C1_W1_Lab_2_multi-output

May 13, 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)
```

```python
# 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.

```python
[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]
_____
```

```
-------------------
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.

```python
[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

```python
[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 975us/sample - loss: 249.7270 -
y1_output_loss: 111.9488 - y2_output_loss: 136.7029 -
y1_output_root_mean_squared_error: 10.6234 - y2_output_root_mean_squared_error:
11.6991 - val_loss: 177.2011 - val_y1_output_loss: 38.4977 - val_y2_output_loss:
140.4279 - val_y1_output_root_mean_squared_error: 6.1695 -
val_y2_output_root_mean_squared_error: 11.7957
Epoch 2/500
614/614 [==============================] - 0s 157us/sample - loss: 34.1262 -
y1_output_loss: 12.7318 - y2_output_loss: 21.0822 -
y1_output_root_mean_squared_error: 3.5842 - y2_output_root_mean_squared_error:
4.6130 - val_loss: 38.4123 - val_y1_output_loss: 11.3470 - val_y2_output_loss:
26.5143 - val_y1_output_root_mean_squared_error: 3.4019 -
val_y2_output_root_mean_squared_error: 5.1807
Epoch 3/500
```

```
614/614 [==============================] - 0s 138us/sample - loss: 27.1081 -
y1_output_loss: 10.6499 - y2_output_loss: 16.3801 -
y1_output_root_mean_squared_error: 3.2573 - y2_output_root_mean_squared_error:
4.0618 - val_loss: 42.9108 - val_y1_output_loss: 16.8476 - val_y2_output_loss:
25.8611 - val_y1_output_root_mean_squared_error: 4.1271 -
val_y2_output_root_mean_squared_error: 5.0871
Epoch 4/500
614/614 [==============================] - 0s 135us/sample - loss: 24.9334 -
y1_output_loss: 10.1341 - y2_output_loss: 14.6286 -
y1_output_root_mean_squared_error: 3.1927 - y2_output_root_mean_squared_error:
3.8393 - val_loss: 18.1051 - val_y1_output_loss: 7.2016 - val_y2_output_loss:
10.3109 - val_y1_output_root_mean_squared_error: 2.7277 -
val_y2_output_root_mean_squared_error: 3.2657
Epoch 5/500
614/614 [==============================] - 0s 138us/sample - loss: 23.9713 -
y1_output_loss: 10.2660 - y2_output_loss: 14.4864 -
y1_output_root_mean_squared_error: 3.1509 - y2_output_root_mean_squared_error:
3.7474 - val_loss: 147.8962 - val_y1_output_loss: 28.0536 - val_y2_output_loss:
121.9674 - val_y1_output_root_mean_squared_error: 5.2844 -
val_y2_output_root_mean_squared_error: 10.9531
Epoch 6/500
614/614 [==============================] - 0s 132us/sample - loss: 25.4435 -
y1_output_loss: 9.4350 - y2_output_loss: 15.9359 -
y1_output_root_mean_squared_error: 3.0692 - y2_output_root_mean_squared_error:
4.0030 - val_loss: 25.9852 - val_y1_output_loss: 8.9435 - val_y2_output_loss:
16.5947 - val_y1_output_root_mean_squared_error: 3.0130 -
val_y2_output_root_mean_squared_error: 4.1118
Epoch 7/500
614/614 [==============================] - 0s 133us/sample - loss: 22.7457 -
y1_output_loss: 9.0485 - y2_output_loss: 13.6289 -
y1_output_root_mean_squared_error: 3.0169 - y2_output_root_mean_squared_error:
3.6938 - val_loss: 16.2794 - val_y1_output_loss: 6.7998 - val_y2_output_loss:
8.9885 - val_y1_output_root_mean_squared_error: 2.6456 -
val_y2_output_root_mean_squared_error: 3.0463
Epoch 8/500
614/614 [==============================] - 0s 130us/sample - loss: 22.0577 -
y1_output_loss: 8.9933 - y2_output_loss: 12.9868 -
y1_output_root_mean_squared_error: 2.9941 - y2_output_root_mean_squared_error:
3.6185 - val_loss: 23.3549 - val_y1_output_loss: 10.7026 - val_y2_output_loss:
12.1917 - val_y1_output_root_mean_squared_error: 3.3054 -
val_y2_output_root_mean_squared_error: 3.5255
Epoch 9/500
614/614 [==============================] - 0s 131us/sample - loss: 25.7163 -
y1_output_loss: 9.5905 - y2_output_loss: 15.9816 -
y1_output_root_mean_squared_error: 3.0992 - y2_output_root_mean_squared_error:
4.0139 - val_loss: 19.6669 - val_y1_output_loss: 6.6335 - val_y2_output_loss:
12.5131 - val_y1_output_root_mean_squared_error: 2.6099 -
val_y2_output_root_mean_squared_error: 3.5854
```

```
Epoch 10/500
614/614 [==============================] - 0s 133us/sample - loss: 20.7686 -
y1_output_loss: 8.4092 - y2_output_loss: 12.3160 -
y1_output_root_mean_squared_error: 2.8958 - y2_output_root_mean_squared_error:
3.5190 - val_loss: 21.3008 - val_y1_output_loss: 7.3951 - val_y2_output_loss:
13.4542 - val_y1_output_root_mean_squared_error: 2.7450 -
val_y2_output_root_mean_squared_error: 3.7102
Epoch 11/500
614/614 [==============================] - 0s 130us/sample - loss: 21.2321 -
y1_output_loss: 8.4928 - y2_output_loss: 12.6883 -
y1_output_root_mean_squared_error: 2.9218 - y2_output_root_mean_squared_error:
3.5631 - val_loss: 45.9074 - val_y1_output_loss: 10.2749 - val_y2_output_loss:
35.5527 - val_y1_output_root_mean_squared_error: 3.2053 -
val_y2_output_root_mean_squared_error: 5.9694
Epoch 12/500
614/614 [==============================] - 0s 134us/sample - loss: 21.3715 -
y1_output_loss: 8.1720 - y2_output_loss: 13.1003 -
y1_output_root_mean_squared_error: 2.8610 - y2_output_root_mean_squared_error:
3.6312 - val_loss: 48.7990 - val_y1_output_loss: 13.0550 - val_y2_output_loss:
35.8723 - val_y1_output_root_mean_squared_error: 3.5982 -
val_y2_output_root_mean_squared_error: 5.9876
Epoch 13/500
614/614 [==============================] - 0s 136us/sample - loss: 22.6532 -
y1_output_loss: 8.5651 - y2_output_loss: 13.9087 -
y1_output_root_mean_squared_error: 2.9394 - y2_output_root_mean_squared_error:
3.7434 - val_loss: 18.0168 - val_y1_output_loss: 6.1046 - val_y2_output_loss:
11.5833 - val_y1_output_root_mean_squared_error: 2.4920 -
val_y2_output_root_mean_squared_error: 3.4361
Epoch 14/500
