C1_W1_Lab_2_multi-output

July 2, 2021

1 Ungraded Lab: Build a Multi-output Model

In this lab, we'll show how you can build models with more than one output. The dataset we will be working on is available from the UCI Machine Learning Repository. It is an Energy Efficiency dataset which uses the bulding features (e.g. wall area, roof area) as inputs and has two outputs: Cooling Load and Heating Load. Let's see how we can build a model to train on this data.

1.1 Imports

```
[1]: try:
         # %tensorflow_version only exists in Colab.
         %tensorflow_version 2.x
     except Exception:
         pass

     import tensorflow as tf
     import numpy as np
     import matplotlib.pyplot as plt
     import pandas as pd
     from tensorflow.keras.models import Model
     from tensorflow.keras.layers import Dense, Input
     from sklearn.model_selection import train_test_split
```

1.2 Utilities

We define a few utilities for data conversion and visualization to make our code more neat.

```
[2]: def format_output(data):
         y1 = data.pop('Y1')
         y1 = np.array(y1)
         y2 = data.pop('Y2')
         y2 = np.array(y2)
         return y1, y2


     def norm(x):
```

```python
        return (x - train_stats['mean']) / train_stats['std']


def plot_diff(y_true, y_pred, title=''):
    plt.scatter(y_true, y_pred)
    plt.title(title)
    plt.xlabel('True Values')
    plt.ylabel('Predictions')
    plt.axis('equal')
    plt.axis('square')
    plt.xlim(plt.xlim())
    plt.ylim(plt.ylim())
    plt.plot([-100, 100], [-100, 100])
    plt.show()


def plot_metrics(metric_name, title, ylim=5):
    plt.title(title)
    plt.ylim(0, ylim)
    plt.plot(history.history[metric_name], color='blue', label=metric_name)
    plt.plot(history.history['val_' + metric_name], color='green', label='val_'
 ↪+ metric_name)
    plt.show()
```

1.3   Prepare the Data

We download the dataset and format it for training.

```python
[3]: # Specify data URI
URI = './data/ENB2012_data.xlsx'

# Use pandas excel reader
df = pd.read_excel(URI)
df = df.sample(frac=1).reset_index(drop=True)

# Split the data into train and test with 80 train / 20 test
train, test = train_test_split(df, test_size=0.2)
train_stats = train.describe()

# Get Y1 and Y2 as the 2 outputs and format them as np arrays
train_stats.pop('Y1')
train_stats.pop('Y2')
train_stats = train_stats.transpose()
train_Y = format_output(train)
test_Y = format_output(test)
```

```
# Normalize the training and test data
norm_train_X = norm(train)
norm_test_X = norm(test)
```

1.4 Build the Model

Here is how we'll build the model using the functional syntax. Notice that we can specify a list of outputs (i.e. [y1_output, y2_output]) when we instantiate the Model() class.

```
[4]: # Define model layers.
     input_layer = Input(shape=(len(train .columns),))
     first_dense = Dense(units='128', activation='relu')(input_layer)
     second_dense = Dense(units='128', activation='relu')(first_dense)

     # Y1 output will be fed directly from the second dense
     y1_output = Dense(units='1', name='y1_output')(second_dense)
     third_dense = Dense(units='64', activation='relu')(second_dense)

     # Y2 output will come via the third dense
     y2_output = Dense(units='1', name='y2_output')(third_dense)

     # Define the model with the input layer and a list of output layers
     model = Model(inputs=input_layer, outputs=[y1_output, y2_output])

     print(model.summary())
```

```
Model: "model"
---------------------------------------------------------------------------
-------------------
Layer (type)                  Output Shape           Param #    Connected to
===========================================================================
==================
input_1 (InputLayer)          [(None, 8)]            0

---------------------------------------------------------------------------
-------------------
dense (Dense)                 (None, 128)            1152       input_1[0][0]

---------------------------------------------------------------------------
-------------------
dense_1 (Dense)               (None, 128)            16512      dense[0][0]

---------------------------------------------------------------------------
-------------------
dense_2 (Dense)               (None, 64)             8256       dense_1[0][0]

---------------------------------------------------------------------------
-------------------
y1_output (Dense)             (None, 1)              129        dense_1[0][0]

---------------------------------------------------------------------------
-------------------
```

3

```
-------------------
y2_output (Dense)                (None, 1)              65            dense_2[0][0]
==========================================================================
==================
Total params: 26,114
Trainable params: 26,114
Non-trainable params: 0


----------------------------------------------------------------------------
-------------------
None
```

1.5 Configure parameters

We specify the optimizer as well as the loss and metrics for each output.

```
[5]:  # Specify the optimizer, and compile the model with loss functions for both
      ↪outputs
      optimizer = tf.keras.optimizers.SGD(lr=0.001)
      model.compile(optimizer=optimizer,
                    loss={'y1_output': 'mse', 'y2_output': 'mse'},
                    metrics={'y1_output': tf.keras.metrics.RootMeanSquaredError(),
                             'y2_output': tf.keras.metrics.RootMeanSquaredError()})
```

1.6 Train the Model

```
[6]:  # Train the model for 500 epochs
      history = model.fit(norm_train_X, train_Y,
                          epochs=500, batch_size=10, validation_data=(norm_test_X,
      ↪test_Y))
```

```
Train on 614 samples, validate on 154 samples
Epoch 1/500
614/614 [==============================] - 1s 878us/sample - loss: 261.5681 -
y1_output_loss: 119.5725 - y2_output_loss: 139.9655 -
y1_output_root_mean_squared_error: 10.9727 - y2_output_root_mean_squared_error:
11.8814 - val_loss: 25.7643 - val_y1_output_loss: 12.7033 - val_y2_output_loss:
14.7726 - val_y1_output_root_mean_squared_error: 3.5088 -
val_y2_output_root_mean_squared_error: 3.6678
Epoch 2/500
614/614 [==============================] - 0s 131us/sample - loss: 34.0572 -
y1_output_loss: 13.0425 - y2_output_loss: 21.2147 -
y1_output_root_mean_squared_error: 3.6111 - y2_output_root_mean_squared_error:
4.5845 - val_loss: 16.0533 - val_y1_output_loss: 8.1734 - val_y2_output_loss:
9.9208 - val_y1_output_root_mean_squared_error: 2.7780 -
val_y2_output_root_mean_squared_error: 2.8872
Epoch 3/500
```

```
614/614 [==============================] - 0s 131us/sample - loss: 29.1943 -
y1_output_loss: 10.9156 - y2_output_loss: 18.4842 -
y1_output_root_mean_squared_error: 3.2944 - y2_output_root_mean_squared_error:
4.2826 - val_loss: 33.0271 - val_y1_output_loss: 9.2108 - val_y2_output_loss:
27.0774 - val_y1_output_root_mean_squared_error: 2.9274 -
val_y2_output_root_mean_squared_error: 4.9455
Epoch 4/500
614/614 [==============================] - 0s 124us/sample - loss: 25.6570 -
y1_output_loss: 9.8985 - y2_output_loss: 15.6083 -
y1_output_root_mean_squared_error: 3.1554 - y2_output_root_mean_squared_error:
3.9624 - val_loss: 31.1985 - val_y1_output_loss: 8.7723 - val_y2_output_loss:
25.4331 - val_y1_output_root_mean_squared_error: 2.8550 -
val_y2_output_root_mean_squared_error: 4.8008
Epoch 5/500
614/614 [==============================] - 0s 130us/sample - loss: 22.0417 -
y1_output_loss: 8.9817 - y2_output_loss: 13.0558 -
y1_output_root_mean_squared_error: 2.9851 - y2_output_root_mean_squared_error:
3.6237 - val_loss: 21.0881 - val_y1_output_loss: 11.1656 - val_y2_output_loss:
10.2344 - val_y1_output_root_mean_squared_error: 3.3572 -
val_y2_output_root_mean_squared_error: 3.1333
Epoch 6/500
614/614 [==============================] - 0s 129us/sample - loss: 22.8483 -
y1_output_loss: 8.8260 - y2_output_loss: 13.8925 -
y1_output_root_mean_squared_error: 2.9757 - y2_output_root_mean_squared_error:
3.7408 - val_loss: 22.1178 - val_y1_output_loss: 9.4619 - val_y2_output_loss:
13.6328 - val_y1_output_root_mean_squared_error: 3.0452 -
val_y2_output_root_mean_squared_error: 3.5840
Epoch 7/500
614/614 [==============================] - 0s 127us/sample - loss: 25.9109 -
y1_output_loss: 9.5094 - y2_output_loss: 16.2173 -
y1_output_root_mean_squared_error: 3.0964 - y2_output_root_mean_squared_error:
4.0402 - val_loss: 14.0823 - val_y1_output_loss: 6.6575 - val_y2_output_loss:
8.8073 - val_y1_output_root_mean_squared_error: 2.5133 -
val_y2_output_root_mean_squared_error: 2.7867
Epoch 8/500
614/614 [==============================] - 0s 127us/sample - loss: 25.1750 -
y1_output_loss: 9.2258 - y2_output_loss: 16.0681 -
y1_output_root_mean_squared_error: 3.0355 - y2_output_root_mean_squared_error:
3.9951 - val_loss: 18.8369 - val_y1_output_loss: 8.0373 - val_y2_output_loss:
12.7907 - val_y1_output_root_mean_squared_error: 2.7457 -
val_y2_output_root_mean_squared_error: 3.3612
Epoch 9/500
614/614 [==============================] - 0s 126us/sample - loss: 24.8076 -
y1_output_loss: 8.9232 - y2_output_loss: 15.6877 -
y1_output_root_mean_squared_error: 2.9960 - y2_output_root_mean_squared_error:
3.9789 - val_loss: 17.9962 - val_y1_output_loss: 9.0160 - val_y2_output_loss:
10.0029 - val_y1_output_root_mean_squared_error: 2.9710 -
val_y2_output_root_mean_squared_error: 3.0281
```

```
Epoch 10/500
614/614 [==============================] - 0s 129us/sample - loss: 23.5473 -
y1_output_loss: 8.5282 - y2_output_loss: 14.9226 -
y1_output_root_mean_squared_error: 2.9190 - y2_output_root_mean_squared_error:
3.8764 - val_loss: 20.3376 - val_y1_output_loss: 9.8045 - val_y2_output_loss:
11.0522 - val_y1_output_root_mean_squared_error: 3.1298 -
val_y2_output_root_mean_squared_error: 3.2469
Epoch 11/500
614/614 [==============================] - 0s 125us/sample - loss: 20.8333 -
y1_output_loss: 7.9508 - y2_output_loss: 12.7231 -
y1_output_root_mean_squared_error: 2.8310 - y2_output_root_mean_squared_error:
3.5804 - val_loss: 14.8597 - val_y1_output_loss: 7.2477 - val_y2_output_loss:
8.6231 - val_y1_output_root_mean_squared_error: 2.6679 -
val_y2_output_root_mean_squared_error: 2.7825
Epoch 12/500
614/614 [==============================] - 0s 130us/sample - loss: 19.0976 -
y1_output_loss: 7.7377 - y2_output_loss: 11.3300 -
y1_output_root_mean_squared_error: 2.7753 - y2_output_root_mean_squared_error:
3.3757 - val_loss: 15.5397 - val_y1_output_loss: 7.8182 - val_y2_output_loss:
8.9098 - val_y1_output_root_mean_squared_error: 2.7517 -
val_y2_output_root_mean_squared_error: 2.8228
Epoch 13/500
614/614 [==============================] - 0s 122us/sample - loss: 23.3559 -
y1_output_loss: 8.1130 - y2_output_loss: 15.1937 -
y1_output_root_mean_squared_error: 2.8554 - y2_output_root_mean_squared_error:
3.8991 - val_loss: 40.7843 - val_y1_output_loss: 11.1149 - val_y2_output_loss:
29.9806 - val_y1_output_root_mean_squared_error: 3.3087 -
val_y2_output_root_mean_squared_error: 5.4623
Epoch 14/500
614/614 [==============================] - 0s 123us/sample - loss: 20.4910 -
y1_output_loss: 7.8099 - y2_output_loss: 12.5803 -
y1_output_root_mean_squared_error: 2.8027 - y2_output_root_mean_squared_error:
3.5547 - val_loss: 16.5384 - val_y1_output_loss: 7.0996 - val_y2_output_loss:
10.4799 - val_y1_output_root_mean_squared_error: 2.6106 -
val_y2_output_root_mean_squared_error: 3.1182
Epoch 15/500
614/614 [==============================] - 0s 129us/sample - loss: 21.0347 -
y1_output_loss: 7.6884 - y2_output_loss: 13.2691 -
y1_output_root_mean_squared_error: 2.7791 - y2_output_root_mean_squared_error:
3.6485 - val_loss: 14.2159 - val_y1_output_loss: 6.7662 - val_y2_output_loss:
8.0532 - val_y1_output_root_mean_squared_error: 2.5921 -
val_y2_output_root_mean_squared_error: 2.7380
Epoch 16/500
614/614 [==============================] - 0s 131us/sample - loss: 20.3047 -
y1_output_loss: 7.7348 - y2_output_loss: 13.0630 -
y1_output_root_mean_squared_error: 2.7408 - y2_output_root_mean_squared_error:
3.5767 - val_loss: 82.5495 - val_y1_output_loss: 22.6994 - val_y2_output_loss:
63.7346 - val_y1_output_root_mean_squared_error: 4.6712 -
```

val_y2_output_root_mean_squared_error: 7.7929
Epoch 17/500
614/614 [==============================] - 0s 130us/sample - loss: 22.2333 -
y1_output_loss: 7.8778 - y2_output_loss: 14.2130 -
y1_output_root_mean_squared_error: 2.8140 - y2_output_root_mean_squared_error:
3.7835 - val_loss: 13.8193 - val_y1_output_loss: 6.0188 - val_y2_output_loss:
8.5706 - val_y1_output_root_mean_squared_error: 2.4161 -
val_y2_output_root_mean_squared_error: 2.8252
Epoch 18/500
614/614 [==============================] - 0s 122us/sample - loss: 17.7786 -
y1_output_loss: 6.6582 - y2_output_loss: 11.2132 -
y1_output_root_mean_squared_error: 2.5701 - y2_output_root_mean_squared_error:
3.3426 - val_loss: 21.7852 - val_y1_output_loss: 8.4046 - val_y2_output_loss:
13.5186 - val_y1_output_root_mean_squared_error: 2.8970 -
val_y2_output_root_mean_squared_error: 3.6596
Epoch 19/500
614/614 [==============================] - 0s 129us/sample - loss: 15.3114 -
y1_output_loss: 6.0973 - y2_output_loss: 9.1338 -
y1_output_root_mean_squared_error: 2.4750 - y2_output_root_mean_squared_error:
3.0308 - val_loss: 14.9297 - val_y1_output_loss: 5.8003 - val_y2_output_loss:
10.3167 - val_y1_output_root_mean_squared_error: 2.3666 -
val_y2_output_root_mean_squared_error: 3.0543
Epoch 20/500
614/614 [==============================] - 0s 127us/sample - loss: 14.8867 -
y1_output_loss: 5.8582 - y2_output_loss: 8.9024 -
y1_output_root_mean_squared_error: 2.4315 - y2_output_root_mean_squared_error:
2.9957 - val_loss: 10.9179 - val_y1_output_loss: 4.7776 - val_y2_output_loss:
7.1554 - val_y1_output_root_mean_squared_error: 2.1384 -
val_y2_output_root_mean_squared_error: 2.5190
Epoch 21/500
614/614 [==============================] - 0s 128us/sample - loss: 16.1748 -
y1_output_loss: 6.0957 - y2_output_loss: 9.9299 -
y1_output_root_mean_squared_error: 2.4808 - y2_output_root_mean_squared_error:
3.1655 - val_loss: 11.1065 - val_y1_output_loss: 4.8811 - val_y2_output_loss:
6.7314 - val_y1_output_root_mean_squared_error: 2.1951 -
val_y2_output_root_mean_squared_error: 2.5076
Epoch 22/500
614/614 [==============================] - 0s 127us/sample - loss: 15.9794 -
y1_output_loss: 6.0457 - y2_output_loss: 9.8254 -
y1_output_root_mean_squared_error: 2.4679 - y2_output_root_mean_squared_error:
3.1447 - val_loss: 10.4413 - val_y1_output_loss: 4.3336 - val_y2_output_loss:
6.7998 - val_y1_output_root_mean_squared_error: 2.0306 -
val_y2_output_root_mean_squared_error: 2.5136
Epoch 23/500
614/614 [==============================] - 0s 123us/sample - loss: 13.6100 -
y1_output_loss: 4.9878 - y2_output_loss: 8.6251 -
y1_output_root_mean_squared_error: 2.2393 - y2_output_root_mean_squared_error:
2.9318 - val_loss: 20.0631 - val_y1_output_loss: 5.0640 - val_y2_output_loss:

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15.0049 - val_y1_output_root_mean_squared_error: 2.2335 -
val_y2_output_root_mean_squared_error: 3.8826
Epoch 24/500
614/614 [==============================] - 0s 131us/sample - loss: 16.5122 -
y1_output_loss: 5.9770 - y2_output_loss: 10.7790 -
y1_output_root_mean_squared_error: 2.4275 - y2_output_root_mean_squared_error:
3.2588 - val_loss: 29.5996 - val_y1_output_loss: 8.3546 - val_y2_output_loss:
22.4550 - val_y1_output_root_mean_squared_error: 2.8665 -
val_y2_output_root_mean_squared_error: 4.6242
Epoch 25/500
614/614 [==============================] - 0s 127us/sample - loss: 13.0101 -
y1_output_loss: 4.8840 - y2_output_loss: 8.0275 -
y1_output_root_mean_squared_error: 2.2172 - y2_output_root_mean_squared_error:
2.8450 - val_loss: 9.0543 - val_y1_output_loss: 3.5496 - val_y2_output_loss:
6.2811 - val_y1_output_root_mean_squared_error: 1.8479 -
val_y2_output_root_mean_squared_error: 2.3748
Epoch 26/500
614/614 [==============================] - 0s 125us/sample - loss: 17.3689 -
y1_output_loss: 5.7071 - y2_output_loss: 11.5193 -
y1_output_root_mean_squared_error: 2.3993 - y2_output_root_mean_squared_error:
3.4077 - val_loss: 9.4102 - val_y1_output_loss: 4.0021 - val_y2_output_loss:
5.8798 - val_y1_output_root_mean_squared_error: 1.9813 -
val_y2_output_root_mean_squared_error: 2.3419
Epoch 27/500
614/614 [==============================] - 0s 127us/sample - loss: 13.0136 -
y1_output_loss: 4.5955 - y2_output_loss: 8.4651 -
y1_output_root_mean_squared_error: 2.1324 - y2_output_root_mean_squared_error:
2.9097 - val_loss: 8.1880 - val_y1_output_loss: 3.2460 - val_y2_output_loss:
5.4262 - val_y1_output_root_mean_squared_error: 1.7875 -
val_y2_output_root_mean_squared_error: 2.2345
Epoch 28/500
614/614 [==============================] - 0s 130us/sample - loss: 10.9465 -
y1_output_loss: 4.0702 - y2_output_loss: 6.9126 -
y1_output_root_mean_squared_error: 2.0143 - y2_output_root_mean_squared_error:
2.6247 - val_loss: 13.4422 - val_y1_output_loss: 3.7232 - val_y2_output_loss:
10.7869 - val_y1_output_root_mean_squared_error: 1.8874 -
val_y2_output_root_mean_squared_error: 3.1432
Epoch 29/500
614/614 [==============================] - 0s 129us/sample - loss: 12.5754 -
y1_output_loss: 4.5836 - y2_output_loss: 8.0683 -
y1_output_root_mean_squared_error: 2.1379 - y2_output_root_mean_squared_error:
2.8293 - val_loss: 17.7228 - val_y1_output_loss: 7.5511 - val_y2_output_loss:
10.2673 - val_y1_output_root_mean_squared_error: 2.7457 -
val_y2_output_root_mean_squared_error: 3.1912
Epoch 30/500
614/614 [==============================] - 0s 129us/sample - loss: 10.9913 -
y1_output_loss: 4.2095 - y2_output_loss: 6.7750 -
y1_output_root_mean_squared_error: 2.0490 - y2_output_root_mean_squared_error:

2.6063 - val_loss: 8.8402 - val_y1_output_loss: 3.1216 - val_y2_output_loss: 6.1363 - val_y1_output_root_mean_squared_error: 1.7619 - val_y2_output_root_mean_squared_error: 2.3950
Epoch 31/500
614/614 [==============================] - 0s 130us/sample - loss: 11.5839 - y1_output_loss: 4.0753 - y2_output_loss: 7.4054 - y1_output_root_mean_squared_error: 2.0278 - y2_output_root_mean_squared_error: 2.7335 - val_loss: 8.9548 - val_y1_output_loss: 3.0931 - val_y2_output_loss: 6.3496 - val_y1_output_root_mean_squared_error: 1.7464 - val_y2_output_root_mean_squared_error: 2.4300
Epoch 32/500
614/614 [==============================] - 0s 129us/sample - loss: 11.8917 - y1_output_loss: 3.7999 - y2_output_loss: 8.0918 - y1_output_root_mean_squared_error: 1.9521 - y2_output_root_mean_squared_error: 2.8427 - val_loss: 13.7095 - val_y1_output_loss: 4.1161 - val_y2_output_loss: 9.3266 - val_y1_output_root_mean_squared_error: 2.0537 - val_y2_output_root_mean_squared_error: 3.0809
Epoch 33/500
614/614 [==============================] - 0s 129us/sample - loss: 9.6900 - y1_output_loss: 3.3466 - y2_output_loss: 6.2686 - y1_output_root_mean_squared_error: 1.8367 - y2_output_root_mean_squared_error: 2.5133 - val_loss: 7.1580 - val_y1_output_loss: 2.5985 - val_y2_output_loss: 4.5936 - val_y1_output_root_mean_squared_error: 1.6185 - val_y2_output_root_mean_squared_error: 2.1304
Epoch 34/500
614/614 [==============================] - 0s 128us/sample - loss: 14.6139 - y1_output_loss: 4.4732 - y2_output_loss: 10.6925 - y1_output_root_mean_squared_error: 2.0940 - y2_output_root_mean_squared_error: 3.1983 - val_loss: 15.7320 - val_y1_output_loss: 6.6896 - val_y2_output_loss: 11.3172 - val_y1_output_root_mean_squared_error: 2.4360 - val_y2_output_root_mean_squared_error: 3.1302
Epoch 35/500
614/614 [==============================] - 0s 123us/sample - loss: 9.7361 - y1_output_loss: 3.3810 - y2_output_loss: 6.2864 - y1_output_root_mean_squared_error: 1.8417 - y2_output_root_mean_squared_error: 2.5187 - val_loss: 6.8148 - val_y1_output_loss: 2.7934 - val_y2_output_loss: 4.1977 - val_y1_output_root_mean_squared_error: 1.6795 - val_y2_output_root_mean_squared_error: 1.9986
Epoch 36/500
614/614 [==============================] - 0s 124us/sample - loss: 9.1877 - y1_output_loss: 3.4279 - y2_output_loss: 5.8336 - y1_output_root_mean_squared_error: 1.8485 - y2_output_root_mean_squared_error: 2.4022 - val_loss: 7.8128 - val_y1_output_loss: 2.5952 - val_y2_output_loss: 5.6224 - val_y1_output_root_mean_squared_error: 1.5977 - val_y2_output_root_mean_squared_error: 2.2935
Epoch 37/500
614/614 [==============================] - 0s 124us/sample - loss: 9.3628 - y1_output_loss: 3.1805 - y2_output_loss: 6.1253 -

y1_output_root_mean_squared_error: 1.7910 - y2_output_root_mean_squared_error:
2.4809 - val_loss: 9.0894 - val_y1_output_loss: 2.9823 - val_y2_output_loss:
6.3890 - val_y1_output_root_mean_squared_error: 1.7259 -
val_y2_output_root_mean_squared_error: 2.4720
Epoch 38/500
614/614 [==============================] - 0s 123us/sample - loss: 8.0506 -
y1_output_loss: 2.9233 - y2_output_loss: 5.0910 -
y1_output_root_mean_squared_error: 1.7163 - y2_output_root_mean_squared_error:
2.2594 - val_loss: 8.8133 - val_y1_output_loss: 2.8221 - val_y2_output_loss:
5.7421 - val_y1_output_root_mean_squared_error: 1.7087 -
val_y2_output_root_mean_squared_error: 2.4277
Epoch 39/500
614/614 [==============================] - 0s 122us/sample - loss: 11.4067 -
y1_output_loss: 3.4738 - y2_output_loss: 7.9019 -
y1_output_root_mean_squared_error: 1.8705 - y2_output_root_mean_squared_error:
2.8121 - val_loss: 12.1268 - val_y1_output_loss: 2.7292 - val_y2_output_loss:
9.1975 - val_y1_output_root_mean_squared_error: 1.6650 -
val_y2_output_root_mean_squared_error: 3.0585
Epoch 40/500
614/614 [==============================] - 0s 121us/sample - loss: 8.8539 -
y1_output_loss: 2.8970 - y2_output_loss: 5.9466 -
y1_output_root_mean_squared_error: 1.6959 - y2_output_root_mean_squared_error:
2.4449 - val_loss: 11.3409 - val_y1_output_loss: 2.5550 - val_y2_output_loss:
9.2331 - val_y1_output_root_mean_squared_error: 1.6002 -
val_y2_output_root_mean_squared_error: 2.9631
Epoch 41/500
614/614 [==============================] - 0s 122us/sample - loss: 8.7402 -
y1_output_loss: 2.7610 - y2_output_loss: 5.9542 -
y1_output_root_mean_squared_error: 1.6680 - y2_output_root_mean_squared_error:
2.4409 - val_loss: 6.5148 - val_y1_output_loss: 2.3406 - val_y2_output_loss:
4.1729 - val_y1_output_root_mean_squared_error: 1.5500 -
val_y2_output_root_mean_squared_error: 2.0279
Epoch 42/500
614/614 [==============================] - 0s 123us/sample - loss: 8.9488 -
y1_output_loss: 2.9923 - y2_output_loss: 5.8944 -
y1_output_root_mean_squared_error: 1.7339 - y2_output_root_mean_squared_error:
2.4377 - val_loss: 6.2764 - val_y1_output_loss: 2.4375 - val_y2_output_loss:
3.8503 - val_y1_output_root_mean_squared_error: 1.5816 -
val_y2_output_root_mean_squared_error: 1.9429
Epoch 43/500
614/614 [==============================] - 0s 122us/sample - loss: 9.3102 -
y1_output_loss: 2.9611 - y2_output_loss: 6.2731 -
y1_output_root_mean_squared_error: 1.7262 - y2_output_root_mean_squared_error:
2.5160 - val_loss: 6.8755 - val_y1_output_loss: 1.8086 - val_y2_output_loss:
5.4733 - val_y1_output_root_mean_squared_error: 1.3387 -
val_y2_output_root_mean_squared_error: 2.2546
Epoch 44/500
614/614 [==============================] - 0s 123us/sample - loss: 7.2788 -

