec)
INFO:tensorflow:global_step/sec: 143.443
INFO:tensorflow:loss = 69.3125, step = 201 (0.697 sec)
INFO:tensorflow:global_step/sec: 169.159
INFO:tensorflow:loss = 69.3171, step = 301 (0.591 sec)
INFO:tensorflow:global_step/sec: 145.726
INFO:tensorflow:loss = 69.3148, step = 401 (0.686 sec)
INFO:tensorflow:global_step/sec: 172.821
INFO:tensorflow:loss = 69.3567, step = 501 (0.578 sec)
INFO:tensorflow:global_step/sec: 150.087
INFO:tensorflow:loss = 69.3149, step = 601 (0.666 sec)
INFO:tensorflow:global_step/sec: 175.258
INFO:tensorflow:loss = 69.3375, step = 701 (0.570 sec)
INFO:tensorflow:global_step/sec: 147.334
INFO:tensorflow:loss = 69.3115, step = 801 (0.679 sec)
INFO:tensorflow:global_step/sec: 169.087
INFO:tensorflow:loss = 69.401, step = 901 (0.591 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6w4djry_/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3193.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:37:10
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6w4djry_/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
```

INFO:tensorflow:Finished evaluation at 2018-03-21-23:37:19
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693202, global_step = 1000, label/mean = 0.488, loss = 69.3202, prediction/mean = 0.501084
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpeootztxj
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpeootztxj', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x129963e80>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpeootztxj/model.ckpt.
INFO:tensorflow:loss = 8915.59, step = 1
INFO:tensorflow:global_step/sec: 135.269
INFO:tensorflow:loss = 69.3016, step = 101 (0.740 sec)
INFO:tensorflow:global_step/sec: 152.974
INFO:tensorflow:loss = 69.301, step = 201 (0.654 sec)
INFO:tensorflow:global_step/sec: 171.825
INFO:tensorflow:loss = 69.316, step = 301 (0.582 sec)
INFO:tensorflow:global_step/sec: 150.899
INFO:tensorflow:loss = 69.3151, step = 401 (0.663 sec)
INFO:tensorflow:global_step/sec: 181.529
INFO:tensorflow:loss = 69.319, step = 501 (0.551 sec)
INFO:tensorflow:global_step/sec: 145.223
INFO:tensorflow:loss = 69.2869, step = 601 (0.689 sec)
INFO:tensorflow:global_step/sec: 172.83
INFO:tensorflow:loss = 69.3148, step = 701 (0.579 sec)
INFO:tensorflow:global_step/sec: 155.439
INFO:tensorflow:loss = 69.321, step = 801 (0.643 sec)
INFO:tensorflow:global_step/sec: 178.298
INFO:tensorflow:loss = 69.3235, step = 901 (0.561 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpeootztxj/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3486.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:37:29
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpeootztxj/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]

INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:37:38
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693188, global_step = 1000, label/mean = 0.488, loss = 69.3188, prediction/mean = 0.500833
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp43vp1p60
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp43vp1p60', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x113f9a898>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp43vp1p60/model.ckpt.
INFO:tensorflow:loss = 4926.2, step = 1
INFO:tensorflow:global_step/sec: 120.24
INFO:tensorflow:loss = 69.372, step = 101 (0.833 sec)
INFO:tensorflow:global_step/sec: 135.02
INFO:tensorflow:loss = 69.3117, step = 201 (0.740 sec)
INFO:tensorflow:global_step/sec: 149.182
INFO:tensorflow:loss = 69.3144, step = 301 (0.670 sec)
INFO:tensorflow:global_step/sec: 134.671
INFO:tensorflow:loss = 69.3435, step = 401 (0.742 sec)
INFO:tensorflow:global_step/sec: 161.403
INFO:tensorflow:loss = 69.3118, step = 501 (0.620 sec)
INFO:tensorflow:global_step/sec: 136.889
INFO:tensorflow:loss = 69.3208, step = 601 (0.731 sec)
INFO:tensorflow:global_step/sec: 158.44
INFO:tensorflow:loss = 69.3201, step = 701 (0.631 sec)
INFO:tensorflow:global_step/sec: 139.165
INFO:tensorflow:loss = 69.3286, step = 801 (0.719 sec)
INFO:tensorflow:global_step/sec: 158.522
INFO:tensorflow:loss = 69.3226, step = 901 (0.630 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp43vp1p60/model.ckpt.
INFO:tensorflow:Loss for final step: 69.2921.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.


```

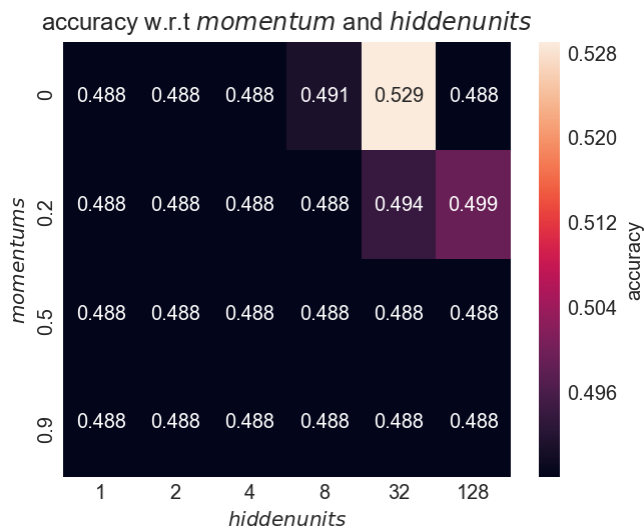
INFO:tensorflow:Starting evaluation at 2018-03-21-23:37:49
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmp43vplp60/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:37:57
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, acc
uracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, averag
e_loss = 0.693205, global_step = 1000, label/mean = 0.488, loss = 69.32
05, prediction/mean = 0.501143

```

```

In [116]: # draw the heatmap of all of the accuracies
draw_heatmap(val_accuracies, momentums, num_hu)
print('Best momentum: 0')
print('Best # of hidden units: 32')

```



```

Best momentum: 0
Best # of hidden units: 32

```

```
In [118]: optimizer = tf.train.MomentumOptimizer(
            learning_rate=learning_rate,
            momentum=0
        )
        classifier = tf.estimator.DNNClassifier(
            feature_columns=feature_columns,
            hidden_units=[32,32],
            n_classes=2,
            optimizer=optimizer
        )
        classifier = fit(classifier, tf_x_train, y_train)
        eval_result = evaluate(classifier, tf_x_val, y_val)
        test_accuracy = eval_result['accuracy']
```

INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj3tov_kv
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj3tov_kv', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11bcde710>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj3tov_kv/model.ckpt.
INFO:tensorflow:loss = 40625.4, step = 1
INFO:tensorflow:global_step/sec: 128.908
INFO:tensorflow:loss = 69.3241, step = 101 (0.777 sec)
INFO:tensorflow:global_step/sec: 141.772
INFO:tensorflow:loss = 69.3132, step = 201 (0.706 sec)
INFO:tensorflow:global_step/sec: 159.535
INFO:tensorflow:loss = 69.3148, step = 301 (0.627 sec)
INFO:tensorflow:global_step/sec: 115.429
INFO:tensorflow:loss = 69.3113, step = 401 (0.867 sec)
INFO:tensorflow:global_step/sec: 157.215
INFO:tensorflow:loss = 69.3079, step = 501 (0.637 sec)
INFO:tensorflow:global_step/sec: 106.697
INFO:tensorflow:loss = 69.3184, step = 601 (0.937 sec)
INFO:tensorflow:global_step/sec: 122.055
INFO:tensorflow:loss = 69.3046, step = 701 (0.819 sec)
INFO:tensorflow:global_step/sec: 98.9763
INFO:tensorflow:loss = 69.5362, step = 801 (1.011 sec)
INFO:tensorflow:global_step/sec: 139.835
INFO:tensorflow:loss = 69.3, step = 901 (0.714 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj3tov_kv/model.ckpt.
INFO:tensorflow:Loss for final step: 69.2971.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:52:54
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj3tov_kv/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]

```
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:53:05
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.488, accuracy_baseline = 0.512, auc = 0.5, auc_precision_recall = 0.744, average_loss = 0.693174, global_step = 1000, label/mean = 0.488, loss = 69.3174, prediction/mean = 0.500509
```

```
In [119]: # Evaluate test set
eval_result = evaluate(classifier, tf_x_test, y_test)
```

```
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-21-23:53:18
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj3tov_kv/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-21-23:53:34
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.48563, accuracy_baseline = 0.51434, auc = 0.499969, auc_precision_recall = 0.742806, average_loss = 0.693183, global_step = 1000, label/mean = 0.48566, loss = 69.3183, prediction/mean = 0.500506
```

```
In [120]: test_acc = eval_result['accuracy']
print('Test accuracy: {}'.format(test_acc))
```

```
Test accuracy: 0.48563000559806824
```

Letter P1

```
In [72]: arr = np.load('letter_pl.npy') # load the data
np.random.shuffle(arr) # Shuffle the data.
x = arr[:, :-1] # First column to second last column: Features (numerical values)
y = arr[:, -1:] # Last column: Labels (0 or 1)
print(arr.shape, x.shape, y.shape) # Check the shapes.
```

```
(20000, 17) (20000, 16) (20000, 1)
```

```
In [73]: # Take the first 4000 entries as training data (this will be random as the data has been shuffled)
x_train = x[:4000]
y_train = y[:4000]
# Take the next 1000 as validation data
x_val = x[4000:5000]
y_val = y[4000:5000]
# the rest is the test set
x_test = x[5000:]
y_test = y[5000:]
print(x_train.shape, y_train.shape, x_test.shape, y_test.shape) # check the shapes

(4000, 16) (4000, 1) (15000, 16) (15000, 1)
```

```
In [74]: feature_columns = [tf.feature_column.numeric_column(key=str(i)) for i in range(0, len(x_test[0]))]
```

```
In [75]: # define tf sets
tf_x_train = {}
for i in range(0, len(x_train[0])):
    tf_x_train[str(i)] = x_train[:, i]
tf_x_val = {}
for i in range(0, len(x_val[0])):
    tf_x_val[str(i)] = x_val[:, i]
tf_x_test = {}
for i in range(0, len(x_test[0])):
    tf_x_test[str(i)] = x_test[:, i]
```