614/614 [==============================] - 0s 283us/sample - loss: 20.9009 -
y1_output_loss: 8.2349 - y2_output_loss: 12.5527 -
y1_output_root_mean_squared_error: 2.8730 - y2_output_root_mean_squared_error:
3.5562 - val_loss: 17.1764 - val_y1_output_loss: 7.2229 - val_y2_output_loss:
9.4224 - val_y1_output_root_mean_squared_error: 2.7241 -
val_y2_output_root_mean_squared_error: 3.1234
Epoch 15/500
614/614 [==============================] - 0s 127us/sample - loss: 18.0892 -
y1_output_loss: 7.2354 - y2_output_loss: 10.7754 -
y1_output_root_mean_squared_error: 2.6929 - y2_output_root_mean_squared_error:
3.2921 - val_loss: 23.1325 - val_y1_output_loss: 6.3647 - val_y2_output_loss:
16.4108 - val_y1_output_root_mean_squared_error: 2.5452 -
val_y2_output_root_mean_squared_error: 4.0810
Epoch 16/500
614/614 [==============================] - 0s 129us/sample - loss: 17.0656 -
y1_output_loss: 7.0988 - y2_output_loss: 10.0046 -
y1_output_root_mean_squared_error: 2.6625 - y2_output_root_mean_squared_error:
3.1586 - val_loss: 20.2415 - val_y1_output_loss: 5.9420 - val_y2_output_loss:
14.2368 - val_y1_output_root_mean_squared_error: 2.4602 -
```

val_y2_output_root_mean_squared_error: 3.7668
Epoch 17/500
614/614 [==============================] - 0s 128us/sample - loss: 18.4009 -
y1_output_loss: 7.0445 - y2_output_loss: 11.6048 -
y1_output_root_mean_squared_error: 2.6401 - y2_output_root_mean_squared_error:
3.3809 - val_loss: 17.1211 - val_y1_output_loss: 5.3744 - val_y2_output_loss:
11.5767 - val_y1_output_root_mean_squared_error: 2.3486 -
val_y2_output_root_mean_squared_error: 3.4066
Epoch 18/500
614/614 [==============================] - 0s 132us/sample - loss: 18.4481 -
y1_output_loss: 7.0388 - y2_output_loss: 11.3688 -
y1_output_root_mean_squared_error: 2.6557 - y2_output_root_mean_squared_error:
3.3757 - val_loss: 11.4647 - val_y1_output_loss: 4.4723 - val_y2_output_loss:
6.6510 - val_y1_output_root_mean_squared_error: 2.1481 -
val_y2_output_root_mean_squared_error: 2.6173
Epoch 19/500
614/614 [==============================] - 0s 133us/sample - loss: 16.5604 -
y1_output_loss: 6.5714 - y2_output_loss: 9.9277 -
y1_output_root_mean_squared_error: 2.5714 - y2_output_root_mean_squared_error:
3.1541 - val_loss: 15.9529 - val_y1_output_loss: 6.2043 - val_y2_output_loss:
9.4401 - val_y1_output_root_mean_squared_error: 2.5214 -
val_y2_output_root_mean_squared_error: 3.0976
Epoch 20/500
614/614 [==============================] - 0s 131us/sample - loss: 16.1278 -
y1_output_loss: 6.1526 - y2_output_loss: 10.0835 -
y1_output_root_mean_squared_error: 2.4859 - y2_output_root_mean_squared_error:
3.1541 - val_loss: 32.3769 - val_y1_output_loss: 9.1857 - val_y2_output_loss:
23.3649 - val_y1_output_root_mean_squared_error: 3.0403 -
val_y2_output_root_mean_squared_error: 4.8097
Epoch 21/500
614/614 [==============================] - 0s 129us/sample - loss: 15.4537 -
y1_output_loss: 5.8074 - y2_output_loss: 9.5436 -
y1_output_root_mean_squared_error: 2.4180 - y2_output_root_mean_squared_error:
3.0995 - val_loss: 17.3331 - val_y1_output_loss: 7.1291 - val_y2_output_loss:
10.1320 - val_y1_output_root_mean_squared_error: 2.6822 -
val_y2_output_root_mean_squared_error: 3.1842
Epoch 22/500
614/614 [==============================] - 0s 129us/sample - loss: 14.8242 -
y1_output_loss: 5.6727 - y2_output_loss: 9.1578 -
y1_output_root_mean_squared_error: 2.3856 - y2_output_root_mean_squared_error:
3.0221 - val_loss: 13.8686 - val_y1_output_loss: 4.5306 - val_y2_output_loss:
9.0773 - val_y1_output_root_mean_squared_error: 2.1607 -
val_y2_output_root_mean_squared_error: 3.0331
Epoch 23/500
614/614 [==============================] - 0s 129us/sample - loss: 13.3559 -
y1_output_loss: 5.4016 - y2_output_loss: 7.9914 -
y1_output_root_mean_squared_error: 2.3148 - y2_output_root_mean_squared_error:
2.8280 - val_loss: 18.7056 - val_y1_output_loss: 7.9455 - val_y2_output_loss:

10.7657 - val_y1_output_root_mean_squared_error: 2.8217 -
val_y2_output_root_mean_squared_error: 3.2777
Epoch 24/500
614/614 [==============================] - 0s 131us/sample - loss: 12.2298 -
y1_output_loss: 4.9449 - y2_output_loss: 7.2520 -
y1_output_root_mean_squared_error: 2.2304 - y2_output_root_mean_squared_error:
2.6935 - val_loss: 14.7559 - val_y1_output_loss: 5.4985 - val_y2_output_loss:
9.1086 - val_y1_output_root_mean_squared_error: 2.3663 -
val_y2_output_root_mean_squared_error: 3.0259
Epoch 25/500
614/614 [==============================] - 0s 135us/sample - loss: 12.2417 -
y1_output_loss: 4.6172 - y2_output_loss: 7.7330 -
y1_output_root_mean_squared_error: 2.1461 - y2_output_root_mean_squared_error:
2.7633 - val_loss: 9.1917 - val_y1_output_loss: 3.4571 - val_y2_output_loss:
5.5524 - val_y1_output_root_mean_squared_error: 1.8814 -
val_y2_output_root_mean_squared_error: 2.3774
Epoch 26/500
614/614 [==============================] - 0s 127us/sample - loss: 12.5394 -
y1_output_loss: 4.5805 - y2_output_loss: 7.8710 -
y1_output_root_mean_squared_error: 2.1480 - y2_output_root_mean_squared_error:
2.8152 - val_loss: 17.6093 - val_y1_output_loss: 5.6503 - val_y2_output_loss:
11.8277 - val_y1_output_root_mean_squared_error: 2.4019 -
val_y2_output_root_mean_squared_error: 3.4410
Epoch 27/500
614/614 [==============================] - 0s 127us/sample - loss: 12.5028 -
y1_output_loss: 4.3982 - y2_output_loss: 8.1015 -
y1_output_root_mean_squared_error: 2.0956 - y2_output_root_mean_squared_error:
2.8481 - val_loss: 11.5568 - val_y1_output_loss: 3.8206 - val_y2_output_loss:
7.5414 - val_y1_output_root_mean_squared_error: 1.9696 -
val_y2_output_root_mean_squared_error: 2.7708
Epoch 28/500
614/614 [==============================] - 0s 127us/sample - loss: 13.8810 -
y1_output_loss: 4.4942 - y2_output_loss: 9.6772 -