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y1_output_loss: 2.3845 - y2_output_loss: 4.8664 -
y1_output_root_mean_squared_error: 1.5473 - y2_output_root_mean_squared_error:
2.2101 - val_loss: 7.0842 - val_y1_output_loss: 2.4264 - val_y2_output_loss:
4.5616 - val_y1_output_root_mean_squared_error: 1.5760 -
val_y2_output_root_mean_squared_error: 2.1449
Epoch 45/500
614/614 [==============================] - 0s 124us/sample - loss: 7.8587 -
y1_output_loss: 2.4701 - y2_output_loss: 5.3416 -
y1_output_root_mean_squared_error: 1.5774 - y2_output_root_mean_squared_error:
2.3175 - val_loss: 8.2162 - val_y1_output_loss: 2.5085 - val_y2_output_loss:
5.9498 - val_y1_output_root_mean_squared_error: 1.5801 -
val_y2_output_root_mean_squared_error: 2.3915
Epoch 46/500
614/614 [==============================] - 0s 123us/sample - loss: 7.5314 -
y1_output_loss: 2.4347 - y2_output_loss: 5.0822 -
y1_output_root_mean_squared_error: 1.5566 - y2_output_root_mean_squared_error:
2.2602 - val_loss: 8.1466 - val_y1_output_loss: 2.1855 - val_y2_output_loss:
6.2273 - val_y1_output_root_mean_squared_error: 1.4858 -
val_y2_output_root_mean_squared_error: 2.4370
Epoch 47/500
614/614 [==============================] - 0s 122us/sample - loss: 7.0379 -
y1_output_loss: 2.2695 - y2_output_loss: 4.8393 -
y1_output_root_mean_squared_error: 1.5102 - y2_output_root_mean_squared_error:
2.1811 - val_loss: 7.4529 - val_y1_output_loss: 2.7536 - val_y2_output_loss:
4.6875 - val_y1_output_root_mean_squared_error: 1.6688 -
val_y2_output_root_mean_squared_error: 2.1605
Epoch 48/500
614/614 [==============================] - 0s 128us/sample - loss: 8.7256 -
y1_output_loss: 2.8310 - y2_output_loss: 6.1062 -
y1_output_root_mean_squared_error: 1.6738 - y2_output_root_mean_squared_error:
2.4339 - val_loss: 39.1524 - val_y1_output_loss: 9.5662 - val_y2_output_loss:
28.7418 - val_y1_output_root_mean_squared_error: 3.1303 -
val_y2_output_root_mean_squared_error: 5.4179
Epoch 49/500
614/614 [==============================] - 0s 128us/sample - loss: 12.0179 -
y1_output_loss: 3.6566 - y2_output_loss: 8.2815 -
y1_output_root_mean_squared_error: 1.9158 - y2_output_root_mean_squared_error:
2.8893 - val_loss: 12.3136 - val_y1_output_loss: 2.9151 - val_y2_output_loss:
10.1622 - val_y1_output_root_mean_squared_error: 1.6817 -
val_y2_output_root_mean_squared_error: 3.0798
Epoch 50/500
614/614 [==============================] - 0s 127us/sample - loss: 6.7745 -
y1_output_loss: 2.1703 - y2_output_loss: 4.6426 -
y1_output_root_mean_squared_error: 1.4766 - y2_output_root_mean_squared_error:
2.1434 - val_loss: 6.9692 - val_y1_output_loss: 1.5949 - val_y2_output_loss:
5.2961 - val_y1_output_root_mean_squared_error: 1.2733 -
val_y2_output_root_mean_squared_error: 2.3125
Epoch 51/500
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614/614 [==============================] - 0s 129us/sample - loss: 8.9048 -
y1_output_loss: 2.2789 - y2_output_loss: 6.5695 -
y1_output_root_mean_squared_error: 1.5161 - y2_output_root_mean_squared_error:
2.5703 - val_loss: 5.9707 - val_y1_output_loss: 1.7770 - val_y2_output_loss:
4.0473 - val_y1_output_root_mean_squared_error: 1.3570 -
val_y2_output_root_mean_squared_error: 2.0321
Epoch 52/500
614/614 [==============================] - 0s 128us/sample - loss: 5.9135 -
y1_output_loss: 1.8241 - y2_output_loss: 4.0852 -
y1_output_root_mean_squared_error: 1.3550 - y2_output_root_mean_squared_error:
2.0193 - val_loss: 20.2076 - val_y1_output_loss: 3.5273 - val_y2_output_loss:
16.6299 - val_y1_output_root_mean_squared_error: 1.8729 -
val_y2_output_root_mean_squared_error: 4.0865
Epoch 53/500
614/614 [==============================] - 0s 124us/sample - loss: 7.7711 -
y1_output_loss: 2.2642 - y2_output_loss: 5.4430 -
y1_output_root_mean_squared_error: 1.5099 - y2_output_root_mean_squared_error:
2.3434 - val_loss: 5.5912 - val_y1_output_loss: 1.6954 - val_y2_output_loss:
4.1385 - val_y1_output_root_mean_squared_error: 1.2916 -
val_y2_output_root_mean_squared_error: 1.9806
Epoch 54/500
614/614 [==============================] - 0s 130us/sample - loss: 6.0585 -
y1_output_loss: 1.8555 - y2_output_loss: 4.2449 -
y1_output_root_mean_squared_error: 1.3639 - y2_output_root_mean_squared_error:
2.0490 - val_loss: 4.3151 - val_y1_output_loss: 1.3172 - val_y2_output_loss:
2.9993 - val_y1_output_root_mean_squared_error: 1.1639 -
val_y2_output_root_mean_squared_error: 1.7206
Epoch 55/500
614/614 [==============================] - 0s 131us/sample - loss: 6.5612 -
y1_output_loss: 1.8392 - y2_output_loss: 4.7814 -
y1_output_root_mean_squared_error: 1.3366 - y2_output_root_mean_squared_error:
2.1851 - val_loss: 22.0995 - val_y1_output_loss: 6.8482 - val_y2_output_loss:
16.7371 - val_y1_output_root_mean_squared_error: 2.5415 -
val_y2_output_root_mean_squared_error: 3.9548
Epoch 56/500
614/614 [==============================] - 0s 128us/sample - loss: 14.7119 -
y1_output_loss: 4.0614 - y2_output_loss: 10.6293 -
y1_output_root_mean_squared_error: 2.0195 - y2_output_root_mean_squared_error:
3.2609 - val_loss: 13.2556 - val_y1_output_loss: 3.4255 - val_y2_output_loss:
10.0953 - val_y1_output_root_mean_squared_error: 1.8687 -
val_y2_output_root_mean_squared_error: 3.1247
Epoch 57/500
614/614 [==============================] - 0s 127us/sample - loss: 6.6590 -
y1_output_loss: 1.9475 - y2_output_loss: 4.6873 -
y1_output_root_mean_squared_error: 1.3910 - y2_output_root_mean_squared_error:
2.1735 - val_loss: 5.7268 - val_y1_output_loss: 1.4369 - val_y2_output_loss:
4.6924 - val_y1_output_root_mean_squared_error: 1.1838 -
val_y2_output_root_mean_squared_error: 2.0798
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Epoch 58/500
614/614 [==============================] - 0s 123us/sample - loss: 6.6002 -
y1_output_loss: 1.7645 - y2_output_loss: 4.8758 -
y1_output_root_mean_squared_error: 1.3193 - y2_output_root_mean_squared_error:
2.2045 - val_loss: 4.4678 - val_y1_output_loss: 1.3166 - val_y2_output_loss:
3.2870 - val_y1_output_root_mean_squared_error: 1.1508 -
val_y2_output_root_mean_squared_error: 1.7730
Epoch 59/500
614/614 [==============================] - 0s 128us/sample - loss: 4.7594 -
y1_output_loss: 1.3202 - y2_output_loss: 3.4219 -
y1_output_root_mean_squared_error: 1.1475 - y2_output_root_mean_squared_error:
1.8554 - val_loss: 3.7885 - val_y1_output_loss: 0.9410 - val_y2_output_loss:
3.0869 - val_y1_output_root_mean_squared_error: 0.9684 -
val_y2_output_root_mean_squared_error: 1.6884
Epoch 60/500
614/614 [==============================] - 0s 130us/sample - loss: 7.8117 -
y1_output_loss: 2.1131 - y2_output_loss: 5.7724 -
y1_output_root_mean_squared_error: 1.4469 - y2_output_root_mean_squared_error:
2.3913 - val_loss: 11.3905 - val_y1_output_loss: 1.6104 - val_y2_output_loss:
10.4360 - val_y1_output_root_mean_squared_error: 1.2559 -
val_y2_output_root_mean_squared_error: 3.1326
Epoch 61/500
614/614 [==============================] - 0s 126us/sample - loss: 5.9934 -
y1_output_loss: 1.5976 - y2_output_loss: 4.3648 -
y1_output_root_mean_squared_error: 1.2693 - y2_output_root_mean_squared_error:
2.0934 - val_loss: 5.0428 - val_y1_output_loss: 1.3415 - val_y2_output_loss:
3.8230 - val_y1_output_root_mean_squared_error: 1.1708 -
val_y2_output_root_mean_squared_error: 1.9162
Epoch 62/500
614/614 [==============================] - 0s 125us/sample - loss: 5.1666 -
y1_output_loss: 1.3662 - y2_output_loss: 3.7720 -
y1_output_root_mean_squared_error: 1.1733 - y2_output_root_mean_squared_error:
1.9468 - val_loss: 5.2448 - val_y1_output_loss: 1.4491 - val_y2_output_loss:
3.7086 - val_y1_output_root_mean_squared_error: 1.2189 -
val_y2_output_root_mean_squared_error: 1.9389
Epoch 63/500
614/614 [==============================] - 0s 131us/sample - loss: 6.7468 -
y1_output_loss: 1.5776 - y2_output_loss: 5.1268 -
y1_output_root_mean_squared_error: 1.2585 - y2_output_root_mean_squared_error:
2.2722 - val_loss: 4.9166 - val_y1_output_loss: 1.3355 - val_y2_output_loss:
3.6654 - val_y1_output_root_mean_squared_error: 1.1706 -
val_y2_output_root_mean_squared_error: 1.8831
Epoch 64/500
614/614 [==============================] - 0s 128us/sample - loss: 4.6824 -
y1_output_loss: 1.1173 - y2_output_loss: 3.5568 -
y1_output_root_mean_squared_error: 1.0568 - y2_output_root_mean_squared_error:
1.8883 - val_loss: 9.0831 - val_y1_output_loss: 2.5993 - val_y2_output_loss:
6.9348 - val_y1_output_root_mean_squared_error: 1.5979 -
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val_y2_output_root_mean_squared_error: 2.5554
Epoch 65/500
614/614 [==============================] - 0s 125us/sample - loss: 13.9161 -
y1_output_loss: 4.0506 - y2_output_loss: 9.8445 -
y1_output_root_mean_squared_error: 2.0201 - y2_output_root_mean_squared_error:
3.1361 - val_loss: 10.5633 - val_y1_output_loss: 2.4548 - val_y2_output_loss:
7.8825 - val_y1_output_root_mean_squared_error: 1.5849 -
val_y2_output_root_mean_squared_error: 2.8375
Epoch 66/500
614/614 [==============================] - 0s 124us/sample - loss: 4.5169 -
y1_output_loss: 1.0784 - y2_output_loss: 3.4073 -
y1_output_root_mean_squared_error: 1.0434 - y2_output_root_mean_squared_error:
1.8516 - val_loss: 4.4562 - val_y1_output_loss: 1.2918 - val_y2_output_loss:
3.2924 - val_y1_output_root_mean_squared_error: 1.1366 -
val_y2_output_root_mean_squared_error: 1.7789
Epoch 67/500
614/614 [==============================] - 0s 127us/sample - loss: 5.1282 -
y1_output_loss: 1.3055 - y2_output_loss: 3.8216 -
y1_output_root_mean_squared_error: 1.1408 - y2_output_root_mean_squared_error:
1.9562 - val_loss: 3.4801 - val_y1_output_loss: 0.8140 - val_y2_output_loss:
2.6390 - val_y1_output_root_mean_squared_error: 0.9179 -
val_y2_output_root_mean_squared_error: 1.6241
Epoch 68/500
614/614 [==============================] - 0s 123us/sample - loss: 3.4855 -
y1_output_loss: 0.8652 - y2_output_loss: 2.6209 -
y1_output_root_mean_squared_error: 0.9319 - y2_output_root_mean_squared_error:
1.6177 - val_loss: 9.1077 - val_y1_output_loss: 2.1423 - val_y2_output_loss:
7.4003 - val_y1_output_root_mean_squared_error: 1.4579 -
val_y2_output_root_mean_squared_error: 2.6424
Epoch 69/500
614/614 [==============================] - 0s 124us/sample - loss: 4.1726 -
y1_output_loss: 0.9630 - y2_output_loss: 3.1989 -
y1_output_root_mean_squared_error: 0.9856 - y2_output_root_mean_squared_error:
1.7892 - val_loss: 3.8854 - val_y1_output_loss: 0.8314 - val_y2_output_loss:
3.2233 - val_y1_output_root_mean_squared_error: 0.9238 -
val_y2_output_root_mean_squared_error: 1.7413
Epoch 70/500
614/614 [==============================] - 0s 124us/sample - loss: 4.2369 -
y1_output_loss: 1.0163 - y2_output_loss: 3.2472 -
y1_output_root_mean_squared_error: 1.0030 - y2_output_root_mean_squared_error:
1.7975 - val_loss: 3.7364 - val_y1_output_loss: 0.8154 - val_y2_output_loss:
2.9187 - val_y1_output_root_mean_squared_error: 0.9146 -
val_y2_output_root_mean_squared_error: 1.7029
Epoch 71/500
614/614 [==============================] - 0s 129us/sample - loss: 3.5169 -
y1_output_loss: 0.7976 - y2_output_loss: 2.6985 -
y1_output_root_mean_squared_error: 0.8941 - y2_output_root_mean_squared_error:
1.6485 - val_loss: 6.5560 - val_y1_output_loss: 2.2240 - val_y2_output_loss:

4.3283 - val_y1_output_root_mean_squared_error: 1.4921 -
val_y2_output_root_mean_squared_error: 2.0807
Epoch 72/500
614/614 [==============================] - 0s 122us/sample - loss: 5.0124 -
y1_output_loss: 1.0857 - y2_output_loss: 3.9190 -
y1_output_root_mean_squared_error: 1.0446 - y2_output_root_mean_squared_error:
1.9802 - val_loss: 3.7507 - val_y1_output_loss: 0.9271 - val_y2_output_loss:
2.7845 - val_y1_output_root_mean_squared_error: 0.9750 -
val_y2_output_root_mean_squared_error: 1.6734
Epoch 73/500
614/614 [==============================] - 0s 123us/sample - loss: 3.7700 -
y1_output_loss: 0.8499 - y2_output_loss: 2.8929 -
y1_output_root_mean_squared_error: 0.9255 - y2_output_root_mean_squared_error:
1.7069 - val_loss: 3.3573 - val_y1_output_loss: 0.7704 - val_y2_output_loss:
2.7629 - val_y1_output_root_mean_squared_error: 0.8885 -
val_y2_output_root_mean_squared_error: 1.6025
Epoch 74/500
614/614 [==============================] - 0s 124us/sample - loss: 4.8920 -
y1_output_loss: 0.9886 - y2_output_loss: 3.8835 -
y1_output_root_mean_squared_error: 0.9979 - y2_output_root_mean_squared_error:
1.9739 - val_loss: 3.4207 - val_y1_output_loss: 0.6401 - val_y2_output_loss:
2.7612 - val_y1_output_root_mean_squared_error: 0.8089 -
val_y2_output_root_mean_squared_error: 1.6633
Epoch 75/500
614/614 [==============================] - 0s 125us/sample - loss: 4.1655 -
y1_output_loss: 0.7583 - y2_output_loss: 3.4262 -
y1_output_root_mean_squared_error: 0.8739 - y2_output_root_mean_squared_error:
1.8444 - val_loss: 3.7341 - val_y1_output_loss: 0.9821 - val_y2_output_loss:
2.9320 - val_y1_output_root_mean_squared_error: 0.9958 -
val_y2_output_root_mean_squared_error: 1.6561
Epoch 76/500
614/614 [==============================] - 0s 129us/sample - loss: 4.3576 -
y1_output_loss: 0.7482 - y2_output_loss: 3.5793 -
y1_output_root_mean_squared_error: 0.8668 - y2_output_root_mean_squared_error:
1.8990 - val_loss: 2.9057 - val_y1_output_loss: 0.7347 - val_y2_output_loss:
2.2965 - val_y1_output_root_mean_squared_error: 0.8618 -
val_y2_output_root_mean_squared_error: 1.4707
Epoch 77/500
614/614 [==============================] - 0s 123us/sample - loss: 4.4127 -
y1_output_loss: 0.9978 - y2_output_loss: 3.4304 -
y1_output_root_mean_squared_error: 0.9861 - y2_output_root_mean_squared_error:
1.8548 - val_loss: 3.2455 - val_y1_output_loss: 0.7644 - val_y2_output_loss:
2.6483 - val_y1_output_root_mean_squared_error: 0.8840 -
val_y2_output_root_mean_squared_error: 1.5697
Epoch 78/500
614/614 [==============================] - 0s 121us/sample - loss: 3.5589 -
y1_output_loss: 0.8665 - y2_output_loss: 2.6679 -
y1_output_root_mean_squared_error: 0.9349 - y2_output_root_mean_squared_error:

1.6385 - val_loss: 3.3234 - val_y1_output_loss: 0.8623 - val_y2_output_loss:
2.5437 - val_y1_output_root_mean_squared_error: 0.9401 -
val_y2_output_root_mean_squared_error: 1.5619
Epoch 79/500
614/614 [==============================] - 0s 123us/sample - loss: 3.5460 -
y1_output_loss: 0.8228 - y2_output_loss: 2.7396 -
y1_output_root_mean_squared_error: 0.9109 - y2_output_root_mean_squared_error:
1.6481 - val_loss: 12.8452 - val_y1_output_loss: 1.9681 - val_y2_output_loss:
10.7372 - val_y1_output_root_mean_squared_error: 1.4023 -
val_y2_output_root_mean_squared_error: 3.2983
Epoch 80/500
614/614 [==============================] - 0s 123us/sample - loss: 3.3395 -
y1_output_loss: 0.7036 - y2_output_loss: 2.6848 -
y1_output_root_mean_squared_error: 0.8412 - y2_output_root_mean_squared_error:
1.6223 - val_loss: 8.6730 - val_y1_output_loss: 2.2582 - val_y2_output_loss:
6.3365 - val_y1_output_root_mean_squared_error: 1.4969 -
val_y2_output_root_mean_squared_error: 2.5362
Epoch 81/500
614/614 [==============================] - 0s 127us/sample - loss: 3.7781 -
y1_output_loss: 0.7258 - y2_output_loss: 3.0734 -
y1_output_root_mean_squared_error: 0.8499 - y2_output_root_mean_squared_error:
1.7481 - val_loss: 5.8105 - val_y1_output_loss: 1.2387 - val_y2_output_loss:
4.3808 - val_y1_output_root_mean_squared_error: 1.1315 -
val_y2_output_root_mean_squared_error: 2.1284
Epoch 82/500
614/614 [==============================] - 0s 125us/sample - loss: 4.1697 -
y1_output_loss: 0.8578 - y2_output_loss: 3.3061 -
y1_output_root_mean_squared_error: 0.9295 - y2_output_root_mean_squared_error:
1.8182 - val_loss: 5.7216 - val_y1_output_loss: 0.7327 - val_y2_output_loss:
5.3399 - val_y1_output_root_mean_squared_error: 0.8677 -
val_y2_output_root_mean_squared_error: 2.2290
Epoch 83/500
614/614 [==============================] - 0s 122us/sample - loss: 3.9781 -
y1_output_loss: 0.7558 - y2_output_loss: 3.2126 -
y1_output_root_mean_squared_error: 0.8677 - y2_output_root_mean_squared_error:
1.7959 - val_loss: 4.8685 - val_y1_output_loss: 1.3780 - val_y2_output_loss:
3.4775 - val_y1_output_root_mean_squared_error: 1.1765 -
val_y2_output_root_mean_squared_error: 1.8666
Epoch 84/500
614/614 [==============================] - 0s 121us/sample - loss: 4.1652 -
y1_output_loss: 0.9008 - y2_output_loss: 3.2377 -
y1_output_root_mean_squared_error: 0.9493 - y2_output_root_mean_squared_error:
1.8067 - val_loss: 4.9337 - val_y1_output_loss: 1.0592 - val_y2_output_loss:
4.0656 - val_y1_output_root_mean_squared_error: 1.0408 -
val_y2_output_root_mean_squared_error: 1.9623
Epoch 85/500
614/614 [==============================] - 0s 124us/sample - loss: 3.5093 -
y1_output_loss: 0.6934 - y2_output_loss: 2.8199 -

y1_output_root_mean_squared_error: 0.8358 - y2_output_root_mean_squared_error:
1.6766 - val_loss: 4.0456 - val_y1_output_loss: 1.0196 - val_y2_output_loss:
3.0064 - val_y1_output_root_mean_squared_error: 1.0096 -
val_y2_output_root_mean_squared_error: 1.7396
Epoch 86/500
614/614 [==============================] - 0s 123us/sample - loss: 3.3655 -
y1_output_loss: 0.6920 - y2_output_loss: 2.6972 -
y1_output_root_mean_squared_error: 0.8226 - y2_output_root_mean_squared_error:
1.6398 - val_loss: 2.9709 - val_y1_output_loss: 0.9752 - val_y2_output_loss:
2.1078 - val_y1_output_root_mean_squared_error: 0.9972 -
val_y2_output_root_mean_squared_error: 1.4059
Epoch 87/500
614/614 [==============================] - 0s 123us/sample - loss: 8.1364 -
y1_output_loss: 2.2137 - y2_output_loss: 5.8973 -
y1_output_root_mean_squared_error: 1.4918 - y2_output_root_mean_squared_error:
2.4313 - val_loss: 4.9484 - val_y1_output_loss: 1.7369 - val_y2_output_loss:
3.4896 - val_y1_output_root_mean_squared_error: 1.2995 -
val_y2_output_root_mean_squared_error: 1.8054
Epoch 88/500
614/614 [==============================] - 0s 124us/sample - loss: 4.6124 -
y1_output_loss: 1.0826 - y2_output_loss: 3.5575 -
y1_output_root_mean_squared_error: 1.0363 - y2_output_root_mean_squared_error:
1.8811 - val_loss: 5.5293 - val_y1_output_loss: 1.6705 - val_y2_output_loss:
3.7226 - val_y1_output_root_mean_squared_error: 1.3085 -
val_y2_output_root_mean_squared_error: 1.9537
Epoch 89/500
614/614 [==============================] - 0s 125us/sample - loss: 3.8862 -
y1_output_loss: 0.9101 - y2_output_loss: 2.9883 -
y1_output_root_mean_squared_error: 0.9565 - y2_output_root_mean_squared_error:
1.7238 - val_loss: 11.4575 - val_y1_output_loss: 1.0611 - val_y2_output_loss:
10.2715 - val_y1_output_root_mean_squared_error: 1.0306 -
val_y2_output_root_mean_squared_error: 3.2242
Epoch 90/500
614/614 [==============================] - 0s 123us/sample - loss: 10.9260 -
y1_output_loss: 3.0914 - y2_output_loss: 7.7439 -
y1_output_root_mean_squared_error: 1.7631 - y2_output_root_mean_squared_error:
2.7960 - val_loss: 2.3112 - val_y1_output_loss: 0.5294 - val_y2_output_loss:
1.9464 - val_y1_output_root_mean_squared_error: 0.7343 -
val_y2_output_root_mean_squared_error: 1.3311
Epoch 91/500
614/614 [==============================] - 0s 125us/sample - loss: 3.2995 -
y1_output_loss: 0.6450 - y2_output_loss: 2.6662 -
y1_output_root_mean_squared_error: 0.8061 - y2_output_root_mean_squared_error:
1.6278 - val_loss: 6.9662 - val_y1_output_loss: 1.1458 - val_y2_output_loss:
5.7660 - val_y1_output_root_mean_squared_error: 1.0690 -
val_y2_output_root_mean_squared_error: 2.4132
Epoch 92/500
614/614 [==============================] - 0s 125us/sample - loss: 3.3820 -