```

In [76]: # validation accuracy matrix
val_accuracies = [[0 for i in range(len(hidden_units))] for j in range(len(momentums))]
# for each momentum and # of hidden units to test:
for i in range(len(momentums)):
    for j in range(len(hidden_units)):
        # optimize based on momentum
        optimizer = tf.train.MomentumOptimizer(
            learning_rate=learning_rate,
            momentum=momentums[i]
        )
        # instantiate the classifier
        classifier = tf.estimator.DNNClassifier(
            feature_columns=feature_columns,
            hidden_units=hidden_units[j],
            n_classes=2,
            optimizer=optimizer
        )
        # train
        classifier = fit(classifier, tf_x_train, y_train)
        # predict
        eval_result = evaluate(classifier, tf_x_val, y_val)
        # store
        val_accuracies[i][j] = eval_result['accuracy']

```

INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpywfn8u8o
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpywfn8u8o', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x118a05940>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpywfn8u8o/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 265.039
INFO:tensorflow:loss = 67.3409, step = 101 (0.379 sec)
INFO:tensorflow:global_step/sec: 280.425
INFO:tensorflow:loss = 65.4664, step = 201 (0.356 sec)
INFO:tensorflow:global_step/sec: 384.057
INFO:tensorflow:loss = 63.4176, step = 301 (0.261 sec)
INFO:tensorflow:global_step/sec: 355.889
INFO:tensorflow:loss = 61.2914, step = 401 (0.281 sec)
INFO:tensorflow:global_step/sec: 391.033
INFO:tensorflow:loss = 60.3833, step = 501 (0.257 sec)
INFO:tensorflow:global_step/sec: 278.554
INFO:tensorflow:loss = 58.8534, step = 601 (0.358 sec)
INFO:tensorflow:global_step/sec: 359.542
INFO:tensorflow:loss = 57.103, step = 701 (0.277 sec)
INFO:tensorflow:global_step/sec: 308.165
INFO:tensorflow:loss = 55.6827, step = 801 (0.325 sec)
INFO:tensorflow:global_step/sec: 383.333
INFO:tensorflow:loss = 53.2209, step = 901 (0.261 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpywfn8u8o/model.ckpt.
INFO:tensorflow:Loss for final step: 52.6476.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:35:29
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpywfn8u8o/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]

INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:35:35
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.5, auc_precision_recall = 0.514, average_loss = 0.521457, global_step = 1000, label/mean = 0.028, loss = 52.1457, prediction/mean = 0.399532
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpdavjzudo
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpdavjzudo', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x113f64898>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpdavjzudo/model.ckpt.
INFO:tensorflow:loss = 70.4969, step = 1
INFO:tensorflow:global_step/sec: 273.427
INFO:tensorflow:loss = 46.9483, step = 101 (0.367 sec)
INFO:tensorflow:global_step/sec: 343.091
INFO:tensorflow:loss = 36.0448, step = 201 (0.292 sec)
INFO:tensorflow:global_step/sec: 389.373
INFO:tensorflow:loss = 25.3156, step = 301 (0.257 sec)
INFO:tensorflow:global_step/sec: 235.817
INFO:tensorflow:loss = 19.2052, step = 401 (0.424 sec)
INFO:tensorflow:global_step/sec: 366.189
INFO:tensorflow:loss = 12.6635, step = 501 (0.273 sec)
INFO:tensorflow:global_step/sec: 360.284
INFO:tensorflow:loss = 30.5775, step = 601 (0.278 sec)
INFO:tensorflow:global_step/sec: 414.747
INFO:tensorflow:loss = 20.3959, step = 701 (0.241 sec)
INFO:tensorflow:global_step/sec: 312.651
INFO:tensorflow:loss = 12.5876, step = 801 (0.320 sec)
INFO:tensorflow:global_step/sec: 368.611
INFO:tensorflow:loss = 6.5379, step = 901 (0.271 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpdavjzudo/model.ckpt.
INFO:tensorflow:Loss for final step: 9.04404.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:35:41
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpdavjzudo/model.ckpt-1000
INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:35:46
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.407756, auc_precision_recall = 0.022535, average_loss = 0.152716, global_step = 1000, label/mean = 0.028, loss = 15.2716, prediction/mean = 0.0529302
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppehpqlrq
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppehpqlrq', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d090e10>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppehpqlrq/model.ckpt.
INFO:tensorflow:loss = 387.253, step = 1
INFO:tensorflow:global_step/sec: 300.103
INFO:tensorflow:loss = 84.2879, step = 101 (0.335 sec)
INFO:tensorflow:global_step/sec: 333.117
INFO:tensorflow:loss = 56.3375, step = 201 (0.301 sec)
INFO:tensorflow:global_step/sec: 341.677
INFO:tensorflow:loss = 40.6103, step = 301 (0.292 sec)
INFO:tensorflow:global_step/sec: 306.7
INFO:tensorflow:loss = 21.9471, step = 401 (0.325 sec)
INFO:tensorflow:global_step/sec: 377.558
INFO:tensorflow:loss = 18.5338, step = 501 (0.265 sec)
INFO:tensorflow:global_step/sec: 333.132
INFO:tensorflow:loss = 19.1073, step = 601 (0.300 sec)
INFO:tensorflow:global_step/sec: 369.265
INFO:tensorflow:loss = 39.3407, step = 701 (0.270 sec)
INFO:tensorflow:global_step/sec: 337.257
INFO:tensorflow:loss = 33.4141, step = 801 (0.297 sec)
INFO:tensorflow:global_step/sec: 376.798
INFO:tensorflow:loss = 12.2891, step = 901 (0.269 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppehpqlrq/model.ckpt.

INFO:tensorflow:Loss for final step: 31.9539.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:35:51
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmppehqpqlrq/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:35:57
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.97, accuracy_baseline = 0.972, auc = 0.401896, auc_precision_recall = 0.0210973, average_loss = 0.185585, global_step = 1000, label/mean = 0.028, loss = 18.5585, prediction/mean = 0.0570515
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzejrpbuq
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzejrpbuq', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11bf35400>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzejrpbuq/model.ckpt.
INFO:tensorflow:loss = 52.2262, step = 1
INFO:tensorflow:global_step/sec: 240.904
INFO:tensorflow:loss = 15.1473, step = 101 (0.416 sec)
INFO:tensorflow:global_step/sec: 330.349
INFO:tensorflow:loss = 24.9793, step = 201 (0.302 sec)
INFO:tensorflow:global_step/sec: 394.705
INFO:tensorflow:loss = 17.1719, step = 301 (0.253 sec)
INFO:tensorflow:global_step/sec: 358.796
INFO:tensorflow:loss = 16.7356, step = 401 (0.279 sec)
INFO:tensorflow:global_step/sec: 416.011
INFO:tensorflow:loss = 19.629, step = 501 (0.240 sec)
INFO:tensorflow:global_step/sec: 366.049
INFO:tensorflow:loss = 21.5581, step = 601 (0.273 sec)

INFO:tensorflow:global_step/sec: 411.953
INFO:tensorflow:loss = 28.0979, step = 701 (0.243 sec)
INFO:tensorflow:global_step/sec: 367.93
INFO:tensorflow:loss = 19.4404, step = 801 (0.272 sec)
INFO:tensorflow:global_step/sec: 397.546
INFO:tensorflow:loss = 16.2444, step = 901 (0.252 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzejrbpuq/model.ckpt.
INFO:tensorflow:Loss for final step: 25.3328.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:36:02
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzejrbpuq/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:36:08
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.664554, auc_precision_recall = 0.0404476, average_loss = 0.126805, global_step = 1000, label/mean = 0.028, loss = 12.6805, prediction/mean = 0.0427828
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsfbkftps
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsfbkftps', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d143b38>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsfbkftps/model.ckpt.
INFO:tensorflow:loss = 403.842, step = 1
INFO:tensorflow:global_step/sec: 269.878
INFO:tensorflow:loss = 15.656, step = 101 (0.372 sec)
INFO:tensorflow:global_step/sec: 329.435
INFO:tensorflow:loss = 13.4755, step = 201 (0.305 sec)

INFO:tensorflow:global_step/sec: 325.338
INFO:tensorflow:loss = 18.2682, step = 301 (0.307 sec)
INFO:tensorflow:global_step/sec: 280.212
INFO:tensorflow:loss = 34.6262, step = 401 (0.357 sec)
INFO:tensorflow:global_step/sec: 385.036
INFO:tensorflow:loss = 6.66705, step = 501 (0.260 sec)
INFO:tensorflow:global_step/sec: 353.672
INFO:tensorflow:loss = 23.4053, step = 601 (0.283 sec)
INFO:tensorflow:global_step/sec: 346.838
INFO:tensorflow:loss = 20.5912, step = 701 (0.288 sec)
INFO:tensorflow:global_step/sec: 313.486
INFO:tensorflow:loss = 19.0132, step = 801 (0.319 sec)
INFO:tensorflow:global_step/sec: 378.24
INFO:tensorflow:loss = 13.3573, step = 901 (0.266 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsfbktrfs/model.ckpt.
INFO:tensorflow:Loss for final step: 17.097.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:36:13
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpsfbktrfs/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:36:19
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.626231, auc_precision_recall = 0.0352845, average_loss = 0.134356, global_step = 1000, label/mean = 0.028, loss = 13.4356, prediction/mean = 0.0444781
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkleieeee7
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkleieeee7', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x113efef98>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkleieeee7/model.ckpt.
INFO:tensorflow:loss = 103.925, step = 1
INFO:tensorflow:global_step/sec: 233.512
INFO:tensorflow:loss = 14.7259, step = 101 (0.431 sec)
INFO:tensorflow:global_step/sec: 275.952
INFO:tensorflow:loss = 18.7389, step = 201 (0.361 sec)
INFO:tensorflow:global_step/sec: 307.52
INFO:tensorflow:loss = 16.0407, step = 301 (0.325 sec)
INFO:tensorflow:global_step/sec: 279.327
INFO:tensorflow:loss = 13.1326, step = 401 (0.358 sec)
INFO:tensorflow:global_step/sec: 302.903
INFO:tensorflow:loss = 12.2756, step = 501 (0.330 sec)
INFO:tensorflow:global_step/sec: 273.551
INFO:tensorflow:loss = 13.7742, step = 601 (0.368 sec)
INFO:tensorflow:global_step/sec: 329.228
INFO:tensorflow:loss = 14.1838, step = 701 (0.301 sec)
INFO:tensorflow:global_step/sec: 290.244
INFO:tensorflow:loss = 12.7507, step = 801 (0.345 sec)
INFO:tensorflow:global_step/sec: 342.096
INFO:tensorflow:loss = 14.8606, step = 901 (0.292 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkleieeee7/model.ckpt.
INFO:tensorflow:Loss for final step: 20.1304.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:36:25
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpkleieeee7/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:36:30
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.818434, auc_precision_recall = 0.0685265, average_loss = 0.117664, global_step = 1000, label/mean = 0.028, loss = 11.7664, prediction/mean = 0.0420643
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp0axt4op
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp0axt4op', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.Cl