y1_output_root_mean_squared_error: 2.1227 - y2_output_root_mean_squared_error:
3.0619 - val_loss: 15.3952 - val_y1_output_loss: 6.4299 - val_y2_output_loss:
9.1963 - val_y1_output_root_mean_squared_error: 2.5110 -
val_y2_output_root_mean_squared_error: 3.0150
Epoch 29/500
614/614 [==============================] - 0s 127us/sample - loss: 13.8738 -
y1_output_loss: 4.8454 - y2_output_loss: 8.9417 -
y1_output_root_mean_squared_error: 2.2019 - y2_output_root_mean_squared_error:
3.0042 - val_loss: 10.7702 - val_y1_output_loss: 3.0742 - val_y2_output_loss:
7.4075 - val_y1_output_root_mean_squared_error: 1.7787 -
val_y2_output_root_mean_squared_error: 2.7580
Epoch 30/500
614/614 [==============================] - 0s 128us/sample - loss: 10.9242 -
y1_output_loss: 3.7716 - y2_output_loss: 7.2083 -
y1_output_root_mean_squared_error: 1.9463 - y2_output_root_mean_squared_error:

2.6713 - val_loss: 51.5963 - val_y1_output_loss: 11.7418 - val_y2_output_loss: 40.7766 - val_y1_output_root_mean_squared_error: 3.4132 - val_y2_output_root_mean_squared_error: 6.3203
Epoch 31/500
614/614 [==============================] - 0s 134us/sample - loss: 12.8674 - y1_output_loss: 4.2890 - y2_output_loss: 8.4739 - y1_output_root_mean_squared_error: 2.0806 - y2_output_root_mean_squared_error: 2.9221 - val_loss: 17.2012 - val_y1_output_loss: 5.6166 - val_y2_output_loss: 11.7302 - val_y1_output_root_mean_squared_error: 2.3727 - val_y2_output_root_mean_squared_error: 3.4017
Epoch 32/500
614/614 [==============================] - 0s 128us/sample - loss: 9.2633 - y1_output_loss: 3.4406 - y2_output_loss: 5.8794 - y1_output_root_mean_squared_error: 1.8521 - y2_output_root_mean_squared_error: 2.4152 - val_loss: 11.6621 - val_y1_output_loss: 3.0229 - val_y2_output_loss: 8.3611 - val_y1_output_root_mean_squared_error: 1.7618 - val_y2_output_root_mean_squared_error: 2.9254
Epoch 33/500
614/614 [==============================] - 0s 127us/sample - loss: 11.3681 - y1_output_loss: 3.4800 - y2_output_loss: 7.7881 - y1_output_root_mean_squared_error: 1.8729 - y2_output_root_mean_squared_error: 2.8036 - val_loss: 19.8629 - val_y1_output_loss: 5.6891 - val_y2_output_loss: 13.8763 - val_y1_output_root_mean_squared_error: 2.4013 - val_y2_output_root_mean_squared_error: 3.7546
Epoch 34/500
614/614 [==============================] - 0s 138us/sample - loss: 10.0626 - y1_output_loss: 3.3362 - y2_output_loss: 6.6593 - y1_output_root_mean_squared_error: 1.8297 - y2_output_root_mean_squared_error: 2.5913 - val_loss: 9.6583 - val_y1_output_loss: 2.5661 - val_y2_output_loss: 6.7882 - val_y1_output_root_mean_squared_error: 1.6263 - val_y2_output_root_mean_squared_error: 2.6483
Epoch 35/500
614/614 [==============================] - 0s 128us/sample - loss: 9.7338 - y1_output_loss: 3.2734 - y2_output_loss: 6.5955 - y1_output_root_mean_squared_error: 1.8115 - y2_output_root_mean_squared_error: 2.5401 - val_loss: 9.1930 - val_y1_output_loss: 3.0964 - val_y2_output_loss: 5.9755 - val_y1_output_root_mean_squared_error: 1.7835 - val_y2_output_root_mean_squared_error: 2.4520
Epoch 36/500
614/614 [==============================] - 0s 138us/sample - loss: 11.5657 - y1_output_loss: 3.6376 - y2_output_loss: 7.8805 - y1_output_root_mean_squared_error: 1.9055 - y2_output_root_mean_squared_error: 2.8169 - val_loss: 10.0677 - val_y1_output_loss: 3.7537 - val_y2_output_loss: 6.1707 - val_y1_output_root_mean_squared_error: 1.9579 - val_y2_output_root_mean_squared_error: 2.4969
Epoch 37/500
614/614 [==============================] - 0s 137us/sample - loss: 8.7814 - y1_output_loss: 3.0300 - y2_output_loss: 5.7918 -

y1_output_root_mean_squared_error: 1.7435 - y2_output_root_mean_squared_error:
2.3961 - val_loss: 9.1080 - val_y1_output_loss: 3.0831 - val_y2_output_loss:
5.8454 - val_y1_output_root_mean_squared_error: 1.7704 -
val_y2_output_root_mean_squared_error: 2.4441
Epoch 38/500
614/614 [==============================] - 0s 137us/sample - loss: 8.1949 -
y1_output_loss: 2.8407 - y2_output_loss: 5.3149 -
y1_output_root_mean_squared_error: 1.6889 - y2_output_root_mean_squared_error:
2.3114 - val_loss: 13.5651 - val_y1_output_loss: 3.7140 - val_y2_output_loss:
9.9084 - val_y1_output_root_mean_squared_error: 1.9358 -
val_y2_output_root_mean_squared_error: 3.1333
Epoch 39/500
614/614 [==============================] - 0s 138us/sample - loss: 7.4317 -
y1_output_loss: 2.6018 - y2_output_loss: 4.8344 -
y1_output_root_mean_squared_error: 1.6163 - y2_output_root_mean_squared_error:
2.1953 - val_loss: 15.2646 - val_y1_output_loss: 5.6967 - val_y2_output_loss:
9.5735 - val_y1_output_root_mean_squared_error: 2.3786 -
val_y2_output_root_mean_squared_error: 3.0995
Epoch 40/500
614/614 [==============================] - 0s 137us/sample - loss: 8.2721 -
y1_output_loss: 2.6798 - y2_output_loss: 5.5717 -
y1_output_root_mean_squared_error: 1.6405 - y2_output_root_mean_squared_error:
2.3624 - val_loss: 7.8573 - val_y1_output_loss: 2.9028 - val_y2_output_loss:
4.7178 - val_y1_output_root_mean_squared_error: 1.7276 -
val_y2_output_root_mean_squared_error: 2.2074
Epoch 41/500
614/614 [==============================] - 0s 136us/sample - loss: 7.7137 -
y1_output_loss: 2.5455 - y2_output_loss: 5.1387 -
y1_output_root_mean_squared_error: 1.6024 - y2_output_root_mean_squared_error:
2.2685 - val_loss: 9.9487 - val_y1_output_loss: 2.3614 - val_y2_output_loss:
7.3050 - val_y1_output_root_mean_squared_error: 1.5588 -
val_y2_output_root_mean_squared_error: 2.7421
Epoch 42/500
614/614 [==============================] - 0s 127us/sample - loss: 9.5073 -
y1_output_loss: 3.0773 - y2_output_loss: 6.3419 -
y1_output_root_mean_squared_error: 1.7623 - y2_output_root_mean_squared_error:
2.5302 - val_loss: 10.8206 - val_y1_output_loss: 4.2073 - val_y2_output_loss:
6.4289 - val_y1_output_root_mean_squared_error: 2.0695 -
val_y2_output_root_mean_squared_error: 2.5569
Epoch 43/500
614/614 [==============================] - 0s 129us/sample - loss: 7.9426 -
y1_output_loss: 2.5818 - y2_output_loss: 5.4685 -
y1_output_root_mean_squared_error: 1.5928 - y2_output_root_mean_squared_error:
2.3249 - val_loss: 12.6635 - val_y1_output_loss: 2.5792 - val_y2_output_loss:
9.8075 - val_y1_output_root_mean_squared_error: 1.6207 -
val_y2_output_root_mean_squared_error: 3.1681
Epoch 44/500
614/614 [==============================] - 0s 135us/sample - loss: 10.3749 -

```
y1_output_loss: 3.1992 - y2_output_loss: 7.1630 -
y1_output_root_mean_squared_error: 1.7801 - y2_output_root_mean_squared_error:
2.6844 - val_loss: 17.2118 - val_y1_output_loss: 5.2757 - val_y2_output_loss:
11.6712 - val_y1_output_root_mean_squared_error: 2.3110 -
val_y2_output_root_mean_squared_error: 3.4454
Epoch 45/500
614/614 [==============================] - 0s 130us/sample - loss: 6.5520 -
y1_output_loss: 2.2136 - y2_output_loss: 4.3430 -
y1_output_root_mean_squared_error: 1.4895 - y2_output_root_mean_squared_error:
2.0817 - val_loss: 11.4985 - val_y1_output_loss: 2.6227 - val_y2_output_loss:
8.7369 - val_y1_output_root_mean_squared_error: 1.6283 -
val_y2_output_root_mean_squared_error: 2.9744
Epoch 46/500
614/614 [==============================] - 0s 143us/sample - loss: 7.0475 -
y1_output_loss: 2.1031 - y2_output_loss: 4.9002 -
y1_output_root_mean_squared_error: 1.4553 - y2_output_root_mean_squared_error:
2.2203 - val_loss: 9.1923 - val_y1_output_loss: 3.0885 - val_y2_output_loss:
5.8899 - val_y1_output_root_mean_squared_error: 1.7726 -
val_y2_output_root_mean_squared_error: 2.4597
Epoch 47/500
614/614 [==============================] - 0s 135us/sample - loss: 7.3919 -
y1_output_loss: 2.2224 - y2_output_loss: 5.1065 -
y1_output_root_mean_squared_error: 1.4959 - y2_output_root_mean_squared_error:
2.2703 - val_loss: 5.8304 - val_y1_output_loss: 2.1399 - val_y2_output_loss:
3.5429 - val_y1_output_root_mean_squared_error: 1.4762 -
val_y2_output_root_mean_squared_error: 1.9108
Epoch 48/500
614/614 [==============================] - 0s 134us/sample - loss: 6.8638 -
y1_output_loss: 2.2391 - y2_output_loss: 4.5831 -
y1_output_root_mean_squared_error: 1.4957 - y2_output_root_mean_squared_error:
2.1509 - val_loss: 5.3322 - val_y1_output_loss: 1.9447 - val_y2_output_loss:
3.3009 - val_y1_output_root_mean_squared_error: 1.4008 -
val_y2_output_root_mean_squared_error: 1.8357
Epoch 49/500
614/614 [==============================] - 0s 129us/sample - loss: 6.7509 -
y1_output_loss: 2.1021 - y2_output_loss: 4.5955 -
y1_output_root_mean_squared_error: 1.4562 - y2_output_root_mean_squared_error:
2.1518 - val_loss: 6.2436 - val_y1_output_loss: 2.4254 - val_y2_output_loss:
3.7702 - val_y1_output_root_mean_squared_error: 1.5585 -
val_y2_output_root_mean_squared_error: 1.9531
Epoch 50/500
614/614 [==============================] - 0s 137us/sample - loss: 7.3992 -
y1_output_loss: 2.2499 - y2_output_loss: 5.1352 -
y1_output_root_mean_squared_error: 1.4909 - y2_output_root_mean_squared_error:
2.2752 - val_loss: 5.9372 - val_y1_output_loss: 2.3125 - val_y2_output_loss:
3.4994 - val_y1_output_root_mean_squared_error: 1.5209 -
val_y2_output_root_mean_squared_error: 1.9037
Epoch 51/500
```

614/614 [==============================] - 0s 135us/sample - loss: 8.5770 -
y1_output_loss: 2.5763 - y2_output_loss: 5.9879 -
y1_output_root_mean_squared_error: 1.5938 - y2_output_root_mean_squared_error:
2.4570 - val_loss: 4.8621 - val_y1_output_loss: 1.5237 - val_y2_output_loss:
3.2014 - val_y1_output_root_mean_squared_error: 1.2508 -
val_y2_output_root_mean_squared_error: 1.8159
Epoch 52/500
614/614 [==============================] - 0s 128us/sample - loss: 6.9561 -
y1_output_loss: 2.0564 - y2_output_loss: 4.9133 -
y1_output_root_mean_squared_error: 1.4349 - y2_output_root_mean_squared_error:
2.2129 - val_loss: 6.7819 - val_y1_output_loss: 2.3157 - val_y2_output_loss:
4.3573 - val_y1_output_root_mean_squared_error: 1.5290 -
val_y2_output_root_mean_squared_error: 2.1081
Epoch 53/500
614/614 [==============================] - 0s 126us/sample - loss: 7.0749 -
y1_output_loss: 2.0524 - y2_output_loss: 5.0144 -
y1_output_root_mean_squared_error: 1.4325 - y2_output_root_mean_squared_error:
2.2412 - val_loss: 7.7883 - val_y1_output_loss: 1.7744 - val_y2_output_loss:
5.8140 - val_y1_output_root_mean_squared_error: 1.3538 -
val_y2_output_root_mean_squared_error: 2.4404
Epoch 54/500
614/614 [==============================] - 0s 128us/sample - loss: 6.3644 -
y1_output_loss: 1.6842 - y2_output_loss: 4.6426 -
y1_output_root_mean_squared_error: 1.3004 - y2_output_root_mean_squared_error:
2.1618 - val_loss: 7.4576 - val_y1_output_loss: 1.5577 - val_y2_output_loss:
5.7575 - val_y1_output_root_mean_squared_error: 1.2609 -
val_y2_output_root_mean_squared_error: 2.4223
Epoch 55/500
614/614 [==============================] - 0s 129us/sample - loss: 6.4190 -
y1_output_loss: 1.9130 - y2_output_loss: 4.4828 -
y1_output_root_mean_squared_error: 1.3818 - y2_output_root_mean_squared_error:
2.1236 - val_loss: 13.5047 - val_y1_output_loss: 3.7065 - val_y2_output_loss:
9.7031 - val_y1_output_root_mean_squared_error: 1.9275 -
val_y2_output_root_mean_squared_error: 3.1288
Epoch 56/500
614/614 [==============================] - 0s 128us/sample - loss: 6.1413 -
y1_output_loss: 1.7315 - y2_output_loss: 4.4334 -
y1_output_root_mean_squared_error: 1.3206 - y2_output_root_mean_squared_error:
2.0970 - val_loss: 11.3800 - val_y1_output_loss: 3.1101 - val_y2_output_loss:
8.3611 - val_y1_output_root_mean_squared_error: 1.7639 -