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y1_output_loss: 0.7245 - y2_output_loss: 2.6281 -
y1_output_root_mean_squared_error: 0.8542 - y2_output_root_mean_squared_error:
1.6286 - val_loss: 2.6400 - val_y1_output_loss: 0.7149 - val_y2_output_loss:
1.9597 - val_y1_output_root_mean_squared_error: 0.8539 -
val_y2_output_root_mean_squared_error: 1.3823
Epoch 93/500
614/614 [==============================] - 0s 123us/sample - loss: 3.1581 -
y1_output_loss: 0.6153 - y2_output_loss: 2.5804 -
y1_output_root_mean_squared_error: 0.7814 - y2_output_root_mean_squared_error:
1.5961 - val_loss: 5.2709 - val_y1_output_loss: 0.6950 - val_y2_output_loss:
4.9043 - val_y1_output_root_mean_squared_error: 0.8425 -
val_y2_output_root_mean_squared_error: 2.1357
Epoch 94/500
614/614 [==============================] - 0s 124us/sample - loss: 3.1442 -
y1_output_loss: 0.6008 - y2_output_loss: 2.6149 -
y1_output_root_mean_squared_error: 0.7764 - y2_output_root_mean_squared_error:
1.5942 - val_loss: 6.7676 - val_y1_output_loss: 1.3900 - val_y2_output_loss:
5.1599 - val_y1_output_root_mean_squared_error: 1.1934 -
val_y2_output_root_mean_squared_error: 2.3116
Epoch 95/500
614/614 [==============================] - 0s 125us/sample - loss: 2.9688 -
y1_output_loss: 0.5868 - y2_output_loss: 2.3626 -
y1_output_root_mean_squared_error: 0.7663 - y2_output_root_mean_squared_error:
1.5432 - val_loss: 2.4475 - val_y1_output_loss: 0.6335 - val_y2_output_loss:
1.8935 - val_y1_output_root_mean_squared_error: 0.8053 -
val_y2_output_root_mean_squared_error: 1.3413
Epoch 96/500
614/614 [==============================] - 0s 129us/sample - loss: 3.3906 -
y1_output_loss: 0.6838 - y2_output_loss: 2.7164 -
y1_output_root_mean_squared_error: 0.8280 - y2_output_root_mean_squared_error:
1.6447 - val_loss: 2.4480 - val_y1_output_loss: 0.5040 - val_y2_output_loss:
2.0040 - val_y1_output_root_mean_squared_error: 0.7220 -
val_y2_output_root_mean_squared_error: 1.3881
Epoch 97/500
614/614 [==============================] - 0s 125us/sample - loss: 4.8819 -
y1_output_loss: 1.0323 - y2_output_loss: 3.8170 -
y1_output_root_mean_squared_error: 1.0177 - y2_output_root_mean_squared_error:
1.9612 - val_loss: 2.1869 - val_y1_output_loss: 0.5053 - val_y2_output_loss:
1.7378 - val_y1_output_root_mean_squared_error: 0.7233 -
val_y2_output_root_mean_squared_error: 1.2898
Epoch 98/500
614/614 [==============================] - 0s 128us/sample - loss: 3.1196 -
y1_output_loss: 0.6234 - y2_output_loss: 2.5059 -
y1_output_root_mean_squared_error: 0.7876 - y2_output_root_mean_squared_error:
1.5809 - val_loss: 2.9402 - val_y1_output_loss: 0.6644 - val_y2_output_loss:
2.2145 - val_y1_output_root_mean_squared_error: 0.8269 -
val_y2_output_root_mean_squared_error: 1.5022
Epoch 99/500
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614/614 [==============================] - 0s 129us/sample - loss: 3.0042 -
y1_output_loss: 0.6855 - y2_output_loss: 2.3321 -
y1_output_root_mean_squared_error: 0.8235 - y2_output_root_mean_squared_error:
1.5252 - val_loss: 4.0125 - val_y1_output_loss: 0.6387 - val_y2_output_loss:
3.6007 - val_y1_output_root_mean_squared_error: 0.8128 -
val_y2_output_root_mean_squared_error: 1.8308
Epoch 100/500
614/614 [==============================] - 0s 124us/sample - loss: 3.3614 -
y1_output_loss: 0.7281 - y2_output_loss: 2.6262 -
y1_output_root_mean_squared_error: 0.8560 - y2_output_root_mean_squared_error:
1.6213 - val_loss: 4.7966 - val_y1_output_loss: 0.7748 - val_y2_output_loss:
4.3472 - val_y1_output_root_mean_squared_error: 0.8859 -
val_y2_output_root_mean_squared_error: 2.0030
Epoch 101/500
614/614 [==============================] - 0s 122us/sample - loss: 3.2173 -
y1_output_loss: 0.7073 - y2_output_loss: 2.5013 -
y1_output_root_mean_squared_error: 0.8425 - y2_output_root_mean_squared_error:
1.5835 - val_loss: 3.0593 - val_y1_output_loss: 1.1227 - val_y2_output_loss:
2.0148 - val_y1_output_root_mean_squared_error: 1.0682 -
val_y2_output_root_mean_squared_error: 1.3850
Epoch 102/500
614/614 [==============================] - 0s 123us/sample - loss: 2.8459 -
y1_output_loss: 0.6103 - y2_output_loss: 2.2281 -
y1_output_root_mean_squared_error: 0.7812 - y2_output_root_mean_squared_error:
1.4952 - val_loss: 3.4932 - val_y1_output_loss: 0.8608 - val_y2_output_loss:
2.5460 - val_y1_output_root_mean_squared_error: 0.9381 -
val_y2_output_root_mean_squared_error: 1.6165
Epoch 103/500
614/614 [==============================] - 0s 123us/sample - loss: 3.9585 -
y1_output_loss: 1.0799 - y2_output_loss: 2.8496 -
y1_output_root_mean_squared_error: 1.0418 - y2_output_root_mean_squared_error:
1.6950 - val_loss: 2.0877 - val_y1_output_loss: 0.5079 - val_y2_output_loss:
1.6651 - val_y1_output_root_mean_squared_error: 0.7254 -
val_y2_output_root_mean_squared_error: 1.2496
Epoch 104/500
614/614 [==============================] - 0s 123us/sample - loss: 2.5847 -
y1_output_loss: 0.5351 - y2_output_loss: 2.0330 -
y1_output_root_mean_squared_error: 0.7333 - y2_output_root_mean_squared_error:
1.4307 - val_loss: 2.2551 - val_y1_output_loss: 0.6250 - val_y2_output_loss:
1.6953 - val_y1_output_root_mean_squared_error: 0.8038 -
val_y2_output_root_mean_squared_error: 1.2684
Epoch 105/500
614/614 [==============================] - 0s 123us/sample - loss: 3.2774 -
y1_output_loss: 0.5994 - y2_output_loss: 2.6481 -
y1_output_root_mean_squared_error: 0.7777 - y2_output_root_mean_squared_error:
1.6348 - val_loss: 2.1652 - val_y1_output_loss: 0.5150 - val_y2_output_loss:
1.6629 - val_y1_output_root_mean_squared_error: 0.7269 -
val_y2_output_root_mean_squared_error: 1.2794
```

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Epoch 106/500
614/614 [==============================] - 0s 124us/sample - loss: 2.5549 -
y1_output_loss: 0.5006 - y2_output_loss: 2.0974 -
y1_output_root_mean_squared_error: 0.7104 - y2_output_root_mean_squared_error:
1.4319 - val_loss: 9.2845 - val_y1_output_loss: 1.5189 - val_y2_output_loss:
7.6235 - val_y1_output_root_mean_squared_error: 1.2321 -
val_y2_output_root_mean_squared_error: 2.7868
Epoch 107/500
614/614 [==============================] - 0s 123us/sample - loss: 2.9711 -
y1_output_loss: 0.6302 - y2_output_loss: 2.3289 -
y1_output_root_mean_squared_error: 0.7968 - y2_output_root_mean_squared_error:
1.5285 - val_loss: 3.9207 - val_y1_output_loss: 1.0252 - val_y2_output_loss:
2.8918 - val_y1_output_root_mean_squared_error: 0.9982 -
val_y2_output_root_mean_squared_error: 1.7101
Epoch 108/500
614/614 [==============================] - 0s 126us/sample - loss: 2.6630 -
y1_output_loss: 0.5082 - y2_output_loss: 2.1604 -
y1_output_root_mean_squared_error: 0.7124 - y2_output_root_mean_squared_error:
1.4682 - val_loss: 7.5968 - val_y1_output_loss: 2.2713 - val_y2_output_loss:
5.3777 - val_y1_output_root_mean_squared_error: 1.4854 -
val_y2_output_root_mean_squared_error: 2.3217
Epoch 109/500
614/614 [==============================] - 0s 125us/sample - loss: 3.1609 -
y1_output_loss: 0.6949 - y2_output_loss: 2.5312 -
y1_output_root_mean_squared_error: 0.8187 - y2_output_root_mean_squared_error:
1.5781 - val_loss: 8.3594 - val_y1_output_loss: 2.2879 - val_y2_output_loss:
5.8349 - val_y1_output_root_mean_squared_error: 1.5222 -
val_y2_output_root_mean_squared_error: 2.4581
Epoch 110/500
614/614 [==============================] - 0s 123us/sample - loss: 4.0801 -
y1_output_loss: 0.8998 - y2_output_loss: 3.1970 -
y1_output_root_mean_squared_error: 0.9530 - y2_output_root_mean_squared_error:
1.7810 - val_loss: 3.0366 - val_y1_output_loss: 0.5557 - val_y2_output_loss:
2.5982 - val_y1_output_root_mean_squared_error: 0.7586 -
val_y2_output_root_mean_squared_error: 1.5688
Epoch 111/500
614/614 [==============================] - 0s 124us/sample - loss: 3.3843 -
y1_output_loss: 0.6620 - y2_output_loss: 2.7062 -
y1_output_root_mean_squared_error: 0.8133 - y2_output_root_mean_squared_error:
1.6501 - val_loss: 4.2099 - val_y1_output_loss: 1.2036 - val_y2_output_loss:
3.1832 - val_y1_output_root_mean_squared_error: 1.1066 -
val_y2_output_root_mean_squared_error: 1.7278
Epoch 112/500
614/614 [==============================] - 0s 125us/sample - loss: 2.7129 -
y1_output_loss: 0.5850 - y2_output_loss: 2.1250 -
y1_output_root_mean_squared_error: 0.7653 - y2_output_root_mean_squared_error:
1.4585 - val_loss: 2.6118 - val_y1_output_loss: 0.6098 - val_y2_output_loss:
2.1170 - val_y1_output_root_mean_squared_error: 0.7945 -
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val_y2_output_root_mean_squared_error: 1.4074
Epoch 113/500
614/614 [==============================] - 0s 124us/sample - loss: 2.0487 -
y1_output_loss: 0.4468 - y2_output_loss: 1.6095 -
y1_output_root_mean_squared_error: 0.6591 - y2_output_root_mean_squared_error:
1.2706 - val_loss: 2.1026 - val_y1_output_loss: 0.6002 - val_y2_output_loss:
1.5584 - val_y1_output_root_mean_squared_error: 0.7850 -
val_y2_output_root_mean_squared_error: 1.2192
Epoch 114/500
614/614 [==============================] - 0s 127us/sample - loss: 2.3753 -
y1_output_loss: 0.4640 - y2_output_loss: 1.9038 -
y1_output_root_mean_squared_error: 0.6830 - y2_output_root_mean_squared_error:
1.3816 - val_loss: 2.8372 - val_y1_output_loss: 0.7806 - val_y2_output_loss:
2.1099 - val_y1_output_root_mean_squared_error: 0.8868 -
val_y2_output_root_mean_squared_error: 1.4320
Epoch 115/500
614/614 [==============================] - 0s 126us/sample - loss: 2.7867 -
y1_output_loss: 0.5596 - y2_output_loss: 2.2280 -
y1_output_root_mean_squared_error: 0.7490 - y2_output_root_mean_squared_error:
1.4919 - val_loss: 2.5918 - val_y1_output_loss: 0.7523 - val_y2_output_loss:
1.8691 - val_y1_output_root_mean_squared_error: 0.8804 -
val_y2_output_root_mean_squared_error: 1.3479
Epoch 116/500
614/614 [==============================] - 0s 125us/sample - loss: 3.8750 -
y1_output_loss: 0.8596 - y2_output_loss: 3.0113 -
y1_output_root_mean_squared_error: 0.9284 - y2_output_root_mean_squared_error:
1.7358 - val_loss: 2.3630 - val_y1_output_loss: 0.7434 - val_y2_output_loss:
1.5900 - val_y1_output_root_mean_squared_error: 0.8670 -
val_y2_output_root_mean_squared_error: 1.2694
Epoch 117/500
614/614 [==============================] - 0s 123us/sample - loss: 2.4917 -
y1_output_loss: 0.4991 - y2_output_loss: 1.9855 -
y1_output_root_mean_squared_error: 0.7082 - y2_output_root_mean_squared_error:
1.4107 - val_loss: 2.4966 - val_y1_output_loss: 0.5528 - val_y2_output_loss:
1.8954 - val_y1_output_root_mean_squared_error: 0.7550 -
val_y2_output_root_mean_squared_error: 1.3880
Epoch 118/500
614/614 [==============================] - 0s 123us/sample - loss: 2.9691 -
y1_output_loss: 0.6478 - y2_output_loss: 2.3062 -
y1_output_root_mean_squared_error: 0.8041 - y2_output_root_mean_squared_error:
1.5240 - val_loss: 2.2937 - val_y1_output_loss: 0.5036 - val_y2_output_loss:
1.7799 - val_y1_output_root_mean_squared_error: 0.7172 -
val_y2_output_root_mean_squared_error: 1.3339
Epoch 119/500
614/614 [==============================] - 0s 123us/sample - loss: 3.5439 -
y1_output_loss: 0.7788 - y2_output_loss: 2.7414 -
y1_output_root_mean_squared_error: 0.8825 - y2_output_root_mean_squared_error:
1.6628 - val_loss: 2.0349 - val_y1_output_loss: 0.5170 - val_y2_output_loss:

1.5913 - val_y1_output_root_mean_squared_error: 0.7203 -
val_y2_output_root_mean_squared_error: 1.2313
Epoch 120/500
614/614 [==============================] - 0s 122us/sample - loss: 2.6864 -
y1_output_loss: 0.5478 - y2_output_loss: 2.1280 -
y1_output_root_mean_squared_error: 0.7406 - y2_output_root_mean_squared_error:
1.4622 - val_loss: 4.3894 - val_y1_output_loss: 1.2758 - val_y2_output_loss:
3.1198 - val_y1_output_root_mean_squared_error: 1.1201 -
val_y2_output_root_mean_squared_error: 1.7705
Epoch 121/500
614/614 [==============================] - 0s 122us/sample - loss: 2.5105 -
y1_output_loss: 0.5968 - y2_output_loss: 1.9415 -
y1_output_root_mean_squared_error: 0.7712 - y2_output_root_mean_squared_error:
1.3841 - val_loss: 2.4183 - val_y1_output_loss: 0.7436 - val_y2_output_loss:
1.7001 - val_y1_output_root_mean_squared_error: 0.8615 -
val_y2_output_root_mean_squared_error: 1.2947
Epoch 122/500
614/614 [==============================] - 0s 123us/sample - loss: 2.9071 -
y1_output_loss: 0.5698 - y2_output_loss: 2.3108 -
y1_output_root_mean_squared_error: 0.7583 - y2_output_root_mean_squared_error:
1.5271 - val_loss: 2.8827 - val_y1_output_loss: 0.4760 - val_y2_output_loss:
2.5451 - val_y1_output_root_mean_squared_error: 0.6992 -
val_y2_output_root_mean_squared_error: 1.5472
Epoch 123/500
614/614 [==============================] - 0s 128us/sample - loss: 3.0561 -
y1_output_loss: 0.7570 - y2_output_loss: 2.3118 -
y1_output_root_mean_squared_error: 0.8717 - y2_output_root_mean_squared_error:
1.5153 - val_loss: 2.7533 - val_y1_output_loss: 0.4876 - val_y2_output_loss:
2.4754 - val_y1_output_root_mean_squared_error: 0.7076 -
val_y2_output_root_mean_squared_error: 1.5009
Epoch 124/500
614/614 [==============================] - 0s 124us/sample - loss: 2.8988 -
y1_output_loss: 0.7070 - y2_output_loss: 2.1860 -
y1_output_root_mean_squared_error: 0.8439 - y2_output_root_mean_squared_error:
1.4788 - val_loss: 1.9632 - val_y1_output_loss: 0.5346 - val_y2_output_loss:
1.4585 - val_y1_output_root_mean_squared_error: 0.7428 -
val_y2_output_root_mean_squared_error: 1.1880
Epoch 125/500
614/614 [==============================] - 0s 123us/sample - loss: 2.4958 -
y1_output_loss: 0.5319 - y2_output_loss: 1.9513 -
y1_output_root_mean_squared_error: 0.7302 - y2_output_root_mean_squared_error:
1.4009 - val_loss: 2.4687 - val_y1_output_loss: 0.6561 - val_y2_output_loss:
1.7993 - val_y1_output_root_mean_squared_error: 0.8216 -
val_y2_output_root_mean_squared_error: 1.3393
Epoch 126/500
614/614 [==============================] - 0s 125us/sample - loss: 4.2633 -
y1_output_loss: 0.8932 - y2_output_loss: 3.3340 -
y1_output_root_mean_squared_error: 0.9490 - y2_output_root_mean_squared_error:

1.8338 - val_loss: 2.2642 - val_y1_output_loss: 0.5234 - val_y2_output_loss:
1.7069 - val_y1_output_root_mean_squared_error: 0.7284 -
val_y2_output_root_mean_squared_error: 1.3166
Epoch 127/500
614/614 [==============================] - 0s 124us/sample - loss: 3.0037 -
y1_output_loss: 0.6487 - y2_output_loss: 2.3512 -
y1_output_root_mean_squared_error: 0.8067 - y2_output_root_mean_squared_error:
1.5339 - val_loss: 2.6831 - val_y1_output_loss: 0.7606 - val_y2_output_loss:
1.8833 - val_y1_output_root_mean_squared_error: 0.8741 -
val_y2_output_root_mean_squared_error: 1.3853
Epoch 128/500
614/614 [==============================] - 0s 124us/sample - loss: 3.4543 -
y1_output_loss: 0.7107 - y2_output_loss: 2.7165 -
y1_output_root_mean_squared_error: 0.8455 - y2_output_root_mean_squared_error:
1.6552 - val_loss: 1.9414 - val_y1_output_loss: 0.5360 - val_y2_output_loss:
1.4240 - val_y1_output_root_mean_squared_error: 0.7424 -
val_y2_output_root_mean_squared_error: 1.1791
Epoch 129/500
614/614 [==============================] - 0s 125us/sample - loss: 2.4967 -
y1_output_loss: 0.5044 - y2_output_loss: 1.9736 -
y1_output_root_mean_squared_error: 0.7118 - y2_output_root_mean_squared_error:
1.4107 - val_loss: 2.8664 - val_y1_output_loss: 0.7495 - val_y2_output_loss:
2.0767 - val_y1_output_root_mean_squared_error: 0.8718 -
val_y2_output_root_mean_squared_error: 1.4513
Epoch 130/500
614/614 [==============================] - 0s 123us/sample - loss: 2.2596 -
y1_output_loss: 0.4648 - y2_output_loss: 1.7886 -
y1_output_root_mean_squared_error: 0.6818 - y2_output_root_mean_squared_error:
1.3397 - val_loss: 2.2442 - val_y1_output_loss: 0.5681 - val_y2_output_loss:
1.8377 - val_y1_output_root_mean_squared_error: 0.7526 -
val_y2_output_root_mean_squared_error: 1.2953
Epoch 131/500
614/614 [==============================] - 0s 121us/sample - loss: 2.1298 -
y1_output_loss: 0.4099 - y2_output_loss: 1.7483 -
y1_output_root_mean_squared_error: 0.6409 - y2_output_root_mean_squared_error:
1.3111 - val_loss: 5.6061 - val_y1_output_loss: 0.6808 - val_y2_output_loss:
5.2562 - val_y1_output_root_mean_squared_error: 0.8302 -
val_y2_output_root_mean_squared_error: 2.2174
Epoch 132/500
614/614 [==============================] - 0s 123us/sample - loss: 2.5352 -
y1_output_loss: 0.4927 - y2_output_loss: 2.0913 -
y1_output_root_mean_squared_error: 0.6988 - y2_output_root_mean_squared_error:
1.4307 - val_loss: 6.7796 - val_y1_output_loss: 0.7547 - val_y2_output_loss:
6.3383 - val_y1_output_root_mean_squared_error: 0.8804 -
val_y2_output_root_mean_squared_error: 2.4504
Epoch 133/500
614/614 [==============================] - 0s 124us/sample - loss: 3.0776 -
y1_output_loss: 0.6348 - y2_output_loss: 2.4547 -

y1_output_root_mean_squared_error: 0.7981 - y2_output_root_mean_squared_error:
1.5623 - val_loss: 6.4762 - val_y1_output_loss: 1.0746 - val_y2_output_loss:
5.9170 - val_y1_output_root_mean_squared_error: 1.0124 -
val_y2_output_root_mean_squared_error: 2.3348
Epoch 134/500
614/614 [==============================] - 0s 124us/sample - loss: 2.3090 -
y1_output_loss: 0.5078 - y2_output_loss: 1.8271 -
y1_output_root_mean_squared_error: 0.7123 - y2_output_root_mean_squared_error:
1.3422 - val_loss: 17.1291 - val_y1_output_loss: 3.0201 - val_y2_output_loss:
14.5223 - val_y1_output_root_mean_squared_error: 1.7442 -
val_y2_output_root_mean_squared_error: 3.7533
Epoch 135/500
614/614 [==============================] - 0s 122us/sample - loss: 2.8162 -
y1_output_loss: 0.6838 - y2_output_loss: 2.1137 -
y1_output_root_mean_squared_error: 0.8277 - y2_output_root_mean_squared_error:
1.4598 - val_loss: 1.9879 - val_y1_output_loss: 0.4672 - val_y2_output_loss:
1.6414 - val_y1_output_root_mean_squared_error: 0.6898 -
val_y2_output_root_mean_squared_error: 1.2296
Epoch 136/500
614/614 [==============================] - 0s 127us/sample - loss: 2.2117 -
y1_output_loss: 0.4446 - y2_output_loss: 1.7512 -
y1_output_root_mean_squared_error: 0.6670 - y2_output_root_mean_squared_error:
1.3292 - val_loss: 1.8489 - val_y1_output_loss: 0.5079 - val_y2_output_loss:
1.3839 - val_y1_output_root_mean_squared_error: 0.7232 -
val_y2_output_root_mean_squared_error: 1.1515
Epoch 137/500
614/614 [==============================] - 0s 124us/sample - loss: 3.0595 -
y1_output_loss: 0.6340 - y2_output_loss: 2.4055 -
y1_output_root_mean_squared_error: 0.7977 - y2_output_root_mean_squared_error:
1.5567 - val_loss: 2.1129 - val_y1_output_loss: 0.8120 - val_y2_output_loss:
1.3318 - val_y1_output_root_mean_squared_error: 0.8997 -
val_y2_output_root_mean_squared_error: 1.1417
Epoch 138/500
614/614 [==============================] - 0s 125us/sample - loss: 2.1775 -
y1_output_loss: 0.4375 - y2_output_loss: 1.8031 -
y1_output_root_mean_squared_error: 0.6606 - y2_output_root_mean_squared_error:
1.3195 - val_loss: 7.5740 - val_y1_output_loss: 1.0646 - val_y2_output_loss:
6.6012 - val_y1_output_root_mean_squared_error: 1.0476 -
val_y2_output_root_mean_squared_error: 2.5449
Epoch 139/500
614/614 [==============================] - 0s 124us/sample - loss: 2.5114 -
y1_output_loss: 0.4126 - y2_output_loss: 2.0855 -
y1_output_root_mean_squared_error: 0.6436 - y2_output_root_mean_squared_error:
1.4482 - val_loss: 2.3293 - val_y1_output_loss: 0.6508 - val_y2_output_loss:
1.6865 - val_y1_output_root_mean_squared_error: 0.8101 -
val_y2_output_root_mean_squared_error: 1.2935
Epoch 140/500
614/614 [==============================] - 0s 123us/sample - loss: 2.1235 -

y1_output_loss: 0.4624 - y2_output_loss: 1.6674 -
y1_output_root_mean_squared_error: 0.6774 - y2_output_root_mean_squared_error:
1.2902 - val_loss: 2.1783 - val_y1_output_loss: 0.4503 - val_y2_output_loss:
1.7837 - val_y1_output_root_mean_squared_error: 0.6826 -
val_y2_output_root_mean_squared_error: 1.3086
Epoch 141/500
614/614 [==============================] - 0s 122us/sample - loss: 2.1179 -
y1_output_loss: 0.4115 - y2_output_loss: 1.7277 -
y1_output_root_mean_squared_error: 0.6405 - y2_output_root_mean_squared_error:
1.3068 - val_loss: 6.2214 - val_y1_output_loss: 0.9284 - val_y2_output_loss:
5.2034 - val_y1_output_root_mean_squared_error: 0.9609 -
val_y2_output_root_mean_squared_error: 2.3018
Epoch 142/500
614/614 [==============================] - 0s 128us/sample - loss: 3.3258 -
y1_output_loss: 0.7448 - y2_output_loss: 2.5515 -
y1_output_root_mean_squared_error: 0.8668 - y2_output_root_mean_squared_error:
1.6045 - val_loss: 1.8118 - val_y1_output_loss: 0.4092 - val_y2_output_loss:
1.4213 - val_y1_output_root_mean_squared_error: 0.6493 -
val_y2_output_root_mean_squared_error: 1.1791
Epoch 143/500
614/614 [==============================] - 0s 124us/sample - loss: 2.5669 -
y1_output_loss: 0.5602 - y2_output_loss: 2.1519 -
y1_output_root_mean_squared_error: 0.7444 - y2_output_root_mean_squared_error:
1.4187 - val_loss: 11.3837 - val_y1_output_loss: 1.7458 - val_y2_output_loss:
9.7091 - val_y1_output_root_mean_squared_error: 1.3439 -
val_y2_output_root_mean_squared_error: 3.0948
Epoch 144/500
614/614 [==============================] - 0s 124us/sample - loss: 2.0523 -
y1_output_loss: 0.4318 - y2_output_loss: 1.6327 -
y1_output_root_mean_squared_error: 0.6557 - y2_output_root_mean_squared_error:
1.2737 - val_loss: 4.5557 - val_y1_output_loss: 0.6085 - val_y2_output_loss:
3.8204 - val_y1_output_root_mean_squared_error: 0.7914 -
val_y2_output_root_mean_squared_error: 1.9823
Epoch 145/500
614/614 [==============================] - 0s 122us/sample - loss: 2.1049 -
y1_output_loss: 0.4236 - y2_output_loss: 1.6707 -
y1_output_root_mean_squared_error: 0.6516 - y2_output_root_mean_squared_error:
1.2963 - val_loss: 1.9460 - val_y1_output_loss: 0.5721 - val_y2_output_loss:
1.3491 - val_y1_output_root_mean_squared_error: 0.7657 -
val_y2_output_root_mean_squared_error: 1.1661
Epoch 146/500
614/614 [==============================] - 0s 128us/sample - loss: 1.8978 -
y1_output_loss: 0.4252 - y2_output_loss: 1.4637 -
y1_output_root_mean_squared_error: 0.6539 - y2_output_root_mean_squared_error:
1.2125 - val_loss: 2.2099 - val_y1_output_loss: 0.6078 - val_y2_output_loss:
1.6546 - val_y1_output_root_mean_squared_error: 0.7823 -
val_y2_output_root_mean_squared_error: 1.2641
Epoch 147/500

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614/614 [==============================] - 0s 126us/sample - loss: 2.5006 -
y1_output_loss: 0.5105 - y2_output_loss: 1.9758 -
y1_output_root_mean_squared_error: 0.7167 - y2_output_root_mean_squared_error:
1.4096 - val_loss: 1.8324 - val_y1_output_loss: 0.4700 - val_y2_output_loss:
1.3637 - val_y1_output_root_mean_squared_error: 0.6973 -
val_y2_output_root_mean_squared_error: 1.1603
Epoch 148/500
614/614 [==============================] - 0s 121us/sample - loss: 1.8523 -
y1_output_loss: 0.4164 - y2_output_loss: 1.4265 -
y1_output_root_mean_squared_error: 0.6442 - y2_output_root_mean_squared_error:
1.1989 - val_loss: 2.0515 - val_y1_output_loss: 0.6425 - val_y2_output_loss:
1.3903 - val_y1_output_root_mean_squared_error: 0.8109 -
val_y2_output_root_mean_squared_error: 1.1806
Epoch 149/500
614/614 [==============================] - 0s 126us/sample - loss: 2.2525 -
y1_output_loss: 0.4725 - y2_output_loss: 1.8290 -
y1_output_root_mean_squared_error: 0.6766 - y2_output_root_mean_squared_error:
1.3397 - val_loss: 8.4821 - val_y1_output_loss: 3.0649 - val_y2_output_loss:
5.4697 - val_y1_output_root_mean_squared_error: 1.7338 -
val_y2_output_root_mean_squared_error: 2.3401
Epoch 150/500
614/614 [==============================] - 0s 130us/sample - loss: 1.9455 -
y1_output_loss: 0.4587 - y2_output_loss: 1.4872 -
y1_output_root_mean_squared_error: 0.6753 - y2_output_root_mean_squared_error:
1.2204 - val_loss: 2.0310 - val_y1_output_loss: 0.6625 - val_y2_output_loss:
1.3262 - val_y1_output_root_mean_squared_error: 0.8245 -
val_y2_output_root_mean_squared_error: 1.1624
Epoch 151/500
614/614 [==============================] - 0s 127us/sample - loss: 2.7921 -
y1_output_loss: 0.5992 - y2_output_loss: 2.1678 -
y1_output_root_mean_squared_error: 0.7770 - y2_output_root_mean_squared_error:
1.4793 - val_loss: 1.6281 - val_y1_output_loss: 0.4950 - val_y2_output_loss:
1.1275 - val_y1_output_root_mean_squared_error: 0.7046 -
val_y2_output_root_mean_squared_error: 1.0638
Epoch 152/500
614/614 [==============================] - 0s 128us/sample - loss: 2.0669 -
y1_output_loss: 0.4554 - y2_output_loss: 1.6157 -
y1_output_root_mean_squared_error: 0.6761 - y2_output_root_mean_squared_error:
1.2688 - val_loss: 2.0808 - val_y1_output_loss: 0.4543 - val_y2_output_loss:
1.6670 - val_y1_output_root_mean_squared_error: 0.6845 -
val_y2_output_root_mean_squared_error: 1.2698
Epoch 153/500
614/614 [==============================] - 0s 132us/sample - loss: 2.0787 -
y1_output_loss: 0.4345 - y2_output_loss: 1.6381 -
y1_output_root_mean_squared_error: 0.6584 - y2_output_root_mean_squared_error:
1.2826 - val_loss: 3.4221 - val_y1_output_loss: 0.9798 - val_y2_output_loss:
2.4655 - val_y1_output_root_mean_squared_error: 0.9715 -
val_y2_output_root_mean_squared_error: 1.5743
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Epoch 154/500
614/614 [==============================] - 0s 134us/sample - loss: 2.4246 -
y1_output_loss: 0.4904 - y2_output_loss: 1.9378 -
y1_output_root_mean_squared_error: 0.7027 - y2_output_root_mean_squared_error:
1.3895 - val_loss: 3.0515 - val_y1_output_loss: 1.0074 - val_y2_output_loss:
2.0823 - val_y1_output_root_mean_squared_error: 0.9883 -
val_y2_output_root_mean_squared_error: 1.4404
Epoch 155/500
614/614 [==============================] - 0s 125us/sample - loss: 1.9259 -
y1_output_loss: 0.4127 - y2_output_loss: 1.4993 -
y1_output_root_mean_squared_error: 0.6451 - y2_output_root_mean_squared_error:
1.2287 - val_loss: 1.8203 - val_y1_output_loss: 0.4850 - val_y2_output_loss:
1.3291 - val_y1_output_root_mean_squared_error: 0.6980 -
val_y2_output_root_mean_squared_error: 1.1546
Epoch 156/500
614/614 [==============================] - 0s 127us/sample - loss: 2.1542 -
y1_output_loss: 0.4469 - y2_output_loss: 1.6983 -
y1_output_root_mean_squared_error: 0.6653 - y2_output_root_mean_squared_error:
1.3083 - val_loss: 2.6934 - val_y1_output_loss: 0.4443 - val_y2_output_loss:
2.3656 - val_y1_output_root_mean_squared_error: 0.6772 -
val_y2_output_root_mean_squared_error: 1.4949
Epoch 157/500
614/614 [==============================] - 0s 131us/sample - loss: 2.0984 -
y1_output_loss: 0.3912 - y2_output_loss: 1.6907 -
y1_output_root_mean_squared_error: 0.6260 - y2_output_root_mean_squared_error:
1.3064 - val_loss: 1.7553 - val_y1_output_loss: 0.4860 - val_y2_output_loss:
1.2996 - val_y1_output_root_mean_squared_error: 0.6966 -
val_y2_output_root_mean_squared_error: 1.1270
Epoch 158/500
614/614 [==============================] - 0s 123us/sample - loss: 1.9245 -
y1_output_loss: 0.3422 - y2_output_loss: 1.6717 -
y1_output_root_mean_squared_error: 0.5840 - y2_output_root_mean_squared_error:
1.2584 - val_loss: 10.7494 - val_y1_output_loss: 0.8543 - val_y2_output_loss:
9.9958 - val_y1_output_root_mean_squared_error: 0.9406 -
val_y2_output_root_mean_squared_error: 3.1408
Epoch 159/500
614/614 [==============================] - 0s 128us/sample - loss: 2.6228 -
y1_output_loss: 0.4486 - y2_output_loss: 2.1720 -
y1_output_root_mean_squared_error: 0.6718 - y2_output_root_mean_squared_error:
1.4736 - val_loss: 4.1971 - val_y1_output_loss: 1.4758 - val_y2_output_loss:
2.7845 - val_y1_output_root_mean_squared_error: 1.1990 -
val_y2_output_root_mean_squared_error: 1.6611
Epoch 160/500
614/614 [==============================] - 0s 132us/sample - loss: 1.9559 -
y1_output_loss: 0.4012 - y2_output_loss: 1.5754 -
y1_output_root_mean_squared_error: 0.6324 - y2_output_root_mean_squared_error:
1.2474 - val_loss: 1.7112 - val_y1_output_loss: 0.4318 - val_y2_output_loss:
1.3338 - val_y1_output_root_mean_squared_error: 0.6658 -
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val_y2_output_root_mean_squared_error: 1.1260
Epoch 161/500
614/614 [==============================] - 0s 129us/sample - loss: 1.5915 -
y1_output_loss: 0.3297 - y2_output_loss: 1.2800 -
y1_output_root_mean_squared_error: 0.5747 - y2_output_root_mean_squared_error:
1.1230 - val_loss: 5.5313 - val_y1_output_loss: 1.4842 - val_y2_output_loss:
4.0537 - val_y1_output_root_mean_squared_error: 1.2071 -
val_y2_output_root_mean_squared_error: 2.0185
Epoch 162/500
614/614 [==============================] - 0s 128us/sample - loss: 2.1465 -
y1_output_loss: 0.4120 - y2_output_loss: 1.7509 -
y1_output_root_mean_squared_error: 0.6427 - y2_output_root_mean_squared_error:
1.3166 - val_loss: 4.8792 - val_y1_output_loss: 0.8324 - val_y2_output_loss:
4.0798 - val_y1_output_root_mean_squared_error: 0.8994 -
val_y2_output_root_mean_squared_error: 2.0175
Epoch 163/500
614/614 [==============================] - 0s 128us/sample - loss: 2.5459 -
y1_output_loss: 0.5360 - y2_output_loss: 1.9911 -
y1_output_root_mean_squared_error: 0.7352 - y2_output_root_mean_squared_error:
1.4161 - val_loss: 2.8879 - val_y1_output_loss: 0.7095 - val_y2_output_loss:
2.1201 - val_y1_output_root_mean_squared_error: 0.8481 -
val_y2_output_root_mean_squared_error: 1.4726
Epoch 164/500
614/614 [==============================] - 0s 131us/sample - loss: 2.1095 -
y1_output_loss: 0.4136 - y2_output_loss: 1.6771 -
y1_output_root_mean_squared_error: 0.6461 - y2_output_root_mean_squared_error:
1.3008 - val_loss: 1.5389 - val_y1_output_loss: 0.4048 - val_y2_output_loss:
1.1195 - val_y1_output_root_mean_squared_error: 0.6453 -
val_y2_output_root_mean_squared_error: 1.0594
Epoch 165/500
614/614 [==============================] - 0s 138us/sample - loss: 2.1607 -
y1_output_loss: 0.4125 - y2_output_loss: 1.7347 -
y1_output_root_mean_squared_error: 0.6439 - y2_output_root_mean_squared_error:
1.3214 - val_loss: 1.5482 - val_y1_output_loss: 0.4218 - val_y2_output_loss:
1.1192 - val_y1_output_root_mean_squared_error: 0.6553 -
val_y2_output_root_mean_squared_error: 1.0577
Epoch 166/500
614/614 [==============================] - 0s 129us/sample - loss: 2.3136 -
y1_output_loss: 0.4344 - y2_output_loss: 1.8659 -
y1_output_root_mean_squared_error: 0.6571 - y2_output_root_mean_squared_error:
1.3718 - val_loss: 1.4786 - val_y1_output_loss: 0.3923 - val_y2_output_loss:
1.0928 - val_y1_output_root_mean_squared_error: 0.6354 -
val_y2_output_root_mean_squared_error: 1.0367
Epoch 167/500
614/614 [==============================] - 0s 129us/sample - loss: 1.8279 -
y1_output_loss: 0.3250 - y2_output_loss: 1.4968 -
y1_output_root_mean_squared_error: 0.5708 - y2_output_root_mean_squared_error:
1.2256 - val_loss: 1.5795 - val_y1_output_loss: 0.4063 - val_y2_output_loss:

1.1537 - val_y1_output_root_mean_squared_error: 0.6487 -
val_y2_output_root_mean_squared_error: 1.0764
Epoch 168/500
614/614 [==============================] - 0s 129us/sample - loss: 2.4802 -
y1_output_loss: 0.5510 - y2_output_loss: 1.9128 -
y1_output_root_mean_squared_error: 0.7455 - y2_output_root_mean_squared_error:
1.3873 - val_loss: 2.0492 - val_y1_output_loss: 0.5878 - val_y2_output_loss:
1.4523 - val_y1_output_root_mean_squared_error: 0.7648 -
val_y2_output_root_mean_squared_error: 1.2101
Epoch 169/500
614/614 [==============================] - 0s 132us/sample - loss: 1.9148 -
y1_output_loss: 0.3611 - y2_output_loss: 1.5412 -
y1_output_root_mean_squared_error: 0.6030 - y2_output_root_mean_squared_error:
1.2455 - val_loss: 1.9090 - val_y1_output_loss: 0.3926 - val_y2_output_loss:
1.5464 - val_y1_output_root_mean_squared_error: 0.6355 -
val_y2_output_root_mean_squared_error: 1.2268
Epoch 170/500
614/614 [==============================] - 0s 127us/sample - loss: 2.2524 -
y1_output_loss: 0.4377 - y2_output_loss: 1.8375 -
y1_output_root_mean_squared_error: 0.6576 - y2_output_root_mean_squared_error:
1.3490 - val_loss: 6.1654 - val_y1_output_loss: 2.4335 - val_y2_output_loss:
3.9168 - val_y1_output_root_mean_squared_error: 1.5166 -
val_y2_output_root_mean_squared_error: 1.9660
Epoch 171/500
614/614 [==============================] - 0s 130us/sample - loss: 2.9095 -
y1_output_loss: 0.6420 - y2_output_loss: 2.2606 -
y1_output_root_mean_squared_error: 0.7993 - y2_output_root_mean_squared_error:
1.5068 - val_loss: 1.9152 - val_y1_output_loss: 0.4420 - val_y2_output_loss:
1.4310 - val_y1_output_root_mean_squared_error: 0.6727 -
val_y2_output_root_mean_squared_error: 1.2094
Epoch 172/500
614/614 [==============================] - 0s 135us/sample - loss: 2.0961 -
y1_output_loss: 0.3965 - y2_output_loss: 1.7001 -
y1_output_root_mean_squared_error: 0.6314 - y2_output_root_mean_squared_error:
1.3029 - val_loss: 5.0480 - val_y1_output_loss: 0.6217 - val_y2_output_loss:
4.3313 - val_y1_output_root_mean_squared_error: 0.7933 -
val_y2_output_root_mean_squared_error: 2.1021
Epoch 173/500
614/614 [==============================] - 0s 136us/sample - loss: 3.5532 -
y1_output_loss: 0.8328 - y2_output_loss: 2.7111 -
y1_output_root_mean_squared_error: 0.9152 - y2_output_root_mean_squared_error:
1.6479 - val_loss: 2.2394 - val_y1_output_loss: 0.5579 - val_y2_output_loss:
1.6565 - val_y1_output_root_mean_squared_error: 0.7456 -
val_y2_output_root_mean_squared_error: 1.2975
Epoch 174/500
614/614 [==============================] - 0s 134us/sample - loss: 1.5529 -
y1_output_loss: 0.3050 - y2_output_loss: 1.2357 -
y1_output_root_mean_squared_error: 0.5540 - y2_output_root_mean_squared_error:

1.1162 - val_loss: 1.5758 - val_y1_output_loss: 0.3042 - val_y2_output_loss:
1.3024 - val_y1_output_root_mean_squared_error: 0.5532 -
val_y2_output_root_mean_squared_error: 1.1268
Epoch 175/500
614/614 [==============================] - 0s 139us/sample - loss: 1.6568 -
y1_output_loss: 0.3057 - y2_output_loss: 1.3454 -
y1_output_root_mean_squared_error: 0.5538 - y2_output_root_mean_squared_error:
1.1619 - val_loss: 1.3742 - val_y1_output_loss: 0.3165 - val_y2_output_loss:
1.0520 - val_y1_output_root_mean_squared_error: 0.5668 -
val_y2_output_root_mean_squared_error: 1.0261
Epoch 176/500
614/614 [==============================] - 0s 131us/sample - loss: 1.3703 -
y1_output_loss: 0.2504 - y2_output_loss: 1.1128 -
y1_output_root_mean_squared_error: 0.5025 - y2_output_root_mean_squared_error:
1.0573 - val_loss: 1.6207 - val_y1_output_loss: 0.3386 - val_y2_output_loss:
1.3718 - val_y1_output_root_mean_squared_error: 0.5859 -
val_y2_output_root_mean_squared_error: 1.1302
Epoch 177/500
614/614 [==============================] - 0s 125us/sample - loss: 1.6578 -
y1_output_loss: 0.3211 - y2_output_loss: 1.4232 -
y1_output_root_mean_squared_error: 0.5577 - y2_output_root_mean_squared_error:
1.1605 - val_loss: 14.1536 - val_y1_output_loss: 2.3862 - val_y2_output_loss:
12.0420 - val_y1_output_root_mean_squared_error: 1.5509 -
val_y2_output_root_mean_squared_error: 3.4276
Epoch 178/500
614/614 [==============================] - 0s 130us/sample - loss: 3.9355 -
y1_output_loss: 0.7950 - y2_output_loss: 3.1120 -
y1_output_root_mean_squared_error: 0.8918 - y2_output_root_mean_squared_error:
1.7721 - val_loss: 1.5299 - val_y1_output_loss: 0.3266 - val_y2_output_loss:
1.1891 - val_y1_output_root_mean_squared_error: 0.5776 -
val_y2_output_root_mean_squared_error: 1.0937
Epoch 179/500
614/614 [==============================] - 0s 133us/sample - loss: 1.6338 -
y1_output_loss: 0.2918 - y2_output_loss: 1.3353 -
y1_output_root_mean_squared_error: 0.5412 - y2_output_root_mean_squared_error:
1.1580 - val_loss: 2.3823 - val_y1_output_loss: 0.5054 - val_y2_output_loss:
1.8613 - val_y1_output_root_mean_squared_error: 0.7003 -
val_y2_output_root_mean_squared_error: 1.3754
Epoch 180/500
614/614 [==============================] - 0s 130us/sample - loss: 1.3839 -
y1_output_loss: 0.2703 - y2_output_loss: 1.1194 -
y1_output_root_mean_squared_error: 0.5216 - y2_output_root_mean_squared_error:
1.0544 - val_loss: 1.7750 - val_y1_output_loss: 0.5499 - val_y2_output_loss:
1.2377 - val_y1_output_root_mean_squared_error: 0.7461 -
val_y2_output_root_mean_squared_error: 1.1038
Epoch 181/500
614/614 [==============================] - 0s 131us/sample - loss: 1.7721 -
y1_output_loss: 0.3777 - y2_output_loss: 1.4052 -

y1_output_root_mean_squared_error: 0.6167 - y2_output_root_mean_squared_error:
1.1797 - val_loss: 1.8393 - val_y1_output_loss: 0.2656 - val_y2_output_loss:
1.6640 - val_y1_output_root_mean_squared_error: 0.5221 -
val_y2_output_root_mean_squared_error: 1.2517
Epoch 182/500
614/614 [==============================] - 0s 126us/sample - loss: 1.3498 -
y1_output_loss: 0.2721 - y2_output_loss: 1.0796 -
y1_output_root_mean_squared_error: 0.5135 - y2_output_root_mean_squared_error:
1.0422 - val_loss: 1.4342 - val_y1_output_loss: 0.3996 - val_y2_output_loss:
1.0348 - val_y1_output_root_mean_squared_error: 0.6292 -
val_y2_output_root_mean_squared_error: 1.0190
Epoch 183/500
614/614 [==============================] - 0s 129us/sample - loss: 1.5890 -
y1_output_loss: 0.3097 - y2_output_loss: 1.2738 -
y1_output_root_mean_squared_error: 0.5576 - y2_output_root_mean_squared_error:
1.1305 - val_loss: 1.6155 - val_y1_output_loss: 0.3650 - val_y2_output_loss:
1.2317 - val_y1_output_root_mean_squared_error: 0.6154 -
val_y2_output_root_mean_squared_error: 1.1121
Epoch 184/500
614/614 [==============================] - 0s 129us/sample - loss: 2.7307 -
y1_output_loss: 0.4720 - y2_output_loss: 2.2390 -
y1_output_root_mean_squared_error: 0.6869 - y2_output_root_mean_squared_error:
1.5029 - val_loss: 1.4305 - val_y1_output_loss: 0.3290 - val_y2_output_loss:
1.0795 - val_y1_output_root_mean_squared_error: 0.5800 -
val_y2_output_root_mean_squared_error: 1.0460
Epoch 185/500
614/614 [==============================] - 0s 126us/sample - loss: 1.5502 -
y1_output_loss: 0.2729 - y2_output_loss: 1.3057 -
y1_output_root_mean_squared_error: 0.5239 - y2_output_root_mean_squared_error:
1.1295 - val_loss: 1.7144 - val_y1_output_loss: 0.3478 - val_y2_output_loss:
1.3218 - val_y1_output_root_mean_squared_error: 0.5980 -
val_y2_output_root_mean_squared_error: 1.1648
Epoch 186/500
614/614 [==============================] - 0s 125us/sample - loss: 1.7737 -
y1_output_loss: 0.3300 - y2_output_loss: 1.4514 -
y1_output_root_mean_squared_error: 0.5718 - y2_output_root_mean_squared_error:
1.2028 - val_loss: 4.8147 - val_y1_output_loss: 0.8186 - val_y2_output_loss:
3.8872 - val_y1_output_root_mean_squared_error: 0.9050 -
val_y2_output_root_mean_squared_error: 1.9989
Epoch 187/500
614/614 [==============================] - 0s 126us/sample - loss: 2.1768 -
y1_output_loss: 0.3921 - y2_output_loss: 1.7702 -
y1_output_root_mean_squared_error: 0.6266 - y2_output_root_mean_squared_error:
1.3357 - val_loss: 1.3455 - val_y1_output_loss: 0.2751 - val_y2_output_loss:
1.0696 - val_y1_output_root_mean_squared_error: 0.5337 -
val_y2_output_root_mean_squared_error: 1.0299
Epoch 188/500
614/614 [==============================] - 0s 125us/sample - loss: 2.6244 -

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y1_output_loss: 0.4541 - y2_output_loss: 2.1698 -
y1_output_root_mean_squared_error: 0.6754 - y2_output_root_mean_squared_error:
1.4725 - val_loss: 2.7150 - val_y1_output_loss: 0.5912 - val_y2_output_loss:
2.0636 - val_y1_output_root_mean_squared_error: 0.7809 -
val_y2_output_root_mean_squared_error: 1.4509
Epoch 189/500
614/614 [==============================] - 0s 125us/sample - loss: 2.7426 -
y1_output_loss: 0.5678 - y2_output_loss: 2.1616 -
y1_output_root_mean_squared_error: 0.7548 - y2_output_root_mean_squared_error:
1.4741 - val_loss: 4.4930 - val_y1_output_loss: 1.2858 - val_y2_output_loss:
3.1921 - val_y1_output_root_mean_squared_error: 1.1262 -
val_y2_output_root_mean_squared_error: 1.7958
Epoch 190/500
614/614 [==============================] - 0s 126us/sample - loss: 1.4756 -
y1_output_loss: 0.2984 - y2_output_loss: 1.1642 -
y1_output_root_mean_squared_error: 0.5486 - y2_output_root_mean_squared_error:
1.0838 - val_loss: 1.6312 - val_y1_output_loss: 0.3921 - val_y2_output_loss:
1.2424 - val_y1_output_root_mean_squared_error: 0.6244 -
val_y2_output_root_mean_squared_error: 1.1142
Epoch 191/500
614/614 [==============================] - 0s 124us/sample - loss: 1.5952 -
y1_output_loss: 0.2934 - y2_output_loss: 1.3094 -
y1_output_root_mean_squared_error: 0.5439 - y2_output_root_mean_squared_error:
1.1399 - val_loss: 1.4516 - val_y1_output_loss: 0.2693 - val_y2_output_loss:
1.2554 - val_y1_output_root_mean_squared_error: 0.5249 -
val_y2_output_root_mean_squared_error: 1.0845
Epoch 192/500
614/614 [==============================] - 0s 129us/sample - loss: 1.6995 -
y1_output_loss: 0.3225 - y2_output_loss: 1.3689 -
y1_output_root_mean_squared_error: 0.5684 - y2_output_root_mean_squared_error:
1.1732 - val_loss: 1.7289 - val_y1_output_loss: 0.3458 - val_y2_output_loss:
1.3330 - val_y1_output_root_mean_squared_error: 0.5939 -
val_y2_output_root_mean_squared_error: 1.1731
Epoch 193/500
614/614 [==============================] - 0s 127us/sample - loss: 1.6372 -
y1_output_loss: 0.2939 - y2_output_loss: 1.3386 -
y1_output_root_mean_squared_error: 0.5372 - y2_output_root_mean_squared_error:
1.1613 - val_loss: 2.6660 - val_y1_output_loss: 0.3298 - val_y2_output_loss:
2.3033 - val_y1_output_root_mean_squared_error: 0.5733 -
val_y2_output_root_mean_squared_error: 1.5288
Epoch 194/500
614/614 [==============================] - 0s 125us/sample - loss: 1.4964 -
y1_output_loss: 0.2572 - y2_output_loss: 1.2376 -
y1_output_root_mean_squared_error: 0.5083 - y2_output_root_mean_squared_error:
1.1127 - val_loss: 1.5619 - val_y1_output_loss: 0.3814 - val_y2_output_loss:
1.1577 - val_y1_output_root_mean_squared_error: 0.6084 -
val_y2_output_root_mean_squared_error: 1.0917
Epoch 195/500
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614/614 [==============================] - 0s 126us/sample - loss: 1.5461 -
y1_output_loss: 0.3446 - y2_output_loss: 1.1960 -
y1_output_root_mean_squared_error: 0.5865 - y2_output_root_mean_squared_error:
1.0964 - val_loss: 1.4794 - val_y1_output_loss: 0.2994 - val_y2_output_loss:
1.2080 - val_y1_output_root_mean_squared_error: 0.5558 -
val_y2_output_root_mean_squared_error: 1.0819
Epoch 196/500
614/614 [==============================] - 0s 124us/sample - loss: 1.9380 -
y1_output_loss: 0.3177 - y2_output_loss: 1.6212 -
y1_output_root_mean_squared_error: 0.5652 - y2_output_root_mean_squared_error:
1.2722 - val_loss: 2.5956 - val_y1_output_loss: 0.4322 - val_y2_output_loss:
2.1402 - val_y1_output_root_mean_squared_error: 0.6637 -
val_y2_output_root_mean_squared_error: 1.4680
Epoch 197/500
614/614 [==============================] - 0s 126us/sample - loss: 1.9534 -
y1_output_loss: 0.3711 - y2_output_loss: 1.5930 -
y1_output_root_mean_squared_error: 0.6041 - y2_output_root_mean_squared_error:
1.2603 - val_loss: 4.6897 - val_y1_output_loss: 1.6609 - val_y2_output_loss:
3.1976 - val_y1_output_root_mean_squared_error: 1.2694 -
val_y2_output_root_mean_squared_error: 1.7545
Epoch 198/500
614/614 [==============================] - 0s 138us/sample - loss: 1.6314 -
y1_output_loss: 0.3770 - y2_output_loss: 1.2433 -
y1_output_root_mean_squared_error: 0.6158 - y2_output_root_mean_squared_error:
1.1190 - val_loss: 1.7040 - val_y1_output_loss: 0.3851 - val_y2_output_loss:
1.3290 - val_y1_output_root_mean_squared_error: 0.6307 -
val_y2_output_root_mean_squared_error: 1.1429
Epoch 199/500
614/614 [==============================] - 0s 137us/sample - loss: 1.4776 -
y1_output_loss: 0.2742 - y2_output_loss: 1.2147 -
y1_output_root_mean_squared_error: 0.5207 - y2_output_root_mean_squared_error:
1.0984 - val_loss: 3.2837 - val_y1_output_loss: 0.3544 - val_y2_output_loss:
2.8322 - val_y1_output_root_mean_squared_error: 0.5996 -
val_y2_output_root_mean_squared_error: 1.7100
Epoch 200/500
614/614 [==============================] - 0s 126us/sample - loss: 1.4168 -
y1_output_loss: 0.2843 - y2_output_loss: 1.1275 -
y1_output_root_mean_squared_error: 0.5295 - y2_output_root_mean_squared_error:
1.0661 - val_loss: 1.3399 - val_y1_output_loss: 0.3868 - val_y2_output_loss:
0.9547 - val_y1_output_root_mean_squared_error: 0.6214 -
val_y2_output_root_mean_squared_error: 0.9766
Epoch 201/500
614/614 [==============================] - 0s 125us/sample - loss: 1.4611 -
y1_output_loss: 0.2629 - y2_output_loss: 1.2568 -
y1_output_root_mean_squared_error: 0.5145 - y2_output_root_mean_squared_error:
1.0938 - val_loss: 11.3936 - val_y1_output_loss: 1.4718 - val_y2_output_loss:
10.6998 - val_y1_output_root_mean_squared_error: 1.1764 -
val_y2_output_root_mean_squared_error: 3.1638
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Epoch 202/500
614/614 [==============================] - 0s 125us/sample - loss: 3.2257 -
y1_output_loss: 0.5146 - y2_output_loss: 2.6915 -
y1_output_root_mean_squared_error: 0.7176 - y2_output_root_mean_squared_error:
1.6464 - val_loss: 2.1260 - val_y1_output_loss: 0.3515 - val_y2_output_loss:
1.8075 - val_y1_output_root_mean_squared_error: 0.6021 -
val_y2_output_root_mean_squared_error: 1.3279
Epoch 203/500
614/614 [==============================] - 0s 125us/sample - loss: 1.5504 -
y1_output_loss: 0.2574 - y2_output_loss: 1.2957 -
y1_output_root_mean_squared_error: 0.5097 - y2_output_root_mean_squared_error:
1.1361 - val_loss: 4.2224 - val_y1_output_loss: 0.5336 - val_y2_output_loss:
3.6064 - val_y1_output_root_mean_squared_error: 0.7315 -
val_y2_output_root_mean_squared_error: 1.9203
Epoch 204/500
614/614 [==============================] - 0s 125us/sample - loss: 1.8521 -
y1_output_loss: 0.3439 - y2_output_loss: 1.5016 -
y1_output_root_mean_squared_error: 0.5872 - y2_output_root_mean_squared_error:
1.2278 - val_loss: 1.3306 - val_y1_output_loss: 0.2663 - val_y2_output_loss:
1.0297 - val_y1_output_root_mean_squared_error: 0.5252 -
val_y2_output_root_mean_squared_error: 1.0270
Epoch 205/500
614/614 [==============================] - 0s 124us/sample - loss: 1.4906 -
y1_output_loss: 0.2486 - y2_output_loss: 1.2298 -
y1_output_root_mean_squared_error: 0.4999 - y2_output_root_mean_squared_error:
1.1139 - val_loss: 1.2180 - val_y1_output_loss: 0.2686 - val_y2_output_loss:
0.9210 - val_y1_output_root_mean_squared_error: 0.5255 -
val_y2_output_root_mean_squared_error: 0.9705
Epoch 206/500
614/614 [==============================] - 0s 124us/sample - loss: 1.6073 -
y1_output_loss: 0.2851 - y2_output_loss: 1.3345 -
y1_output_root_mean_squared_error: 0.5358 - y2_output_root_mean_squared_error:
1.1490 - val_loss: 2.1030 - val_y1_output_loss: 0.3159 - val_y2_output_loss:
1.7176 - val_y1_output_root_mean_squared_error: 0.5725 -
val_y2_output_root_mean_squared_error: 1.3324
Epoch 207/500
614/614 [==============================] - 0s 127us/sample - loss: 1.6711 -
y1_output_loss: 0.2932 - y2_output_loss: 1.3656 -
y1_output_root_mean_squared_error: 0.5435 - y2_output_root_mean_squared_error:
1.1729 - val_loss: 1.2890 - val_y1_output_loss: 0.2956 - val_y2_output_loss:
0.9674 - val_y1_output_root_mean_squared_error: 0.5458 -
val_y2_output_root_mean_squared_error: 0.9955
Epoch 208/500
614/614 [==============================] - 0s 139us/sample - loss: 1.8203 -
y1_output_loss: 0.3388 - y2_output_loss: 1.4776 -
y1_output_root_mean_squared_error: 0.5819 - y2_output_root_mean_squared_error:
1.2172 - val_loss: 1.5770 - val_y1_output_loss: 0.3734 - val_y2_output_loss:
1.2172 - val_y1_output_root_mean_squared_error: 0.6210 -
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val_y2_output_root_mean_squared_error: 1.0915
Epoch 209/500
614/614 [==============================] - 0s 128us/sample - loss: 2.0638 -
y1_output_loss: 0.4301 - y2_output_loss: 1.6622 -
y1_output_root_mean_squared_error: 0.6516 - y2_output_root_mean_squared_error:
1.2803 - val_loss: 4.4036 - val_y1_output_loss: 1.5127 - val_y2_output_loss:
2.9532 - val_y1_output_root_mean_squared_error: 1.2230 -
val_y2_output_root_mean_squared_error: 1.7052
Epoch 210/500
614/614 [==============================] - 0s 123us/sample - loss: 1.3822 -
y1_output_loss: 0.2542 - y2_output_loss: 1.1336 -
y1_output_root_mean_squared_error: 0.5030 - y2_output_root_mean_squared_error:
1.0626 - val_loss: 2.8201 - val_y1_output_loss: 0.4223 - val_y2_output_loss:
2.5041 - val_y1_output_root_mean_squared_error: 0.6483 -
val_y2_output_root_mean_squared_error: 1.5491
Epoch 211/500
614/614 [==============================] - 0s 125us/sample - loss: 1.6261 -
y1_output_loss: 0.2947 - y2_output_loss: 1.3290 -
y1_output_root_mean_squared_error: 0.5427 - y2_output_root_mean_squared_error:
1.1540 - val_loss: 3.1600 - val_y1_output_loss: 0.3666 - val_y2_output_loss:
2.7616 - val_y1_output_root_mean_squared_error: 0.6051 -
val_y2_output_root_mean_squared_error: 1.6715
Epoch 212/500
614/614 [==============================] - 0s 120us/sample - loss: 1.7189 -
y1_output_loss: 0.2883 - y2_output_loss: 1.4250 -
y1_output_root_mean_squared_error: 0.5346 - y2_output_root_mean_squared_error:
1.1971 - val_loss: 1.5021 - val_y1_output_loss: 0.2822 - val_y2_output_loss:
1.2255 - val_y1_output_root_mean_squared_error: 0.5356 -
val_y2_output_root_mean_squared_error: 1.1024
Epoch 213/500
614/614 [==============================] - 0s 122us/sample - loss: 1.3728 -
y1_output_loss: 0.2343 - y2_output_loss: 1.1287 -
y1_output_root_mean_squared_error: 0.4855 - y2_output_root_mean_squared_error:
1.0663 - val_loss: 1.2250 - val_y1_output_loss: 0.2657 - val_y2_output_loss:
0.9512 - val_y1_output_root_mean_squared_error: 0.5222 -
val_y2_output_root_mean_squared_error: 0.9759
Epoch 214/500
614/614 [==============================] - 0s 123us/sample - loss: 1.2197 -
y1_output_loss: 0.2380 - y2_output_loss: 0.9905 -
y1_output_root_mean_squared_error: 0.4898 - y2_output_root_mean_squared_error:
0.9899 - val_loss: 5.3456 - val_y1_output_loss: 0.5722 - val_y2_output_loss:
4.7000 - val_y1_output_root_mean_squared_error: 0.7527 -
val_y2_output_root_mean_squared_error: 2.1861
Epoch 215/500
614/614 [==============================] - 0s 122us/sample - loss: 1.9502 -
y1_output_loss: 0.3297 - y2_output_loss: 1.6047 -
y1_output_root_mean_squared_error: 0.5762 - y2_output_root_mean_squared_error:
1.2721 - val_loss: 2.1411 - val_y1_output_loss: 0.3427 - val_y2_output_loss:

1.7408 - val_y1_output_root_mean_squared_error: 0.5905 -
val_y2_output_root_mean_squared_error: 1.3388
Epoch 216/500
614/614 [==============================] - 0s 123us/sample - loss: 1.5014 -
y1_output_loss: 0.2901 - y2_output_loss: 1.2013 -
y1_output_root_mean_squared_error: 0.5398 - y2_output_root_mean_squared_error:
1.1000 - val_loss: 1.2271 - val_y1_output_loss: 0.2487 - val_y2_output_loss:
0.9593 - val_y1_output_root_mean_squared_error: 0.4979 -
val_y2_output_root_mean_squared_error: 0.9895
Epoch 217/500
614/614 [==============================] - 0s 127us/sample - loss: 1.2011 -
y1_output_loss: 0.2092 - y2_output_loss: 1.0010 -
y1_output_root_mean_squared_error: 0.4561 - y2_output_root_mean_squared_error:
0.9965 - val_loss: 1.2837 - val_y1_output_loss: 0.3469 - val_y2_output_loss:
0.9261 - val_y1_output_root_mean_squared_error: 0.5970 -
val_y2_output_root_mean_squared_error: 0.9630
Epoch 218/500
614/614 [==============================] - 0s 130us/sample - loss: 1.3188 -
y1_output_loss: 0.2528 - y2_output_loss: 1.0667 -
y1_output_root_mean_squared_error: 0.5004 - y2_output_root_mean_squared_error:
1.0336 - val_loss: 1.6717 - val_y1_output_loss: 0.3391 - val_y2_output_loss:
1.3591 - val_y1_output_root_mean_squared_error: 0.5818 -
val_y2_output_root_mean_squared_error: 1.1546
Epoch 219/500
614/614 [==============================] - 0s 123us/sample - loss: 1.4214 -
y1_output_loss: 0.2681 - y2_output_loss: 1.1538 -
y1_output_root_mean_squared_error: 0.5170 - y2_output_root_mean_squared_error:
1.0743 - val_loss: 1.6688 - val_y1_output_loss: 0.2877 - val_y2_output_loss:
1.4206 - val_y1_output_root_mean_squared_error: 0.5382 -
val_y2_output_root_mean_squared_error: 1.1744
Epoch 220/500
614/614 [==============================] - 0s 124us/sample - loss: 2.9328 -
y1_output_loss: 0.6082 - y2_output_loss: 2.3142 -
y1_output_root_mean_squared_error: 0.7804 - y2_output_root_mean_squared_error:
1.5244 - val_loss: 1.3093 - val_y1_output_loss: 0.3069 - val_y2_output_loss:
0.9744 - val_y1_output_root_mean_squared_error: 0.5569 -
val_y2_output_root_mean_squared_error: 0.9996
Epoch 221/500
614/614 [==============================] - 0s 125us/sample - loss: 1.9134 -
y1_output_loss: 0.3364 - y2_output_loss: 1.5608 -
y1_output_root_mean_squared_error: 0.5827 - y2_output_root_mean_squared_error:
1.2545 - val_loss: 2.3077 - val_y1_output_loss: 0.3511 - val_y2_output_loss:
1.9720 - val_y1_output_root_mean_squared_error: 0.6008 -
val_y2_output_root_mean_squared_error: 1.3953
Epoch 222/500
614/614 [==============================] - 0s 123us/sample - loss: 1.6028 -
y1_output_loss: 0.2725 - y2_output_loss: 1.3370 -
y1_output_root_mean_squared_error: 0.5227 - y2_output_root_mean_squared_error:

```
1.1530 - val_loss: 1.8751 - val_y1_output_loss: 0.3886 - val_y2_output_loss:
1.4573 - val_y1_output_root_mean_squared_error: 0.6227 -
val_y2_output_root_mean_squared_error: 1.2196
Epoch 223/500
614/614 [==============================] - 0s 128us/sample - loss: 1.5425 -
y1_output_loss: 0.2649 - y2_output_loss: 1.2703 -
y1_output_root_mean_squared_error: 0.5164 - y2_output_root_mean_squared_error:
1.1295 - val_loss: 1.3581 - val_y1_output_loss: 0.2538 - val_y2_output_loss:
1.0866 - val_y1_output_root_mean_squared_error: 0.5098 -
val_y2_output_root_mean_squared_error: 1.0479
Epoch 224/500
614/614 [==============================] - 0s 130us/sample - loss: 1.5597 -
y1_output_loss: 0.3032 - y2_output_loss: 1.2579 -
y1_output_root_mean_squared_error: 0.5477 - y2_output_root_mean_squared_error:
1.1223 - val_loss: 1.1852 - val_y1_output_loss: 0.2762 - val_y2_output_loss:
0.9148 - val_y1_output_root_mean_squared_error: 0.5273 -
val_y2_output_root_mean_squared_error: 0.9525
Epoch 225/500
614/614 [==============================] - 0s 129us/sample - loss: 1.5923 -
y1_output_loss: 0.2799 - y2_output_loss: 1.3011 -
y1_output_root_mean_squared_error: 0.5301 - y2_output_root_mean_squared_error:
1.1451 - val_loss: 1.9288 - val_y1_output_loss: 0.4878 - val_y2_output_loss:
1.4179 - val_y1_output_root_mean_squared_error: 0.6968 -
val_y2_output_root_mean_squared_error: 1.2013
Epoch 226/500
614/614 [==============================] - 0s 128us/sample - loss: 1.4679 -
y1_output_loss: 0.2887 - y2_output_loss: 1.1720 -
y1_output_root_mean_squared_error: 0.5396 - y2_output_root_mean_squared_error:
1.0848 - val_loss: 1.4242 - val_y1_output_loss: 0.2434 - val_y2_output_loss:
1.1883 - val_y1_output_root_mean_squared_error: 0.4990 -
val_y2_output_root_mean_squared_error: 1.0841
Epoch 227/500
614/614 [==============================] - 0s 131us/sample - loss: 1.8558 -
y1_output_loss: 0.3201 - y2_output_loss: 1.5277 -
y1_output_root_mean_squared_error: 0.5668 - y2_output_root_mean_squared_error:
1.2388 - val_loss: 1.4623 - val_y1_output_loss: 0.3536 - val_y2_output_loss:
1.0975 - val_y1_output_root_mean_squared_error: 0.6039 -
val_y2_output_root_mean_squared_error: 1.0477
Epoch 228/500
614/614 [==============================] - 0s 129us/sample - loss: 1.2155 -
y1_output_loss: 0.2189 - y2_output_loss: 0.9982 -
y1_output_root_mean_squared_error: 0.4696 - y2_output_root_mean_squared_error:
0.9975 - val_loss: 2.2379 - val_y1_output_loss: 0.2384 - val_y2_output_loss:
1.9352 - val_y1_output_root_mean_squared_error: 0.4949 -
val_y2_output_root_mean_squared_error: 1.4117
Epoch 229/500
614/614 [==============================] - 0s 130us/sample - loss: 1.4991 -
y1_output_loss: 0.2612 - y2_output_loss: 1.2256 -
```

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y1_output_root_mean_squared_error: 0.5132 - y2_output_root_mean_squared_error:
1.1116 - val_loss: 1.2315 - val_y1_output_loss: 0.2457 - val_y2_output_loss:
0.9658 - val_y1_output_root_mean_squared_error: 0.5007 -
val_y2_output_root_mean_squared_error: 0.9903
Epoch 230/500
614/614 [==============================] - 0s 125us/sample - loss: 1.4050 -
y1_output_loss: 0.2841 - y2_output_loss: 1.1227 -
y1_output_root_mean_squared_error: 0.5303 - y2_output_root_mean_squared_error:
1.0601 - val_loss: 1.5197 - val_y1_output_loss: 0.4073 - val_y2_output_loss:
1.0742 - val_y1_output_root_mean_squared_error: 0.6412 -
val_y2_output_root_mean_squared_error: 1.0529
Epoch 231/500
614/614 [==============================] - 0s 125us/sample - loss: 1.4058 -
y1_output_loss: 0.2814 - y2_output_loss: 1.1361 -
y1_output_root_mean_squared_error: 0.5292 - y2_output_root_mean_squared_error:
1.0610 - val_loss: 4.7689 - val_y1_output_loss: 0.5724 - val_y2_output_loss:
4.3086 - val_y1_output_root_mean_squared_error: 0.7596 -
val_y2_output_root_mean_squared_error: 2.0474
Epoch 232/500
614/614 [==============================] - 0s 122us/sample - loss: 1.3244 -
y1_output_loss: 0.2440 - y2_output_loss: 1.0725 -
y1_output_root_mean_squared_error: 0.4960 - y2_output_root_mean_squared_error:
1.0384 - val_loss: 1.2655 - val_y1_output_loss: 0.2759 - val_y2_output_loss:
0.9611 - val_y1_output_root_mean_squared_error: 0.5270 -
val_y2_output_root_mean_squared_error: 0.9939
Epoch 233/500
614/614 [==============================] - 0s 122us/sample - loss: 1.1257 -
y1_output_loss: 0.2174 - y2_output_loss: 0.9008 -
y1_output_root_mean_squared_error: 0.4668 - y2_output_root_mean_squared_error:
0.9528 - val_loss: 1.2452 - val_y1_output_loss: 0.2517 - val_y2_output_loss:
0.9595 - val_y1_output_root_mean_squared_error: 0.5073 -
val_y2_output_root_mean_squared_error: 0.9939
Epoch 234/500
614/614 [==============================] - 0s 122us/sample - loss: 1.2933 -
y1_output_loss: 0.2244 - y2_output_loss: 1.0634 -
y1_output_root_mean_squared_error: 0.4737 - y2_output_root_mean_squared_error:
1.0339 - val_loss: 1.7396 - val_y1_output_loss: 0.3531 - val_y2_output_loss:
1.3479 - val_y1_output_root_mean_squared_error: 0.5960 -
val_y2_output_root_mean_squared_error: 1.1766
Epoch 235/500
614/614 [==============================] - 0s 120us/sample - loss: 1.0930 -
y1_output_loss: 0.2055 - y2_output_loss: 0.8775 -
y1_output_root_mean_squared_error: 0.4549 - y2_output_root_mean_squared_error:
0.9413 - val_loss: 1.1219 - val_y1_output_loss: 0.2574 - val_y2_output_loss:
0.8378 - val_y1_output_root_mean_squared_error: 0.5105 -
val_y2_output_root_mean_squared_error: 0.9281
Epoch 236/500
614/614 [==============================] - 0s 127us/sample - loss: 1.1319 -
```

```
y1_output_loss: 0.2222 - y2_output_loss: 0.9053 -
y1_output_root_mean_squared_error: 0.4714 - y2_output_root_mean_squared_error:
0.9538 - val_loss: 2.6364 - val_y1_output_loss: 0.7159 - val_y2_output_loss:
1.8915 - val_y1_output_root_mean_squared_error: 0.8427 -
val_y2_output_root_mean_squared_error: 1.3879
Epoch 237/500
614/614 [==============================] - 0s 126us/sample - loss: 1.5782 -
y1_output_loss: 0.2908 - y2_output_loss: 1.2880 -
y1_output_root_mean_squared_error: 0.5394 - y2_output_root_mean_squared_error:
1.1346 - val_loss: 1.2944 - val_y1_output_loss: 0.2571 - val_y2_output_loss:
1.0404 - val_y1_output_root_mean_squared_error: 0.5108 -
val_y2_output_root_mean_squared_error: 1.0166
Epoch 238/500
614/614 [==============================] - 0s 124us/sample - loss: 1.3421 -
y1_output_loss: 0.2336 - y2_output_loss: 1.1006 -
y1_output_root_mean_squared_error: 0.4846 - y2_output_root_mean_squared_error:
1.0523 - val_loss: 1.7054 - val_y1_output_loss: 0.3237 - val_y2_output_loss:
1.3753 - val_y1_output_root_mean_squared_error: 0.5761 -
val_y2_output_root_mean_squared_error: 1.1719
Epoch 239/500
614/614 [==============================] - 0s 124us/sample - loss: 1.4499 -
y1_output_loss: 0.2969 - y2_output_loss: 1.1549 -
y1_output_root_mean_squared_error: 0.5464 - y2_output_root_mean_squared_error:
1.0730 - val_loss: 2.0628 - val_y1_output_loss: 0.3642 - val_y2_output_loss:
1.6603 - val_y1_output_root_mean_squared_error: 0.5998 -
val_y2_output_root_mean_squared_error: 1.3050
Epoch 240/500
614/614 [==============================] - 0s 124us/sample - loss: 1.4448 -
y1_output_loss: 0.2393 - y2_output_loss: 1.2010 -
y1_output_root_mean_squared_error: 0.4913 - y2_output_root_mean_squared_error:
1.0970 - val_loss: 4.9202 - val_y1_output_loss: 0.5285 - val_y2_output_loss:
4.2977 - val_y1_output_root_mean_squared_error: 0.7308 -
val_y2_output_root_mean_squared_error: 2.0943
Epoch 241/500
614/614 [==============================] - 0s 122us/sample - loss: 1.4286 -
y1_output_loss: 0.2980 - y2_output_loss: 1.1742 -
y1_output_root_mean_squared_error: 0.5289 - y2_output_root_mean_squared_error:
1.0719 - val_loss: 3.2149 - val_y1_output_loss: 0.6696 - val_y2_output_loss:
2.5191 - val_y1_output_root_mean_squared_error: 0.8274 -
val_y2_output_root_mean_squared_error: 1.5907
Epoch 242/500
614/614 [==============================] - 0s 123us/sample - loss: 1.2560 -
y1_output_loss: 0.2274 - y2_output_loss: 1.0573 -
y1_output_root_mean_squared_error: 0.4732 - y2_output_root_mean_squared_error:
1.0159 - val_loss: 2.9895 - val_y1_output_loss: 0.3501 - val_y2_output_loss:
2.6753 - val_y1_output_root_mean_squared_error: 0.5974 -
val_y2_output_root_mean_squared_error: 1.6225
Epoch 243/500
```