```
sterSpec object at 0x128128f28>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_
is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp0axt4op/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 261.069
INFO:tensorflow:loss = 66.757, step = 101 (0.386 sec)
INFO:tensorflow:global_step/sec: 281.362
INFO:tensorflow:loss = 64.5693, step = 201 (0.354 sec)
INFO:tensorflow:global_step/sec: 217.613
INFO:tensorflow:loss = 62.0816, step = 301 (0.460 sec)
INFO:tensorflow:global_step/sec: 297.961
INFO:tensorflow:loss = 59.7382, step = 401 (0.336 sec)
INFO:tensorflow:global_step/sec: 339.136
INFO:tensorflow:loss = 57.683, step = 501 (0.295 sec)
INFO:tensorflow:global_step/sec: 345.025
INFO:tensorflow:loss = 56.7024, step = 601 (0.289 sec)
INFO:tensorflow:global_step/sec: 416.182
INFO:tensorflow:loss = 54.3035, step = 701 (0.240 sec)
INFO:tensorflow:global_step/sec: 303.047
INFO:tensorflow:loss = 52.6373, step = 801 (0.330 sec)
INFO:tensorflow:global_step/sec: 351.361
INFO:tensorflow:loss = 51.0669, step = 901 (0.285 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmp0axt4op/model.ckpt.
INFO:tensorflow:Loss for final step: 50.0979.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:36:36
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmp0axt4op/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:36:41
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, acc
uracy_baseline = 0.972, auc = 0.5, auc_precision_recall = 0.514, averag
e_loss = 0.489962, global_step = 1000, label/mean = 0.028, loss = 48.99
62, prediction/mean = 0.378806
INFO:tensorflow:Using default config.
```

WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp_3o_7zpf

INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp_3o_7zpf', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x12a23e320>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}

INFO:tensorflow:Calling model_fn.

INFO:tensorflow:Done calling model_fn.

INFO:tensorflow:Create CheckpointSaverHook.

INFO:tensorflow:Graph was finalized.

INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp_3o_7zpf/model.ckpt.

INFO:tensorflow:loss = 31.2962, step = 1

INFO:tensorflow:global_step/sec: 293.081

INFO:tensorflow:loss = 18.5808, step = 101 (0.342 sec)

INFO:tensorflow:global_step/sec: 363.036

INFO:tensorflow:loss = 35.5057, step = 201 (0.275 sec)

INFO:tensorflow:global_step/sec: 389.927

INFO:tensorflow:loss = 23.3433, step = 301 (0.257 sec)

INFO:tensorflow:global_step/sec: 337.186

INFO:tensorflow:loss = 30.8288, step = 401 (0.296 sec)

INFO:tensorflow:global_step/sec: 356.795

INFO:tensorflow:loss = 45.5168, step = 501 (0.281 sec)

INFO:tensorflow:global_step/sec: 335.448

INFO:tensorflow:loss = 24.6449, step = 601 (0.298 sec)

INFO:tensorflow:global_step/sec: 380.69

INFO:tensorflow:loss = 28.2729, step = 701 (0.262 sec)

INFO:tensorflow:global_step/sec: 351.585

INFO:tensorflow:loss = 29.4488, step = 801 (0.284 sec)

INFO:tensorflow:global_step/sec: 345.876

INFO:tensorflow:loss = 25.4391, step = 901 (0.289 sec)

INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp_3o_7zpf/model.ckpt.

INFO:tensorflow:Loss for final step: 16.6649.

INFO:tensorflow:Calling model_fn.

INFO:tensorflow:Done calling model_fn.

INFO:tensorflow:Starting evaluation at 2018-03-20-23:36:47

INFO:tensorflow:Graph was finalized.

INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp_3o_7zpf/model.ckpt-1000

INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Evaluation [100/1000]

INFO:tensorflow:Evaluation [200/1000]

INFO:tensorflow:Evaluation [300/1000]

INFO:tensorflow:Evaluation [400/1000]

INFO:tensorflow:Evaluation [500/1000]

INFO:tensorflow:Evaluation [600/1000]

INFO:tensorflow:Evaluation [700/1000]

INFO:tensorflow:Evaluation [800/1000]

INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:36:52
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.350162, auc_precision_recall = 0.0194941, average_loss = 0.173155, global_step = 1000, label/mean = 0.028, loss = 17.3155, prediction/mean = 0.046061
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo5qwr1r
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo5qwr1r', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d090e10>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo5qwr1r/model.ckpt.
INFO:tensorflow:loss = 49.7728, step = 1
INFO:tensorflow:global_step/sec: 264.345
INFO:tensorflow:loss = 23.432, step = 101 (0.380 sec)
INFO:tensorflow:global_step/sec: 267.733
INFO:tensorflow:loss = 29.819, step = 201 (0.381 sec)
INFO:tensorflow:global_step/sec: 368.483
INFO:tensorflow:loss = 9.71388, step = 301 (0.263 sec)
INFO:tensorflow:global_step/sec: 342.048
INFO:tensorflow:loss = 15.5328, step = 401 (0.293 sec)
INFO:tensorflow:global_step/sec: 368.287
INFO:tensorflow:loss = 23.7926, step = 501 (0.272 sec)
INFO:tensorflow:global_step/sec: 359.984
INFO:tensorflow:loss = 18.2794, step = 601 (0.278 sec)
INFO:tensorflow:global_step/sec: 376.804
INFO:tensorflow:loss = 18.1937, step = 701 (0.265 sec)
INFO:tensorflow:global_step/sec: 355.83
INFO:tensorflow:loss = 17.5616, step = 801 (0.281 sec)
INFO:tensorflow:global_step/sec: 277.266
INFO:tensorflow:loss = 17.433, step = 901 (0.363 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo5qwr1r/model.ckpt.
INFO:tensorflow:Loss for final step: 36.1727.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:36:58
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo5qwr1r/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:37:03
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.526528, auc_precision_recall = 0.0263539, average_loss = 0.133336, global_step = 1000, label/mean = 0.028, loss = 13.3336, prediction/mean = 0.0450095
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo3oleb_
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo3oleb_', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x12703f7f0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo3oleb_/model.ckpt.
INFO:tensorflow:loss = 26.9815, step = 1
INFO:tensorflow:global_step/sec: 284.34
INFO:tensorflow:loss = 18.811, step = 101 (0.353 sec)
INFO:tensorflow:global_step/sec: 369.9
INFO:tensorflow:loss = 12.1006, step = 201 (0.271 sec)
INFO:tensorflow:global_step/sec: 348.25
INFO:tensorflow:loss = 11.2033, step = 301 (0.287 sec)
INFO:tensorflow:global_step/sec: 362.822
INFO:tensorflow:loss = 18.0843, step = 401 (0.275 sec)
INFO:tensorflow:global_step/sec: 371.107
INFO:tensorflow:loss = 10.0138, step = 501 (0.270 sec)
INFO:tensorflow:global_step/sec: 327.189
INFO:tensorflow:loss = 12.3671, step = 601 (0.306 sec)
INFO:tensorflow:global_step/sec: 404.431
INFO:tensorflow:loss = 22.6461, step = 701 (0.246 sec)
INFO:tensorflow:global_step/sec: 353.151
INFO:tensorflow:loss = 14.6901, step = 801 (0.284 sec)
INFO:tensorflow:global_step/sec: 416.387
INFO:tensorflow:loss = 17.4587, step = 901 (0.239 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo3oleb_/model.ckpt.
INFO:tensorflow:Loss for final step: 15.8906.

INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:37:09
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuo3oleb_/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:37:14
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.831257, auc_precision_recall = 0.0783783, average_loss = 0.115538, global_step = 1000, label/mean = 0.028, loss = 11.5538, prediction/mean = 0.042386
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcr_kka16
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcr_kka16', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c98ba58>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcr_kka16/model.ckpt.
INFO:tensorflow:loss = 35.9897, step = 1
INFO:tensorflow:global_step/sec: 220.235
INFO:tensorflow:loss = 23.2065, step = 101 (0.455 sec)
INFO:tensorflow:global_step/sec: 254.244
INFO:tensorflow:loss = 17.5934, step = 201 (0.393 sec)
INFO:tensorflow:global_step/sec: 385.423
INFO:tensorflow:loss = 12.549, step = 301 (0.259 sec)
INFO:tensorflow:global_step/sec: 327.796
INFO:tensorflow:loss = 18.9185, step = 401 (0.305 sec)
INFO:tensorflow:global_step/sec: 391.527
INFO:tensorflow:loss = 10.0959, step = 501 (0.256 sec)
INFO:tensorflow:global_step/sec: 362.514
INFO:tensorflow:loss = 17.7608, step = 601 (0.276 sec)
INFO:tensorflow:global_step/sec: 390.063

INFO:tensorflow:loss = 12.133, step = 701 (0.255 sec)
INFO:tensorflow:global_step/sec: 347.588
INFO:tensorflow:loss = 15.3995, step = 801 (0.288 sec)
INFO:tensorflow:global_step/sec: 356.976
INFO:tensorflow:loss = 9.10865, step = 901 (0.280 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcr_kka16/model.ckpt.
INFO:tensorflow:Loss for final step: 8.59158.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:37:19
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcr_kka16/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:37:24
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.863536, auc_precision_recall = 0.209378, average_loss = 0.104897, global_step = 1000, label/mean = 0.028, loss = 10.4897, prediction/mean = 0.0358624
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcemdmx8d
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcemdmx8d', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x13b6e08d0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcemdmx8d/model.ckpt.
INFO:tensorflow:loss = 56.9725, step = 1
INFO:tensorflow:global_step/sec: 244.55
INFO:tensorflow:loss = 16.285, step = 101 (0.410 sec)
INFO:tensorflow:global_step/sec: 310.911
INFO:tensorflow:loss = 28.3783, step = 201 (0.322 sec)
INFO:tensorflow:global_step/sec: 237.676

INFO:tensorflow:loss = 14.3344, step = 301 (0.421 sec)
INFO:tensorflow:global_step/sec: 251.976
INFO:tensorflow:loss = 19.5132, step = 401 (0.397 sec)
INFO:tensorflow:global_step/sec: 263.018
INFO:tensorflow:loss = 10.4152, step = 501 (0.388 sec)
INFO:tensorflow:global_step/sec: 217.657
INFO:tensorflow:loss = 6.70115, step = 601 (0.452 sec)
INFO:tensorflow:global_step/sec: 281.02
INFO:tensorflow:loss = 19.0882, step = 701 (0.358 sec)
INFO:tensorflow:global_step/sec: 231.409
INFO:tensorflow:loss = 18.1065, step = 801 (0.430 sec)
INFO:tensorflow:global_step/sec: 326.392
INFO:tensorflow:loss = 3.44505, step = 901 (0.306 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcemdmx8d/model.ckpt.
INFO:tensorflow:Loss for final step: 13.5495.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:37:30
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpcemdmx8d/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:37:36
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.823358, auc_precision_recall = 0.0772026, average_loss = 0.114916, global_step = 1000, label/mean = 0.028, loss = 11.4916, prediction/mean = 0.0435275
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc0rg52wf
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc0rg52wf', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d78f0f0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc0rg52wf/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 264.684
INFO:tensorflow:loss = 65.0625, step = 101 (0.379 sec)
INFO:tensorflow:global_step/sec: 366.031
INFO:tensorflow:loss = 61.6726, step = 201 (0.273 sec)
INFO:tensorflow:global_step/sec: 394.211
INFO:tensorflow:loss = 58.1046, step = 301 (0.254 sec)
INFO:tensorflow:global_step/sec: 306.616
INFO:tensorflow:loss = 55.3703, step = 401 (0.327 sec)
INFO:tensorflow:global_step/sec: 363.132
INFO:tensorflow:loss = 53.0589, step = 501 (0.275 sec)
INFO:tensorflow:global_step/sec: 356.749
INFO:tensorflow:loss = 50.6599, step = 601 (0.280 sec)
INFO:tensorflow:global_step/sec: 405.503
INFO:tensorflow:loss = 46.8533, step = 701 (0.247 sec)
INFO:tensorflow:global_step/sec: 357.066
INFO:tensorflow:loss = 46.4996, step = 801 (0.280 sec)
INFO:tensorflow:global_step/sec: 397.327
INFO:tensorflow:loss = 44.6916, step = 901 (0.252 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc0rg52wf/model.ckpt.
INFO:tensorflow:Loss for final step: 45.2383.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:37:41
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc0rg52wf/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:37:46
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.5, auc_precision_recall = 0.514, average_loss = 0.414404, global_step = 1000, label/mean = 0.028, loss = 41.4404, prediction/mean = 0.325664
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjldf7k1
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjldf7k1', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11bf685f8>, '_task_type': 'worker', '_task_id': 0,

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'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjldf7k1/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 273.427
INFO:tensorflow:loss = 65.2296, step = 101 (0.367 sec)
INFO:tensorflow:global_step/sec: 288.79
INFO:tensorflow:loss = 61.6729, step = 201 (0.346 sec)
INFO:tensorflow:global_step/sec: 404.074
INFO:tensorflow:loss = 57.8584, step = 301 (0.248 sec)
INFO:tensorflow:global_step/sec: 350.832
INFO:tensorflow:loss = 56.3697, step = 401 (0.285 sec)
INFO:tensorflow:global_step/sec: 374.818
INFO:tensorflow:loss = 52.2499, step = 501 (0.267 sec)
INFO:tensorflow:global_step/sec: 366.784
INFO:tensorflow:loss = 51.6162, step = 601 (0.273 sec)
INFO:tensorflow:global_step/sec: 396.805
INFO:tensorflow:loss = 46.3084, step = 701 (0.252 sec)
INFO:tensorflow:global_step/sec: 334.444
INFO:tensorflow:loss = 47.1079, step = 801 (0.299 sec)
INFO:tensorflow:global_step/sec: 411.86
INFO:tensorflow:loss = 43.3582, step = 901 (0.243 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjldf7k1/model.ckpt.
INFO:tensorflow:Loss for final step: 40.8771.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:37:52
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjldf7k1/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:37:57
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.5, auc_precision_recall = 0.514, average_loss = 0.414417, global_step = 1000, label/mean = 0.028, loss = 41.4417, prediction/mean = 0.325669
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/fold
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ers/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp76q5tkxl
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp76q5tkxl', '_tf_random_seed': None, '_save_s
ummary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints
_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep
_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_serv
ice': None, '_cluster_spec': <tensorflow.python.training.server_lib.Clus
terSpec object at 0x11d0ad630>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '',
'_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp76q5tkxl/model.ckpt.
INFO:tensorflow:loss = 12.4695, step = 1
INFO:tensorflow:global_step/sec: 261.902
INFO:tensorflow:loss = 25.3524, step = 101 (0.383 sec)
INFO:tensorflow:global_step/sec: 342.21
INFO:tensorflow:loss = 15.1144, step = 201 (0.293 sec)
INFO:tensorflow:global_step/sec: 341.868
INFO:tensorflow:loss = 12.0051, step = 301 (0.291 sec)
INFO:tensorflow:global_step/sec: 327.153
INFO:tensorflow:loss = 23.3416, step = 401 (0.306 sec)
INFO:tensorflow:global_step/sec: 383.866
INFO:tensorflow:loss = 12.7576, step = 501 (0.261 sec)
INFO:tensorflow:global_step/sec: 341.808
INFO:tensorflow:loss = 22.9421, step = 601 (0.293 sec)
INFO:tensorflow:global_step/sec: 390.946
INFO:tensorflow:loss = 16.7411, step = 701 (0.256 sec)
INFO:tensorflow:global_step/sec: 342.522
INFO:tensorflow:loss = 27.3955, step = 801 (0.292 sec)
INFO:tensorflow:global_step/sec: 395.01
INFO:tensorflow:loss = 10.6161, step = 901 (0.253 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmp76q5tkxl/model.ckpt.
INFO:tensorflow:Loss for final step: 16.5158.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:38:02
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmp76q5tkxl/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
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INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:38:07
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.675834, auc_precision_recall = 0.0387038, average_loss = 0.129262, global_step = 1000, label/mean = 0.028, loss = 12.9262, prediction/mean = 0.0416372
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuzt6bkh4
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuzt6bkh4', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x1269b9e48>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuzt6bkh4/model.ckpt.
INFO:tensorflow:loss = 20.7248, step = 1
INFO:tensorflow:global_step/sec: 285.221
INFO:tensorflow:loss = 16.269, step = 101 (0.352 sec)
INFO:tensorflow:global_step/sec: 348.93
INFO:tensorflow:loss = 23.2276, step = 201 (0.286 sec)
INFO:tensorflow:global_step/sec: 371.523
INFO:tensorflow:loss = 33.4142, step = 301 (0.269 sec)
INFO:tensorflow:global_step/sec: 352.342
INFO:tensorflow:loss = 13.8331, step = 401 (0.284 sec)
INFO:tensorflow:global_step/sec: 369.104
INFO:tensorflow:loss = 4.09088, step = 501 (0.271 sec)
INFO:tensorflow:global_step/sec: 341.697
INFO:tensorflow:loss = 22.2309, step = 601 (0.293 sec)
INFO:tensorflow:global_step/sec: 359.358
INFO:tensorflow:loss = 21.4782, step = 701 (0.280 sec)
INFO:tensorflow:global_step/sec: 338.657
INFO:tensorflow:loss = 9.85101, step = 801 (0.293 sec)
INFO:tensorflow:global_step/sec: 408.575
INFO:tensorflow:loss = 7.63898, step = 901 (0.245 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuzt6bkh4/model.ckpt.
INFO:tensorflow:Loss for final step: 9.69622.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:38:13
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpuzt6bkh4/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
```


INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:38:17
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.597865, auc_precision_recall = 0.0318217, average_loss = 0.130428, global_step = 1000, label/mean = 0.028, loss = 13.0428, prediction/mean = 0.0422173
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp1ed0hhtc
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp1ed0hhtc', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x12878d668>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp1ed0hhtc/model.ckpt.
INFO:tensorflow:loss = 135.365, step = 1
INFO:tensorflow:global_step/sec: 271.568
INFO:tensorflow:loss = 10.2277, step = 101 (0.369 sec)
INFO:tensorflow:global_step/sec: 303.962
INFO:tensorflow:loss = 8.60198, step = 201 (0.329 sec)
INFO:tensorflow:global_step/sec: 346.938
INFO:tensorflow:loss = 12.6929, step = 301 (0.288 sec)
INFO:tensorflow:global_step/sec: 322.732
INFO:tensorflow:loss = 17.6375, step = 401 (0.310 sec)
INFO:tensorflow:global_step/sec: 376.091
INFO:tensorflow:loss = 12.3788, step = 501 (0.266 sec)
INFO:tensorflow:global_step/sec: 275.994
INFO:tensorflow:loss = 20.0869, step = 601 (0.363 sec)
INFO:tensorflow:global_step/sec: 329.116
INFO:tensorflow:loss = 14.1179, step = 701 (0.304 sec)
INFO:tensorflow:global_step/sec: 326.523
INFO:tensorflow:loss = 12.1367, step = 801 (0.307 sec)
INFO:tensorflow:global_step/sec: 343.769
INFO:tensorflow:loss = 7.06271, step = 901 (0.291 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp1ed0hhtc/model.ckpt.
INFO:tensorflow:Loss for final step: 18.728.
INFO:tensorflow:Calling model_fn.