val_y2_output_root_mean_squared_error: 2.8755
Epoch 57/500
614/614 [==============================] - 0s 129us/sample - loss: 6.6408 -
y1_output_loss: 1.9015 - y2_output_loss: 4.7093 -
y1_output_root_mean_squared_error: 1.3772 - y2_output_root_mean_squared_error:
2.1781 - val_loss: 7.7116 - val_y1_output_loss: 2.4722 - val_y2_output_loss:
5.2835 - val_y1_output_root_mean_squared_error: 1.5706 -
val_y2_output_root_mean_squared_error: 2.2902

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Epoch 58/500
614/614 [==============================] - 0s 129us/sample - loss: 5.1537 -
y1_output_loss: 1.4131 - y2_output_loss: 3.7173 -
y1_output_root_mean_squared_error: 1.1921 - y2_output_root_mean_squared_error:
1.9320 - val_loss: 4.8039 - val_y1_output_loss: 1.3109 - val_y2_output_loss:
3.3309 - val_y1_output_root_mean_squared_error: 1.1636 -
val_y2_output_root_mean_squared_error: 1.8574
Epoch 59/500
614/614 [==============================] - 0s 129us/sample - loss: 5.1263 -
y1_output_loss: 1.3539 - y2_output_loss: 3.7490 -
y1_output_root_mean_squared_error: 1.1608 - y2_output_root_mean_squared_error:
1.9439 - val_loss: 6.7803 - val_y1_output_loss: 1.9644 - val_y2_output_loss:
4.6655 - val_y1_output_root_mean_squared_error: 1.4154 -
val_y2_output_root_mean_squared_error: 2.1856
Epoch 60/500
614/614 [==============================] - 0s 129us/sample - loss: 5.9353 -
y1_output_loss: 1.5056 - y2_output_loss: 4.3924 -
y1_output_root_mean_squared_error: 1.2298 - y2_output_root_mean_squared_error:
2.1031 - val_loss: 5.3586 - val_y1_output_loss: 1.6230 - val_y2_output_loss:
3.5822 - val_y1_output_root_mean_squared_error: 1.2938 -
val_y2_output_root_mean_squared_error: 1.9195
Epoch 61/500
614/614 [==============================] - 0s 129us/sample - loss: 5.8640 -
y1_output_loss: 1.5094 - y2_output_loss: 4.3184 -
y1_output_root_mean_squared_error: 1.2343 - y2_output_root_mean_squared_error:
2.0834 - val_loss: 3.7486 - val_y1_output_loss: 1.1951 - val_y2_output_loss:
2.4313 - val_y1_output_root_mean_squared_error: 1.1092 -
val_y2_output_root_mean_squared_error: 1.5869
Epoch 62/500
614/614 [==============================] - 0s 128us/sample - loss: 4.5749 -
y1_output_loss: 1.1193 - y2_output_loss: 3.4638 -
y1_output_root_mean_squared_error: 1.0630 - y2_output_root_mean_squared_error:
1.8561 - val_loss: 4.4456 - val_y1_output_loss: 1.4132 - val_y2_output_loss:
3.0972 - val_y1_output_root_mean_squared_error: 1.1685 -
val_y2_output_root_mean_squared_error: 1.7550
Epoch 63/500
614/614 [==============================] - 0s 128us/sample - loss: 5.2373 -
y1_output_loss: 1.2728 - y2_output_loss: 4.0215 -
y1_output_root_mean_squared_error: 1.1197 - y2_output_root_mean_squared_error:
1.9959 - val_loss: 18.5237 - val_y1_output_loss: 4.9820 - val_y2_output_loss:
13.9262 - val_y1_output_root_mean_squared_error: 2.1965 -
val_y2_output_root_mean_squared_error: 3.7012
Epoch 64/500
614/614 [==============================] - 0s 135us/sample - loss: 5.1063 -
y1_output_loss: 1.3231 - y2_output_loss: 3.7909 -
y1_output_root_mean_squared_error: 1.1502 - y2_output_root_mean_squared_error:
1.9451 - val_loss: 5.1702 - val_y1_output_loss: 1.1392 - val_y2_output_loss:
3.9371 - val_y1_output_root_mean_squared_error: 1.0793 -
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val_y2_output_root_mean_squared_error: 2.0013
Epoch 65/500
614/614 [==============================] - 0s 135us/sample - loss: 4.4301 -
y1_output_loss: 1.1235 - y2_output_loss: 3.3167 -
y1_output_root_mean_squared_error: 1.0491 - y2_output_root_mean_squared_error:
1.8247 - val_loss: 4.6978 - val_y1_output_loss: 1.5859 - val_y2_output_loss:
2.9607 - val_y1_output_root_mean_squared_error: 1.2777 -
val_y2_output_root_mean_squared_error: 1.7508
Epoch 66/500
614/614 [==============================] - 0s 129us/sample - loss: 7.7534 -
y1_output_loss: 2.1554 - y2_output_loss: 5.5708 -
y1_output_root_mean_squared_error: 1.4705 - y2_output_root_mean_squared_error:
2.3645 - val_loss: 4.5973 - val_y1_output_loss: 1.3751 - val_y2_output_loss:
3.1202 - val_y1_output_root_mean_squared_error: 1.1816 -
val_y2_output_root_mean_squared_error: 1.7892
Epoch 67/500
614/614 [==============================] - 0s 126us/sample - loss: 6.7675 -
y1_output_loss: 1.9860 - y2_output_loss: 4.7810 -
y1_output_root_mean_squared_error: 1.4024 - y2_output_root_mean_squared_error:
2.1911 - val_loss: 6.8343 - val_y1_output_loss: 0.8246 - val_y2_output_loss:
5.9202 - val_y1_output_root_mean_squared_error: 0.9229 -
val_y2_output_root_mean_squared_error: 2.4459
Epoch 68/500
614/614 [==============================] - 0s 126us/sample - loss: 4.4384 -
y1_output_loss: 0.9391 - y2_output_loss: 3.4579 -
y1_output_root_mean_squared_error: 0.9735 - y2_output_root_mean_squared_error:
1.8683 - val_loss: 4.4780 - val_y1_output_loss: 0.8185 - val_y2_output_loss:
3.5766 - val_y1_output_root_mean_squared_error: 0.9151 -
val_y2_output_root_mean_squared_error: 1.9081
Epoch 69/500
614/614 [==============================] - 0s 127us/sample - loss: 4.4313 -
y1_output_loss: 0.9220 - y2_output_loss: 3.4739 -
y1_output_root_mean_squared_error: 0.9641 - y2_output_root_mean_squared_error:
1.8713 - val_loss: 3.1744 - val_y1_output_loss: 0.8986 - val_y2_output_loss:
2.1880 - val_y1_output_root_mean_squared_error: 0.9601 -
val_y2_output_root_mean_squared_error: 1.5009
Epoch 70/500
614/614 [==============================] - 0s 135us/sample - loss: 3.7561 -
y1_output_loss: 0.9524 - y2_output_loss: 2.7901 -
y1_output_root_mean_squared_error: 0.9711 - y2_output_root_mean_squared_error:
1.6772 - val_loss: 3.7246 - val_y1_output_loss: 0.7750 - val_y2_output_loss:
2.8402 - val_y1_output_root_mean_squared_error: 0.8932 -