614/614 [==============================] - 0s 123us/sample - loss: 1.3523 - y1_output_loss: 0.3269 - y2_output_loss: 1.0323 - y1_output_root_mean_squared_error: 0.5708 - y2_output_root_mean_squared_error: 1.0132 - val_loss: 3.7563 - val_y1_output_loss: 0.3260 - val_y2_output_loss: 3.3442 - val_y1_output_root_mean_squared_error: 0.5776 - val_y2_output_root_mean_squared_error: 1.8501
Epoch 244/500
614/614 [==============================] - 0s 124us/sample - loss: 1.4856 - y1_output_loss: 0.2363 - y2_output_loss: 1.2578 - y1_output_root_mean_squared_error: 0.4868 - y2_output_root_mean_squared_error: 1.1174 - val_loss: 3.2755 - val_y1_output_loss: 0.2771 - val_y2_output_loss: 3.0562 - val_y1_output_root_mean_squared_error: 0.5320 - val_y2_output_root_mean_squared_error: 1.7299
Epoch 245/500
614/614 [==============================] - 0s 124us/sample - loss: 1.1994 - y1_output_loss: 0.2156 - y2_output_loss: 0.9735 - y1_output_root_mean_squared_error: 0.4663 - y2_output_root_mean_squared_error: 0.9909 - val_loss: 1.1268 - val_y1_output_loss: 0.2654 - val_y2_output_loss: 0.8341 - val_y1_output_root_mean_squared_error: 0.5222 - val_y2_output_root_mean_squared_error: 0.9242
Epoch 246/500
614/614 [==============================] - 0s 123us/sample - loss: 1.1978 - y1_output_loss: 0.2201 - y2_output_loss: 0.9765 - y1_output_root_mean_squared_error: 0.4644 - y2_output_root_mean_squared_error: 0.9910 - val_loss: 2.8357 - val_y1_output_loss: 0.7471 - val_y2_output_loss: 2.0804 - val_y1_output_root_mean_squared_error: 0.8515 - val_y2_output_root_mean_squared_error: 1.4528
Epoch 247/500
614/614 [==============================] - 0s 128us/sample - loss: 1.5361 - y1_output_loss: 0.2880 - y2_output_loss: 1.2426 - y1_output_root_mean_squared_error: 0.5380 - y2_output_root_mean_squared_error: 1.1165 - val_loss: 1.5167 - val_y1_output_loss: 0.2476 - val_y2_output_loss: 1.2772 - val_y1_output_root_mean_squared_error: 0.5025 - val_y2_output_root_mean_squared_error: 1.1244
Epoch 248/500
614/614 [==============================] - 0s 127us/sample - loss: 1.3009 - y1_output_loss: 0.2545 - y2_output_loss: 1.0355 - y1_output_root_mean_squared_error: 0.5057 - y2_output_root_mean_squared_error: 1.0224 - val_loss: 1.9528 - val_y1_output_loss: 0.3076 - val_y2_output_loss: 1.6658 - val_y1_output_root_mean_squared_error: 0.5575 - val_y2_output_root_mean_squared_error: 1.2814
Epoch 249/500
614/614 [==============================] - 0s 130us/sample - loss: 1.9250 - y1_output_loss: 0.4181 - y2_output_loss: 1.4978 - y1_output_root_mean_squared_error: 0.6490 - y2_output_root_mean_squared_error: 1.2263 - val_loss: 1.8804 - val_y1_output_loss: 0.3730 - val_y2_output_loss: 1.4525 - val_y1_output_root_mean_squared_error: 0.6168 - val_y2_output_root_mean_squared_error: 1.2247

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Epoch 250/500
614/614 [==============================] - 0s 129us/sample - loss: 1.0908 -
y1_output_loss: 0.2582 - y2_output_loss: 0.8295 -
y1_output_root_mean_squared_error: 0.5091 - y2_output_root_mean_squared_error:
0.9119 - val_loss: 1.0305 - val_y1_output_loss: 0.2303 - val_y2_output_loss:
0.7937 - val_y1_output_root_mean_squared_error: 0.4813 -
val_y2_output_root_mean_squared_error: 0.8938
Epoch 251/500
614/614 [==============================] - 0s 125us/sample - loss: 1.2226 -
y1_output_loss: 0.2751 - y2_output_loss: 0.9481 -
y1_output_root_mean_squared_error: 0.5262 - y2_output_root_mean_squared_error:
0.9725 - val_loss: 2.2391 - val_y1_output_loss: 0.3781 - val_y2_output_loss:
1.8511 - val_y1_output_root_mean_squared_error: 0.6218 -
val_y2_output_root_mean_squared_error: 1.3611
Epoch 252/500
614/614 [==============================] - 0s 125us/sample - loss: 1.1192 -
y1_output_loss: 0.2271 - y2_output_loss: 0.8847 -
y1_output_root_mean_squared_error: 0.4778 - y2_output_root_mean_squared_error:
0.9439 - val_loss: 2.3962 - val_y1_output_loss: 0.6293 - val_y2_output_loss:
1.8214 - val_y1_output_root_mean_squared_error: 0.7909 -
val_y2_output_root_mean_squared_error: 1.3306
Epoch 253/500
614/614 [==============================] - 0s 128us/sample - loss: 2.1834 -
y1_output_loss: 0.4303 - y2_output_loss: 1.7338 -
y1_output_root_mean_squared_error: 0.6584 - y2_output_root_mean_squared_error:
1.3228 - val_loss: 2.0528 - val_y1_output_loss: 0.6274 - val_y2_output_loss:
1.4449 - val_y1_output_root_mean_squared_error: 0.7706 -
val_y2_output_root_mean_squared_error: 1.2079
Epoch 254/500
614/614 [==============================] - 0s 124us/sample - loss: 1.3022 -
y1_output_loss: 0.2180 - y2_output_loss: 1.0799 -
y1_output_root_mean_squared_error: 0.4666 - y2_output_root_mean_squared_error:
1.0414 - val_loss: 2.2275 - val_y1_output_loss: 0.6733 - val_y2_output_loss:
1.5512 - val_y1_output_root_mean_squared_error: 0.8068 -
val_y2_output_root_mean_squared_error: 1.2556
Epoch 255/500
614/614 [==============================] - 0s 123us/sample - loss: 1.1529 -
y1_output_loss: 0.2163 - y2_output_loss: 0.9324 -
y1_output_root_mean_squared_error: 0.4639 - y2_output_root_mean_squared_error:
0.9684 - val_loss: 1.8981 - val_y1_output_loss: 0.5292 - val_y2_output_loss:
1.3341 - val_y1_output_root_mean_squared_error: 0.7259 -
val_y2_output_root_mean_squared_error: 1.1710
Epoch 256/500
614/614 [==============================] - 0s 124us/sample - loss: 1.2958 -
y1_output_loss: 0.2341 - y2_output_loss: 1.0648 -
y1_output_root_mean_squared_error: 0.4839 - y2_output_root_mean_squared_error:
1.0303 - val_loss: 3.7100 - val_y1_output_loss: 0.3853 - val_y2_output_loss:
3.2582 - val_y1_output_root_mean_squared_error: 0.6211 -
```

val_y2_output_root_mean_squared_error: 1.8232
Epoch 257/500
614/614 [==============================] - 0s 123us/sample - loss: 1.6214 -
y1_output_loss: 0.2964 - y2_output_loss: 1.3188 -
y1_output_root_mean_squared_error: 0.5435 - y2_output_root_mean_squared_error:
1.1515 - val_loss: 1.2262 - val_y1_output_loss: 0.2727 - val_y2_output_loss:
0.9537 - val_y1_output_root_mean_squared_error: 0.5251 -
val_y2_output_root_mean_squared_error: 0.9749
Epoch 258/500
614/614 [==============================] - 0s 122us/sample - loss: 2.0395 -
y1_output_loss: 0.3339 - y2_output_loss: 1.6909 -
y1_output_root_mean_squared_error: 0.5804 - y2_output_root_mean_squared_error:
1.3048 - val_loss: 1.7305 - val_y1_output_loss: 0.5520 - val_y2_output_loss:
1.1842 - val_y1_output_root_mean_squared_error: 0.7332 -
val_y2_output_root_mean_squared_error: 1.0922
Epoch 259/500
614/614 [==============================] - 0s 122us/sample - loss: 1.1935 -
y1_output_loss: 0.2383 - y2_output_loss: 0.9559 -
y1_output_root_mean_squared_error: 0.4877 - y2_output_root_mean_squared_error:
0.9775 - val_loss: 1.3643 - val_y1_output_loss: 0.3859 - val_y2_output_loss:
0.9505 - val_y1_output_root_mean_squared_error: 0.6184 -
val_y2_output_root_mean_squared_error: 0.9909
Epoch 260/500
614/614 [==============================] - 0s 123us/sample - loss: 1.0503 -
y1_output_loss: 0.2023 - y2_output_loss: 0.8472 -
y1_output_root_mean_squared_error: 0.4491 - y2_output_root_mean_squared_error:
0.9212 - val_loss: 1.5714 - val_y1_output_loss: 0.3089 - val_y2_output_loss:
1.2356 - val_y1_output_root_mean_squared_error: 0.5603 -
val_y2_output_root_mean_squared_error: 1.1214
Epoch 261/500
614/614 [==============================] - 0s 126us/sample - loss: 1.1107 -
y1_output_loss: 0.2334 - y2_output_loss: 0.8710 -
y1_output_root_mean_squared_error: 0.4841 - y2_output_root_mean_squared_error:
0.9361 - val_loss: 1.0404 - val_y1_output_loss: 0.2151 - val_y2_output_loss:
0.8098 - val_y1_output_root_mean_squared_error: 0.4683 -
val_y2_output_root_mean_squared_error: 0.9061
Epoch 262/500
614/614 [==============================] - 0s 125us/sample - loss: 1.4386 -
y1_output_loss: 0.2658 - y2_output_loss: 1.1634 -
y1_output_root_mean_squared_error: 0.5175 - y2_output_root_mean_squared_error:
1.0820 - val_loss: 1.3818 - val_y1_output_loss: 0.3292 - val_y2_output_loss:
1.0530 - val_y1_output_root_mean_squared_error: 0.5747 -
val_y2_output_root_mean_squared_error: 1.0254
Epoch 263/500
614/614 [==============================] - 0s 122us/sample - loss: 1.1205 -
y1_output_loss: 0.2127 - y2_output_loss: 0.9033 -
y1_output_root_mean_squared_error: 0.4619 - y2_output_root_mean_squared_error:
0.9524 - val_loss: 2.1382 - val_y1_output_loss: 0.4113 - val_y2_output_loss:

1.7124 - val_y1_output_root_mean_squared_error: 0.6398 -
val_y2_output_root_mean_squared_error: 1.3149
Epoch 264/500
614/614 [==============================] - 0s 128us/sample - loss: 1.3866 -
y1_output_loss: 0.2764 - y2_output_loss: 1.1027 -
y1_output_root_mean_squared_error: 0.5277 - y2_output_root_mean_squared_error:
1.0526 - val_loss: 1.1276 - val_y1_output_loss: 0.2628 - val_y2_output_loss:
0.8567 - val_y1_output_root_mean_squared_error: 0.5135 -
val_y2_output_root_mean_squared_error: 0.9295
Epoch 265/500
614/614 [==============================] - 0s 122us/sample - loss: 1.2464 -
y1_output_loss: 0.2162 - y2_output_loss: 1.0206 -
y1_output_root_mean_squared_error: 0.4666 - y2_output_root_mean_squared_error:
1.0142 - val_loss: 2.6346 - val_y1_output_loss: 1.0105 - val_y2_output_loss:
1.6982 - val_y1_output_root_mean_squared_error: 0.9809 -
val_y2_output_root_mean_squared_error: 1.2932
Epoch 266/500
614/614 [==============================] - 0s 127us/sample - loss: 1.3017 -
y1_output_loss: 0.2777 - y2_output_loss: 1.0756 -
y1_output_root_mean_squared_error: 0.5089 - y2_output_root_mean_squared_error:
1.0211 - val_loss: 6.6063 - val_y1_output_loss: 1.9159 - val_y2_output_loss:
4.6927 - val_y1_output_root_mean_squared_error: 1.3776 -
val_y2_output_root_mean_squared_error: 2.1699
Epoch 267/500
614/614 [==============================] - 0s 126us/sample - loss: 1.7055 -
y1_output_loss: 0.2939 - y2_output_loss: 1.4189 -
y1_output_root_mean_squared_error: 0.5426 - y2_output_root_mean_squared_error:
1.1879 - val_loss: 2.2874 - val_y1_output_loss: 0.3889 - val_y2_output_loss:
1.8636 - val_y1_output_root_mean_squared_error: 0.6265 -
val_y2_output_root_mean_squared_error: 1.3766
Epoch 268/500
614/614 [==============================] - 0s 123us/sample - loss: 1.4803 -
y1_output_loss: 0.3149 - y2_output_loss: 1.1557 -
y1_output_root_mean_squared_error: 0.5626 - y2_output_root_mean_squared_error:
1.0788 - val_loss: 1.5599 - val_y1_output_loss: 0.4072 - val_y2_output_loss:
1.1430 - val_y1_output_root_mean_squared_error: 0.6362 -
val_y2_output_root_mean_squared_error: 1.0748
Epoch 269/500
614/614 [==============================] - 0s 122us/sample - loss: 1.3132 -
y1_output_loss: 0.2368 - y2_output_loss: 1.0662 -
y1_output_root_mean_squared_error: 0.4868 - y2_output_root_mean_squared_error:
1.0374 - val_loss: 1.2903 - val_y1_output_loss: 0.3846 - val_y2_output_loss:
0.8868 - val_y1_output_root_mean_squared_error: 0.6223 -
val_y2_output_root_mean_squared_error: 0.9502
Epoch 270/500
614/614 [==============================] - 0s 124us/sample - loss: 1.2490 -
y1_output_loss: 0.1999 - y2_output_loss: 1.0490 -
y1_output_root_mean_squared_error: 0.4464 - y2_output_root_mean_squared_error:

1.0245 - val_loss: 2.2769 - val_y1_output_loss: 0.4784 - val_y2_output_loss:
1.8393 - val_y1_output_root_mean_squared_error: 0.6931 -
val_y2_output_root_mean_squared_error: 1.3403
Epoch 271/500
614/614 [==============================] - 0s 122us/sample - loss: 1.3535 -
y1_output_loss: 0.2256 - y2_output_loss: 1.1204 -
y1_output_root_mean_squared_error: 0.4759 - y2_output_root_mean_squared_error:
1.0616 - val_loss: 2.9945 - val_y1_output_loss: 0.3359 - val_y2_output_loss:
2.7260 - val_y1_output_root_mean_squared_error: 0.5767 -
val_y2_output_root_mean_squared_error: 1.6315
Epoch 272/500
614/614 [==============================] - 0s 122us/sample - loss: 2.6418 -
y1_output_loss: 0.4817 - y2_output_loss: 2.1545 -
y1_output_root_mean_squared_error: 0.6933 - y2_output_root_mean_squared_error:
1.4701 - val_loss: 3.0813 - val_y1_output_loss: 0.6514 - val_y2_output_loss:
2.3418 - val_y1_output_root_mean_squared_error: 0.8172 -
val_y2_output_root_mean_squared_error: 1.5536
Epoch 273/500
614/614 [==============================] - 0s 124us/sample - loss: 1.4589 -
y1_output_loss: 0.3439 - y2_output_loss: 1.1055 -
y1_output_root_mean_squared_error: 0.5866 - y2_output_root_mean_squared_error:
1.0558 - val_loss: 1.0961 - val_y1_output_loss: 0.2262 - val_y2_output_loss:
0.8355 - val_y1_output_root_mean_squared_error: 0.4810 -
val_y2_output_root_mean_squared_error: 0.9299
Epoch 274/500
614/614 [==============================] - 0s 122us/sample - loss: 1.2464 -
y1_output_loss: 0.2158 - y2_output_loss: 1.0205 -
y1_output_root_mean_squared_error: 0.4664 - y2_output_root_mean_squared_error:
1.0143 - val_loss: 1.4706 - val_y1_output_loss: 0.1964 - val_y2_output_loss:
1.2763 - val_y1_output_root_mean_squared_error: 0.4499 -
val_y2_output_root_mean_squared_error: 1.1261
Epoch 275/500
614/614 [==============================] - 0s 122us/sample - loss: 1.5544 -
y1_output_loss: 0.3112 - y2_output_loss: 1.2369 -
y1_output_root_mean_squared_error: 0.5592 - y2_output_root_mean_squared_error:
1.1144 - val_loss: 1.1268 - val_y1_output_loss: 0.2357 - val_y2_output_loss:
0.8589 - val_y1_output_root_mean_squared_error: 0.4895 -
val_y2_output_root_mean_squared_error: 0.9419
Epoch 276/500
614/614 [==============================] - 0s 123us/sample - loss: 1.3914 -
y1_output_loss: 0.2511 - y2_output_loss: 1.1324 -
y1_output_root_mean_squared_error: 0.5011 - y2_output_root_mean_squared_error:
1.0678 - val_loss: 1.1288 - val_y1_output_loss: 0.2450 - val_y2_output_loss:
0.8586 - val_y1_output_root_mean_squared_error: 0.4968 -
val_y2_output_root_mean_squared_error: 0.9392
Epoch 277/500
614/614 [==============================] - 0s 123us/sample - loss: 1.0325 -
y1_output_loss: 0.2012 - y2_output_loss: 0.8294 -

y1_output_root_mean_squared_error: 0.4501 - y2_output_root_mean_squared_error:
0.9110 - val_loss: 1.1793 - val_y1_output_loss: 0.2416 - val_y2_output_loss:
0.9063 - val_y1_output_root_mean_squared_error: 0.4945 -
val_y2_output_root_mean_squared_error: 0.9669
Epoch 278/500
614/614 [==============================] - 0s 122us/sample - loss: 1.1432 -
y1_output_loss: 0.2086 - y2_output_loss: 0.9425 -
y1_output_root_mean_squared_error: 0.4575 - y2_output_root_mean_squared_error:
0.9664 - val_loss: 3.9824 - val_y1_output_loss: 0.5495 - val_y2_output_loss:
3.4811 - val_y1_output_root_mean_squared_error: 0.7468 -
val_y2_output_root_mean_squared_error: 1.8506
Epoch 279/500
614/614 [==============================] - 0s 123us/sample - loss: 1.2622 -
y1_output_loss: 0.2409 - y2_output_loss: 1.0261 -
y1_output_root_mean_squared_error: 0.4865 - y2_output_root_mean_squared_error:
1.0127 - val_loss: 1.8555 - val_y1_output_loss: 0.5017 - val_y2_output_loss:
1.3670 - val_y1_output_root_mean_squared_error: 0.7084 -
val_y2_output_root_mean_squared_error: 1.1634
Epoch 280/500
614/614 [==============================] - 0s 124us/sample - loss: 1.0676 -
y1_output_loss: 0.1942 - y2_output_loss: 0.8652 -
y1_output_root_mean_squared_error: 0.4424 - y2_output_root_mean_squared_error:
0.9338 - val_loss: 1.2315 - val_y1_output_loss: 0.2298 - val_y2_output_loss:
0.9946 - val_y1_output_root_mean_squared_error: 0.4781 -
val_y2_output_root_mean_squared_error: 1.0015
Epoch 281/500
614/614 [==============================] - 0s 123us/sample - loss: 1.3017 -
y1_output_loss: 0.2755 - y2_output_loss: 1.0255 -
y1_output_root_mean_squared_error: 0.5259 - y2_output_root_mean_squared_error:
1.0125 - val_loss: 2.1820 - val_y1_output_loss: 0.2090 - val_y2_output_loss:
1.9953 - val_y1_output_root_mean_squared_error: 0.4652 -
val_y2_output_root_mean_squared_error: 1.4020
Epoch 282/500
614/614 [==============================] - 0s 122us/sample - loss: 1.0004 -
y1_output_loss: 0.2111 - y2_output_loss: 0.8242 -
y1_output_root_mean_squared_error: 0.4611 - y2_output_root_mean_squared_error:
0.8875 - val_loss: 6.4502 - val_y1_output_loss: 0.5025 - val_y2_output_loss:
6.0548 - val_y1_output_root_mean_squared_error: 0.7116 -
val_y2_output_root_mean_squared_error: 2.4380
Epoch 283/500
614/614 [==============================] - 0s 120us/sample - loss: 1.3453 -
y1_output_loss: 0.2558 - y2_output_loss: 1.0781 -
y1_output_root_mean_squared_error: 0.5081 - y2_output_root_mean_squared_error:
1.0426 - val_loss: 1.0611 - val_y1_output_loss: 0.2569 - val_y2_output_loss:
0.7832 - val_y1_output_root_mean_squared_error: 0.5123 -
val_y2_output_root_mean_squared_error: 0.8937
Epoch 284/500
614/614 [==============================] - 0s 120us/sample - loss: 0.9728 -

y1_output_loss: 0.1927 - y2_output_loss: 0.7714 -
y1_output_root_mean_squared_error: 0.4409 - y2_output_root_mean_squared_error:
0.8823 - val_loss: 0.9906 - val_y1_output_loss: 0.2060 - val_y2_output_loss:
0.7783 - val_y1_output_root_mean_squared_error: 0.4565 -
val_y2_output_root_mean_squared_error: 0.8844
Epoch 285/500
614/614 [==============================] - 0s 121us/sample - loss: 1.1535 -
y1_output_loss: 0.1928 - y2_output_loss: 0.9556 -
y1_output_root_mean_squared_error: 0.4393 - y2_output_root_mean_squared_error:
0.9801 - val_loss: 1.2788 - val_y1_output_loss: 0.2546 - val_y2_output_loss:
1.0361 - val_y1_output_root_mean_squared_error: 0.5103 -
val_y2_output_root_mean_squared_error: 1.0091
Epoch 286/500
614/614 [==============================] - 0s 121us/sample - loss: 1.0981 -
y1_output_loss: 0.2289 - y2_output_loss: 0.8689 -
y1_output_root_mean_squared_error: 0.4775 - y2_output_root_mean_squared_error:
0.9328 - val_loss: 1.4690 - val_y1_output_loss: 0.3229 - val_y2_output_loss:
1.1231 - val_y1_output_root_mean_squared_error: 0.5639 -
val_y2_output_root_mean_squared_error: 1.0729
Epoch 287/500
614/614 [==============================] - 0s 123us/sample - loss: 1.0962 -
y1_output_loss: 0.2274 - y2_output_loss: 0.8717 -
y1_output_root_mean_squared_error: 0.4783 - y2_output_root_mean_squared_error:
0.9313 - val_loss: 1.5937 - val_y1_output_loss: 0.3118 - val_y2_output_loss:
1.2385 - val_y1_output_root_mean_squared_error: 0.5583 -
val_y2_output_root_mean_squared_error: 1.1322
Epoch 288/500
614/614 [==============================] - 0s 127us/sample - loss: 2.4704 -
y1_output_loss: 0.5074 - y2_output_loss: 2.0935 -
y1_output_root_mean_squared_error: 0.6979 - y2_output_root_mean_squared_error:
1.4083 - val_loss: 7.7140 - val_y1_output_loss: 0.7383 - val_y2_output_loss:
6.8678 - val_y1_output_root_mean_squared_error: 0.8687 -
val_y2_output_root_mean_squared_error: 2.6381
Epoch 289/500
614/614 [==============================] - 0s 129us/sample - loss: 1.3070 -
y1_output_loss: 0.2350 - y2_output_loss: 1.0651 -
y1_output_root_mean_squared_error: 0.4851 - y2_output_root_mean_squared_error:
1.0352 - val_loss: 1.4202 - val_y1_output_loss: 0.2086 - val_y2_output_loss:
1.1698 - val_y1_output_root_mean_squared_error: 0.4587 -
val_y2_output_root_mean_squared_error: 1.0999
Epoch 290/500
614/614 [==============================] - 0s 131us/sample - loss: 1.7214 -
y1_output_loss: 0.3072 - y2_output_loss: 1.4100 -
y1_output_root_mean_squared_error: 0.5519 - y2_output_root_mean_squared_error:
1.1903 - val_loss: 2.3202 - val_y1_output_loss: 0.7128 - val_y2_output_loss:
1.5532 - val_y1_output_root_mean_squared_error: 0.8466 -
val_y2_output_root_mean_squared_error: 1.2663
Epoch 291/500

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614/614 [==============================] - 0s 129us/sample - loss: 1.0458 -
y1_output_loss: 0.2078 - y2_output_loss: 0.8309 -
y1_output_root_mean_squared_error: 0.4566 - y2_output_root_mean_squared_error:
0.9150 - val_loss: 1.1828 - val_y1_output_loss: 0.2700 - val_y2_output_loss:
0.8787 - val_y1_output_root_mean_squared_error: 0.5225 -
val_y2_output_root_mean_squared_error: 0.9539
Epoch 292/500
614/614 [==============================] - 0s 123us/sample - loss: 1.0191 -
y1_output_loss: 0.2042 - y2_output_loss: 0.8089 -
y1_output_root_mean_squared_error: 0.4525 - y2_output_root_mean_squared_error:
0.9024 - val_loss: 1.7564 - val_y1_output_loss: 0.2323 - val_y2_output_loss:
1.4764 - val_y1_output_root_mean_squared_error: 0.4822 -
val_y2_output_root_mean_squared_error: 1.2344
Epoch 293/500
614/614 [==============================] - 0s 128us/sample - loss: 1.0746 -
y1_output_loss: 0.1879 - y2_output_loss: 0.8887 -
y1_output_root_mean_squared_error: 0.4311 - y2_output_root_mean_squared_error:
0.9427 - val_loss: 1.6263 - val_y1_output_loss: 0.2020 - val_y2_output_loss:
1.3829 - val_y1_output_root_mean_squared_error: 0.4493 -
val_y2_output_root_mean_squared_error: 1.1935
Epoch 294/500
614/614 [==============================] - 0s 123us/sample - loss: 2.2287 -
y1_output_loss: 0.4612 - y2_output_loss: 1.7817 -
y1_output_root_mean_squared_error: 0.6754 - y2_output_root_mean_squared_error:
1.3314 - val_loss: 3.0659 - val_y1_output_loss: 0.9059 - val_y2_output_loss:
2.0892 - val_y1_output_root_mean_squared_error: 0.9584 -
val_y2_output_root_mean_squared_error: 1.4654
Epoch 295/500
614/614 [==============================] - 0s 123us/sample - loss: 1.4027 -
y1_output_loss: 0.2884 - y2_output_loss: 1.1073 -
y1_output_root_mean_squared_error: 0.5389 - y2_output_root_mean_squared_error:
1.0547 - val_loss: 1.3932 - val_y1_output_loss: 0.2719 - val_y2_output_loss:
1.1149 - val_y1_output_root_mean_squared_error: 0.5224 -
val_y2_output_root_mean_squared_error: 1.0584
Epoch 296/500
614/614 [==============================] - 0s 123us/sample - loss: 1.2393 -
y1_output_loss: 0.2520 - y2_output_loss: 0.9835 -
y1_output_root_mean_squared_error: 0.4970 - y2_output_root_mean_squared_error:
0.9961 - val_loss: 1.3437 - val_y1_output_loss: 0.3996 - val_y2_output_loss:
0.9194 - val_y1_output_root_mean_squared_error: 0.6334 -
val_y2_output_root_mean_squared_error: 0.9708
Epoch 297/500
614/614 [==============================] - 0s 123us/sample - loss: 1.1758 -
y1_output_loss: 0.2146 - y2_output_loss: 0.9530 -
y1_output_root_mean_squared_error: 0.4641 - y2_output_root_mean_squared_error:
0.9800 - val_loss: 0.9965 - val_y1_output_loss: 0.2214 - val_y2_output_loss:
0.7636 - val_y1_output_root_mean_squared_error: 0.4742 -
val_y2_output_root_mean_squared_error: 0.8784
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Epoch 298/500
614/614 [==============================] - 0s 122us/sample - loss: 0.9702 -
y1_output_loss: 0.1751 - y2_output_loss: 0.7917 -
y1_output_root_mean_squared_error: 0.4200 - y2_output_root_mean_squared_error:
0.8909 - val_loss: 1.2055 - val_y1_output_loss: 0.2902 - val_y2_output_loss:
0.9010 - val_y1_output_root_mean_squared_error: 0.5333 -
val_y2_output_root_mean_squared_error: 0.9597
Epoch 299/500
614/614 [==============================] - 0s 123us/sample - loss: 1.0237 -
y1_output_loss: 0.1905 - y2_output_loss: 0.8263 -
y1_output_root_mean_squared_error: 0.4384 - y2_output_root_mean_squared_error:
0.9119 - val_loss: 1.1163 - val_y1_output_loss: 0.2932 - val_y2_output_loss:
0.8045 - val_y1_output_root_mean_squared_error: 0.5474 -
val_y2_output_root_mean_squared_error: 0.9037
Epoch 300/500
614/614 [==============================] - 0s 125us/sample - loss: 0.8478 -
y1_output_loss: 0.1736 - y2_output_loss: 0.6685 -
y1_output_root_mean_squared_error: 0.4179 - y2_output_root_mean_squared_error:
0.8204 - val_loss: 0.9580 - val_y1_output_loss: 0.2040 - val_y2_output_loss:
0.7351 - val_y1_output_root_mean_squared_error: 0.4551 -
val_y2_output_root_mean_squared_error: 0.8665
Epoch 301/500
614/614 [==============================] - 0s 122us/sample - loss: 1.0475 -
y1_output_loss: 0.2268 - y2_output_loss: 0.8156 -
y1_output_root_mean_squared_error: 0.4775 - y2_output_root_mean_squared_error:
0.9052 - val_loss: 0.9412 - val_y1_output_loss: 0.2245 - val_y2_output_loss:
0.7058 - val_y1_output_root_mean_squared_error: 0.4702 -
val_y2_output_root_mean_squared_error: 0.8486
Epoch 302/500
614/614 [==============================] - 0s 122us/sample - loss: 0.8720 -
y1_output_loss: 0.1712 - y2_output_loss: 0.6935 -
y1_output_root_mean_squared_error: 0.4150 - y2_output_root_mean_squared_error:
0.8365 - val_loss: 1.3589 - val_y1_output_loss: 0.2721 - val_y2_output_loss:
1.0605 - val_y1_output_root_mean_squared_error: 0.5188 -
val_y2_output_root_mean_squared_error: 1.0439
Epoch 303/500
614/614 [==============================] - 0s 129us/sample - loss: 0.8797 -
y1_output_loss: 0.1844 - y2_output_loss: 0.6915 -
y1_output_root_mean_squared_error: 0.4295 - y2_output_root_mean_squared_error:
0.8338 - val_loss: 1.1480 - val_y1_output_loss: 0.2566 - val_y2_output_loss:
0.8589 - val_y1_output_root_mean_squared_error: 0.5117 -
val_y2_output_root_mean_squared_error: 0.9413
Epoch 304/500
614/614 [==============================] - 0s 122us/sample - loss: 0.9313 -
y1_output_loss: 0.1866 - y2_output_loss: 0.7428 -
y1_output_root_mean_squared_error: 0.4320 - y2_output_root_mean_squared_error:
0.8629 - val_loss: 1.0266 - val_y1_output_loss: 0.2287 - val_y2_output_loss:
0.7790 - val_y1_output_root_mean_squared_error: 0.4843 -
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val_y2_output_root_mean_squared_error: 0.8900
Epoch 305/500
614/614 [==============================] - 0s 126us/sample - loss: 0.9728 - y1_output_loss: 0.2058 - y2_output_loss: 0.7618 - y1_output_root_mean_squared_error: 0.4538 - y2_output_root_mean_squared_error: 0.8757 - val_loss: 1.0275 - val_y1_output_loss: 0.2076 - val_y2_output_loss: 0.7996 - val_y1_output_root_mean_squared_error: 0.4542 - val_y2_output_root_mean_squared_error: 0.9062
Epoch 306/500
614/614 [==============================] - 0s 122us/sample - loss: 1.0598 - y1_output_loss: 0.2399 - y2_output_loss: 0.8107 - y1_output_root_mean_squared_error: 0.4920 - y2_output_root_mean_squared_error: 0.9043 - val_loss: 0.9699 - val_y1_output_loss: 0.1986 - val_y2_output_loss: 0.7526 - val_y1_output_root_mean_squared_error: 0.4497 - val_y2_output_root_mean_squared_error: 0.8761
Epoch 307/500
614/614 [==============================] - 0s 123us/sample - loss: 0.8779 - y1_output_loss: 0.1888 - y2_output_loss: 0.7263 - y1_output_root_mean_squared_error: 0.4362 - y2_output_root_mean_squared_error: 0.8292 - val_loss: 6.6134 - val_y1_output_loss: 0.4067 - val_y2_output_loss: 6.2025 - val_y1_output_root_mean_squared_error: 0.6338 - val_y2_output_root_mean_squared_error: 2.4923
Epoch 308/500
614/614 [==============================] - 0s 132us/sample - loss: 0.9978 - y1_output_loss: 0.1767 - y2_output_loss: 0.8147 - y1_output_root_mean_squared_error: 0.4218 - y2_output_root_mean_squared_error: 0.9055 - val_loss: 1.2521 - val_y1_output_loss: 0.3270 - val_y2_output_loss: 0.9195 - val_y1_output_root_mean_squared_error: 0.5605 - val_y2_output_root_mean_squared_error: 0.9685
Epoch 309/500
614/614 [==============================] - 0s 123us/sample - loss: 0.9792 - y1_output_loss: 0.1905 - y2_output_loss: 0.7967 - y1_output_root_mean_squared_error: 0.4305 - y2_output_root_mean_squared_error: 0.8910 - val_loss: 1.1410 - val_y1_output_loss: 0.3078 - val_y2_output_loss: 0.8017 - val_y1_output_root_mean_squared_error: 0.5607 - val_y2_output_root_mean_squared_error: 0.9092
Epoch 310/500
614/614 [==============================] - 0s 124us/sample - loss: 1.2579 - y1_output_loss: 0.2312 - y2_output_loss: 1.0248 - y1_output_root_mean_squared_error: 0.4812 - y2_output_root_mean_squared_error: 1.0131 - val_loss: 1.6019 - val_y1_output_loss: 0.4474 - val_y2_output_loss: 1.1490 - val_y1_output_root_mean_squared_error: 0.6628 - val_y2_output_root_mean_squared_error: 1.0783
Epoch 311/500
614/614 [==============================] - 0s 129us/sample - loss: 0.8959 - y1_output_loss: 0.2149 - y2_output_loss: 0.6823 - y1_output_root_mean_squared_error: 0.4657 - y2_output_root_mean_squared_error: 0.8241 - val_loss: 1.0717 - val_y1_output_loss: 0.2737 - val_y2_output_loss:

0.7963 - val_y1_output_root_mean_squared_error: 0.5105 -
val_y2_output_root_mean_squared_error: 0.9006
Epoch 312/500
614/614 [==============================] - 0s 128us/sample - loss: 0.8687 -
y1_output_loss: 0.1776 - y2_output_loss: 0.6953 -
y1_output_root_mean_squared_error: 0.4179 - y2_output_root_mean_squared_error:
0.8331 - val_loss: 0.9505 - val_y1_output_loss: 0.2370 - val_y2_output_loss:
0.6970 - val_y1_output_root_mean_squared_error: 0.4878 -
val_y2_output_root_mean_squared_error: 0.8442
Epoch 313/500
614/614 [==============================] - 0s 124us/sample - loss: 0.8195 -
y1_output_loss: 0.1667 - y2_output_loss: 0.6490 -
y1_output_root_mean_squared_error: 0.4096 - y2_output_root_mean_squared_error:
0.8073 - val_loss: 0.8957 - val_y1_output_loss: 0.1942 - val_y2_output_loss:
0.6828 - val_y1_output_root_mean_squared_error: 0.4383 -
val_y2_output_root_mean_squared_error: 0.8388
Epoch 314/500
614/614 [==============================] - 0s 128us/sample - loss: 0.9591 -
y1_output_loss: 0.1573 - y2_output_loss: 0.7944 -
y1_output_root_mean_squared_error: 0.3973 - y2_output_root_mean_squared_error:
0.8951 - val_loss: 1.0279 - val_y1_output_loss: 0.2194 - val_y2_output_loss:
0.7846 - val_y1_output_root_mean_squared_error: 0.4667 -
val_y2_output_root_mean_squared_error: 0.9001
Epoch 315/500
614/614 [==============================] - 0s 122us/sample - loss: 1.3897 -
y1_output_loss: 0.2816 - y2_output_loss: 1.1080 -
y1_output_root_mean_squared_error: 0.5327 - y2_output_root_mean_squared_error:
1.0516 - val_loss: 2.4573 - val_y1_output_loss: 0.2454 - val_y2_output_loss:
2.2488 - val_y1_output_root_mean_squared_error: 0.4926 -
val_y2_output_root_mean_squared_error: 1.4882
Epoch 316/500
614/614 [==============================] - 0s 128us/sample - loss: 1.1719 -
y1_output_loss: 0.2764 - y2_output_loss: 0.9342 -
y1_output_root_mean_squared_error: 0.5114 - y2_output_root_mean_squared_error:
0.9542 - val_loss: 18.9792 - val_y1_output_loss: 5.4052 - val_y2_output_loss:
13.9068 - val_y1_output_root_mean_squared_error: 2.2944 -
val_y2_output_root_mean_squared_error: 3.7034
Epoch 317/500
614/614 [==============================] - 0s 129us/sample - loss: 1.7511 -
y1_output_loss: 0.4108 - y2_output_loss: 1.4232 -
y1_output_root_mean_squared_error: 0.6391 - y2_output_root_mean_squared_error:
1.1587 - val_loss: 4.6416 - val_y1_output_loss: 0.6604 - val_y2_output_loss:
4.0794 - val_y1_output_root_mean_squared_error: 0.8030 -
val_y2_output_root_mean_squared_error: 1.9992
Epoch 318/500
614/614 [==============================] - 0s 130us/sample - loss: 1.3212 -
y1_output_loss: 0.3058 - y2_output_loss: 1.0077 -
y1_output_root_mean_squared_error: 0.5531 - y2_output_root_mean_squared_error:

1.0076 - val_loss: 1.3379 - val_y1_output_loss: 0.4051 - val_y2_output_loss: 0.9040 - val_y1_output_root_mean_squared_error: 0.6370 - val_y2_output_root_mean_squared_error: 0.9654
Epoch 319/500
614/614 [==============================] - 0s 136us/sample - loss: 1.0519 - y1_output_loss: 0.2180 - y2_output_loss: 0.8249 - y1_output_root_mean_squared_error: 0.4684 - y2_output_root_mean_squared_error: 0.9124 - val_loss: 0.9310 - val_y1_output_loss: 0.2517 - val_y2_output_loss: 0.6713 - val_y1_output_root_mean_squared_error: 0.5002 - val_y2_output_root_mean_squared_error: 0.8251
Epoch 320/500
614/614 [==============================] - 0s 125us/sample - loss: 1.2743 - y1_output_loss: 0.2155 - y2_output_loss: 1.0575 - y1_output_root_mean_squared_error: 0.4655 - y2_output_root_mean_squared_error: 1.0284 - val_loss: 1.1602 - val_y1_output_loss: 0.3110 - val_y2_output_loss: 0.8262 - val_y1_output_root_mean_squared_error: 0.5570 - val_y2_output_root_mean_squared_error: 0.9220
Epoch 321/500
614/614 [==============================] - 0s 123us/sample - loss: 0.8034 - y1_output_loss: 0.1601 - y2_output_loss: 0.6384 - y1_output_root_mean_squared_error: 0.4019 - y2_output_root_mean_squared_error: 0.8011 - val_loss: 1.1482 - val_y1_output_loss: 0.2192 - val_y2_output_loss: 0.9350 - val_y1_output_root_mean_squared_error: 0.4668 - val_y2_output_root_mean_squared_error: 0.9645
Epoch 322/500
614/614 [==============================] - 0s 122us/sample - loss: 0.7000 - y1_output_loss: 0.1624 - y2_output_loss: 0.5362 - y1_output_root_mean_squared_error: 0.4032 - y2_output_root_mean_squared_error: 0.7331 - val_loss: 1.0793 - val_y1_output_loss: 0.2539 - val_y2_output_loss: 0.8334 - val_y1_output_root_mean_squared_error: 0.5005 - val_y2_output_root_mean_squared_error: 0.9104
Epoch 323/500
614/614 [==============================] - 0s 124us/sample - loss: 0.8395 - y1_output_loss: 0.1825 - y2_output_loss: 0.6719 - y1_output_root_mean_squared_error: 0.4261 - y2_output_root_mean_squared_error: 0.8111 - val_loss: 1.5489 - val_y1_output_loss: 0.2824 - val_y2_output_loss: 1.2380 - val_y1_output_root_mean_squared_error: 0.5340 - val_y2_output_root_mean_squared_error: 1.1242
Epoch 324/500
614/614 [==============================] - 0s 124us/sample - loss: 1.0834 - y1_output_loss: 0.2796 - y2_output_loss: 0.8307 - y1_output_root_mean_squared_error: 0.5146 - y2_output_root_mean_squared_error: 0.9048 - val_loss: 5.2648 - val_y1_output_loss: 1.3593 - val_y2_output_loss: 4.1846 - val_y1_output_root_mean_squared_error: 1.1371 - val_y2_output_root_mean_squared_error: 1.9929
Epoch 325/500
614/614 [==============================] - 0s 123us/sample - loss: 0.9716 - y1_output_loss: 0.2172 - y2_output_loss: 0.7459 -

y1_output_root_mean_squared_error: 0.4679 - y2_output_root_mean_squared_error:
0.8676 - val_loss: 0.8850 - val_y1_output_loss: 0.1965 - val_y2_output_loss:
0.6672 - val_y1_output_root_mean_squared_error: 0.4404 -
val_y2_output_root_mean_squared_error: 0.8313
Epoch 326/500
614/614 [==============================] - 0s 123us/sample - loss: 0.7447 -
y1_output_loss: 0.1777 - y2_output_loss: 0.6126 -
y1_output_root_mean_squared_error: 0.4210 - y2_output_root_mean_squared_error:
0.7534 - val_loss: 5.3128 - val_y1_output_loss: 0.2985 - val_y2_output_loss:
4.9812 - val_y1_output_root_mean_squared_error: 0.5500 -
val_y2_output_root_mean_squared_error: 2.2384
Epoch 327/500
614/614 [==============================] - 0s 122us/sample - loss: 0.9612 -
y1_output_loss: 0.2216 - y2_output_loss: 0.7371 -
y1_output_root_mean_squared_error: 0.4710 - y2_output_root_mean_squared_error:
0.8599 - val_loss: 0.9860 - val_y1_output_loss: 0.2088 - val_y2_output_loss:
0.7587 - val_y1_output_root_mean_squared_error: 0.4555 -
val_y2_output_root_mean_squared_error: 0.8823
Epoch 328/500
614/614 [==============================] - 0s 129us/sample - loss: 0.9294 -
y1_output_loss: 0.1941 - y2_output_loss: 0.7271 -
y1_output_root_mean_squared_error: 0.4423 - y2_output_root_mean_squared_error:
0.8566 - val_loss: 1.0303 - val_y1_output_loss: 0.3155 - val_y2_output_loss:
0.7270 - val_y1_output_root_mean_squared_error: 0.5477 -
val_y2_output_root_mean_squared_error: 0.8546
Epoch 329/500
614/614 [==============================] - 0s 130us/sample - loss: 0.9543 -
y1_output_loss: 0.2129 - y2_output_loss: 0.7461 -
y1_output_root_mean_squared_error: 0.4619 - y2_output_root_mean_squared_error:
0.8608 - val_loss: 1.5529 - val_y1_output_loss: 0.1965 - val_y2_output_loss:
1.3438 - val_y1_output_root_mean_squared_error: 0.4416 -
val_y2_output_root_mean_squared_error: 1.1653
Epoch 330/500
614/614 [==============================] - 0s 127us/sample - loss: 0.8919 -
y1_output_loss: 0.1620 - y2_output_loss: 0.7457 -
y1_output_root_mean_squared_error: 0.4012 - y2_output_root_mean_squared_error:
0.8550 - val_loss: 3.5268 - val_y1_output_loss: 0.5939 - val_y2_output_loss:
3.0786 - val_y1_output_root_mean_squared_error: 0.7558 -
val_y2_output_root_mean_squared_error: 1.7192
Epoch 331/500
614/614 [==============================] - 0s 127us/sample - loss: 0.9873 -
y1_output_loss: 0.1982 - y2_output_loss: 0.7878 -
y1_output_root_mean_squared_error: 0.4469 - y2_output_root_mean_squared_error:
0.8874 - val_loss: 1.0671 - val_y1_output_loss: 0.2713 - val_y2_output_loss:
0.7769 - val_y1_output_root_mean_squared_error: 0.5144 -
val_y2_output_root_mean_squared_error: 0.8958
Epoch 332/500
614/614 [==============================] - 0s 124us/sample - loss: 0.9132 -

y1_output_loss: 0.1833 - y2_output_loss: 0.7332 -
y1_output_root_mean_squared_error: 0.4252 - y2_output_root_mean_squared_error:
0.8558 - val_loss: 1.2264 - val_y1_output_loss: 0.2755 - val_y2_output_loss:
0.9506 - val_y1_output_root_mean_squared_error: 0.5238 -
val_y2_output_root_mean_squared_error: 0.9757
Epoch 333/500
614/614 [==============================] - 0s 127us/sample - loss: 1.0076 -
y1_output_loss: 0.2325 - y2_output_loss: 0.7721 -
y1_output_root_mean_squared_error: 0.4834 - y2_output_root_mean_squared_error:
0.8797 - val_loss: 0.9799 - val_y1_output_loss: 0.2311 - val_y2_output_loss:
0.7214 - val_y1_output_root_mean_squared_error: 0.4870 -
val_y2_output_root_mean_squared_error: 0.8618
Epoch 334/500
614/614 [==============================] - 0s 125us/sample - loss: 1.2045 -
y1_output_loss: 0.2391 - y2_output_loss: 0.9560 -
y1_output_root_mean_squared_error: 0.4910 - y2_output_root_mean_squared_error:
0.9816 - val_loss: 1.2001 - val_y1_output_loss: 0.1891 - val_y2_output_loss:
1.0194 - val_y1_output_root_mean_squared_error: 0.4396 -
val_y2_output_root_mean_squared_error: 1.0034
Epoch 335/500
614/614 [==============================] - 0s 126us/sample - loss: 1.0249 -
y1_output_loss: 0.2131 - y2_output_loss: 0.8156 -
y1_output_root_mean_squared_error: 0.4614 - y2_output_root_mean_squared_error:
0.9011 - val_loss: 1.3038 - val_y1_output_loss: 0.2659 - val_y2_output_loss:
1.0023 - val_y1_output_root_mean_squared_error: 0.5160 -
val_y2_output_root_mean_squared_error: 1.0186
Epoch 336/500
614/614 [==============================] - 0s 128us/sample - loss: 0.9349 -
y1_output_loss: 0.1738 - y2_output_loss: 0.7549 -
y1_output_root_mean_squared_error: 0.4179 - y2_output_root_mean_squared_error:
0.8719 - val_loss: 0.8941 - val_y1_output_loss: 0.2302 - val_y2_output_loss:
0.6598 - val_y1_output_root_mean_squared_error: 0.4762 -
val_y2_output_root_mean_squared_error: 0.8169
Epoch 337/500
614/614 [==============================] - 0s 126us/sample - loss: 0.9858 -
y1_output_loss: 0.1780 - y2_output_loss: 0.8106 -
y1_output_root_mean_squared_error: 0.4233 - y2_output_root_mean_squared_error:
0.8981 - val_loss: 1.1488 - val_y1_output_loss: 0.1814 - val_y2_output_loss:
0.9670 - val_y1_output_root_mean_squared_error: 0.4272 -
val_y2_output_root_mean_squared_error: 0.9830
Epoch 338/500
614/614 [==============================] - 0s 126us/sample - loss: 0.8000 -
y1_output_loss: 0.1722 - y2_output_loss: 0.6228 -
y1_output_root_mean_squared_error: 0.4149 - y2_output_root_mean_squared_error:
0.7923 - val_loss: 1.3085 - val_y1_output_loss: 0.2720 - val_y2_output_loss:
1.0524 - val_y1_output_root_mean_squared_error: 0.5149 -
val_y2_output_root_mean_squared_error: 1.0214
Epoch 339/500

614/614 [==============================] - 0s 126us/sample - loss: 0.8327 -
y1_output_loss: 0.1768 - y2_output_loss: 0.6498 -
y1_output_root_mean_squared_error: 0.4217 - y2_output_root_mean_squared_error:
0.8092 - val_loss: 0.8662 - val_y1_output_loss: 0.2016 - val_y2_output_loss:
0.6541 - val_y1_output_root_mean_squared_error: 0.4535 -
val_y2_output_root_mean_squared_error: 0.8127
Epoch 340/500
614/614 [==============================] - 0s 124us/sample - loss: 0.9774 -
y1_output_loss: 0.1956 - y2_output_loss: 0.7759 -
y1_output_root_mean_squared_error: 0.4424 - y2_output_root_mean_squared_error:
0.8841 - val_loss: 1.2086 - val_y1_output_loss: 0.2995 - val_y2_output_loss:
0.9107 - val_y1_output_root_mean_squared_error: 0.5421 -
val_y2_output_root_mean_squared_error: 0.9564
Epoch 341/500
614/614 [==============================] - 0s 127us/sample - loss: 0.7576 -
y1_output_loss: 0.1631 - y2_output_loss: 0.5967 -
y1_output_root_mean_squared_error: 0.4035 - y2_output_root_mean_squared_error:
0.7712 - val_loss: 1.4208 - val_y1_output_loss: 0.4404 - val_y2_output_loss:
1.0063 - val_y1_output_root_mean_squared_error: 0.6412 -
val_y2_output_root_mean_squared_error: 1.0049
Epoch 342/500
614/614 [==============================] - 0s 131us/sample - loss: 0.8552 -
y1_output_loss: 0.1837 - y2_output_loss: 0.6684 -
y1_output_root_mean_squared_error: 0.4288 - y2_output_root_mean_squared_error:
0.8193 - val_loss: 1.4821 - val_y1_output_loss: 0.4594 - val_y2_output_loss:
1.0226 - val_y1_output_root_mean_squared_error: 0.6691 -
val_y2_output_root_mean_squared_error: 1.0170
Epoch 343/500
614/614 [==============================] - 0s 128us/sample - loss: 0.7265 -
y1_output_loss: 0.1765 - y2_output_loss: 0.5460 -
y1_output_root_mean_squared_error: 0.4219 - y2_output_root_mean_squared_error:
0.7406 - val_loss: 0.9338 - val_y1_output_loss: 0.2054 - val_y2_output_loss:
0.7309 - val_y1_output_root_mean_squared_error: 0.4447 -
val_y2_output_root_mean_squared_error: 0.8579
Epoch 344/500
614/614 [==============================] - 0s 125us/sample - loss: 0.7717 -
y1_output_loss: 0.1661 - y2_output_loss: 0.6001 -
y1_output_root_mean_squared_error: 0.4089 - y2_output_root_mean_squared_error:
0.7775 - val_loss: 0.8520 - val_y1_output_loss: 0.2106 - val_y2_output_loss:
0.6286 - val_y1_output_root_mean_squared_error: 0.4529 -
val_y2_output_root_mean_squared_error: 0.8043
Epoch 345/500
614/614 [==============================] - 0s 128us/sample - loss: 1.0120 -
y1_output_loss: 0.2130 - y2_output_loss: 0.8011 -
y1_output_root_mean_squared_error: 0.4610 - y2_output_root_mean_squared_error:
0.8941 - val_loss: 1.7493 - val_y1_output_loss: 0.3309 - val_y2_output_loss:
1.4177 - val_y1_output_root_mean_squared_error: 0.5684 -
val_y2_output_root_mean_squared_error: 1.1942

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Epoch 346/500
614/614 [==============================] - 0s 143us/sample - loss: 0.8263 -
y1_output_loss: 0.1683 - y2_output_loss: 0.6524 -
y1_output_root_mean_squared_error: 0.4108 - y2_output_root_mean_squared_error:
0.8109 - val_loss: 0.9605 - val_y1_output_loss: 0.1862 - val_y2_output_loss:
0.7468 - val_y1_output_root_mean_squared_error: 0.4328 -
val_y2_output_root_mean_squared_error: 0.8793
Epoch 347/500
614/614 [==============================] - 0s 139us/sample - loss: 0.6918 -
y1_output_loss: 0.1631 - y2_output_loss: 0.5245 -
y1_output_root_mean_squared_error: 0.4056 - y2_output_root_mean_squared_error:
0.7261 - val_loss: 1.1375 - val_y1_output_loss: 0.2627 - val_y2_output_loss:
0.8602 - val_y1_output_root_mean_squared_error: 0.5145 -
val_y2_output_root_mean_squared_error: 0.9342
Epoch 348/500
614/614 [==============================] - 0s 133us/sample - loss: 0.9327 -
y1_output_loss: 0.1877 - y2_output_loss: 0.7399 -
y1_output_root_mean_squared_error: 0.4327 - y2_output_root_mean_squared_error:
0.8634 - val_loss: 0.9204 - val_y1_output_loss: 0.2364 - val_y2_output_loss:
0.6599 - val_y1_output_root_mean_squared_error: 0.4914 -
val_y2_output_root_mean_squared_error: 0.8239
Epoch 349/500
614/614 [==============================] - 0s 134us/sample - loss: 0.7923 -
y1_output_loss: 0.1834 - y2_output_loss: 0.6029 -
y1_output_root_mean_squared_error: 0.4298 - y2_output_root_mean_squared_error:
0.7794 - val_loss: 0.8807 - val_y1_output_loss: 0.2094 - val_y2_output_loss:
0.6529 - val_y1_output_root_mean_squared_error: 0.4564 -
val_y2_output_root_mean_squared_error: 0.8200
Epoch 350/500
614/614 [==============================] - 0s 124us/sample - loss: 0.9828 -
y1_output_loss: 0.1879 - y2_output_loss: 0.7942 -
y1_output_root_mean_squared_error: 0.4336 - y2_output_root_mean_squared_error:
0.8915 - val_loss: 1.9621 - val_y1_output_loss: 0.3382 - val_y2_output_loss:
1.5900 - val_y1_output_root_mean_squared_error: 0.5829 -
val_y2_output_root_mean_squared_error: 1.2737
Epoch 351/500
614/614 [==============================] - 0s 125us/sample - loss: 0.8814 -
y1_output_loss: 0.1989 - y2_output_loss: 0.6841 -
y1_output_root_mean_squared_error: 0.4473 - y2_output_root_mean_squared_error:
0.8254 - val_loss: 4.0616 - val_y1_output_loss: 0.5374 - val_y2_output_loss:
3.6424 - val_y1_output_root_mean_squared_error: 0.7248 -
val_y2_output_root_mean_squared_error: 1.8805
Epoch 352/500
614/614 [==============================] - 0s 129us/sample - loss: 0.6388 -
y1_output_loss: 0.1586 - y2_output_loss: 0.4892 -
y1_output_root_mean_squared_error: 0.3958 - y2_output_root_mean_squared_error:
0.6944 - val_loss: 1.8396 - val_y1_output_loss: 0.4485 - val_y2_output_loss:
1.4225 - val_y1_output_root_mean_squared_error: 0.6617 -
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val_y2_output_root_mean_squared_error: 1.1839
Epoch 353/500
614/614 [==============================] - 0s 122us/sample - loss: 0.7472 -
y1_output_loss: 0.1680 - y2_output_loss: 0.5737 -
y1_output_root_mean_squared_error: 0.4117 - y2_output_root_mean_squared_error:
0.7600 - val_loss: 1.1736 - val_y1_output_loss: 0.2762 - val_y2_output_loss:
0.8897 - val_y1_output_root_mean_squared_error: 0.5130 -
val_y2_output_root_mean_squared_error: 0.9541
Epoch 354/500
614/614 [==============================] - 0s 131us/sample - loss: 0.6137 -
y1_output_loss: 0.1375 - y2_output_loss: 0.4718 -
y1_output_root_mean_squared_error: 0.3723 - y2_output_root_mean_squared_error:
0.6893 - val_loss: 0.9809 - val_y1_output_loss: 0.2107 - val_y2_output_loss:
0.7506 - val_y1_output_root_mean_squared_error: 0.4526 -
val_y2_output_root_mean_squared_error: 0.8810
Epoch 355/500
614/614 [==============================] - 0s 123us/sample - loss: 0.7493 -
y1_output_loss: 0.1679 - y2_output_loss: 0.5821 -
y1_output_root_mean_squared_error: 0.4112 - y2_output_root_mean_squared_error:
0.7618 - val_loss: 1.7582 - val_y1_output_loss: 0.2489 - val_y2_output_loss:
1.4847 - val_y1_output_root_mean_squared_error: 0.4976 -
val_y2_output_root_mean_squared_error: 1.2291
Epoch 356/500
614/614 [==============================] - 0s 123us/sample - loss: 0.8131 -
y1_output_loss: 0.1877 - y2_output_loss: 0.6199 -
y1_output_root_mean_squared_error: 0.4333 - y2_output_root_mean_squared_error:
0.7908 - val_loss: 0.9679 - val_y1_output_loss: 0.1939 - val_y2_output_loss:
0.7718 - val_y1_output_root_mean_squared_error: 0.4420 -
val_y2_output_root_mean_squared_error: 0.8789
Epoch 357/500
614/614 [==============================] - 0s 125us/sample - loss: 0.8291 -
y1_output_loss: 0.1784 - y2_output_loss: 0.6662 -
y1_output_root_mean_squared_error: 0.4239 - y2_output_root_mean_squared_error:
0.8058 - val_loss: 2.8795 - val_y1_output_loss: 0.3065 - val_y2_output_loss:
2.6216 - val_y1_output_root_mean_squared_error: 0.5390 -
val_y2_output_root_mean_squared_error: 1.6090
Epoch 358/500
614/614 [==============================] - 0s 125us/sample - loss: 1.2830 -
y1_output_loss: 0.2113 - y2_output_loss: 1.0616 -
y1_output_root_mean_squared_error: 0.4609 - y2_output_root_mean_squared_error:
1.0347 - val_loss: 1.2567 - val_y1_output_loss: 0.2313 - val_y2_output_loss:
0.9990 - val_y1_output_root_mean_squared_error: 0.4807 -
val_y2_output_root_mean_squared_error: 1.0128
Epoch 359/500
614/614 [==============================] - 0s 134us/sample - loss: 0.6920 -
y1_output_loss: 0.1555 - y2_output_loss: 0.5320 -
y1_output_root_mean_squared_error: 0.3954 - y2_output_root_mean_squared_error:
0.7319 - val_loss: 1.2942 - val_y1_output_loss: 0.5564 - val_y2_output_loss:

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0.7616 - val_y1_output_root_mean_squared_error: 0.7246 -
val_y2_output_root_mean_squared_error: 0.8770
Epoch 360/500
614/614 [==============================] - 0s 125us/sample - loss: 0.6879 -
y1_output_loss: 0.1565 - y2_output_loss: 0.5339 -
y1_output_root_mean_squared_error: 0.3916 - y2_output_root_mean_squared_error:
0.7311 - val_loss: 1.9192 - val_y1_output_loss: 0.3984 - val_y2_output_loss:
1.5087 - val_y1_output_root_mean_squared_error: 0.6327 -
val_y2_output_root_mean_squared_error: 1.2324
Epoch 361/500
614/614 [==============================] - 0s 124us/sample - loss: 0.7030 -
y1_output_loss: 0.1583 - y2_output_loss: 0.5500 -
y1_output_root_mean_squared_error: 0.3965 - y2_output_root_mean_squared_error:
0.7388 - val_loss: 2.0283 - val_y1_output_loss: 0.2814 - val_y2_output_loss:
1.7360 - val_y1_output_root_mean_squared_error: 0.5358 -
val_y2_output_root_mean_squared_error: 1.3195
Epoch 362/500
614/614 [==============================] - 0s 125us/sample - loss: 0.9859 -
y1_output_loss: 0.1821 - y2_output_loss: 0.8040 -
y1_output_root_mean_squared_error: 0.4287 - y2_output_root_mean_squared_error:
0.8956 - val_loss: 2.5548 - val_y1_output_loss: 0.2972 - val_y2_output_loss:
2.3335 - val_y1_output_root_mean_squared_error: 0.5373 -
val_y2_output_root_mean_squared_error: 1.5053
Epoch 363/500
614/614 [==============================] - 0s 121us/sample - loss: 1.2297 -
y1_output_loss: 0.2958 - y2_output_loss: 0.9294 -
y1_output_root_mean_squared_error: 0.5447 - y2_output_root_mean_squared_error:
0.9659 - val_loss: 1.4366 - val_y1_output_loss: 0.3349 - val_y2_output_loss:
1.1058 - val_y1_output_root_mean_squared_error: 0.5801 -
val_y2_output_root_mean_squared_error: 1.0488
Epoch 364/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5931 -
y1_output_loss: 0.1463 - y2_output_loss: 0.4428 -
y1_output_root_mean_squared_error: 0.3827 - y2_output_root_mean_squared_error:
0.6683 - val_loss: 1.2544 - val_y1_output_loss: 0.4027 - val_y2_output_loss:
0.8521 - val_y1_output_root_mean_squared_error: 0.6232 -
val_y2_output_root_mean_squared_error: 0.9306
Epoch 365/500
614/614 [==============================] - 0s 131us/sample - loss: 0.7379 -
y1_output_loss: 0.1659 - y2_output_loss: 0.5665 -
y1_output_root_mean_squared_error: 0.4079 - y2_output_root_mean_squared_error:
0.7560 - val_loss: 0.8641 - val_y1_output_loss: 0.2344 - val_y2_output_loss:
0.6167 - val_y1_output_root_mean_squared_error: 0.4841 -
val_y2_output_root_mean_squared_error: 0.7936
Epoch 366/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5826 -
y1_output_loss: 0.1425 - y2_output_loss: 0.4505 -
y1_output_root_mean_squared_error: 0.3767 - y2_output_root_mean_squared_error:
```