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INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:38:23
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp1ed0hhtc/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:38:28
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.818691, auc_precision_recall = 0.0703933, average_loss = 0.113699, global_step = 1000, label/mean = 0.028, loss = 11.3699, prediction/mean = 0.0387571
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2vhq5j5u
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2vhq5j5u', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x118a05a90>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2vhq5j5u/model.ckpt.
INFO:tensorflow:loss = 353.908, step = 1
INFO:tensorflow:global_step/sec: 267.563
INFO:tensorflow:loss = 27.2343, step = 101 (0.375 sec)
INFO:tensorflow:global_step/sec: 306.319
INFO:tensorflow:loss = 16.985, step = 201 (0.326 sec)
INFO:tensorflow:global_step/sec: 338.124
INFO:tensorflow:loss = 24.5492, step = 301 (0.296 sec)
INFO:tensorflow:global_step/sec: 307.109
INFO:tensorflow:loss = 18.77, step = 401 (0.326 sec)
INFO:tensorflow:global_step/sec: 233.72
INFO:tensorflow:loss = 11.741, step = 501 (0.429 sec)
INFO:tensorflow:global_step/sec: 248.006
INFO:tensorflow:loss = 17.7131, step = 601 (0.403 sec)
INFO:tensorflow:global_step/sec: 260.061
INFO:tensorflow:loss = 14.4552, step = 701 (0.385 sec)
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INFO:tensorflow:global_step/sec: 289.906
INFO:tensorflow:loss = 14.342, step = 801 (0.364 sec)
INFO:tensorflow:global_step/sec: 298.918
INFO:tensorflow:loss = 12.5326, step = 901 (0.315 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2vhq5j5u/model.ckpt.
INFO:tensorflow:Loss for final step: 11.4418.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:38:35
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2vhq5j5u/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:38:40
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.843603, auc_precision_recall = 0.0775426, average_loss = 0.114841, global_step = 1000, label/mean = 0.028, loss = 11.4841, prediction/mean = 0.0413901
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6db082lr
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6db082lr', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11be39e80>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6db082lr/model.ckpt.
INFO:tensorflow:loss = 22.802, step = 1
INFO:tensorflow:global_step/sec: 281.173
INFO:tensorflow:loss = 15.3184, step = 101 (0.358 sec)
INFO:tensorflow:global_step/sec: 340.475
INFO:tensorflow:loss = 9.34266, step = 201 (0.292 sec)
INFO:tensorflow:global_step/sec: 407.641
INFO:tensorflow:loss = 21.4026, step = 301 (0.245 sec)

INFO:tensorflow:global_step/sec: 363.958
INFO:tensorflow:loss = 15.0117, step = 401 (0.275 sec)
INFO:tensorflow:global_step/sec: 419.902
INFO:tensorflow:loss = 10.4522, step = 501 (0.239 sec)
INFO:tensorflow:global_step/sec: 372.502
INFO:tensorflow:loss = 28.271, step = 601 (0.268 sec)
INFO:tensorflow:global_step/sec: 407.027
INFO:tensorflow:loss = 13.3048, step = 701 (0.246 sec)
INFO:tensorflow:global_step/sec: 366.985
INFO:tensorflow:loss = 32.4959, step = 801 (0.272 sec)
INFO:tensorflow:global_step/sec: 410.622
INFO:tensorflow:loss = 19.594, step = 901 (0.243 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6db082lr/model.ckpt.
INFO:tensorflow:Loss for final step: 16.8461.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:38:46
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp6db082lr/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:38:50
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.671792, auc_precision_recall = 0.0414803, average_loss = 0.131634, global_step = 1000, label/mean = 0.028, loss = 13.1634, prediction/mean = 0.0456629
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpedght506
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpedght506', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c1118d0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7

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fg3zltjt4s80wlc0000gn/T/tmpedght506/model.ckpt.
INFO:tensorflow:loss = 195.484, step = 1
INFO:tensorflow:global_step/sec: 294.416
INFO:tensorflow:loss = 54.0333, step = 101 (0.341 sec)
INFO:tensorflow:global_step/sec: 348.906
INFO:tensorflow:loss = 40.1271, step = 201 (0.286 sec)
INFO:tensorflow:global_step/sec: 393.684
INFO:tensorflow:loss = 37.1025, step = 301 (0.254 sec)
INFO:tensorflow:global_step/sec: 357.771
INFO:tensorflow:loss = 32.4138, step = 401 (0.279 sec)
INFO:tensorflow:global_step/sec: 414.183
INFO:tensorflow:loss = 19.3022, step = 501 (0.242 sec)
INFO:tensorflow:global_step/sec: 350.197
INFO:tensorflow:loss = 17.0255, step = 601 (0.286 sec)
INFO:tensorflow:global_step/sec: 408.994
INFO:tensorflow:loss = 14.3288, step = 701 (0.244 sec)
INFO:tensorflow:global_step/sec: 349.496
INFO:tensorflow:loss = 11.2899, step = 801 (0.286 sec)
INFO:tensorflow:global_step/sec: 407.027
INFO:tensorflow:loss = 17.7457, step = 901 (0.246 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmpedght506/model.ckpt.
INFO:tensorflow:Loss for final step: 19.1203.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:38:55
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmpedght506/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:39:00
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, acc
uracy_baseline = 0.972, auc = 0.495995, auc_precision_recall = 0.026792
6, average_loss = 0.13592, global_step = 1000, label/mean = 0.028, loss
= 13.592, prediction/mean = 0.0475869
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/fold
ers/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8nelr8ry
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp8nelr8ry', '_tf_random_seed': None, '_save_s
ummary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints
_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep
_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_serv
ice': None, '_cluster_spec': <tensorflow.python.training.server_lib.Clus
terSpec object at 0x113f6ac88>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '',
```

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'_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8nelr8ry/model.ckpt.
INFO:tensorflow:loss = 150.204, step = 1
INFO:tensorflow:global_step/sec: 281.526
INFO:tensorflow:loss = 14.0692, step = 101 (0.356 sec)
INFO:tensorflow:global_step/sec: 357.587
INFO:tensorflow:loss = 12.0354, step = 201 (0.280 sec)
INFO:tensorflow:global_step/sec: 403.346
INFO:tensorflow:loss = 19.7364, step = 301 (0.248 sec)
INFO:tensorflow:global_step/sec: 345.612
INFO:tensorflow:loss = 13.796, step = 401 (0.289 sec)
INFO:tensorflow:global_step/sec: 404.331
INFO:tensorflow:loss = 9.30025, step = 501 (0.247 sec)
INFO:tensorflow:global_step/sec: 341.421
INFO:tensorflow:loss = 19.5691, step = 601 (0.293 sec)
INFO:tensorflow:global_step/sec: 408.628
INFO:tensorflow:loss = 20.0596, step = 701 (0.245 sec)
INFO:tensorflow:global_step/sec: 353.817
INFO:tensorflow:loss = 12.2219, step = 801 (0.283 sec)
INFO:tensorflow:global_step/sec: 410.416
INFO:tensorflow:loss = 10.7406, step = 901 (0.244 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8nelr8ry/model.ckpt.
INFO:tensorflow:Loss for final step: 16.7915.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:39:05
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8nelr8ry/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:39:10
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.737415, auc_precision_recall = 0.0523107, average_loss = 0.121982, global_step = 1000, label/mean = 0.028, loss = 12.1982, prediction/mean = 0.0405378
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpo3u42nub
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INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpo3u42nub', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d43a048>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpo3u42nub/model.ckpt.
INFO:tensorflow:loss = 280.041, step = 1
INFO:tensorflow:global_step/sec: 284.672
INFO:tensorflow:loss = 11.5367, step = 101 (0.353 sec)
INFO:tensorflow:global_step/sec: 364.735
INFO:tensorflow:loss = 12.0953, step = 201 (0.274 sec)
INFO:tensorflow:global_step/sec: 393.629
INFO:tensorflow:loss = 20.3397, step = 301 (0.254 sec)
INFO:tensorflow:global_step/sec: 348.843
INFO:tensorflow:loss = 10.224, step = 401 (0.287 sec)
INFO:tensorflow:global_step/sec: 412.74
INFO:tensorflow:loss = 22.6771, step = 501 (0.242 sec)
INFO:tensorflow:global_step/sec: 363.058
INFO:tensorflow:loss = 13.6847, step = 601 (0.275 sec)
INFO:tensorflow:global_step/sec: 395.683
INFO:tensorflow:loss = 21.9573, step = 701 (0.253 sec)
INFO:tensorflow:global_step/sec: 357.729
INFO:tensorflow:loss = 13.6196, step = 801 (0.280 sec)
INFO:tensorflow:global_step/sec: 413.868
INFO:tensorflow:loss = 9.63403, step = 901 (0.242 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpo3u42nub/model.ckpt.
INFO:tensorflow:Loss for final step: 19.1328.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:39:15
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpo3u42nub/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
```

INFO:tensorflow:Finished evaluation at 2018-03-20-23:39:20
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.725841, auc_precision_recall = 0.0545847, average_loss = 0.122678, global_step = 1000, label/mean = 0.028, loss = 12.2678, prediction/mean = 0.0405654
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbhsjilz2
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbhsjilz2', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11ccd57b8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbhsjilz2/model.ckpt.
INFO:tensorflow:loss = 144.925, step = 1
INFO:tensorflow:global_step/sec: 288.439
INFO:tensorflow:loss = 11.381, step = 101 (0.348 sec)
INFO:tensorflow:global_step/sec: 354.466
INFO:tensorflow:loss = 12.6473, step = 201 (0.282 sec)
INFO:tensorflow:global_step/sec: 379.834
INFO:tensorflow:loss = 11.661, step = 301 (0.263 sec)
INFO:tensorflow:global_step/sec: 355.3
INFO:tensorflow:loss = 9.46049, step = 401 (0.282 sec)
INFO:tensorflow:global_step/sec: 389.359
INFO:tensorflow:loss = 9.3435, step = 501 (0.256 sec)
INFO:tensorflow:global_step/sec: 342.509
INFO:tensorflow:loss = 12.1276, step = 601 (0.292 sec)
INFO:tensorflow:global_step/sec: 396.505
INFO:tensorflow:loss = 16.1697, step = 701 (0.252 sec)
INFO:tensorflow:global_step/sec: 362.034
INFO:tensorflow:loss = 11.3585, step = 801 (0.277 sec)
INFO:tensorflow:global_step/sec: 384.965
INFO:tensorflow:loss = 10.973, step = 901 (0.259 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbhsjilz2/model.ckpt.
INFO:tensorflow:Loss for final step: 7.8789.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:39:26
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbhsjilz2/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]

INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:39:30
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, accuracy_baseline = 0.972, auc = 0.883028, auc_precision_recall = 0.104601, average_loss = 0.10473, global_step = 1000, label/mean = 0.028, loss = 10.473, prediction/mean = 0.036405
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7bca5zqm
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7bca5zqm', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c782208>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7bca5zqm/model.ckpt.
INFO:tensorflow:loss = 441.319, step = 1
INFO:tensorflow:global_step/sec: 262.013
INFO:tensorflow:loss = 18.1743, step = 101 (0.383 sec)
INFO:tensorflow:global_step/sec: 306.527
INFO:tensorflow:loss = 12.4013, step = 201 (0.326 sec)
INFO:tensorflow:global_step/sec: 346.082
INFO:tensorflow:loss = 11.9203, step = 301 (0.289 sec)
INFO:tensorflow:global_step/sec: 319.235
INFO:tensorflow:loss = 9.50447, step = 401 (0.313 sec)
INFO:tensorflow:global_step/sec: 343.561
INFO:tensorflow:loss = 11.9929, step = 501 (0.291 sec)
INFO:tensorflow:global_step/sec: 321.146
INFO:tensorflow:loss = 14.2744, step = 601 (0.311 sec)
INFO:tensorflow:global_step/sec: 343.301
INFO:tensorflow:loss = 7.03195, step = 701 (0.291 sec)
INFO:tensorflow:global_step/sec: 314.444
INFO:tensorflow:loss = 8.71328, step = 801 (0.318 sec)
INFO:tensorflow:global_step/sec: 354.838
INFO:tensorflow:loss = 7.53733, step = 901 (0.282 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7bca5zqm/model.ckpt.
INFO:tensorflow:Loss for final step: 10.5396.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.

```

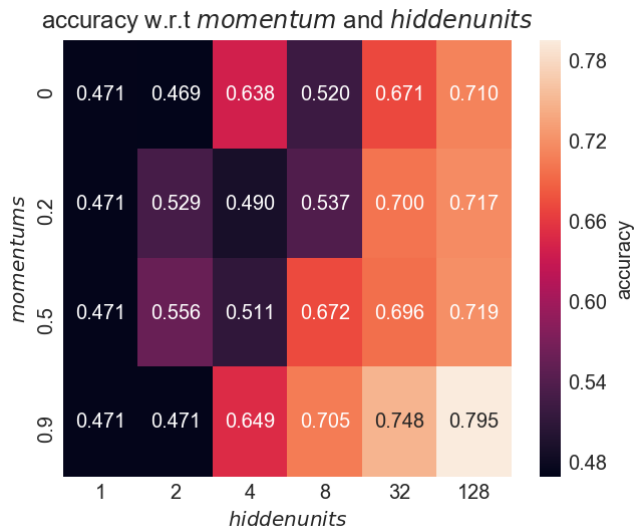
INFO:tensorflow:Starting evaluation at 2018-03-20-23:39:36
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmp7bca5zqm/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:39:41
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.972, acc
uracy_baseline = 0.972, auc = 0.946282, auc_precision_recall = 0.31214
7, average_loss = 0.0887921, global_step = 1000, label/mean = 0.028, lo
ss = 8.87921, prediction/mean = 0.0392071