val_y2_output_root_mean_squared_error: 1.7108
Epoch 71/500
614/614 [==============================] - 0s 136us/sample - loss: 7.3641 -
y1_output_loss: 1.8326 - y2_output_loss: 5.5007 -
y1_output_root_mean_squared_error: 1.3564 - y2_output_root_mean_squared_error:
2.3504 - val_loss: 5.7578 - val_y1_output_loss: 1.3344 - val_y2_output_loss:

4.2905 - val_y1_output_root_mean_squared_error: 1.1669 -
val_y2_output_root_mean_squared_error: 2.0967
Epoch 72/500
614/614 [==============================] - 0s 126us/sample - loss: 4.0514 -
y1_output_loss: 0.8724 - y2_output_loss: 3.1416 -
y1_output_root_mean_squared_error: 0.9380 - y2_output_root_mean_squared_error:
1.7809 - val_loss: 11.1710 - val_y1_output_loss: 3.9717 - val_y2_output_loss:
7.3607 - val_y1_output_root_mean_squared_error: 1.9665 -
val_y2_output_root_mean_squared_error: 2.7025
Epoch 73/500
614/614 [==============================] - 0s 126us/sample - loss: 4.0905 -
y1_output_loss: 0.9199 - y2_output_loss: 3.1735 -
y1_output_root_mean_squared_error: 0.9617 - y2_output_root_mean_squared_error:
1.7792 - val_loss: 2.8305 - val_y1_output_loss: 0.7033 - val_y2_output_loss:
2.0491 - val_y1_output_root_mean_squared_error: 0.8460 -
val_y2_output_root_mean_squared_error: 1.4542
Epoch 74/500
614/614 [==============================] - 0s 125us/sample - loss: 3.2919 -
y1_output_loss: 0.6993 - y2_output_loss: 2.5856 -
y1_output_root_mean_squared_error: 0.8380 - y2_output_root_mean_squared_error:
1.6092 - val_loss: 6.4754 - val_y1_output_loss: 1.7336 - val_y2_output_loss:
4.7138 - val_y1_output_root_mean_squared_error: 1.3206 -
val_y2_output_root_mean_squared_error: 2.1752
Epoch 75/500
614/614 [==============================] - 0s 127us/sample - loss: 4.1370 -
y1_output_loss: 0.9806 - y2_output_loss: 3.1333 -
y1_output_root_mean_squared_error: 0.9942 - y2_output_root_mean_squared_error:
1.7744 - val_loss: 2.8459 - val_y1_output_loss: 0.8336 - val_y2_output_loss:
1.9390 - val_y1_output_root_mean_squared_error: 0.9198 -
val_y2_output_root_mean_squared_error: 1.4142
Epoch 76/500
614/614 [==============================] - 0s 128us/sample - loss: 3.7327 -
y1_output_loss: 0.7534 - y2_output_loss: 2.9725 -
y1_output_root_mean_squared_error: 0.8670 - y2_output_root_mean_squared_error:
1.7266 - val_loss: 3.5332 - val_y1_output_loss: 0.7377 - val_y2_output_loss:
2.7290 - val_y1_output_root_mean_squared_error: 0.8667 -
val_y2_output_root_mean_squared_error: 1.6680
Epoch 77/500
614/614 [==============================] - 0s 128us/sample - loss: 4.7114 -
y1_output_loss: 1.1838 - y2_output_loss: 3.5419 -
y1_output_root_mean_squared_error: 1.0906 - y2_output_root_mean_squared_error:
1.8767 - val_loss: 3.9983 - val_y1_output_loss: 0.5919 - val_y2_output_loss:
3.3298 - val_y1_output_root_mean_squared_error: 0.7818 -
val_y2_output_root_mean_squared_error: 1.8404
Epoch 78/500
614/614 [==============================] - 0s 128us/sample - loss: 3.6878 -
y1_output_loss: 0.8236 - y2_output_loss: 2.8704 -
y1_output_root_mean_squared_error: 0.8986 - y2_output_root_mean_squared_error:

1.6971 - val_loss: 3.8091 - val_y1_output_loss: 1.1219 - val_y2_output_loss:
2.6738 - val_y1_output_root_mean_squared_error: 1.0437 -
val_y2_output_root_mean_squared_error: 1.6492
Epoch 79/500
614/614 [==============================] - 0s 127us/sample - loss: 3.7627 -
y1_output_loss: 0.8246 - y2_output_loss: 2.9927 -
y1_output_root_mean_squared_error: 0.9012 - y2_output_root_mean_squared_error:
1.7177 - val_loss: 4.5625 - val_y1_output_loss: 1.7816 - val_y2_output_loss:
2.8246 - val_y1_output_root_mean_squared_error: 1.3172 -
val_y2_output_root_mean_squared_error: 1.6815
Epoch 80/500
614/614 [==============================] - 0s 128us/sample - loss: 4.7892 -
y1_output_loss: 1.2737 - y2_output_loss: 3.5147 -
y1_output_root_mean_squared_error: 1.1286 - y2_output_root_mean_squared_error:
1.8750 - val_loss: 4.8994 - val_y1_output_loss: 1.8824 - val_y2_output_loss:
3.0484 - val_y1_output_root_mean_squared_error: 1.3580 -
val_y2_output_root_mean_squared_error: 1.7479
Epoch 81/500
614/614 [==============================] - 0s 127us/sample - loss: 3.3810 -
y1_output_loss: 0.7708 - y2_output_loss: 2.6140 -
y1_output_root_mean_squared_error: 0.8764 - y2_output_root_mean_squared_error:
1.6164 - val_loss: 5.3155 - val_y1_output_loss: 1.6323 - val_y2_output_loss:
3.7391 - val_y1_output_root_mean_squared_error: 1.2625 -
val_y2_output_root_mean_squared_error: 1.9291
Epoch 82/500
614/614 [==============================] - 0s 128us/sample - loss: 3.5057 -
y1_output_loss: 0.7395 - y2_output_loss: 2.7963 -
y1_output_root_mean_squared_error: 0.8622 - y2_output_root_mean_squared_error:
1.6620 - val_loss: 3.0350 - val_y1_output_loss: 0.6458 - val_y2_output_loss:
2.3250 - val_y1_output_root_mean_squared_error: 0.8111 -
val_y2_output_root_mean_squared_error: 1.5418
Epoch 83/500
614/614 [==============================] - 0s 128us/sample - loss: 4.1525 -
y1_output_loss: 0.7774 - y2_output_loss: 3.3627 -
y1_output_root_mean_squared_error: 0.8824 - y2_output_root_mean_squared_error:
1.8368 - val_loss: 6.0263 - val_y1_output_loss: 1.2856 - val_y2_output_loss:
4.7213 - val_y1_output_root_mean_squared_error: 1.1372 -
val_y2_output_root_mean_squared_error: 2.1755
Epoch 84/500
614/614 [==============================] - 0s 127us/sample - loss: 3.4041 -
y1_output_loss: 0.7645 - y2_output_loss: 2.6592 -
y1_output_root_mean_squared_error: 0.8765 - y2_output_root_mean_squared_error:
1.6235 - val_loss: 21.9114 - val_y1_output_loss: 4.5862 - val_y2_output_loss:
17.7027 - val_y1_output_root_mean_squared_error: 2.1172 -
val_y2_output_root_mean_squared_error: 4.1748
Epoch 85/500
614/614 [==============================] - 0s 128us/sample - loss: 4.6399 -