0.6639 - val_loss: 1.5236 - val_y1_output_loss: 0.2432 - val_y2_output_loss:
1.2695 - val_y1_output_root_mean_squared_error: 0.4858 -
val_y2_output_root_mean_squared_error: 1.1347
Epoch 367/500
614/614 [==============================] - 0s 130us/sample - loss: 0.8621 -
y1_output_loss: 0.1721 - y2_output_loss: 0.6857 -
y1_output_root_mean_squared_error: 0.4153 - y2_output_root_mean_squared_error:
0.8304 - val_loss: 1.2040 - val_y1_output_loss: 0.3145 - val_y2_output_loss:
0.8700 - val_y1_output_root_mean_squared_error: 0.5606 -
val_y2_output_root_mean_squared_error: 0.9433
Epoch 368/500
614/614 [==============================] - 0s 130us/sample - loss: 0.7937 -
y1_output_loss: 0.1805 - y2_output_loss: 0.6119 -
y1_output_root_mean_squared_error: 0.4232 - y2_output_root_mean_squared_error:
0.7839 - val_loss: 1.4427 - val_y1_output_loss: 0.5919 - val_y2_output_loss:
0.8845 - val_y1_output_root_mean_squared_error: 0.7458 -
val_y2_output_root_mean_squared_error: 0.9415
Epoch 369/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5963 -
y1_output_loss: 0.1549 - y2_output_loss: 0.4414 -
y1_output_root_mean_squared_error: 0.3933 - y2_output_root_mean_squared_error:
0.6645 - val_loss: 1.0131 - val_y1_output_loss: 0.3668 - val_y2_output_loss:
0.6322 - val_y1_output_root_mean_squared_error: 0.6021 -
val_y2_output_root_mean_squared_error: 0.8066
Epoch 370/500
614/614 [==============================] - 0s 132us/sample - loss: 0.6549 -
y1_output_loss: 0.1575 - y2_output_loss: 0.5010 -
y1_output_root_mean_squared_error: 0.3974 - y2_output_root_mean_squared_error:
0.7050 - val_loss: 1.0886 - val_y1_output_loss: 0.2145 - val_y2_output_loss:
0.8618 - val_y1_output_root_mean_squared_error: 0.4645 -
val_y2_output_root_mean_squared_error: 0.9343
Epoch 371/500
614/614 [==============================] - 0s 125us/sample - loss: 0.6264 -
y1_output_loss: 0.1654 - y2_output_loss: 0.4590 -
y1_output_root_mean_squared_error: 0.4077 - y2_output_root_mean_squared_error:
0.6784 - val_loss: 1.1575 - val_y1_output_loss: 0.2470 - val_y2_output_loss:
0.8922 - val_y1_output_root_mean_squared_error: 0.4973 -
val_y2_output_root_mean_squared_error: 0.9541
Epoch 372/500
614/614 [==============================] - 0s 125us/sample - loss: 1.6188 -
y1_output_loss: 0.3498 - y2_output_loss: 1.2581 -
y1_output_root_mean_squared_error: 0.5931 - y2_output_root_mean_squared_error:
1.1256 - val_loss: 0.8595 - val_y1_output_loss: 0.2379 - val_y2_output_loss:
0.6080 - val_y1_output_root_mean_squared_error: 0.4866 -
val_y2_output_root_mean_squared_error: 0.7891
Epoch 373/500
614/614 [==============================] - 0s 123us/sample - loss: 0.6096 -
y1_output_loss: 0.1377 - y2_output_loss: 0.4677 -

y1_output_root_mean_squared_error: 0.3726 - y2_output_root_mean_squared_error:
0.6862 - val_loss: 0.8914 - val_y1_output_loss: 0.2048 - val_y2_output_loss:
0.6712 - val_y1_output_root_mean_squared_error: 0.4526 -
val_y2_output_root_mean_squared_error: 0.8286
Epoch 374/500
614/614 [==============================] - 0s 124us/sample - loss: 0.6823 -
y1_output_loss: 0.1533 - y2_output_loss: 0.5468 -
y1_output_root_mean_squared_error: 0.3906 - y2_output_root_mean_squared_error:
0.7279 - val_loss: 2.0357 - val_y1_output_loss: 0.3971 - val_y2_output_loss:
1.5975 - val_y1_output_root_mean_squared_error: 0.6299 -
val_y2_output_root_mean_squared_error: 1.2802
Epoch 375/500
614/614 [==============================] - 0s 129us/sample - loss: 0.8570 -
y1_output_loss: 0.1843 - y2_output_loss: 0.6969 -
y1_output_root_mean_squared_error: 0.4262 - y2_output_root_mean_squared_error:
0.8218 - val_loss: 3.3121 - val_y1_output_loss: 0.6966 - val_y2_output_loss:
2.7383 - val_y1_output_root_mean_squared_error: 0.8178 -
val_y2_output_root_mean_squared_error: 1.6258
Epoch 376/500
614/614 [==============================] - 0s 129us/sample - loss: 0.6715 -
y1_output_loss: 0.1779 - y2_output_loss: 0.4931 -
y1_output_root_mean_squared_error: 0.4202 - y2_output_root_mean_squared_error:
0.7035 - val_loss: 1.0257 - val_y1_output_loss: 0.2711 - val_y2_output_loss:
0.7370 - val_y1_output_root_mean_squared_error: 0.5135 -
val_y2_output_root_mean_squared_error: 0.8730
Epoch 377/500
614/614 [==============================] - 0s 129us/sample - loss: 0.6988 -
y1_output_loss: 0.1644 - y2_output_loss: 0.5328 -
y1_output_root_mean_squared_error: 0.4066 - y2_output_root_mean_squared_error:
0.7304 - val_loss: 0.8952 - val_y1_output_loss: 0.2328 - val_y2_output_loss:
0.6419 - val_y1_output_root_mean_squared_error: 0.4824 -
val_y2_output_root_mean_squared_error: 0.8139
Epoch 378/500
614/614 [==============================] - 0s 128us/sample - loss: 0.9072 -
y1_output_loss: 0.1948 - y2_output_loss: 0.7100 -
y1_output_root_mean_squared_error: 0.4409 - y2_output_root_mean_squared_error:
0.8443 - val_loss: 2.2282 - val_y1_output_loss: 0.4087 - val_y2_output_loss:
1.8243 - val_y1_output_root_mean_squared_error: 0.6236 -
val_y2_output_root_mean_squared_error: 1.3562
Epoch 379/500
614/614 [==============================] - 0s 124us/sample - loss: 0.6628 -
y1_output_loss: 0.1488 - y2_output_loss: 0.5164 -
y1_output_root_mean_squared_error: 0.3862 - y2_output_root_mean_squared_error:
0.7167 - val_loss: 0.9641 - val_y1_output_loss: 0.2592 - val_y2_output_loss:
0.6937 - val_y1_output_root_mean_squared_error: 0.5009 -
val_y2_output_root_mean_squared_error: 0.8445
Epoch 380/500
614/614 [==============================] - 0s 123us/sample - loss: 0.7268 -