```

```

In [94]: # draw the heatmap of all of the accuracies
draw_heatmap(val_accuracies, momentums, num_hu)
print('Best momentum: 0.9')
print('Best # of hidden units: 128')

```



```

Best momentum: 0.9
Best # of hidden units: 128

```

```
In [95]: optimizer = tf.train.MomentumOptimizer(
        learning_rate=learning_rate,
        momentum=0.9
    )
    classifier = tf.estimator.DNNClassifier(
        feature_columns=feature_columns,
        hidden_units=[128,128],
        n_classes=2,
        optimizer=optimizer
    )
    classifier = fit(classifier, tf_x_train, y_train)
    eval_result = evaluate(classifier, tf_x_val, y_val)
    test_accuracy = eval_result['accuracy']
```

INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgdx9_etg
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgdx9_etg', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x126b72080>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgdx9_etg/model.ckpt.
INFO:tensorflow:loss = 123.392, step = 1
INFO:tensorflow:global_step/sec: 266.716
INFO:tensorflow:loss = 57.4138, step = 101 (0.375 sec)
INFO:tensorflow:global_step/sec: 274.63
INFO:tensorflow:loss = 54.2523, step = 201 (0.364 sec)
INFO:tensorflow:global_step/sec: 327.082
INFO:tensorflow:loss = 48.6919, step = 301 (0.306 sec)
INFO:tensorflow:global_step/sec: 250.668
INFO:tensorflow:loss = 56.0684, step = 401 (0.401 sec)
INFO:tensorflow:global_step/sec: 226.014
INFO:tensorflow:loss = 44.5219, step = 501 (0.443 sec)
INFO:tensorflow:global_step/sec: 270.525
INFO:tensorflow:loss = 42.2901, step = 601 (0.368 sec)
INFO:tensorflow:global_step/sec: 322.233
INFO:tensorflow:loss = 42.4325, step = 701 (0.312 sec)
INFO:tensorflow:global_step/sec: 271.959
INFO:tensorflow:loss = 48.8429, step = 801 (0.366 sec)
INFO:tensorflow:global_step/sec: 268.312
INFO:tensorflow:loss = 39.0215, step = 901 (0.374 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgdx9_etg/model.ckpt.
INFO:tensorflow:Loss for final step: 43.1529.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:49:14
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgdx9_etg/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]

```
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:49:19
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.779, accuracy_baseline = 0.529, auc = 0.890554, auc_precision_recall = 0.909142, average_loss = 0.436853, global_step = 1000, label/mean = 0.529, loss = 43.6853, prediction/mean = 0.459176
```

```
In [96]: # Evaluate test set
eval_result = evaluate(classifier, tf_x_test, y_test)
```

```
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:49:21
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgdx9_etg/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:49:28
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.79056, accuracy_baseline = 0.50212, auc = 0.891312, auc_precision_recall = 0.895401, average_loss = 0.431167, global_step = 1000, label/mean = 0.49788, loss = 43.1167, prediction/mean = 0.451264
```

```
In [97]: test_acc = eval_result['accuracy']
print('Test accuracy: {}'.format(test_acc))
```

```
Test accuracy: 0.7905600070953369
```

Letter P2

```
In [81]: arr = np.load('letter_p2.npy') # load the data
np.random.shuffle(arr) # Shuffle the data.
x = arr[:, :-1] # First column to second last column: Features (numerical values)
y = arr[:, -1:] # Last column: Labels (0 or 1)
print(arr.shape, x.shape, y.shape) # Check the shapes.
```

```
(20000, 17) (20000, 16) (20000, 1)
```

```
In [82]: # Take the first 4000 entries as training data (this will be random as the data has been shuffled)
x_train = x[:4000]
y_train = y[:4000]
# Take the next 1000 as validation data
x_val = x[4000:5000]
y_val = y[4000:5000]
# the rest is the test set
x_test = x[5000:]
y_test = y[5000:]
print(x_train.shape, y_train.shape, x_test.shape, y_test.shape) # check the shapes

(4000, 16) (4000, 1) (15000, 16) (15000, 1)
```

```
In [83]: feature_columns = [tf.feature_column.numeric_column(key=str(i)) for i in range(0, len(x_test[0]))]
```

```
In [84]: # define tf sets
tf_x_train = {}
for i in range(0, len(x_train[0])):
    tf_x_train[str(i)] = x_train[:, i]
tf_x_val = {}
for i in range(0, len(x_val[0])):
    tf_x_val[str(i)] = x_val[:, i]
tf_x_test = {}
for i in range(0, len(x_test[0])):
    tf_x_test[str(i)] = x_test[:, i]
```

```
In [85]: # validation accuracy matrix
val_accuracies = [[0 for i in range(len(hidden_units))] for j in range(len(momentums))]
# for each momentum and # of hidden units to test:
for i in range(len(momentums)):
    for j in range(len(hidden_units)):
        # optimize based on momentum
        optimizer = tf.train.MomentumOptimizer(
            learning_rate=learning_rate,
            momentum=momentums[i]
        )
        # instantiate the classifier
        classifier = tf.estimator.DNNClassifier(
            feature_columns=feature_columns,
            hidden_units=hidden_units[j],
            n_classes=2,
            optimizer=optimizer
        )
        # train
        classifier = fit(classifier, tf_x_train, y_train)
        # predict
        eval_result = evaluate(classifier, tf_x_val, y_val)
        # store
        val_accuracies[i][j] = eval_result['accuracy']
```

INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy84uiwrr
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy84uiwrr', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x128493128>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy84uiwrr/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 255.67
INFO:tensorflow:loss = 69.3109, step = 101 (0.392 sec)
INFO:tensorflow:global_step/sec: 288.576
INFO:tensorflow:loss = 69.2976, step = 201 (0.346 sec)
INFO:tensorflow:global_step/sec: 409.728
INFO:tensorflow:loss = 69.2605, step = 301 (0.245 sec)
INFO:tensorflow:global_step/sec: 360.779
INFO:tensorflow:loss = 69.2758, step = 401 (0.277 sec)
INFO:tensorflow:global_step/sec: 427.286
INFO:tensorflow:loss = 69.3787, step = 501 (0.234 sec)
INFO:tensorflow:global_step/sec: 366.276
INFO:tensorflow:loss = 69.3074, step = 601 (0.273 sec)
INFO:tensorflow:global_step/sec: 409.492
INFO:tensorflow:loss = 69.373, step = 701 (0.245 sec)
INFO:tensorflow:global_step/sec: 376.057
INFO:tensorflow:loss = 69.3803, step = 801 (0.265 sec)
INFO:tensorflow:global_step/sec: 416.314
INFO:tensorflow:loss = 69.365, step = 901 (0.240 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy84uiwrr/model.ckpt.
INFO:tensorflow:Loss for final step: 69.2908.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:40:03
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpy84uiwrr/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]

INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:40:08
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.471, accuracy_baseline = 0.529, auc = 0.5, auc_precision_recall = 0.7645, average_loss = 0.693546, global_step = 1000, label/mean = 0.529, loss = 69.3546, prediction/mean = 0.496745
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4st3xksx
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4st3xksx', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x113faac50>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4st3xksx/model.ckpt.
INFO:tensorflow:loss = 214.19, step = 1
INFO:tensorflow:global_step/sec: 294.57
INFO:tensorflow:loss = 70.1395, step = 101 (0.341 sec)
INFO:tensorflow:global_step/sec: 356.127
INFO:tensorflow:loss = 69.3847, step = 201 (0.281 sec)
INFO:tensorflow:global_step/sec: 367.667
INFO:tensorflow:loss = 69.9837, step = 301 (0.272 sec)
INFO:tensorflow:global_step/sec: 358.05
INFO:tensorflow:loss = 69.5125, step = 401 (0.280 sec)
INFO:tensorflow:global_step/sec: 403.574
INFO:tensorflow:loss = 69.0608, step = 501 (0.247 sec)
INFO:tensorflow:global_step/sec: 341.496
INFO:tensorflow:loss = 69.2656, step = 601 (0.293 sec)
INFO:tensorflow:global_step/sec: 396.775
INFO:tensorflow:loss = 69.5246, step = 701 (0.252 sec)
INFO:tensorflow:global_step/sec: 350.593
INFO:tensorflow:loss = 69.3628, step = 801 (0.285 sec)
INFO:tensorflow:global_step/sec: 417.912
INFO:tensorflow:loss = 69.3502, step = 901 (0.239 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4st3xksx/model.ckpt.
INFO:tensorflow:Loss for final step: 69.4049.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:40:14
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4st3xksx/model.ckpt-1000
INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:40:18
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.469, accuracy_baseline = 0.529, auc = 0.497877, auc_precision_recall = 0.2645, average_loss = 0.693957, global_step = 1000, label/mean = 0.529, loss = 69.3957, prediction/mean = 0.495816
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjc4uoh3
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjc4uoh3', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x128828240>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjc4uoh3/model.ckpt.
INFO:tensorflow:loss = 73.391, step = 1
INFO:tensorflow:global_step/sec: 290.031
INFO:tensorflow:loss = 79.1803, step = 101 (0.346 sec)
INFO:tensorflow:global_step/sec: 349.785
INFO:tensorflow:loss = 66.2732, step = 201 (0.286 sec)
INFO:tensorflow:global_step/sec: 411.709
INFO:tensorflow:loss = 72.4716, step = 301 (0.242 sec)
INFO:tensorflow:global_step/sec: 353.43
INFO:tensorflow:loss = 71.3665, step = 401 (0.283 sec)
INFO:tensorflow:global_step/sec: 419.551
INFO:tensorflow:loss = 62.2572, step = 501 (0.239 sec)
INFO:tensorflow:global_step/sec: 339.678
INFO:tensorflow:loss = 69.7211, step = 601 (0.294 sec)
INFO:tensorflow:global_step/sec: 388.013
INFO:tensorflow:loss = 70.7589, step = 701 (0.259 sec)
INFO:tensorflow:global_step/sec: 350.69
INFO:tensorflow:loss = 64.4769, step = 801 (0.283 sec)
INFO:tensorflow:global_step/sec: 405.108
INFO:tensorflow:loss = 64.1253, step = 901 (0.247 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjc4uoh3/model.ckpt.

INFO:tensorflow:Loss for final step: 63.8688.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:40:24
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpjjc4uoh3/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:40:29
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.638, accuracy_baseline = 0.529, auc = 0.672978, auc_precision_recall = 0.683132, average_loss = 0.645379, global_step = 1000, label/mean = 0.529, loss = 64.5379, prediction/mean = 0.505737
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa7eqpxul
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa7eqpxul', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d0c14a8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa7eqpxul/model.ckpt.
INFO:tensorflow:loss = 147.144, step = 1
INFO:tensorflow:global_step/sec: 288.185
INFO:tensorflow:loss = 73.4297, step = 101 (0.348 sec)
INFO:tensorflow:global_step/sec: 358.008
INFO:tensorflow:loss = 70.3082, step = 201 (0.279 sec)
INFO:tensorflow:global_step/sec: 396.361
INFO:tensorflow:loss = 72.5172, step = 301 (0.252 sec)
INFO:tensorflow:global_step/sec: 355.619
INFO:tensorflow:loss = 70.5006, step = 401 (0.281 sec)
INFO:tensorflow:global_step/sec: 385.704
INFO:tensorflow:loss = 69.4327, step = 501 (0.259 sec)
INFO:tensorflow:global_step/sec: 368.441
INFO:tensorflow:loss = 68.5063, step = 601 (0.271 sec)

INFO:tensorflow:global_step/sec: 399.878
INFO:tensorflow:loss = 70.3741, step = 701 (0.250 sec)
INFO:tensorflow:global_step/sec: 350.282
INFO:tensorflow:loss = 69.2492, step = 801 (0.286 sec)
INFO:tensorflow:global_step/sec: 403.228
INFO:tensorflow:loss = 70.1252, step = 901 (0.248 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa7eqpxul/model.ckpt.
INFO:tensorflow:Loss for final step: 67.9815.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:40:34
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpa7eqpxul/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:40:40
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.52, accuracy_baseline = 0.529, auc = 0.528002, auc_precision_recall = 0.583014, average_loss = 0.689179, global_step = 1000, label/mean = 0.529, loss = 68.9179, prediction/mean = 0.504964
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpprpkdx_th
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpprpkdx_th', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11ca0ed30>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpprpkdx_th/model.ckpt.
INFO:tensorflow:loss = 208.415, step = 1
INFO:tensorflow:global_step/sec: 288.003
INFO:tensorflow:loss = 67.6753, step = 101 (0.349 sec)
INFO:tensorflow:global_step/sec: 311.939
INFO:tensorflow:loss = 64.149, step = 201 (0.320 sec)

INFO:tensorflow:global_step/sec: 356.664
INFO:tensorflow:loss = 74.0336, step = 301 (0.281 sec)
INFO:tensorflow:global_step/sec: 324.29
INFO:tensorflow:loss = 55.7899, step = 401 (0.311 sec)
INFO:tensorflow:global_step/sec: 344.848
INFO:tensorflow:loss = 63.9411, step = 501 (0.286 sec)
INFO:tensorflow:global_step/sec: 316.536
INFO:tensorflow:loss = 68.7748, step = 601 (0.316 sec)
INFO:tensorflow:global_step/sec: 355.065
INFO:tensorflow:loss = 58.2881, step = 701 (0.281 sec)
INFO:tensorflow:global_step/sec: 340.096
INFO:tensorflow:loss = 72.1778, step = 801 (0.295 sec)
INFO:tensorflow:global_step/sec: 364.003
INFO:tensorflow:loss = 60.0172, step = 901 (0.274 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp27e8o02p/model.ckpt.
INFO:tensorflow:Loss for final step: 62.3961.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:40:46
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp27e8o02p/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:40:50
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.671, accuracy_baseline = 0.529, auc = 0.755186, auc_precision_recall = 0.777698, average_loss = 0.588882, global_step = 1000, label/mean = 0.529, loss = 58.8882, prediction/mean = 0.487651
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp27e8o02p
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp27e8o02p', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d1a4048>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow>Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.

INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp27e8o02p/model.ckpt.
INFO:tensorflow:loss = 95.7401, step = 1
INFO:tensorflow:global_step/sec: 241.159
INFO:tensorflow:loss = 74.5757, step = 101 (0.416 sec)
INFO:tensorflow:global_step/sec: 285.434
INFO:tensorflow:loss = 68.2622, step = 201 (0.351 sec)
INFO:tensorflow:global_step/sec: 324.241
INFO:tensorflow:loss = 64.0653, step = 301 (0.308 sec)
INFO:tensorflow:global_step/sec: 284.736
INFO:tensorflow:loss = 61.5334, step = 401 (0.352 sec)
INFO:tensorflow:global_step/sec: 323.41
INFO:tensorflow:loss = 62.8077, step = 501 (0.308 sec)
INFO:tensorflow:global_step/sec: 307.748
INFO:tensorflow:loss = 52.9873, step = 601 (0.325 sec)
INFO:tensorflow:global_step/sec: 357.681
INFO:tensorflow:loss = 58.6982, step = 701 (0.279 sec)
INFO:tensorflow:global_step/sec: 300.87
INFO:tensorflow:loss = 60.5681, step = 801 (0.333 sec)
INFO:tensorflow:global_step/sec: 335.692
INFO:tensorflow:loss = 50.3419, step = 901 (0.297 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp27e8o02p/model.ckpt.
INFO:tensorflow:Loss for final step: 58.4236.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:40:57
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp27e8o02p/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:41:03
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.71, accuracy_baseline = 0.529, auc = 0.794669, auc_precision_recall = 0.818315, average_loss = 0.552151, global_step = 1000, label/mean = 0.529, loss = 55.2151, prediction/mean = 0.491663
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp600_tzrr
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp600_tzrr', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.Cl

```
sterSpec object at 0x11bf53ac8>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_
is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp600_tzrr/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 271.696
INFO:tensorflow:loss = 69.2985, step = 101 (0.369 sec)
INFO:tensorflow:global_step/sec: 367.471
INFO:tensorflow:loss = 69.3077, step = 201 (0.272 sec)
INFO:tensorflow:global_step/sec: 424.59
INFO:tensorflow:loss = 69.3096, step = 301 (0.236 sec)
INFO:tensorflow:global_step/sec: 366.865
INFO:tensorflow:loss = 69.3015, step = 401 (0.272 sec)
INFO:tensorflow:global_step/sec: 429.846
INFO:tensorflow:loss = 69.35, step = 501 (0.233 sec)
INFO:tensorflow:global_step/sec: 343.295
INFO:tensorflow:loss = 69.2857, step = 601 (0.291 sec)
INFO:tensorflow:global_step/sec: 403.639
INFO:tensorflow:loss = 69.1644, step = 701 (0.248 sec)
INFO:tensorflow:global_step/sec: 323.065
INFO:tensorflow:loss = 69.3168, step = 801 (0.310 sec)
INFO:tensorflow:global_step/sec: 367.969
INFO:tensorflow:loss = 69.3029, step = 901 (0.272 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmp600_tzrr/model.ckpt.
INFO:tensorflow:Loss for final step: 69.2704.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:41:08
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmp600_tzrr/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:41:13
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.471, acc
uracy_baseline = 0.529, auc = 0.5, auc_precision_recall = 0.7645, avera
ge_loss = 0.693639, global_step = 1000, label/mean = 0.529, loss = 69.3
639, prediction/mean = 0.496044
INFO:tensorflow:Using default config.
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WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpq6ve9zb6
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpq6ve9zb6', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11cc424a8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpq6ve9zb6/model.ckpt.
INFO:tensorflow:loss = 300.833, step = 1
INFO:tensorflow:global_step/sec: 297.27
INFO:tensorflow:loss = 66.0227, step = 101 (0.338 sec)
INFO:tensorflow:global_step/sec: 359.485
INFO:tensorflow:loss = 69.5801, step = 201 (0.278 sec)
INFO:tensorflow:global_step/sec: 418.496
INFO:tensorflow:loss = 69.2398, step = 301 (0.239 sec)
INFO:tensorflow:global_step/sec: 352.614
INFO:tensorflow:loss = 69.3024, step = 401 (0.283 sec)
INFO:tensorflow:global_step/sec: 399.747
INFO:tensorflow:loss = 70.3273, step = 501 (0.250 sec)
INFO:tensorflow:global_step/sec: 369.226
INFO:tensorflow:loss = 68.6987, step = 601 (0.271 sec)
INFO:tensorflow:global_step/sec: 404.847
INFO:tensorflow:loss = 69.271, step = 701 (0.247 sec)
INFO:tensorflow:global_step/sec: 356.344
INFO:tensorflow:loss = 68.8761, step = 801 (0.281 sec)
INFO:tensorflow:global_step/sec: 359.827
INFO:tensorflow:loss = 68.8418, step = 901 (0.278 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpq6ve9zb6/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3255.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:41:18
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpq6ve9zb6/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]

INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:41:23
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.529, accuracy_baseline = 0.529, auc = 0.502615, auc_precision_recall = 0.751836, average_loss = 0.694211, global_step = 1000, label/mean = 0.529, loss = 69.4211, prediction/mean = 0.502158
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2c0esz4i
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2c0esz4i', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c44a630>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2c0esz4i/model.ckpt.
INFO:tensorflow:loss = 74.7418, step = 1
INFO:tensorflow:global_step/sec: 281.387
INFO:tensorflow:loss = 71.3766, step = 101 (0.357 sec)
INFO:tensorflow:global_step/sec: 316.772
INFO:tensorflow:loss = 70.7041, step = 201 (0.316 sec)
INFO:tensorflow:global_step/sec: 348.257
INFO:tensorflow:loss = 69.0297, step = 301 (0.287 sec)
INFO:tensorflow:global_step/sec: 305.346
INFO:tensorflow:loss = 71.3411, step = 401 (0.327 sec)
INFO:tensorflow:global_step/sec: 399.923
INFO:tensorflow:loss = 70.0282, step = 501 (0.250 sec)
INFO:tensorflow:global_step/sec: 345.895
INFO:tensorflow:loss = 70.265, step = 601 (0.289 sec)
INFO:tensorflow:global_step/sec: 372.924
INFO:tensorflow:loss = 68.9626, step = 701 (0.268 sec)
INFO:tensorflow:global_step/sec: 360.203
INFO:tensorflow:loss = 67.9984, step = 801 (0.278 sec)
INFO:tensorflow:global_step/sec: 397.337
INFO:tensorflow:loss = 68.5593, step = 901 (0.252 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2c0esz4i/model.ckpt.
INFO:tensorflow:Loss for final step: 68.314.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:41:29
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp2c0esz4i/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.

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INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:41:34
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.49, accuracy_baseline = 0.529, auc = 0.521458, auc_precision_recall = 0.541365, average_loss = 0.696448, global_step = 1000, label/mean = 0.529, loss = 69.6448, prediction/mean = 0.474184
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbja6lswn
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbja6lswn', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x113eb5ef0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbja6lswn/model.ckpt.
INFO:tensorflow:loss = 86.8628, step = 1
INFO:tensorflow:global_step/sec: 275.745
INFO:tensorflow:loss = 70.6422, step = 101 (0.365 sec)
INFO:tensorflow:global_step/sec: 355.144
INFO:tensorflow:loss = 68.5197, step = 201 (0.281 sec)
INFO:tensorflow:global_step/sec: 352.638
INFO:tensorflow:loss = 71.3034, step = 301 (0.284 sec)
INFO:tensorflow:global_step/sec: 323.022
INFO:tensorflow:loss = 70.492, step = 401 (0.309 sec)
INFO:tensorflow:global_step/sec: 354.669
INFO:tensorflow:loss = 71.6687, step = 501 (0.282 sec)
INFO:tensorflow:global_step/sec: 333.266
INFO:tensorflow:loss = 70.5721, step = 601 (0.300 sec)
INFO:tensorflow:global_step/sec: 388.579
INFO:tensorflow:loss = 66.3358, step = 701 (0.258 sec)
INFO:tensorflow:global_step/sec: 359.108
INFO:tensorflow:loss = 70.037, step = 801 (0.278 sec)
INFO:tensorflow:global_step/sec: 394.561
INFO:tensorflow:loss = 69.9025, step = 901 (0.253 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbja6lswn/model.ckpt.
INFO:tensorflow:Loss for final step: 68.0292.
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INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:41:39
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpbja61swn/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:41:44
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.537, accuracy_baseline = 0.529, auc = 0.504732, auc_precision_recall = 0.512959, average_loss = 0.706725, global_step = 1000, label/mean = 0.529, loss = 70.6725, prediction/mean = 0.490896
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8n13mctn
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8n13mctn', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x12b72f7f0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8n13mctn/model.ckpt.
INFO:tensorflow:loss = 269.827, step = 1
INFO:tensorflow:global_step/sec: 291.732
INFO:tensorflow:loss = 73.4482, step = 101 (0.344 sec)
INFO:tensorflow:global_step/sec: 354.444
INFO:tensorflow:loss = 76.3436, step = 201 (0.282 sec)
INFO:tensorflow:global_step/sec: 414.88
INFO:tensorflow:loss = 61.6025, step = 301 (0.241 sec)
INFO:tensorflow:global_step/sec: 358.276
INFO:tensorflow:loss = 61.3139, step = 401 (0.279 sec)
INFO:tensorflow:global_step/sec: 384.257
INFO:tensorflow:loss = 56.3431, step = 501 (0.260 sec)
INFO:tensorflow:global_step/sec: 329.911
INFO:tensorflow:loss = 47.7827, step = 601 (0.303 sec)
INFO:tensorflow:global_step/sec: 361.09

INFO:tensorflow:loss = 65.5534, step = 701 (0.277 sec)
INFO:tensorflow:global_step/sec: 319.521
INFO:tensorflow:loss = 51.2125, step = 801 (0.313 sec)
INFO:tensorflow:global_step/sec: 378.101
INFO:tensorflow:loss = 60.611, step = 901 (0.264 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8n13mctn/model.ckpt.
INFO:tensorflow:Loss for final step: 61.168.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:41:50
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp8n13mctn/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:41:55
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.7, accuracy_baseline = 0.529, auc = 0.789117, auc_precision_recall = 0.828264, average_loss = 0.555325, global_step = 1000, label/mean = 0.529, loss = 55.5325, prediction/mean = 0.47533
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpydnqigm0
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpydnqigm0', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x1279eca58>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpydnqigm0/model.ckpt.
INFO:tensorflow:loss = 112.44, step = 1
INFO:tensorflow:global_step/sec: 226.564
INFO:tensorflow:loss = 63.3307, step = 101 (0.442 sec)
INFO:tensorflow:global_step/sec: 271.599
INFO:tensorflow:loss = 61.9017, step = 201 (0.368 sec)
INFO:tensorflow:global_step/sec: 309.002

INFO:tensorflow:loss = 58.9614, step = 301 (0.324 sec)
INFO:tensorflow:global_step/sec: 275.746
INFO:tensorflow:loss = 58.1608, step = 401 (0.363 sec)
INFO:tensorflow:global_step/sec: 326.426
INFO:tensorflow:loss = 55.1208, step = 501 (0.306 sec)
INFO:tensorflow:global_step/sec: 308.112
INFO:tensorflow:loss = 49.5613, step = 601 (0.325 sec)
INFO:tensorflow:global_step/sec: 326.989
INFO:tensorflow:loss = 59.162, step = 701 (0.306 sec)
INFO:tensorflow:global_step/sec: 304.788
INFO:tensorflow:loss = 54.3541, step = 801 (0.328 sec)
INFO:tensorflow:global_step/sec: 357.212
INFO:tensorflow:loss = 46.2789, step = 901 (0.280 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpydnqigm0/model.ckpt.
INFO:tensorflow:Loss for final step: 53.3188.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:42:00
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpydnqigm0/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:42:05
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.717, accuracy_baseline = 0.529, auc = 0.806957, auc_precision_recall = 0.833602, average_loss = 0.534045, global_step = 1000, label/mean = 0.529, loss = 53.4045, prediction/mean = 0.491412
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpt4jsuvz4
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpt4jsuvz4', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x129d04828>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.

INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4jsuvz4/model.ckpt.
INFO:tensorflow:loss = 318.985, step = 1
INFO:tensorflow:global_step/sec: 256.054
INFO:tensorflow:loss = 73.2085, step = 101 (0.391 sec)
INFO:tensorflow:global_step/sec: 318.839
INFO:tensorflow:loss = 70.4267, step = 201 (0.314 sec)
INFO:tensorflow:global_step/sec: 392.361
INFO:tensorflow:loss = 70.7197, step = 301 (0.255 sec)
INFO:tensorflow:global_step/sec: 370.162
INFO:tensorflow:loss = 69.3372, step = 401 (0.270 sec)
INFO:tensorflow:global_step/sec: 420.14
INFO:tensorflow:loss = 69.3013, step = 501 (0.238 sec)
INFO:tensorflow:global_step/sec: 350.939
INFO:tensorflow:loss = 70.1259, step = 601 (0.285 sec)
INFO:tensorflow:global_step/sec: 382.138
INFO:tensorflow:loss = 69.3278, step = 701 (0.264 sec)
INFO:tensorflow:global_step/sec: 324.062
INFO:tensorflow:loss = 69.7032, step = 801 (0.306 sec)
INFO:tensorflow:global_step/sec: 308.495
INFO:tensorflow:loss = 69.3305, step = 901 (0.324 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4jsuvz4/model.ckpt.
INFO:tensorflow:Loss for final step: 69.3463.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:42:11
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp4jsuvz4/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:42:16
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.471, accuracy_baseline = 0.529, auc = 0.503293, auc_precision_recall = 0.764879, average_loss = 0.693188, global_step = 1000, label/mean = 0.529, loss = 69.3188, prediction/mean = 0.498177
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpg56qra8_
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpg56qra8_', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c4ca3c8>, '_task_type': 'worker', '_task_id': 0,

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'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpg56qra8_/model.ckpt.
INFO:tensorflow:loss = 73.4408, step = 1
INFO:tensorflow:global_step/sec: 292.81
INFO:tensorflow:loss = 71.9488, step = 101 (0.343 sec)
INFO:tensorflow:global_step/sec: 340.624
INFO:tensorflow:loss = 69.6585, step = 201 (0.294 sec)
INFO:tensorflow:global_step/sec: 368.407
INFO:tensorflow:loss = 67.3915, step = 301 (0.271 sec)
INFO:tensorflow:global_step/sec: 332.687
INFO:tensorflow:loss = 68.0301, step = 401 (0.301 sec)
INFO:tensorflow:global_step/sec: 378.178
INFO:tensorflow:loss = 66.7667, step = 501 (0.264 sec)
INFO:tensorflow:global_step/sec: 324.817
INFO:tensorflow:loss = 67.7931, step = 601 (0.308 sec)
INFO:tensorflow:global_step/sec: 365.343
INFO:tensorflow:loss = 68.4574, step = 701 (0.273 sec)
INFO:tensorflow:global_step/sec: 323.437
INFO:tensorflow:loss = 66.1746, step = 801 (0.309 sec)
INFO:tensorflow:global_step/sec: 391.193
INFO:tensorflow:loss = 69.9195, step = 901 (0.256 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpg56qra8_/model.ckpt.
INFO:tensorflow:Loss for final step: 69.1254.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:42:22
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpg56qra8_/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:42:28
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.556, accuracy_baseline = 0.529, auc = 0.568719, auc_precision_recall = 0.66312, average_loss = 0.661943, global_step = 1000, label/mean = 0.529, loss = 66.1943, prediction/mean = 0.50923
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/fold
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ers/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp1_dihwar
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp1_dihwar', '_tf_random_seed': None, '_save_s
ummary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints
_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep
_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_serv
ice': None, '_cluster_spec': <tensorflow.python.training.server_lib.Clus
terSpec object at 0x11d785c18>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_
is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmp1_dihwar/model.ckpt.
INFO:tensorflow:loss = 89.062, step = 1
INFO:tensorflow:global_step/sec: 249.509
INFO:tensorflow:loss = 70.2579, step = 101 (0.401 sec)
INFO:tensorflow:global_step/sec: 330.095
INFO:tensorflow:loss = 69.2984, step = 201 (0.303 sec)
INFO:tensorflow:global_step/sec: 383.609
INFO:tensorflow:loss = 69.0452, step = 301 (0.261 sec)
INFO:tensorflow:global_step/sec: 346.681
INFO:tensorflow:loss = 68.3782, step = 401 (0.288 sec)
INFO:tensorflow:global_step/sec: 387.531
INFO:tensorflow:loss = 68.0873, step = 501 (0.258 sec)
INFO:tensorflow:global_step/sec: 362.735
INFO:tensorflow:loss = 68.0562, step = 601 (0.276 sec)
INFO:tensorflow:global_step/sec: 416.36
INFO:tensorflow:loss = 69.1114, step = 701 (0.239 sec)
INFO:tensorflow:global_step/sec: 342.548
INFO:tensorflow:loss = 68.4259, step = 801 (0.292 sec)
INFO:tensorflow:global_step/sec: 409.398
INFO:tensorflow:loss = 69.4439, step = 901 (0.244 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmp1_dihwar/model.ckpt.
INFO:tensorflow:Loss for final step: 69.4482.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:42:35
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmp1_dihwar/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
```