y1_output_loss: 1.0330 - y2_output_loss: 3.5644 -

y1_output_root_mean_squared_error: 1.0211 - y2_output_root_mean_squared_error:
1.8966 - val_loss: 2.7572 - val_y1_output_loss: 0.6229 - val_y2_output_loss:
2.0792 - val_y1_output_root_mean_squared_error: 0.7941 -
val_y2_output_root_mean_squared_error: 1.4583
Epoch 86/500
614/614 [==============================] - 0s 130us/sample - loss: 3.1060 -
y1_output_loss: 0.7102 - y2_output_loss: 2.3839 -
y1_output_root_mean_squared_error: 0.8436 - y2_output_root_mean_squared_error:
1.5474 - val_loss: 3.9015 - val_y1_output_loss: 0.5941 - val_y2_output_loss:
3.3016 - val_y1_output_root_mean_squared_error: 0.7788 -
val_y2_output_root_mean_squared_error: 1.8152
Epoch 87/500
614/614 [==============================] - 0s 128us/sample - loss: 2.9285 -
y1_output_loss: 0.5739 - y2_output_loss: 2.4071 -
y1_output_root_mean_squared_error: 0.7605 - y2_output_root_mean_squared_error:
1.5330 - val_loss: 13.5763 - val_y1_output_loss: 3.0094 - val_y2_output_loss:
10.7173 - val_y1_output_root_mean_squared_error: 1.7200 -
val_y2_output_root_mean_squared_error: 3.2585
Epoch 88/500
614/614 [==============================] - 0s 136us/sample - loss: 6.5157 -
y1_output_loss: 1.7260 - y2_output_loss: 5.2178 -
y1_output_root_mean_squared_error: 1.2696 - y2_output_root_mean_squared_error:
2.2145 - val_loss: 63.6091 - val_y1_output_loss: 27.6301 - val_y2_output_loss:
37.4962 - val_y1_output_root_mean_squared_error: 5.1884 -
val_y2_output_root_mean_squared_error: 6.0572
Epoch 89/500
614/614 [==============================] - 0s 138us/sample - loss: 5.0474 -
y1_output_loss: 1.4966 - y2_output_loss: 3.6371 -
y1_output_root_mean_squared_error: 1.2286 - y2_output_root_mean_squared_error:
1.8809 - val_loss: 9.4534 - val_y1_output_loss: 1.6122 - val_y2_output_loss:
7.8490 - val_y1_output_root_mean_squared_error: 1.2722 -
val_y2_output_root_mean_squared_error: 2.7991
Epoch 90/500
614/614 [==============================] - 0s 137us/sample - loss: 3.6591 -
y1_output_loss: 0.7793 - y2_output_loss: 2.8968 -
y1_output_root_mean_squared_error: 0.8753 - y2_output_root_mean_squared_error:
1.7008 - val_loss: 9.8788 - val_y1_output_loss: 3.0264 - val_y2_output_loss:
6.9518 - val_y1_output_root_mean_squared_error: 1.7267 -
val_y2_output_root_mean_squared_error: 2.6263
Epoch 91/500
614/614 [==============================] - 0s 139us/sample - loss: 3.7114 -
y1_output_loss: 0.8220 - y2_output_loss: 2.8653 -
y1_output_root_mean_squared_error: 0.9079 - y2_output_root_mean_squared_error:
1.6992 - val_loss: 4.2204 - val_y1_output_loss: 0.6862 - val_y2_output_loss:
3.4796 - val_y1_output_root_mean_squared_error: 0.8419 -
val_y2_output_root_mean_squared_error: 1.8739
Epoch 92/500
614/614 [==============================] - 0s 139us/sample - loss: 3.6323 -

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y1_output_loss: 0.7796 - y2_output_loss: 2.8365 -
y1_output_root_mean_squared_error: 0.8849 - y2_output_root_mean_squared_error:
1.6879 - val_loss: 3.2682 - val_y1_output_loss: 0.5317 - val_y2_output_loss:
2.7261 - val_y1_output_root_mean_squared_error: 0.7360 -
val_y2_output_root_mean_squared_error: 1.6512
Epoch 93/500
614/614 [==============================] - 0s 128us/sample - loss: 3.3671 -
y1_output_loss: 0.8150 - y2_output_loss: 2.5394 -
y1_output_root_mean_squared_error: 0.9003 - y2_output_root_mean_squared_error:
1.5989 - val_loss: 2.2477 - val_y1_output_loss: 0.5188 - val_y2_output_loss:
1.6646 - val_y1_output_root_mean_squared_error: 0.7332 -
val_y2_output_root_mean_squared_error: 1.3077
Epoch 94/500
614/614 [==============================] - 0s 129us/sample - loss: 3.3539 -
y1_output_loss: 0.6980 - y2_output_loss: 2.6302 -
y1_output_root_mean_squared_error: 0.8393 - y2_output_root_mean_squared_error:
1.6277 - val_loss: 2.8839 - val_y1_output_loss: 0.9771 - val_y2_output_loss:
1.8461 - val_y1_output_root_mean_squared_error: 0.9906 -
val_y2_output_root_mean_squared_error: 1.3794
Epoch 95/500
614/614 [==============================] - 0s 128us/sample - loss: 2.4938 -
y1_output_loss: 0.5259 - y2_output_loss: 1.9721 -
y1_output_root_mean_squared_error: 0.7213 - y2_output_root_mean_squared_error:
1.4048 - val_loss: 4.4714 - val_y1_output_loss: 0.7744 - val_y2_output_loss:
3.7627 - val_y1_output_root_mean_squared_error: 0.8757 -
val_y2_output_root_mean_squared_error: 1.9247
Epoch 96/500
614/614 [==============================] - 0s 129us/sample - loss: 3.2472 -
y1_output_loss: 0.6773 - y2_output_loss: 2.5466 -
y1_output_root_mean_squared_error: 0.8266 - y2_output_root_mean_squared_error:
1.6012 - val_loss: 2.6792 - val_y1_output_loss: 0.7231 - val_y2_output_loss:
1.8743 - val_y1_output_root_mean_squared_error: 0.8618 -
val_y2_output_root_mean_squared_error: 1.3916
Epoch 97/500
614/614 [==============================] - 0s 129us/sample - loss: 6.3119 -
y1_output_loss: 1.7810 - y2_output_loss: 4.4820 -
y1_output_root_mean_squared_error: 1.3382 - y2_output_root_mean_squared_error:
2.1263 - val_loss: 2.4334 - val_y1_output_loss: 0.6843 - val_y2_output_loss:
1.7018 - val_y1_output_root_mean_squared_error: 0.8292 -
val_y2_output_root_mean_squared_error: 1.3213
Epoch 98/500
614/614 [==============================] - 0s 130us/sample - loss: 3.4519 -
y1_output_loss: 0.7688 - y2_output_loss: 2.6794 -
y1_output_root_mean_squared_error: 0.8772 - y2_output_root_mean_squared_error:
1.6378 - val_loss: 5.5178 - val_y1_output_loss: 0.9308 - val_y2_output_loss:
4.5340 - val_y1_output_root_mean_squared_error: 0.9697 -
val_y2_output_root_mean_squared_error: 2.1395
Epoch 99/500
```

614/614 [==============================] - 0s 136us/sample - loss: 3.3462 -
y1_output_loss: 0.7115 - y2_output_loss: 2.6133 -