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y1_output_loss: 0.1643 - y2_output_loss: 0.5574 -
y1_output_root_mean_squared_error: 0.4064 - y2_output_root_mean_squared_error:
0.7494 - val_loss: 0.8582 - val_y1_output_loss: 0.2463 - val_y2_output_loss:
0.6097 - val_y1_output_root_mean_squared_error: 0.4868 -
val_y2_output_root_mean_squared_error: 0.7882
Epoch 381/500
614/614 [==============================] - 0s 122us/sample - loss: 0.8532 -
y1_output_loss: 0.1737 - y2_output_loss: 0.6742 -
y1_output_root_mean_squared_error: 0.4188 - y2_output_root_mean_squared_error:
0.8233 - val_loss: 0.9273 - val_y1_output_loss: 0.1815 - val_y2_output_loss:
0.7195 - val_y1_output_root_mean_squared_error: 0.4262 -
val_y2_output_root_mean_squared_error: 0.8635
Epoch 382/500
614/614 [==============================] - 0s 122us/sample - loss: 0.9497 -
y1_output_loss: 0.1660 - y2_output_loss: 0.7777 -
y1_output_root_mean_squared_error: 0.4074 - y2_output_root_mean_squared_error:
0.8853 - val_loss: 1.0080 - val_y1_output_loss: 0.2936 - val_y2_output_loss:
0.7097 - val_y1_output_root_mean_squared_error: 0.5314 -
val_y2_output_root_mean_squared_error: 0.8519
Epoch 383/500
614/614 [==============================] - 0s 123us/sample - loss: 0.6561 -
y1_output_loss: 0.1598 - y2_output_loss: 0.4972 -
y1_output_root_mean_squared_error: 0.4015 - y2_output_root_mean_squared_error:
0.7035 - val_loss: 1.0214 - val_y1_output_loss: 0.2220 - val_y2_output_loss:
0.7882 - val_y1_output_root_mean_squared_error: 0.4657 -
val_y2_output_root_mean_squared_error: 0.8969
Epoch 384/500
614/614 [==============================] - 0s 124us/sample - loss: 0.5590 -
y1_output_loss: 0.1428 - y2_output_loss: 0.4150 -
y1_output_root_mean_squared_error: 0.3781 - y2_output_root_mean_squared_error:
0.6450 - val_loss: 1.2722 - val_y1_output_loss: 0.3844 - val_y2_output_loss:
0.8902 - val_y1_output_root_mean_squared_error: 0.6062 -
val_y2_output_root_mean_squared_error: 0.9512
Epoch 385/500
614/614 [==============================] - 0s 126us/sample - loss: 1.0055 -
y1_output_loss: 0.2031 - y2_output_loss: 0.7954 -
y1_output_root_mean_squared_error: 0.4513 - y2_output_root_mean_squared_error:
0.8955 - val_loss: 0.8979 - val_y1_output_loss: 0.2345 - val_y2_output_loss:
0.6459 - val_y1_output_root_mean_squared_error: 0.4834 -
val_y2_output_root_mean_squared_error: 0.8150
Epoch 386/500
614/614 [==============================] - 0s 121us/sample - loss: 0.5810 -
y1_output_loss: 0.1507 - y2_output_loss: 0.4312 -
y1_output_root_mean_squared_error: 0.3857 - y2_output_root_mean_squared_error:
0.6574 - val_loss: 0.9749 - val_y1_output_loss: 0.3213 - val_y2_output_loss:
0.6520 - val_y1_output_root_mean_squared_error: 0.5555 -
val_y2_output_root_mean_squared_error: 0.8162
Epoch 387/500
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614/614 [==============================] - 0s 122us/sample - loss: 0.6123 -
y1_output_loss: 0.1361 - y2_output_loss: 0.4720 -
y1_output_root_mean_squared_error: 0.3706 - y2_output_root_mean_squared_error:
0.6892 - val_loss: 0.8165 - val_y1_output_loss: 0.2069 - val_y2_output_loss:
0.5917 - val_y1_output_root_mean_squared_error: 0.4511 -
val_y2_output_root_mean_squared_error: 0.7829
Epoch 388/500
614/614 [==============================] - 0s 124us/sample - loss: 0.7112 -
y1_output_loss: 0.1531 - y2_output_loss: 0.5562 -
y1_output_root_mean_squared_error: 0.3922 - y2_output_root_mean_squared_error:
0.7466 - val_loss: 1.6625 - val_y1_output_loss: 0.4227 - val_y2_output_loss:
1.2222 - val_y1_output_root_mean_squared_error: 0.6416 -
val_y2_output_root_mean_squared_error: 1.1184
Epoch 389/500
614/614 [==============================] - 0s 123us/sample - loss: 0.5868 -
y1_output_loss: 0.1501 - y2_output_loss: 0.4435 -
y1_output_root_mean_squared_error: 0.3874 - y2_output_root_mean_squared_error:
0.6609 - val_loss: 2.8848 - val_y1_output_loss: 0.2524 - val_y2_output_loss:
2.7085 - val_y1_output_root_mean_squared_error: 0.4968 -
val_y2_output_root_mean_squared_error: 1.6242
Epoch 390/500
614/614 [==============================] - 0s 128us/sample - loss: 0.7375 -
y1_output_loss: 0.1634 - y2_output_loss: 0.5684 -
y1_output_root_mean_squared_error: 0.4059 - y2_output_root_mean_squared_error:
0.7568 - val_loss: 0.8450 - val_y1_output_loss: 0.2070 - val_y2_output_loss:
0.6237 - val_y1_output_root_mean_squared_error: 0.4534 -
val_y2_output_root_mean_squared_error: 0.7996
Epoch 391/500
614/614 [==============================] - 0s 127us/sample - loss: 0.7511 -
y1_output_loss: 0.1863 - y2_output_loss: 0.5677 -
y1_output_root_mean_squared_error: 0.4320 - y2_output_root_mean_squared_error:
0.7513 - val_loss: 3.1885 - val_y1_output_loss: 0.7920 - val_y2_output_loss:
2.5312 - val_y1_output_root_mean_squared_error: 0.8574 -
val_y2_output_root_mean_squared_error: 1.5663
Epoch 392/500
614/614 [==============================] - 0s 128us/sample - loss: 0.7394 -
y1_output_loss: 0.1699 - y2_output_loss: 0.5678 -
y1_output_root_mean_squared_error: 0.4123 - y2_output_root_mean_squared_error:
0.7546 - val_loss: 0.9254 - val_y1_output_loss: 0.2479 - val_y2_output_loss:
0.6668 - val_y1_output_root_mean_squared_error: 0.4911 -
val_y2_output_root_mean_squared_error: 0.8271
Epoch 393/500
614/614 [==============================] - 0s 122us/sample - loss: 0.5946 -
y1_output_loss: 0.1360 - y2_output_loss: 0.4586 -
y1_output_root_mean_squared_error: 0.3676 - y2_output_root_mean_squared_error:
0.6778 - val_loss: 0.8810 - val_y1_output_loss: 0.2124 - val_y2_output_loss:
0.6505 - val_y1_output_root_mean_squared_error: 0.4610 -
val_y2_output_root_mean_squared_error: 0.8176
```

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Epoch 394/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5751 -
y1_output_loss: 0.1615 - y2_output_loss: 0.4097 -
y1_output_root_mean_squared_error: 0.4036 - y2_output_root_mean_squared_error:
0.6420 - val_loss: 0.8241 - val_y1_output_loss: 0.2259 - val_y2_output_loss:
0.5871 - val_y1_output_root_mean_squared_error: 0.4709 -
val_y2_output_root_mean_squared_error: 0.7761
Epoch 395/500
614/614 [==============================] - 0s 129us/sample - loss: 0.5552 -
y1_output_loss: 0.1459 - y2_output_loss: 0.4085 -
y1_output_root_mean_squared_error: 0.3829 - y2_output_root_mean_squared_error:
0.6392 - val_loss: 0.9736 - val_y1_output_loss: 0.2322 - val_y2_output_loss:
0.7334 - val_y1_output_root_mean_squared_error: 0.4831 -
val_y2_output_root_mean_squared_error: 0.8603
Epoch 396/500
614/614 [==============================] - 0s 122us/sample - loss: 0.6126 -
y1_output_loss: 0.1569 - y2_output_loss: 0.4563 -
y1_output_root_mean_squared_error: 0.3965 - y2_output_root_mean_squared_error:
0.6749 - val_loss: 1.3133 - val_y1_output_loss: 0.2882 - val_y2_output_loss:
1.0166 - val_y1_output_root_mean_squared_error: 0.5349 -
val_y2_output_root_mean_squared_error: 1.0135
Epoch 397/500
614/614 [==============================] - 0s 122us/sample - loss: 0.5983 -
y1_output_loss: 0.1646 - y2_output_loss: 0.4300 -
y1_output_root_mean_squared_error: 0.4069 - y2_output_root_mean_squared_error:
0.6578 - val_loss: 0.9268 - val_y1_output_loss: 0.2995 - val_y2_output_loss:
0.6327 - val_y1_output_root_mean_squared_error: 0.5298 -
val_y2_output_root_mean_squared_error: 0.8038
Epoch 398/500
614/614 [==============================] - 0s 123us/sample - loss: 0.7400 -
y1_output_loss: 0.1620 - y2_output_loss: 0.5779 -
y1_output_root_mean_squared_error: 0.4028 - y2_output_root_mean_squared_error:
0.7601 - val_loss: 1.4166 - val_y1_output_loss: 0.3169 - val_y2_output_loss:
1.1129 - val_y1_output_root_mean_squared_error: 0.5540 -
val_y2_output_root_mean_squared_error: 1.0534
Epoch 399/500
614/614 [==============================] - 0s 127us/sample - loss: 0.5148 -
y1_output_loss: 0.1342 - y2_output_loss: 0.3881 -
y1_output_root_mean_squared_error: 0.3671 - y2_output_root_mean_squared_error:
0.6165 - val_loss: 1.0455 - val_y1_output_loss: 0.2066 - val_y2_output_loss:
0.8330 - val_y1_output_root_mean_squared_error: 0.4450 -
val_y2_output_root_mean_squared_error: 0.9206
Epoch 400/500
614/614 [==============================] - 0s 120us/sample - loss: 3.1554 -
y1_output_loss: 0.8466 - y2_output_loss: 2.3028 -
y1_output_root_mean_squared_error: 0.9223 - y2_output_root_mean_squared_error:
1.5182 - val_loss: 12.3314 - val_y1_output_loss: 2.8456 - val_y2_output_loss:
9.5298 - val_y1_output_root_mean_squared_error: 1.6961 -
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val_y2_output_root_mean_squared_error: 3.0749
Epoch 401/500
614/614 [==============================] - 0s 121us/sample - loss: 1.1902 -
y1_output_loss: 0.2979 - y2_output_loss: 0.8990 -
y1_output_root_mean_squared_error: 0.5477 - y2_output_root_mean_squared_error:
0.9435 - val_loss: 1.5617 - val_y1_output_loss: 0.2955 - val_y2_output_loss:
1.2276 - val_y1_output_root_mean_squared_error: 0.5450 -
val_y2_output_root_mean_squared_error: 1.1246
Epoch 402/500
614/614 [==============================] - 0s 121us/sample - loss: 0.7772 -
y1_output_loss: 0.1970 - y2_output_loss: 0.5863 -
y1_output_root_mean_squared_error: 0.4428 - y2_output_root_mean_squared_error:
0.7623 - val_loss: 2.3181 - val_y1_output_loss: 0.4698 - val_y2_output_loss:
1.8700 - val_y1_output_root_mean_squared_error: 0.6831 -
val_y2_output_root_mean_squared_error: 1.3607
Epoch 403/500
614/614 [==============================] - 0s 121us/sample - loss: 0.7372 -
y1_output_loss: 0.1803 - y2_output_loss: 0.5607 -
y1_output_root_mean_squared_error: 0.4251 - y2_output_root_mean_squared_error:
0.7460 - val_loss: 2.8279 - val_y1_output_loss: 0.4709 - val_y2_output_loss:
2.3241 - val_y1_output_root_mean_squared_error: 0.6835 -
val_y2_output_root_mean_squared_error: 1.5365
Epoch 404/500
614/614 [==============================] - 0s 120us/sample - loss: 0.6649 -
y1_output_loss: 0.1780 - y2_output_loss: 0.4824 -
y1_output_root_mean_squared_error: 0.4232 - y2_output_root_mean_squared_error:
0.6969 - val_loss: 0.7339 - val_y1_output_loss: 0.1865 - val_y2_output_loss:
0.5365 - val_y1_output_root_mean_squared_error: 0.4267 -
val_y2_output_root_mean_squared_error: 0.7429
Epoch 405/500
614/614 [==============================] - 0s 120us/sample - loss: 0.6032 -
y1_output_loss: 0.1488 - y2_output_loss: 0.4727 -
y1_output_root_mean_squared_error: 0.3863 - y2_output_root_mean_squared_error:
0.6738 - val_loss: 1.5420 - val_y1_output_loss: 0.2531 - val_y2_output_loss:
1.2534 - val_y1_output_root_mean_squared_error: 0.5105 -
val_y2_output_root_mean_squared_error: 1.1320
Epoch 406/500
614/614 [==============================] - 0s 121us/sample - loss: 0.5233 -
y1_output_loss: 0.1340 - y2_output_loss: 0.3856 -
y1_output_root_mean_squared_error: 0.3677 - y2_output_root_mean_squared_error:
0.6229 - val_loss: 0.9270 - val_y1_output_loss: 0.2245 - val_y2_output_loss:
0.6799 - val_y1_output_root_mean_squared_error: 0.4747 -
val_y2_output_root_mean_squared_error: 0.8377
Epoch 407/500
614/614 [==============================] - 0s 121us/sample - loss: 0.5849 -
y1_output_loss: 0.1515 - y2_output_loss: 0.4344 -
y1_output_root_mean_squared_error: 0.3859 - y2_output_root_mean_squared_error:
0.6603 - val_loss: 0.7920 - val_y1_output_loss: 0.1908 - val_y2_output_loss:

```
0.6036 - val_y1_output_root_mean_squared_error: 0.4286 -
val_y2_output_root_mean_squared_error: 0.7799
Epoch 408/500
614/614 [==============================] - 0s 121us/sample - loss: 0.6203 -
y1_output_loss: 0.1675 - y2_output_loss: 0.4494 -
y1_output_root_mean_squared_error: 0.4089 - y2_output_root_mean_squared_error:
0.6731 - val_loss: 0.8730 - val_y1_output_loss: 0.2226 - val_y2_output_loss:
0.6303 - val_y1_output_root_mean_squared_error: 0.4702 -
val_y2_output_root_mean_squared_error: 0.8074
Epoch 409/500
614/614 [==============================] - 0s 121us/sample - loss: 0.6144 -
y1_output_loss: 0.1426 - y2_output_loss: 0.5034 -
y1_output_root_mean_squared_error: 0.3727 - y2_output_root_mean_squared_error:
0.6896 - val_loss: 2.3463 - val_y1_output_loss: 0.2843 - val_y2_output_loss:
2.0266 - val_y1_output_root_mean_squared_error: 0.5371 -
val_y2_output_root_mean_squared_error: 1.4345
Epoch 410/500
614/614 [==============================] - 0s 121us/sample - loss: 0.8496 -
y1_output_loss: 0.1694 - y2_output_loss: 0.6739 -
y1_output_root_mean_squared_error: 0.4131 - y2_output_root_mean_squared_error:
0.8240 - val_loss: 0.9450 - val_y1_output_loss: 0.2363 - val_y2_output_loss:
0.6922 - val_y1_output_root_mean_squared_error: 0.4818 -
val_y2_output_root_mean_squared_error: 0.8443
Epoch 411/500
614/614 [==============================] - 0s 122us/sample - loss: 0.6220 -
y1_output_loss: 0.1351 - y2_output_loss: 0.4854 -
y1_output_root_mean_squared_error: 0.3656 - y2_output_root_mean_squared_error:
0.6988 - val_loss: 0.9605 - val_y1_output_loss: 0.2601 - val_y2_output_loss:
0.6785 - val_y1_output_root_mean_squared_error: 0.5095 -
val_y2_output_root_mean_squared_error: 0.8372
Epoch 412/500
614/614 [==============================] - 0s 120us/sample - loss: 0.7838 -
y1_output_loss: 0.1665 - y2_output_loss: 0.6161 -
y1_output_root_mean_squared_error: 0.4090 - y2_output_root_mean_squared_error:
0.7852 - val_loss: 1.2046 - val_y1_output_loss: 0.2386 - val_y2_output_loss:
0.9460 - val_y1_output_root_mean_squared_error: 0.4823 -
val_y2_output_root_mean_squared_error: 0.9859
Epoch 413/500
614/614 [==============================] - 0s 120us/sample - loss: 0.7309 -
y1_output_loss: 0.1662 - y2_output_loss: 0.5604 -
y1_output_root_mean_squared_error: 0.4074 - y2_output_root_mean_squared_error:
0.7516 - val_loss: 0.7714 - val_y1_output_loss: 0.1805 - val_y2_output_loss:
0.5760 - val_y1_output_root_mean_squared_error: 0.4216 -
val_y2_output_root_mean_squared_error: 0.7705
Epoch 414/500
614/614 [==============================] - 0s 122us/sample - loss: 0.4997 -
y1_output_loss: 0.1300 - y2_output_loss: 0.3656 -
y1_output_root_mean_squared_error: 0.3620 - y2_output_root_mean_squared_error:
```

0.6072 - val_loss: 0.7648 - val_y1_output_loss: 0.2258 - val_y2_output_loss:
0.5350 - val_y1_output_root_mean_squared_error: 0.4632 -
val_y2_output_root_mean_squared_error: 0.7418
Epoch 415/500
614/614 [==============================] - 0s 123us/sample - loss: 0.5521 -
y1_output_loss: 0.1291 - y2_output_loss: 0.4233 -
y1_output_root_mean_squared_error: 0.3600 - y2_output_root_mean_squared_error:
0.6500 - val_loss: 1.2638 - val_y1_output_loss: 0.2324 - val_y2_output_loss:
1.0141 - val_y1_output_root_mean_squared_error: 0.4777 -
val_y2_output_root_mean_squared_error: 1.0176
Epoch 416/500
614/614 [==============================] - 0s 122us/sample - loss: 0.5923 -
y1_output_loss: 0.1475 - y2_output_loss: 0.4488 -
y1_output_root_mean_squared_error: 0.3841 - y2_output_root_mean_squared_error:
0.6669 - val_loss: 1.6104 - val_y1_output_loss: 0.2920 - val_y2_output_loss:
1.3217 - val_y1_output_root_mean_squared_error: 0.5367 -
val_y2_output_root_mean_squared_error: 1.1499
Epoch 417/500
614/614 [==============================] - 0s 122us/sample - loss: 0.9497 -
y1_output_loss: 0.2055 - y2_output_loss: 0.7415 -
y1_output_root_mean_squared_error: 0.4529 - y2_output_root_mean_squared_error:
0.8629 - val_loss: 1.0918 - val_y1_output_loss: 0.3525 - val_y2_output_loss:
0.7361 - val_y1_output_root_mean_squared_error: 0.5884 -
val_y2_output_root_mean_squared_error: 0.8635
Epoch 418/500
614/614 [==============================] - 0s 122us/sample - loss: 0.5802 -
y1_output_loss: 0.1377 - y2_output_loss: 0.4421 -
y1_output_root_mean_squared_error: 0.3693 - y2_output_root_mean_squared_error:
0.6662 - val_loss: 0.7700 - val_y1_output_loss: 0.2401 - val_y2_output_loss:
0.5194 - val_y1_output_root_mean_squared_error: 0.4825 -
val_y2_output_root_mean_squared_error: 0.7329
Epoch 419/500
614/614 [==============================] - 0s 121us/sample - loss: 0.5780 -
y1_output_loss: 0.1621 - y2_output_loss: 0.4162 -
y1_output_root_mean_squared_error: 0.4013 - y2_output_root_mean_squared_error:
0.6457 - val_loss: 0.9959 - val_y1_output_loss: 0.2317 - val_y2_output_loss:
0.7394 - val_y1_output_root_mean_squared_error: 0.4792 -
val_y2_output_root_mean_squared_error: 0.8754
Epoch 420/500
614/614 [==============================] - 0s 124us/sample - loss: 0.7778 -
y1_output_loss: 0.1406 - y2_output_loss: 0.6341 -
y1_output_root_mean_squared_error: 0.3753 - y2_output_root_mean_squared_error:
0.7981 - val_loss: 1.0703 - val_y1_output_loss: 0.1932 - val_y2_output_loss:
0.8592 - val_y1_output_root_mean_squared_error: 0.4400 -
val_y2_output_root_mean_squared_error: 0.9363
Epoch 421/500
614/614 [==============================] - 0s 123us/sample - loss: 0.5252 -
y1_output_loss: 0.1394 - y2_output_loss: 0.3883 -

y1_output_root_mean_squared_error: 0.3739 - y2_output_root_mean_squared_error:
0.6208 - val_loss: 1.1918 - val_y1_output_loss: 0.3428 - val_y2_output_loss:
0.8525 - val_y1_output_root_mean_squared_error: 0.5710 -
val_y2_output_root_mean_squared_error: 0.9305
Epoch 422/500
614/614 [==============================] - 0s 123us/sample - loss: 0.6452 -
y1_output_loss: 0.1598 - y2_output_loss: 0.5062 -
y1_output_root_mean_squared_error: 0.3933 - y2_output_root_mean_squared_error:
0.7004 - val_loss: 3.9956 - val_y1_output_loss: 0.9650 - val_y2_output_loss:
3.0286 - val_y1_output_root_mean_squared_error: 0.9829 -
val_y2_output_root_mean_squared_error: 1.7406
Epoch 423/500
614/614 [==============================] - 0s 126us/sample - loss: 0.9077 -
y1_output_loss: 0.2265 - y2_output_loss: 0.6769 -
y1_output_root_mean_squared_error: 0.4761 - y2_output_root_mean_squared_error:
0.8253 - val_loss: 1.1328 - val_y1_output_loss: 0.2651 - val_y2_output_loss:
0.8609 - val_y1_output_root_mean_squared_error: 0.5151 -
val_y2_output_root_mean_squared_error: 0.9314
Epoch 424/500
614/614 [==============================] - 0s 122us/sample - loss: 0.6602 -
y1_output_loss: 0.1598 - y2_output_loss: 0.4973 -
y1_output_root_mean_squared_error: 0.4007 - y2_output_root_mean_squared_error:
0.7068 - val_loss: 0.7231 - val_y1_output_loss: 0.2176 - val_y2_output_loss:
0.4987 - val_y1_output_root_mean_squared_error: 0.4581 -
val_y2_output_root_mean_squared_error: 0.7164
Epoch 425/500
614/614 [==============================] - 0s 128us/sample - loss: 0.5404 -
y1_output_loss: 0.1477 - y2_output_loss: 0.3881 -
y1_output_root_mean_squared_error: 0.3860 - y2_output_root_mean_squared_error:
0.6256 - val_loss: 0.8486 - val_y1_output_loss: 0.2140 - val_y2_output_loss:
0.6436 - val_y1_output_root_mean_squared_error: 0.4593 -
val_y2_output_root_mean_squared_error: 0.7985
Epoch 426/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5177 -
y1_output_loss: 0.1572 - y2_output_loss: 0.3602 -
y1_output_root_mean_squared_error: 0.3958 - y2_output_root_mean_squared_error:
0.6009 - val_loss: 0.9186 - val_y1_output_loss: 0.2530 - val_y2_output_loss:
0.6529 - val_y1_output_root_mean_squared_error: 0.5019 -
val_y2_output_root_mean_squared_error: 0.8165
Epoch 427/500
614/614 [==============================] - 0s 123us/sample - loss: 0.5192 -
y1_output_loss: 0.1392 - y2_output_loss: 0.3818 -
y1_output_root_mean_squared_error: 0.3708 - y2_output_root_mean_squared_error:
0.6178 - val_loss: 1.0522 - val_y1_output_loss: 0.1735 - val_y2_output_loss:
0.8561 - val_y1_output_root_mean_squared_error: 0.4140 -
val_y2_output_root_mean_squared_error: 0.9385
Epoch 428/500
614/614 [==============================] - 0s 123us/sample - loss: 0.4695 -

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y1_output_loss: 0.1258 - y2_output_loss: 0.3412 -
y1_output_root_mean_squared_error: 0.3557 - y2_output_root_mean_squared_error:
0.5856 - val_loss: 0.7562 - val_y1_output_loss: 0.1925 - val_y2_output_loss:
0.5523 - val_y1_output_root_mean_squared_error: 0.4322 -
val_y2_output_root_mean_squared_error: 0.7546
Epoch 429/500
614/614 [==============================] - 0s 121us/sample - loss: 0.6011 -
y1_output_loss: 0.1505 - y2_output_loss: 0.4493 -
y1_output_root_mean_squared_error: 0.3883 - y2_output_root_mean_squared_error:
0.6710 - val_loss: 1.4510 - val_y1_output_loss: 0.2948 - val_y2_output_loss:
1.1994 - val_y1_output_root_mean_squared_error: 0.5274 -
val_y2_output_root_mean_squared_error: 1.0830
Epoch 430/500
614/614 [==============================] - 0s 131us/sample - loss: 0.5632 -
y1_output_loss: 0.1445 - y2_output_loss: 0.4135 -
y1_output_root_mean_squared_error: 0.3818 - y2_output_root_mean_squared_error:
0.6460 - val_loss: 0.8316 - val_y1_output_loss: 0.1986 - val_y2_output_loss:
0.6138 - val_y1_output_root_mean_squared_error: 0.4466 -
val_y2_output_root_mean_squared_error: 0.7951
Epoch 431/500
614/614 [==============================] - 0s 129us/sample - loss: 1.1052 -
y1_output_loss: 0.2341 - y2_output_loss: 0.8636 -
y1_output_root_mean_squared_error: 0.4849 - y2_output_root_mean_squared_error:
0.9328 - val_loss: 0.9300 - val_y1_output_loss: 0.2179 - val_y2_output_loss:
0.6878 - val_y1_output_root_mean_squared_error: 0.4716 -
val_y2_output_root_mean_squared_error: 0.8412
Epoch 432/500
614/614 [==============================] - 0s 124us/sample - loss: 0.5855 -
y1_output_loss: 0.1643 - y2_output_loss: 0.4163 -
y1_output_root_mean_squared_error: 0.4068 - y2_output_root_mean_squared_error:
0.6480 - val_loss: 0.8019 - val_y1_output_loss: 0.1945 - val_y2_output_loss:
0.5989 - val_y1_output_root_mean_squared_error: 0.4354 -
val_y2_output_root_mean_squared_error: 0.7825
Epoch 433/500
614/614 [==============================] - 0s 127us/sample - loss: 0.8254 -
y1_output_loss: 0.1855 - y2_output_loss: 0.6328 -
y1_output_root_mean_squared_error: 0.4322 - y2_output_root_mean_squared_error:
0.7992 - val_loss: 0.7757 - val_y1_output_loss: 0.2418 - val_y2_output_loss:
0.5183 - val_y1_output_root_mean_squared_error: 0.4907 -
val_y2_output_root_mean_squared_error: 0.7314
Epoch 434/500
614/614 [==============================] - 0s 131us/sample - loss: 0.4958 -
y1_output_loss: 0.1195 - y2_output_loss: 0.3768 -
y1_output_root_mean_squared_error: 0.3469 - y2_output_root_mean_squared_error:
0.6127 - val_loss: 0.7381 - val_y1_output_loss: 0.2197 - val_y2_output_loss:
0.5166 - val_y1_output_root_mean_squared_error: 0.4617 -
val_y2_output_root_mean_squared_error: 0.7245
Epoch 435/500
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614/614 [==============================] - 0s 127us/sample - loss: 0.5206 -
y1_output_loss: 0.1329 - y2_output_loss: 0.3854 -
y1_output_root_mean_squared_error: 0.3662 - y2_output_root_mean_squared_error:
0.6217 - val_loss: 0.7050 - val_y1_output_loss: 0.1858 - val_y2_output_loss:
0.5046 - val_y1_output_root_mean_squared_error: 0.4301 -
val_y2_output_root_mean_squared_error: 0.7212
Epoch 436/500
614/614 [==============================] - 0s 122us/sample - loss: 0.5058 -
y1_output_loss: 0.1380 - y2_output_loss: 0.3670 -
y1_output_root_mean_squared_error: 0.3697 - y2_output_root_mean_squared_error:
0.6076 - val_loss: 0.8994 - val_y1_output_loss: 0.2989 - val_y2_output_loss:
0.5997 - val_y1_output_root_mean_squared_error: 0.5341 -
val_y2_output_root_mean_squared_error: 0.7836
Epoch 437/500
614/614 [==============================] - 0s 123us/sample - loss: 0.5469 -
y1_output_loss: 0.1493 - y2_output_loss: 0.4082 -
y1_output_root_mean_squared_error: 0.3850 - y2_output_root_mean_squared_error:
0.6314 - val_loss: 2.4347 - val_y1_output_loss: 0.6737 - val_y2_output_loss:
1.8494 - val_y1_output_root_mean_squared_error: 0.7988 -
val_y2_output_root_mean_squared_error: 1.3404
Epoch 438/500
614/614 [==============================] - 0s 124us/sample - loss: 0.9084 -
y1_output_loss: 0.2061 - y2_output_loss: 0.6969 -
y1_output_root_mean_squared_error: 0.4548 - y2_output_root_mean_squared_error:
0.8376 - val_loss: 0.8916 - val_y1_output_loss: 0.2318 - val_y2_output_loss:
0.6546 - val_y1_output_root_mean_squared_error: 0.4757 -
val_y2_output_root_mean_squared_error: 0.8157
Epoch 439/500
614/614 [==============================] - 0s 124us/sample - loss: 0.4793 -
y1_output_loss: 0.1428 - y2_output_loss: 0.3346 -
y1_output_root_mean_squared_error: 0.3793 - y2_output_root_mean_squared_error:
0.5792 - val_loss: 0.7448 - val_y1_output_loss: 0.1749 - val_y2_output_loss:
0.5640 - val_y1_output_root_mean_squared_error: 0.4157 -
val_y2_output_root_mean_squared_error: 0.7563
Epoch 440/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5514 -
y1_output_loss: 0.1473 - y2_output_loss: 0.4001 -
y1_output_root_mean_squared_error: 0.3852 - y2_output_root_mean_squared_error:
0.6348 - val_loss: 0.8012 - val_y1_output_loss: 0.1767 - val_y2_output_loss:
0.6194 - val_y1_output_root_mean_squared_error: 0.4182 -
val_y2_output_root_mean_squared_error: 0.7914
Epoch 441/500
614/614 [==============================] - 0s 122us/sample - loss: 0.6426 -
y1_output_loss: 0.1529 - y2_output_loss: 0.4913 -
y1_output_root_mean_squared_error: 0.3903 - y2_output_root_mean_squared_error:
0.7002 - val_loss: 1.8623 - val_y1_output_loss: 0.2331 - val_y2_output_loss:
1.5958 - val_y1_output_root_mean_squared_error: 0.4778 -
val_y2_output_root_mean_squared_error: 1.2783
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Epoch 442/500
614/614 [==============================] - 0s 123us/sample - loss: 0.6402 -
y1_output_loss: 0.1416 - y2_output_loss: 0.4967 -
y1_output_root_mean_squared_error: 0.3770 - y2_output_root_mean_squared_error:
0.7057 - val_loss: 1.2787 - val_y1_output_loss: 0.2253 - val_y2_output_loss:
1.0786 - val_y1_output_root_mean_squared_error: 0.4608 -
val_y2_output_root_mean_squared_error: 1.0326
Epoch 443/500
614/614 [==============================] - 0s 123us/sample - loss: 0.5240 -
y1_output_loss: 0.1357 - y2_output_loss: 0.3856 -
y1_output_root_mean_squared_error: 0.3693 - y2_output_root_mean_squared_error:
0.6226 - val_loss: 0.7833 - val_y1_output_loss: 0.1938 - val_y2_output_loss:
0.5742 - val_y1_output_root_mean_squared_error: 0.4348 -
val_y2_output_root_mean_squared_error: 0.7709
Epoch 444/500
614/614 [==============================] - 0s 122us/sample - loss: 0.4467 -
y1_output_loss: 0.1289 - y2_output_loss: 0.3140 -
y1_output_root_mean_squared_error: 0.3604 - y2_output_root_mean_squared_error:
0.5629 - val_loss: 0.6865 - val_y1_output_loss: 0.1972 - val_y2_output_loss:
0.4852 - val_y1_output_root_mean_squared_error: 0.4367 -
val_y2_output_root_mean_squared_error: 0.7041
Epoch 445/500
614/614 [==============================] - 0s 121us/sample - loss: 0.6023 -
y1_output_loss: 0.1428 - y2_output_loss: 0.4567 -
y1_output_root_mean_squared_error: 0.3783 - y2_output_root_mean_squared_error:
0.6777 - val_loss: 0.7918 - val_y1_output_loss: 0.2080 - val_y2_output_loss:
0.5794 - val_y1_output_root_mean_squared_error: 0.4463 -
val_y2_output_root_mean_squared_error: 0.7698
Epoch 446/500
614/614 [==============================] - 0s 122us/sample - loss: 0.5901 -
y1_output_loss: 0.1509 - y2_output_loss: 0.4360 -
y1_output_root_mean_squared_error: 0.3900 - y2_output_root_mean_squared_error:
0.6618 - val_loss: 1.4234 - val_y1_output_loss: 0.4484 - val_y2_output_loss:
1.0026 - val_y1_output_root_mean_squared_error: 0.6603 -
val_y2_output_root_mean_squared_error: 0.9937
Epoch 447/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5293 -
y1_output_loss: 0.1465 - y2_output_loss: 0.3842 -
y1_output_root_mean_squared_error: 0.3817 - y2_output_root_mean_squared_error:
0.6193 - val_loss: 0.9062 - val_y1_output_loss: 0.1776 - val_y2_output_loss:
0.7147 - val_y1_output_root_mean_squared_error: 0.4205 -
val_y2_output_root_mean_squared_error: 0.8540
Epoch 448/500
614/614 [==============================] - 0s 123us/sample - loss: 0.5865 -
y1_output_loss: 0.1602 - y2_output_loss: 0.4230 -
y1_output_root_mean_squared_error: 0.4009 - y2_output_root_mean_squared_error:
0.6526 - val_loss: 0.7233 - val_y1_output_loss: 0.1852 - val_y2_output_loss:
0.5247 - val_y1_output_root_mean_squared_error: 0.4291 -
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val_y2_output_root_mean_squared_error: 0.7343
Epoch 449/500
614/614 [==============================] - 0s 123us/sample - loss: 0.6073 -
y1_output_loss: 0.1659 - y2_output_loss: 0.4397 -
y1_output_root_mean_squared_error: 0.4074 - y2_output_root_mean_squared_error:
0.6644 - val_loss: 0.9281 - val_y1_output_loss: 0.2419 - val_y2_output_loss:
0.6774 - val_y1_output_root_mean_squared_error: 0.4895 -
val_y2_output_root_mean_squared_error: 0.8297
Epoch 450/500
614/614 [==============================] - 0s 122us/sample - loss: 0.4765 -
y1_output_loss: 0.1426 - y2_output_loss: 0.3410 -
y1_output_root_mean_squared_error: 0.3753 - y2_output_root_mean_squared_error:
0.5794 - val_loss: 2.1010 - val_y1_output_loss: 0.3839 - val_y2_output_loss:
1.7085 - val_y1_output_root_mean_squared_error: 0.6109 -
val_y2_output_root_mean_squared_error: 1.3145
Epoch 451/500
614/614 [==============================] - 0s 123us/sample - loss: 0.6395 -
y1_output_loss: 0.1439 - y2_output_loss: 0.4949 -
y1_output_root_mean_squared_error: 0.3797 - y2_output_root_mean_squared_error:
0.7038 - val_loss: 0.8282 - val_y1_output_loss: 0.1903 - val_y2_output_loss:
0.6441 - val_y1_output_root_mean_squared_error: 0.4330 -
val_y2_output_root_mean_squared_error: 0.8004
Epoch 452/500
614/614 [==============================] - 0s 122us/sample - loss: 0.8236 -
y1_output_loss: 0.1892 - y2_output_loss: 0.6316 -
y1_output_root_mean_squared_error: 0.4365 - y2_output_root_mean_squared_error:
0.7957 - val_loss: 1.0958 - val_y1_output_loss: 0.1839 - val_y2_output_loss:
0.8879 - val_y1_output_root_mean_squared_error: 0.4257 -
val_y2_output_root_mean_squared_error: 0.9563
Epoch 453/500
614/614 [==============================] - 0s 122us/sample - loss: 0.6944 -
y1_output_loss: 0.1824 - y2_output_loss: 0.5066 -
y1_output_root_mean_squared_error: 0.4282 - y2_output_root_mean_squared_error:
0.7149 - val_loss: 0.7292 - val_y1_output_loss: 0.2061 - val_y2_output_loss:
0.5392 - val_y1_output_root_mean_squared_error: 0.4421 -
val_y2_output_root_mean_squared_error: 0.7305
Epoch 454/500
614/614 [==============================] - 0s 123us/sample - loss: 0.4070 -
y1_output_loss: 0.1173 - y2_output_loss: 0.2867 -
y1_output_root_mean_squared_error: 0.3439 - y2_output_root_mean_squared_error:
0.5373 - val_loss: 0.9455 - val_y1_output_loss: 0.1696 - val_y2_output_loss:
0.7576 - val_y1_output_root_mean_squared_error: 0.4097 -
val_y2_output_root_mean_squared_error: 0.8818
Epoch 455/500
614/614 [==============================] - 0s 130us/sample - loss: 0.5630 -
y1_output_loss: 0.1427 - y2_output_loss: 0.4166 -
y1_output_root_mean_squared_error: 0.3784 - y2_output_root_mean_squared_error:
0.6479 - val_loss: 0.6794 - val_y1_output_loss: 0.1910 - val_y2_output_loss:

0.4786 - val_y1_output_root_mean_squared_error: 0.4311 -
val_y2_output_root_mean_squared_error: 0.7025
Epoch 456/500
614/614 [==============================] - 0s 130us/sample - loss: 0.4066 -
y1_output_loss: 0.1134 - y2_output_loss: 0.2900 -
y1_output_root_mean_squared_error: 0.3382 - y2_output_root_mean_squared_error:
0.5406 - val_loss: 0.7159 - val_y1_output_loss: 0.1906 - val_y2_output_loss:
0.5298 - val_y1_output_root_mean_squared_error: 0.4288 -
val_y2_output_root_mean_squared_error: 0.7294
Epoch 457/500
614/614 [==============================] - 0s 126us/sample - loss: 0.4154 -
y1_output_loss: 0.1126 - y2_output_loss: 0.3093 -
y1_output_root_mean_squared_error: 0.3362 - y2_output_root_mean_squared_error:
0.5498 - val_loss: 3.6170 - val_y1_output_loss: 0.4985 - val_y2_output_loss:
3.1449 - val_y1_output_root_mean_squared_error: 0.6961 -
val_y2_output_root_mean_squared_error: 1.7699
Epoch 458/500
614/614 [==============================] - 0s 127us/sample - loss: 0.6029 -
y1_output_loss: 0.1334 - y2_output_loss: 0.4655 -
y1_output_root_mean_squared_error: 0.3666 - y2_output_root_mean_squared_error:
0.6845 - val_loss: 0.7239 - val_y1_output_loss: 0.1912 - val_y2_output_loss:
0.5245 - val_y1_output_root_mean_squared_error: 0.4289 -
val_y2_output_root_mean_squared_error: 0.7348
Epoch 459/500
614/614 [==============================] - 0s 127us/sample - loss: 0.6114 -
y1_output_loss: 0.1682 - y2_output_loss: 0.4831 -
y1_output_root_mean_squared_error: 0.3947 - y2_output_root_mean_squared_error:
0.6749 - val_loss: 5.9269 - val_y1_output_loss: 1.6429 - val_y2_output_loss:
4.5929 - val_y1_output_root_mean_squared_error: 1.2463 -
val_y2_output_root_mean_squared_error: 2.0913
Epoch 460/500
614/614 [==============================] - 0s 128us/sample - loss: 0.8980 -
y1_output_loss: 0.1995 - y2_output_loss: 0.6907 -
y1_output_root_mean_squared_error: 0.4485 - y2_output_root_mean_squared_error:
0.8348 - val_loss: 0.8228 - val_y1_output_loss: 0.3147 - val_y2_output_loss:
0.5125 - val_y1_output_root_mean_squared_error: 0.5469 -
val_y2_output_root_mean_squared_error: 0.7237
Epoch 461/500
614/614 [==============================] - 0s 122us/sample - loss: 0.4606 -
y1_output_loss: 0.1277 - y2_output_loss: 0.3357 -
y1_output_root_mean_squared_error: 0.3582 - y2_output_root_mean_squared_error:
0.5765 - val_loss: 1.2019 - val_y1_output_loss: 0.1833 - val_y2_output_loss:
0.9999 - val_y1_output_root_mean_squared_error: 0.4247 -
val_y2_output_root_mean_squared_error: 1.0107
Epoch 462/500
614/614 [==============================] - 0s 124us/sample - loss: 0.4762 -
y1_output_loss: 0.1237 - y2_output_loss: 0.3546 -
y1_output_root_mean_squared_error: 0.3526 - y2_output_root_mean_squared_error:

```
0.5932 - val_loss: 0.7570 - val_y1_output_loss: 0.1885 - val_y2_output_loss:
0.5624 - val_y1_output_root_mean_squared_error: 0.4317 -
val_y2_output_root_mean_squared_error: 0.7554
Epoch 463/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5510 -
y1_output_loss: 0.1374 - y2_output_loss: 0.4149 -
y1_output_root_mean_squared_error: 0.3699 - y2_output_root_mean_squared_error:
0.6436 - val_loss: 1.0146 - val_y1_output_loss: 0.3353 - val_y2_output_loss:
0.6608 - val_y1_output_root_mean_squared_error: 0.5805 -
val_y2_output_root_mean_squared_error: 0.8232
Epoch 464/500
614/614 [==============================] - 0s 122us/sample - loss: 0.6432 -
y1_output_loss: 0.1634 - y2_output_loss: 0.4742 -
y1_output_root_mean_squared_error: 0.4060 - y2_output_root_mean_squared_error:
0.6917 - val_loss: 0.6962 - val_y1_output_loss: 0.2198 - val_y2_output_loss:
0.4656 - val_y1_output_root_mean_squared_error: 0.4635 -
val_y2_output_root_mean_squared_error: 0.6938
Epoch 465/500
614/614 [==============================] - 0s 124us/sample - loss: 0.5075 -
y1_output_loss: 0.1285 - y2_output_loss: 0.3798 -
y1_output_root_mean_squared_error: 0.3579 - y2_output_root_mean_squared_error:
0.6160 - val_loss: 0.6649 - val_y1_output_loss: 0.1832 - val_y2_output_loss:
0.4739 - val_y1_output_root_mean_squared_error: 0.4237 -
val_y2_output_root_mean_squared_error: 0.6967
Epoch 466/500
614/614 [==============================] - 0s 123us/sample - loss: 1.5838 -
y1_output_loss: 0.3442 - y2_output_loss: 1.2270 -
y1_output_root_mean_squared_error: 0.5891 - y2_output_root_mean_squared_error:
1.1121 - val_loss: 1.3193 - val_y1_output_loss: 0.3493 - val_y2_output_loss:
0.9954 - val_y1_output_root_mean_squared_error: 0.5735 -
val_y2_output_root_mean_squared_error: 0.9952
Epoch 467/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5976 -
y1_output_loss: 0.1500 - y2_output_loss: 0.4470 -
y1_output_root_mean_squared_error: 0.3874 - y2_output_root_mean_squared_error:
0.6690 - val_loss: 0.7710 - val_y1_output_loss: 0.2353 - val_y2_output_loss:
0.5353 - val_y1_output_root_mean_squared_error: 0.4763 -
val_y2_output_root_mean_squared_error: 0.7377
Epoch 468/500
614/614 [==============================] - 0s 128us/sample - loss: 0.5035 -
y1_output_loss: 0.1363 - y2_output_loss: 0.3710 -
y1_output_root_mean_squared_error: 0.3695 - y2_output_root_mean_squared_error:
0.6058 - val_loss: 0.9004 - val_y1_output_loss: 0.3410 - val_y2_output_loss:
0.5543 - val_y1_output_root_mean_squared_error: 0.5769 -
val_y2_output_root_mean_squared_error: 0.7534
Epoch 469/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4397 -
y1_output_loss: 0.1297 - y2_output_loss: 0.3108 -
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y1_output_root_mean_squared_error: 0.3607 - y2_output_root_mean_squared_error:
0.5564 - val_loss: 1.2760 - val_y1_output_loss: 0.2966 - val_y2_output_loss:
0.9697 - val_y1_output_root_mean_squared_error: 0.5394 -
val_y2_output_root_mean_squared_error: 0.9925
Epoch 470/500
614/614 [==============================] - 0s 124us/sample - loss: 0.5571 -
y1_output_loss: 0.1539 - y2_output_loss: 0.4039 -
y1_output_root_mean_squared_error: 0.3912 - y2_output_root_mean_squared_error:
0.6356 - val_loss: 2.1065 - val_y1_output_loss: 0.5523 - val_y2_output_loss:
1.6333 - val_y1_output_root_mean_squared_error: 0.7145 -
val_y2_output_root_mean_squared_error: 1.2633
Epoch 471/500
614/614 [==============================] - 0s 124us/sample - loss: 0.5684 -
y1_output_loss: 0.1632 - y2_output_loss: 0.4052 -
y1_output_root_mean_squared_error: 0.4045 - y2_output_root_mean_squared_error:
0.6362 - val_loss: 0.7280 - val_y1_output_loss: 0.1799 - val_y2_output_loss:
0.5302 - val_y1_output_root_mean_squared_error: 0.4281 -
val_y2_output_root_mean_squared_error: 0.7381
Epoch 472/500
614/614 [==============================] - 0s 123us/sample - loss: 0.5109 -
y1_output_loss: 0.1396 - y2_output_loss: 0.3700 -
y1_output_root_mean_squared_error: 0.3727 - y2_output_root_mean_squared_error:
0.6099 - val_loss: 1.0426 - val_y1_output_loss: 0.2350 - val_y2_output_loss:
0.8130 - val_y1_output_root_mean_squared_error: 0.4707 -
val_y2_output_root_mean_squared_error: 0.9061
Epoch 473/500
614/614 [==============================] - 0s 122us/sample - loss: 0.6657 -
y1_output_loss: 0.1679 - y2_output_loss: 0.4942 -
y1_output_root_mean_squared_error: 0.4108 - y2_output_root_mean_squared_error:
0.7049 - val_loss: 0.9133 - val_y1_output_loss: 0.2266 - val_y2_output_loss:
0.6797 - val_y1_output_root_mean_squared_error: 0.4703 -
val_y2_output_root_mean_squared_error: 0.8319
Epoch 474/500
614/614 [==============================] - 0s 124us/sample - loss: 0.4781 -
y1_output_loss: 0.1367 - y2_output_loss: 0.3407 -
y1_output_root_mean_squared_error: 0.3688 - y2_output_root_mean_squared_error:
0.5848 - val_loss: 0.6609 - val_y1_output_loss: 0.1630 - val_y2_output_loss:
0.4870 - val_y1_output_root_mean_squared_error: 0.3982 -
val_y2_output_root_mean_squared_error: 0.7088
Epoch 475/500
614/614 [==============================] - 0s 125us/sample - loss: 0.6762 -
y1_output_loss: 0.1529 - y2_output_loss: 0.5335 -
y1_output_root_mean_squared_error: 0.3888 - y2_output_root_mean_squared_error:
0.7246 - val_loss: 1.4120 - val_y1_output_loss: 0.3021 - val_y2_output_loss:
1.0850 - val_y1_output_root_mean_squared_error: 0.5427 -
val_y2_output_root_mean_squared_error: 1.0571
Epoch 476/500
614/614 [==============================] - 0s 124us/sample - loss: 1.1894 -

y1_output_loss: 0.2709 - y2_output_loss: 0.9125 -
y1_output_root_mean_squared_error: 0.5228 - y2_output_root_mean_squared_error:
0.9571 - val_loss: 0.7288 - val_y1_output_loss: 0.1636 - val_y2_output_loss:
0.5469 - val_y1_output_root_mean_squared_error: 0.4072 -
val_y2_output_root_mean_squared_error: 0.7503
Epoch 477/500
614/614 [==============================] - 0s 124us/sample - loss: 0.7502 -
y1_output_loss: 0.1762 - y2_output_loss: 0.5701 -
y1_output_root_mean_squared_error: 0.4211 - y2_output_root_mean_squared_error:
0.7569 - val_loss: 0.9176 - val_y1_output_loss: 0.2706 - val_y2_output_loss:
0.6388 - val_y1_output_root_mean_squared_error: 0.5129 -
val_y2_output_root_mean_squared_error: 0.8091
Epoch 478/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5313 -
y1_output_loss: 0.1325 - y2_output_loss: 0.3942 -
y1_output_root_mean_squared_error: 0.3654 - y2_output_root_mean_squared_error:
0.6307 - val_loss: 0.8339 - val_y1_output_loss: 0.2262 - val_y2_output_loss:
0.6016 - val_y1_output_root_mean_squared_error: 0.4651 -
val_y2_output_root_mean_squared_error: 0.7858
Epoch 479/500
614/614 [==============================] - 0s 126us/sample - loss: 0.6195 -
y1_output_loss: 0.1507 - y2_output_loss: 0.4662 -
y1_output_root_mean_squared_error: 0.3871 - y2_output_root_mean_squared_error:
0.6853 - val_loss: 0.7281 - val_y1_output_loss: 0.2427 - val_y2_output_loss:
0.4741 - val_y1_output_root_mean_squared_error: 0.4862 -
val_y2_output_root_mean_squared_error: 0.7012
Epoch 480/500
614/614 [==============================] - 0s 123us/sample - loss: 0.4688 -
y1_output_loss: 0.1355 - y2_output_loss: 0.3306 -
y1_output_root_mean_squared_error: 0.3695 - y2_output_root_mean_squared_error:
0.5764 - val_loss: 0.6932 - val_y1_output_loss: 0.1865 - val_y2_output_loss:
0.5010 - val_y1_output_root_mean_squared_error: 0.4285 -
val_y2_output_root_mean_squared_error: 0.7138
Epoch 481/500
614/614 [==============================] - 0s 123us/sample - loss: 0.5066 -
y1_output_loss: 0.1357 - y2_output_loss: 0.3668 -
y1_output_root_mean_squared_error: 0.3694 - y2_output_root_mean_squared_error:
0.6084 - val_loss: 0.7015 - val_y1_output_loss: 0.2050 - val_y2_output_loss:
0.4928 - val_y1_output_root_mean_squared_error: 0.4481 -
val_y2_output_root_mean_squared_error: 0.7076
Epoch 482/500
614/614 [==============================] - 0s 124us/sample - loss: 0.5462 -
y1_output_loss: 0.1352 - y2_output_loss: 0.4083 -
y1_output_root_mean_squared_error: 0.3683 - y2_output_root_mean_squared_error:
0.6408 - val_loss: 0.7331 - val_y1_output_loss: 0.1770 - val_y2_output_loss:
0.5422 - val_y1_output_root_mean_squared_error: 0.4174 -
val_y2_output_root_mean_squared_error: 0.7476
Epoch 483/500

614/614 [==============================] - 0s 124us/sample - loss: 0.4406 - y1_output_loss: 0.1236 - y2_output_loss: 0.3173 - y1_output_root_mean_squared_error: 0.3526 - y2_output_root_mean_squared_error: 0.5624 - val_loss: 0.7258 - val_y1_output_loss: 0.1657 - val_y2_output_loss: 0.5454 - val_y1_output_root_mean_squared_error: 0.4071 - val_y2_output_root_mean_squared_error: 0.7484
Epoch 484/500
614/614 [==============================] - 0s 125us/sample - loss: 0.3697 - y1_output_loss: 0.1122 - y2_output_loss: 0.2555 - y1_output_root_mean_squared_error: 0.3362 - y2_output_root_mean_squared_error: 0.5067 - val_loss: 0.7838 - val_y1_output_loss: 0.2502 - val_y2_output_loss: 0.5187 - val_y1_output_root_mean_squared_error: 0.4961 - val_y2_output_root_mean_squared_error: 0.7333
Epoch 485/500
614/614 [==============================] - 0s 123us/sample - loss: 0.7335 - y1_output_loss: 0.1863 - y2_output_loss: 0.5409 - y1_output_root_mean_squared_error: 0.4333 - y2_output_root_mean_squared_error: 0.7387 - val_loss: 0.8228 - val_y1_output_loss: 0.2489 - val_y2_output_loss: 0.6004 - val_y1_output_root_mean_squared_error: 0.4750 - val_y2_output_root_mean_squared_error: 0.7728
Epoch 486/500
614/614 [==============================] - 0s 123us/sample - loss: 0.4617 - y1_output_loss: 0.1159 - y2_output_loss: 0.3429 - y1_output_root_mean_squared_error: 0.3415 - y2_output_root_mean_squared_error: 0.5874 - val_loss: 0.8906 - val_y1_output_loss: 0.2807 - val_y2_output_loss: 0.6026 - val_y1_output_root_mean_squared_error: 0.5205 - val_y2_output_root_mean_squared_error: 0.7872
Epoch 487/500
614/614 [==============================] - 0s 124us/sample - loss: 0.5767 - y1_output_loss: 0.1425 - y2_output_loss: 0.4309 - y1_output_root_mean_squared_error: 0.3777 - y2_output_root_mean_squared_error: 0.6588 - val_loss: 0.7227 - val_y1_output_loss: 0.1819 - val_y2_output_loss: 0.5229 - val_y1_output_root_mean_squared_error: 0.4258 - val_y2_output_root_mean_squared_error: 0.7358
Epoch 488/500
614/614 [==============================] - 0s 124us/sample - loss: 0.4697 - y1_output_loss: 0.1426 - y2_output_loss: 0.3279 - y1_output_root_mean_squared_error: 0.3784 - y2_output_root_mean_squared_error: 0.5714 - val_loss: 0.9292 - val_y1_output_loss: 0.1843 - val_y2_output_loss: 0.7207 - val_y1_output_root_mean_squared_error: 0.4277 - val_y2_output_root_mean_squared_error: 0.8639
Epoch 489/500
614/614 [==============================] - 0s 122us/sample - loss: 0.5226 - y1_output_loss: 0.1268 - y2_output_loss: 0.3926 - y1_output_root_mean_squared_error: 0.3575 - y2_output_root_mean_squared_error: 0.6284 - val_loss: 0.7449 - val_y1_output_loss: 0.2311 - val_y2_output_loss: 0.5174 - val_y1_output_root_mean_squared_error: 0.4706 - val_y2_output_root_mean_squared_error: 0.7235

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Epoch 490/500
614/614 [==============================] - 0s 123us/sample - loss: 0.4714 -
y1_output_loss: 0.1389 - y2_output_loss: 0.3309 -
y1_output_root_mean_squared_error: 0.3723 - y2_output_root_mean_squared_error:
0.5769 - val_loss: 1.2927 - val_y1_output_loss: 0.2919 - val_y2_output_loss:
0.9846 - val_y1_output_root_mean_squared_error: 0.5409 -
val_y2_output_root_mean_squared_error: 1.0001
Epoch 491/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5029 -
y1_output_loss: 0.1396 - y2_output_loss: 0.3605 -
y1_output_root_mean_squared_error: 0.3737 - y2_output_root_mean_squared_error:
0.6027 - val_loss: 0.9555 - val_y1_output_loss: 0.3961 - val_y2_output_loss:
0.5790 - val_y1_output_root_mean_squared_error: 0.6087 -
val_y2_output_root_mean_squared_error: 0.7648
Epoch 492/500
614/614 [==============================] - 0s 125us/sample - loss: 0.4473 -
y1_output_loss: 0.1239 - y2_output_loss: 0.3243 -
y1_output_root_mean_squared_error: 0.3500 - y2_output_root_mean_squared_error:
0.5699 - val_loss: 0.8130 - val_y1_output_loss: 0.2389 - val_y2_output_loss:
0.5543 - val_y1_output_root_mean_squared_error: 0.4891 -
val_y2_output_root_mean_squared_error: 0.7575
Epoch 493/500
614/614 [==============================] - 0s 128us/sample - loss: 0.5755 -
y1_output_loss: 0.1536 - y2_output_loss: 0.4184 -
y1_output_root_mean_squared_error: 0.3918 - y2_output_root_mean_squared_error:
0.6496 - val_loss: 0.6685 - val_y1_output_loss: 0.1930 - val_y2_output_loss:
0.4677 - val_y1_output_root_mean_squared_error: 0.4322 -
val_y2_output_root_mean_squared_error: 0.6940
Epoch 494/500
614/614 [==============================] - 0s 127us/sample - loss: 0.3632 -
y1_output_loss: 0.1143 - y2_output_loss: 0.2484 -
y1_output_root_mean_squared_error: 0.3380 - y2_output_root_mean_squared_error:
0.4989 - val_loss: 1.6076 - val_y1_output_loss: 0.5696 - val_y2_output_loss:
1.0626 - val_y1_output_root_mean_squared_error: 0.7383 -
val_y2_output_root_mean_squared_error: 1.0308
Epoch 495/500
614/614 [==============================] - 0s 127us/sample - loss: 0.4449 -
y1_output_loss: 0.1288 - y2_output_loss: 0.3311 -
y1_output_root_mean_squared_error: 0.3593 - y2_output_root_mean_squared_error:
0.5620 - val_loss: 3.3002 - val_y1_output_loss: 0.2773 - val_y2_output_loss:
2.9431 - val_y1_output_root_mean_squared_error: 0.5320 -
val_y2_output_root_mean_squared_error: 1.7370
Epoch 496/500
614/614 [==============================] - 0s 125us/sample - loss: 0.4666 -
y1_output_loss: 0.1321 - y2_output_loss: 0.3311 -
y1_output_root_mean_squared_error: 0.3651 - y2_output_root_mean_squared_error:
0.5773 - val_loss: 0.7199 - val_y1_output_loss: 0.2105 - val_y2_output_loss:
0.5008 - val_y1_output_root_mean_squared_error: 0.4538 -
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val_y2_output_root_mean_squared_error: 0.7169
Epoch 497/500
614/614 [==============================] - 0s 121us/sample - loss: 0.4514 -
y1_output_loss: 0.1444 - y2_output_loss: 0.3045 -
y1_output_root_mean_squared_error: 0.3803 - y2_output_root_mean_squared_error:
0.5538 - val_loss: 0.7540 - val_y1_output_loss: 0.2175 - val_y2_output_loss:
0.5276 - val_y1_output_root_mean_squared_error: 0.4629 -
val_y2_output_root_mean_squared_error: 0.7347
Epoch 498/500
614/614 [==============================] - 0s 121us/sample - loss: 0.4361 -
y1_output_loss: 0.1302 - y2_output_loss: 0.3062 -
y1_output_root_mean_squared_error: 0.3607 - y2_output_root_mean_squared_error:
0.5531 - val_loss: 0.7586 - val_y1_output_loss: 0.1816 - val_y2_output_loss:
0.5689 - val_y1_output_root_mean_squared_error: 0.4244 -
val_y2_output_root_mean_squared_error: 0.7606
Epoch 499/500
614/614 [==============================] - 0s 121us/sample - loss: 0.3487 -
y1_output_loss: 0.1103 - y2_output_loss: 0.2389 -
y1_output_root_mean_squared_error: 0.3329 - y2_output_root_mean_squared_error:
0.4877 - val_loss: 0.8638 - val_y1_output_loss: 0.2380 - val_y2_output_loss:
0.6205 - val_y1_output_root_mean_squared_error: 0.4809 -
val_y2_output_root_mean_squared_error: 0.7953
Epoch 500/500
614/614 [==============================] - 0s 123us/sample - loss: 0.3671 -
y1_output_loss: 0.1156 - y2_output_loss: 0.2599 -
y1_output_root_mean_squared_error: 0.3397 - y2_output_root_mean_squared_error:
0.5017 - val_loss: 1.3691 - val_y1_output_loss: 0.2912 - val_y2_output_loss:
1.0779 - val_y1_output_root_mean_squared_error: 0.5284 -
val_y2_output_root_mean_squared_error: 1.0440
```

1.7 Evaluate the Model and Plot Metrics

```python
[7]: # Test the model and print loss and mse for both outputs
loss, Y1_loss, Y2_loss, Y1_rmse, Y2_rmse = model.evaluate(x=norm_test_X,␣
 ↪y=test_Y)
print("Loss = {}, Y1_loss = {}, Y1_mse = {}, Y2_loss = {}, Y2_mse = {}".
 ↪format(loss, Y1_loss, Y1_rmse, Y2_loss, Y2_rmse))
```

```
154/154 [==============================] - 0s 34us/sample - loss: 1.3691 -
y1_output_loss: 0.2836 - y2_output_loss: 1.1312 -
y1_output_root_mean_squared_error: 0.5284 - y2_output_root_mean_squared_error:
1.0440
Loss = 1.369127911406678, Y1_loss = 0.2836269736289978, Y1_mse =
0.5283647775650024, Y2_loss = 1.1312087774276733, Y2_mse = 1.0440107583999634
```

```
[8]:  # Plot the loss and mse
      Y_pred = model.predict(norm_test_X)
      plot_diff(test_Y[0], Y_pred[0], title='Y1')
      plot_diff(test_Y[1], Y_pred[1], title='Y2')
      plot_metrics(metric_name='y1_output_root_mean_squared_error', title='Y1 RMSE',␣
       ↪ylim=6)
      plot_metrics(metric_name='y2_output_root_mean_squared_error', title='Y2 RMSE',␣
       ↪ylim=7)
```

Y2

Y1 RMSE

Y2 RMSE