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INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:42:40
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.511, accuracy_baseline = 0.529, auc = 0.540091, auc_precision_recall = 0.6349, average_loss = 0.68302, global_step = 1000, label/mean = 0.529, loss = 68.302, prediction/mean = 0.503132
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpwl4sofu7
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpwl4sofu7', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x118a05278>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpwl4sofu7/model.ckpt.
INFO:tensorflow:loss = 153.3, step = 1
INFO:tensorflow:global_step/sec: 280.153
INFO:tensorflow:loss = 75.0987, step = 101 (0.358 sec)
INFO:tensorflow:global_step/sec: 352.553
INFO:tensorflow:loss = 68.4645, step = 201 (0.284 sec)
INFO:tensorflow:global_step/sec: 412.419
INFO:tensorflow:loss = 70.8132, step = 301 (0.242 sec)
INFO:tensorflow:global_step/sec: 365.037
INFO:tensorflow:loss = 66.5276, step = 401 (0.274 sec)
INFO:tensorflow:global_step/sec: 414.018
INFO:tensorflow:loss = 63.659, step = 501 (0.241 sec)
INFO:tensorflow:global_step/sec: 277.331
INFO:tensorflow:loss = 65.1997, step = 601 (0.365 sec)
INFO:tensorflow:global_step/sec: 210.361
INFO:tensorflow:loss = 60.8791, step = 701 (0.472 sec)
INFO:tensorflow:global_step/sec: 245.705
INFO:tensorflow:loss = 65.6797, step = 801 (0.407 sec)
INFO:tensorflow:global_step/sec: 277.226
INFO:tensorflow:loss = 57.648, step = 901 (0.360 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpwl4sofu7/model.ckpt.
INFO:tensorflow:Loss for final step: 57.8226.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:42:46
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpwl4sofu7/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
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INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:42:51
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.672, accuracy_baseline = 0.529, auc = 0.738607, auc_precision_recall = 0.75575, average_loss = 0.607075, global_step = 1000, label/mean = 0.529, loss = 60.7075, prediction/mean = 0.479891
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzdyu9lq6
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzdyu9lq6', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11cafe240>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzdyu9lq6/model.ckpt.
INFO:tensorflow:loss = 238.572, step = 1
INFO:tensorflow:global_step/sec: 246.508
INFO:tensorflow:loss = 68.7165, step = 101 (0.409 sec)
INFO:tensorflow:global_step/sec: 235.433
INFO:tensorflow:loss = 59.9357, step = 201 (0.425 sec)
INFO:tensorflow:global_step/sec: 240.9
INFO:tensorflow:loss = 61.5389, step = 301 (0.414 sec)
INFO:tensorflow:global_step/sec: 347.108
INFO:tensorflow:loss = 57.8732, step = 401 (0.288 sec)
INFO:tensorflow:global_step/sec: 393.913
INFO:tensorflow:loss = 56.6094, step = 501 (0.254 sec)
INFO:tensorflow:global_step/sec: 322.683
INFO:tensorflow:loss = 59.7051, step = 601 (0.311 sec)
INFO:tensorflow:global_step/sec: 338.169
INFO:tensorflow:loss = 67.3284, step = 701 (0.295 sec)
INFO:tensorflow:global_step/sec: 228.602
INFO:tensorflow:loss = 58.8969, step = 801 (0.437 sec)
INFO:tensorflow:global_step/sec: 362.876
INFO:tensorflow:loss = 52.6098, step = 901 (0.276 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzdyu9lq6/model.ckpt.
INFO:tensorflow:Loss for final step: 52.147.
INFO:tensorflow:Calling model_fn.

INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:43:00
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpzdyu9lq6/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:43:07
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.696, accuracy_baseline = 0.529, auc = 0.791292, auc_precision_recall = 0.816965, average_loss = 0.540328, global_step = 1000, label/mean = 0.529, loss = 54.0328, prediction/mean = 0.504859
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmplq4dir46
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmplq4dir46', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11ce4c9e8>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmplq4dir46/model.ckpt.
INFO:tensorflow:loss = 291.442, step = 1
INFO:tensorflow:global_step/sec: 252.692
INFO:tensorflow:loss = 61.9337, step = 101 (0.397 sec)
INFO:tensorflow:global_step/sec: 208.551
INFO:tensorflow:loss = 58.9651, step = 201 (0.481 sec)
INFO:tensorflow:global_step/sec: 312.795
INFO:tensorflow:loss = 56.7017, step = 301 (0.318 sec)
INFO:tensorflow:global_step/sec: 234.119
INFO:tensorflow:loss = 49.0741, step = 401 (0.427 sec)
INFO:tensorflow:global_step/sec: 350.358
INFO:tensorflow:loss = 48.1601, step = 501 (0.286 sec)
INFO:tensorflow:global_step/sec: 294.184
INFO:tensorflow:loss = 48.0142, step = 601 (0.340 sec)
INFO:tensorflow:global_step/sec: 339.134
INFO:tensorflow:loss = 46.2456, step = 701 (0.295 sec)

INFO:tensorflow:global_step/sec: 284.082
INFO:tensorflow:loss = 50.7274, step = 801 (0.352 sec)
INFO:tensorflow:global_step/sec: 330.292
INFO:tensorflow:loss = 51.5618, step = 901 (0.303 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmplq4dir46/model.ckpt.
INFO:tensorflow:Loss for final step: 49.8702.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:43:14
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmplq4dir46/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:43:20
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.719, accuracy_baseline = 0.529, auc = 0.823073, auc_precision_recall = 0.849764, average_loss = 0.509142, global_step = 1000, label/mean = 0.529, loss = 50.9142, prediction/mean = 0.508529
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj4ff7o9a
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj4ff7o9a', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x12840b8d0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj4ff7o9a/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 261.64
INFO:tensorflow:loss = 69.3058, step = 101 (0.384 sec)
INFO:tensorflow:global_step/sec: 354.129
INFO:tensorflow:loss = 69.4813, step = 201 (0.282 sec)
INFO:tensorflow:global_step/sec: 325.831
INFO:tensorflow:loss = 69.3273, step = 301 (0.307 sec)

INFO:tensorflow:global_step/sec: 350.352
INFO:tensorflow:loss = 69.2948, step = 401 (0.285 sec)
INFO:tensorflow:global_step/sec: 418.752
INFO:tensorflow:loss = 68.9509, step = 501 (0.239 sec)
INFO:tensorflow:global_step/sec: 333.46
INFO:tensorflow:loss = 69.5271, step = 601 (0.300 sec)
INFO:tensorflow:global_step/sec: 426.541
INFO:tensorflow:loss = 69.1974, step = 701 (0.235 sec)
INFO:tensorflow:global_step/sec: 363.361
INFO:tensorflow:loss = 68.9875, step = 801 (0.275 sec)
INFO:tensorflow:global_step/sec: 335.354
INFO:tensorflow:loss = 68.6646, step = 901 (0.300 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj4ff7o9a/model.ckpt.
INFO:tensorflow:Loss for final step: 69.2975.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:43:26
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpj4ff7o9a/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:43:32
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.471, accuracy_baseline = 0.529, auc = 0.5, auc_precision_recall = 0.7645, average_loss = 0.695107, global_step = 1000, label/mean = 0.529, loss = 69.5107, prediction/mean = 0.486301
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpo9mge2wr
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpo9mge2wr', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x12b86f208>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7

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fg3zltjt4s80wlc0000gn/T/tmpo9mge2wr/model.ckpt.
INFO:tensorflow:loss = 69.3147, step = 1
INFO:tensorflow:global_step/sec: 190.776
INFO:tensorflow:loss = 69.1955, step = 101 (0.526 sec)
INFO:tensorflow:global_step/sec: 198.277
INFO:tensorflow:loss = 69.4387, step = 201 (0.505 sec)
INFO:tensorflow:global_step/sec: 276.441
INFO:tensorflow:loss = 69.4569, step = 301 (0.361 sec)
INFO:tensorflow:global_step/sec: 287.469
INFO:tensorflow:loss = 69.4871, step = 401 (0.347 sec)
INFO:tensorflow:global_step/sec: 279.165
INFO:tensorflow:loss = 68.9912, step = 501 (0.358 sec)
INFO:tensorflow:global_step/sec: 328.707
INFO:tensorflow:loss = 69.7515, step = 601 (0.304 sec)
INFO:tensorflow:global_step/sec: 366.997
INFO:tensorflow:loss = 69.1978, step = 701 (0.272 sec)
INFO:tensorflow:global_step/sec: 302.695
INFO:tensorflow:loss = 69.3491, step = 801 (0.331 sec)
INFO:tensorflow:global_step/sec: 403.698
INFO:tensorflow:loss = 69.0311, step = 901 (0.247 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96
hn7fg3zltjt4s80wlc0000gn/T/tmpo9mge2wr/model.ckpt.
INFO:tensorflow:Loss for final step: 69.2973.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:43:38
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmpo9mge2wr/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:43:44
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.471, acc
uracy_baseline = 0.529, auc = 0.5, auc_precision_recall = 0.7645, avera
ge_loss = 0.695099, global_step = 1000, label/mean = 0.529, loss = 69.5
098, prediction/mean = 0.486393
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/fold
ers/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpo9mge2wr
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7
fg3zltjt4s80wlc0000gn/T/tmpo9mge2wr', '_tf_random_seed': None, '_save_s
ummary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints
_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep
_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_serv
ice': None, '_cluster_spec': <tensorflow.python.training.server_lib.Clus
terSpec object at 0x1287af358>, '_task_type': 'worker', '_task_id': 0,
'_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '',
```

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'_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp_228fl3/model.ckpt.
INFO:tensorflow:loss = 111.684, step = 1
INFO:tensorflow:global_step/sec: 249.822
INFO:tensorflow:loss = 68.0969, step = 101 (0.402 sec)
INFO:tensorflow:global_step/sec: 368.11
INFO:tensorflow:loss = 65.0661, step = 201 (0.272 sec)
INFO:tensorflow:global_step/sec: 406.795
INFO:tensorflow:loss = 64.4815, step = 301 (0.246 sec)
INFO:tensorflow:global_step/sec: 364.76
INFO:tensorflow:loss = 61.7893, step = 401 (0.274 sec)
INFO:tensorflow:global_step/sec: 391.869
INFO:tensorflow:loss = 58.842, step = 501 (0.255 sec)
INFO:tensorflow:global_step/sec: 343.561
INFO:tensorflow:loss = 61.8008, step = 601 (0.292 sec)
INFO:tensorflow:global_step/sec: 350.919
INFO:tensorflow:loss = 66.4415, step = 701 (0.284 sec)
INFO:tensorflow:global_step/sec: 353.524
INFO:tensorflow:loss = 57.3001, step = 801 (0.283 sec)
INFO:tensorflow:global_step/sec: 407.473
INFO:tensorflow:loss = 58.7349, step = 901 (0.246 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp_228fl3/model.ckpt.
INFO:tensorflow:Loss for final step: 60.3257.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:43:50
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp_228fl3/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:43:55
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.649, accuracy_baseline = 0.529, auc = 0.748568, auc_precision_recall = 0.801648, average_loss = 0.562251, global_step = 1000, label/mean = 0.529, loss = 56.2251, prediction/mean = 0.508852
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7ejy2enu
```

```
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7ejy2enu', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x1273b1bfd0>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7ejy2enu/model.ckpt.
INFO:tensorflow:loss = 117.403, step = 1
INFO:tensorflow:global_step/sec: 306.388
INFO:tensorflow:loss = 71.1029, step = 101 (0.327 sec)
INFO:tensorflow:global_step/sec: 293.963
INFO:tensorflow:loss = 62.5628, step = 201 (0.341 sec)
INFO:tensorflow:global_step/sec: 390.84
INFO:tensorflow:loss = 60.7684, step = 301 (0.255 sec)
INFO:tensorflow:global_step/sec: 354.383
INFO:tensorflow:loss = 59.2774, step = 401 (0.282 sec)
INFO:tensorflow:global_step/sec: 395.132
INFO:tensorflow:loss = 60.2655, step = 501 (0.253 sec)
INFO:tensorflow:global_step/sec: 365.105
INFO:tensorflow:loss = 54.7886, step = 601 (0.274 sec)
INFO:tensorflow:global_step/sec: 384.765
INFO:tensorflow:loss = 62.7747, step = 701 (0.260 sec)
INFO:tensorflow:global_step/sec: 350.637
INFO:tensorflow:loss = 54.5595, step = 801 (0.285 sec)
INFO:tensorflow:global_step/sec: 372.987
INFO:tensorflow:loss = 54.5199, step = 901 (0.268 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7ejy2enu/model.ckpt.
INFO:tensorflow:Loss for final step: 57.1899.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:44:01
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmp7ejy2enu/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
```


INFO:tensorflow:Finished evaluation at 2018-03-20-23:44:06
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.705, accuracy_baseline = 0.529, auc = 0.800557, auc_precision_recall = 0.827657, average_loss = 0.545931, global_step = 1000, label/mean = 0.529, loss = 54.5931, prediction/mean = 0.467578
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc9j3giib
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc9j3giib', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11c44ab00>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc9j3giib/model.ckpt.
INFO:tensorflow:loss = 109.853, step = 1
INFO:tensorflow:global_step/sec: 295.034
INFO:tensorflow:loss = 62.0894, step = 101 (0.340 sec)
INFO:tensorflow:global_step/sec: 367.4
INFO:tensorflow:loss = 53.4843, step = 201 (0.272 sec)
INFO:tensorflow:global_step/sec: 384.478
INFO:tensorflow:loss = 60.3317, step = 301 (0.260 sec)
INFO:tensorflow:global_step/sec: 352.357
INFO:tensorflow:loss = 59.7065, step = 401 (0.284 sec)
INFO:tensorflow:global_step/sec: 356.028
INFO:tensorflow:loss = 54.8483, step = 501 (0.280 sec)
INFO:tensorflow:global_step/sec: 307.785
INFO:tensorflow:loss = 51.878, step = 601 (0.325 sec)
INFO:tensorflow:global_step/sec: 359.79
INFO:tensorflow:loss = 46.8695, step = 701 (0.278 sec)
INFO:tensorflow:global_step/sec: 338.23
INFO:tensorflow:loss = 52.0833, step = 801 (0.296 sec)
INFO:tensorflow:global_step/sec: 354.37
INFO:tensorflow:loss = 46.0418, step = 901 (0.282 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc9j3giib/model.ckpt.
INFO:tensorflow:Loss for final step: 50.9851.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:44:12
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpc9j3giib/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]

```
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:44:17
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.748, accuracy_baseline = 0.529, auc = 0.840381, auc_precision_recall = 0.869898, average_loss = 0.493082, global_step = 1000, label/mean = 0.529, loss = 49.3082, prediction/mean = 0.480498
INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgd6iynod
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgd6iynod', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x11d9f3898>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgd6iynod/model.ckpt.
INFO:tensorflow:loss = 101.505, step = 1
INFO:tensorflow:global_step/sec: 239.361
INFO:tensorflow:loss = 62.3499, step = 101 (0.419 sec)
INFO:tensorflow:global_step/sec: 283.291
INFO:tensorflow:loss = 55.4319, step = 201 (0.353 sec)
INFO:tensorflow:global_step/sec: 294.173
INFO:tensorflow:loss = 50.2481, step = 301 (0.340 sec)
INFO:tensorflow:global_step/sec: 312.946
INFO:tensorflow:loss = 40.4431, step = 401 (0.320 sec)
INFO:tensorflow:global_step/sec: 329.131
INFO:tensorflow:loss = 49.604, step = 501 (0.304 sec)
INFO:tensorflow:global_step/sec: 296.527
INFO:tensorflow:loss = 41.5331, step = 601 (0.338 sec)
INFO:tensorflow:global_step/sec: 338.492
INFO:tensorflow:loss = 39.1081, step = 701 (0.295 sec)
INFO:tensorflow:global_step/sec: 297.749
INFO:tensorflow:loss = 40.8253, step = 801 (0.336 sec)
INFO:tensorflow:global_step/sec: 333.229
INFO:tensorflow:loss = 42.9892, step = 901 (0.300 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpgd6iynod/model.ckpt.
INFO:tensorflow:Loss for final step: 41.3385.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
```

```

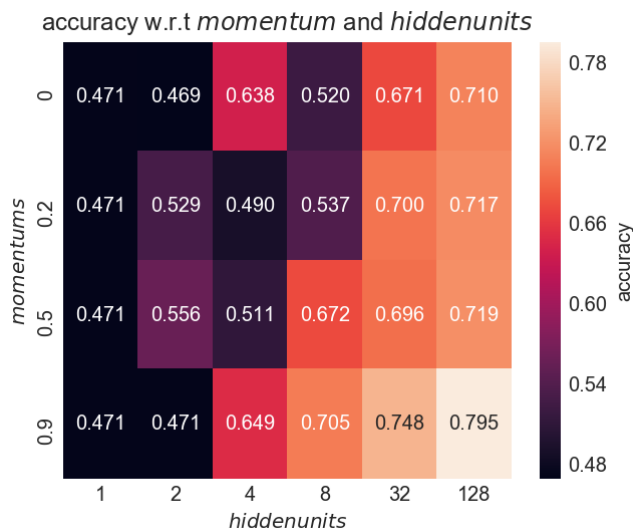
INFO:tensorflow:Starting evaluation at 2018-03-20-23:44:23
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3z
ltjt4s80wlc0000gn/T/tmpgd6iynod/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:44:28
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.795, acc
uracy_baseline = 0.529, auc = 0.892835, auc_precision_recall = 0.91333
6, average_loss = 0.42343, global_step = 1000, label/mean = 0.529, loss
= 42.343, prediction/mean = 0.487006

```

```

In [90]: # draw the heatmap of all of the accuracies
draw_heatmap(val_accuracies, momentums, num_hu)
print('Best momentum: 0.9')
print('Best # of hidden units: 128')

```



```

Best momentum: 0.9
Best # of hidden units: 128

```

```
In [91]: optimizer = tf.train.MomentumOptimizer(  
        learning_rate=learning_rate,  
        momentum=0.9  
    )  
    classifier = tf.estimator.DNNClassifier(  
        feature_columns=feature_columns,  
        hidden_units=[128,128],  
        n_classes=2,  
        optimizer=optimizer  
    )  
    classifier = fit(classifier, tf_x_train, y_train)  
    eval_result = evaluate(classifier, tf_x_val, y_val)  
    test_accuracy = eval_result['accuracy']
```

INFO:tensorflow:Using default config.
WARNING:tensorflow:Using temporary folder as model directory: /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpntny76onj
INFO:tensorflow:Using config: {'_model_dir': '/var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpntny76onj', '_tf_random_seed': None, '_save_summary_steps': 100, '_save_checkpoints_steps': None, '_save_checkpoints_secs': 600, '_session_config': None, '_keep_checkpoint_max': 5, '_keep_checkpoint_every_n_hours': 10000, '_log_step_count_steps': 100, '_service': None, '_cluster_spec': <tensorflow.python.training.server_lib.ClusterSpec object at 0x113d59828>, '_task_type': 'worker', '_task_id': 0, '_global_id_in_cluster': 0, '_master': '', '_evaluation_master': '', '_is_chief': True, '_num_ps_replicas': 0, '_num_worker_replicas': 1}
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Create CheckpointSaverHook.
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Saving checkpoints for 1 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpntny76onj/model.ckpt.
INFO:tensorflow:loss = 110.1, step = 1
INFO:tensorflow:global_step/sec: 188.364
INFO:tensorflow:loss = 56.321, step = 101 (0.532 sec)
INFO:tensorflow:global_step/sec: 273.571
INFO:tensorflow:loss = 59.5523, step = 201 (0.365 sec)
INFO:tensorflow:global_step/sec: 326.899
INFO:tensorflow:loss = 55.1146, step = 301 (0.306 sec)
INFO:tensorflow:global_step/sec: 280.441
INFO:tensorflow:loss = 48.7761, step = 401 (0.357 sec)
INFO:tensorflow:global_step/sec: 319.201
INFO:tensorflow:loss = 55.793, step = 501 (0.313 sec)
INFO:tensorflow:global_step/sec: 221.137
INFO:tensorflow:loss = 45.7326, step = 601 (0.453 sec)
INFO:tensorflow:global_step/sec: 285.035
INFO:tensorflow:loss = 41.433, step = 701 (0.350 sec)
INFO:tensorflow:global_step/sec: 237.895
INFO:tensorflow:loss = 45.6968, step = 801 (0.422 sec)
INFO:tensorflow:global_step/sec: 238.138
INFO:tensorflow:loss = 44.2208, step = 901 (0.419 sec)
INFO:tensorflow:Saving checkpoints for 1000 into /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpntny76onj/model.ckpt.
INFO:tensorflow:Loss for final step: 39.4696.
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:48:46
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpntny76onj/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]

```
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:48:52
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.792, accuracy_baseline = 0.529, auc = 0.902195, auc_precision_recall = 0.917256, average_loss = 0.418844, global_step = 1000, label/mean = 0.529, loss = 41.8844, prediction/mean = 0.46016
```

```
In [92]: # Evaluate test set
eval_result = evaluate(classifier, tf_x_test, y_test)
```

```
INFO:tensorflow:Calling model_fn.
INFO:tensorflow:Done calling model_fn.
INFO:tensorflow:Starting evaluation at 2018-03-20-23:48:53
INFO:tensorflow:Graph was finalized.
INFO:tensorflow:Restoring parameters from /var/folders/z5/4y0g96hn7fg3zltjt4s80wlc0000gn/T/tmpntny76onj/model.ckpt-1000
INFO:tensorflow:Running local_init_op.
INFO:tensorflow:Done running local_init_op.
INFO:tensorflow:Evaluation [100/1000]
INFO:tensorflow:Evaluation [200/1000]
INFO:tensorflow:Evaluation [300/1000]
INFO:tensorflow:Evaluation [400/1000]
INFO:tensorflow:Evaluation [500/1000]
INFO:tensorflow:Evaluation [600/1000]
INFO:tensorflow:Evaluation [700/1000]
INFO:tensorflow:Evaluation [800/1000]
INFO:tensorflow:Evaluation [900/1000]
INFO:tensorflow:Evaluation [1000/1000]
INFO:tensorflow:Finished evaluation at 2018-03-20-23:48:59
INFO:tensorflow:Saving dict for global step 1000: accuracy = 0.80684, accuracy_baseline = 0.50189, auc = 0.909074, auc_precision_recall = 0.912084, average_loss = 0.405869, global_step = 1000, label/mean = 0.49811, loss = 40.5869, prediction/mean = 0.452912
```

```
In [93]: test_acc = eval_result['accuracy']
print('Test accuracy: {}'.format(test_acc))
```

```
Test accuracy: 0.8068400025367737
```