y1_output_root_mean_squared_error: 0.8464 - y2_output_root_mean_squared_error:
1.6216 - val_loss: 5.2091 - val_y1_output_loss: 1.4053 - val_y2_output_loss:
3.9724 - val_y1_output_root_mean_squared_error: 1.1674 -
val_y2_output_root_mean_squared_error: 1.9612
Epoch 100/500
614/614 [==============================] - 0s 137us/sample - loss: 3.1226 -
y1_output_loss: 0.6715 - y2_output_loss: 2.4227 -
y1_output_root_mean_squared_error: 0.8232 - y2_output_root_mean_squared_error:
1.5636 - val_loss: 2.0296 - val_y1_output_loss: 0.5438 - val_y2_output_loss:
1.4299 - val_y1_output_root_mean_squared_error: 0.7413 -
val_y2_output_root_mean_squared_error: 1.2166
Epoch 101/500
614/614 [==============================] - 0s 128us/sample - loss: 2.4379 -
y1_output_loss: 0.4814 - y2_output_loss: 1.9367 -
y1_output_root_mean_squared_error: 0.6967 - y2_output_root_mean_squared_error:
1.3973 - val_loss: 3.6280 - val_y1_output_loss: 1.2121 - val_y2_output_loss:
2.3542 - val_y1_output_root_mean_squared_error: 1.1042 -
val_y2_output_root_mean_squared_error: 1.5520
Epoch 102/500
614/614 [==============================] - 0s 134us/sample - loss: 2.5497 -
y1_output_loss: 0.5481 - y2_output_loss: 2.0830 -
y1_output_root_mean_squared_error: 0.7321 - y2_output_root_mean_squared_error:
1.4191 - val_loss: 14.9859 - val_y1_output_loss: 5.3493 - val_y2_output_loss:
9.7623 - val_y1_output_root_mean_squared_error: 2.2907 -
val_y2_output_root_mean_squared_error: 3.1207
Epoch 103/500
614/614 [==============================] - 0s 134us/sample - loss: 2.8602 -
y1_output_loss: 0.7087 - y2_output_loss: 2.1395 -
y1_output_root_mean_squared_error: 0.8441 - y2_output_root_mean_squared_error:
1.4655 - val_loss: 6.2350 - val_y1_output_loss: 0.6650 - val_y2_output_loss:
5.6812 - val_y1_output_root_mean_squared_error: 0.8146 -
val_y2_output_root_mean_squared_error: 2.3604
Epoch 104/500
614/614 [==============================] - 0s 138us/sample - loss: 4.4838 -
y1_output_loss: 1.1517 - y2_output_loss: 3.3191 -
y1_output_root_mean_squared_error: 1.0708 - y2_output_root_mean_squared_error:
1.8268 - val_loss: 2.2874 - val_y1_output_loss: 0.6486 - val_y2_output_loss:
1.6123 - val_y1_output_root_mean_squared_error: 0.8054 -
val_y2_output_root_mean_squared_error: 1.2802
Epoch 105/500
614/614 [==============================] - 0s 140us/sample - loss: 2.6848 -
y1_output_loss: 0.5555 - y2_output_loss: 2.1262 -
y1_output_root_mean_squared_error: 0.7442 - y2_output_root_mean_squared_error:
1.4598 - val_loss: 5.2263 - val_y1_output_loss: 1.4789 - val_y2_output_loss:
3.8401 - val_y1_output_root_mean_squared_error: 1.2041 -
val_y2_output_root_mean_squared_error: 1.9433

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Epoch 106/500
614/614 [==============================] - 0s 128us/sample - loss: 2.9741 -
y1_output_loss: 0.5954 - y2_output_loss: 2.3882 -
y1_output_root_mean_squared_error: 0.7689 - y2_output_root_mean_squared_error:
1.5437 - val_loss: 3.4328 - val_y1_output_loss: 1.4744 - val_y2_output_loss:
1.9733 - val_y1_output_root_mean_squared_error: 1.2096 -
val_y2_output_root_mean_squared_error: 1.4034
Epoch 107/500
614/614 [==============================] - 0s 132us/sample - loss: 2.5983 -
y1_output_loss: 0.5693 - y2_output_loss: 2.0297 -
y1_output_root_mean_squared_error: 0.7510 - y2_output_root_mean_squared_error:
1.4263 - val_loss: 2.5309 - val_y1_output_loss: 1.0178 - val_y2_output_loss:
1.4667 - val_y1_output_root_mean_squared_error: 1.0078 -
val_y2_output_root_mean_squared_error: 1.2310
Epoch 108/500
614/614 [==============================] - 0s 138us/sample - loss: 2.4507 -
y1_output_loss: 0.5063 - y2_output_loss: 1.9327 -
y1_output_root_mean_squared_error: 0.7142 - y2_output_root_mean_squared_error:
1.3930 - val_loss: 3.4203 - val_y1_output_loss: 0.7329 - val_y2_output_loss:
2.6083 - val_y1_output_root_mean_squared_error: 0.8637 -
val_y2_output_root_mean_squared_error: 1.6353
Epoch 109/500
614/614 [==============================] - 0s 154us/sample - loss: 2.7350 -
y1_output_loss: 0.5839 - y2_output_loss: 2.1789 -
y1_output_root_mean_squared_error: 0.7581 - y2_output_root_mean_squared_error:
1.4698 - val_loss: 2.1718 - val_y1_output_loss: 0.6279 - val_y2_output_loss:
1.5111 - val_y1_output_root_mean_squared_error: 0.8001 -
val_y2_output_root_mean_squared_error: 1.2376
Epoch 110/500
614/614 [==============================] - 0s 129us/sample - loss: 2.6373 -
y1_output_loss: 0.5751 - y2_output_loss: 2.1010 -
y1_output_root_mean_squared_error: 0.7549 - y2_output_root_mean_squared_error:
1.4379 - val_loss: 11.2781 - val_y1_output_loss: 3.0125 - val_y2_output_loss:
8.8898 - val_y1_output_root_mean_squared_error: 1.6861 -
val_y2_output_root_mean_squared_error: 2.9043
Epoch 111/500
614/614 [==============================] - 0s 130us/sample - loss: 3.3812 -
y1_output_loss: 0.7435 - y2_output_loss: 2.6143 -
y1_output_root_mean_squared_error: 0.8650 - y2_output_root_mean_squared_error:
1.6226 - val_loss: 1.9433 - val_y1_output_loss: 0.5775 - val_y2_output_loss:
1.3203 - val_y1_output_root_mean_squared_error: 0.7662 -
val_y2_output_root_mean_squared_error: 1.1646
Epoch 112/500
614/614 [==============================] - 0s 128us/sample - loss: 3.8738 -
y1_output_loss: 0.9495 - y2_output_loss: 2.9320 -
y1_output_root_mean_squared_error: 0.9789 - y2_output_root_mean_squared_error:
1.7075 - val_loss: 2.3029 - val_y1_output_loss: 0.5996 - val_y2_output_loss:
1.6495 - val_y1_output_root_mean_squared_error: 0.7843 -
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val_y2_output_root_mean_squared_error: 1.2991
Epoch 113/500
614/614 [==============================] - 0s 138us/sample - loss: 2.7531 -
y1_output_loss: 0.6544 - y2_output_loss: 2.1364 -
y1_output_root_mean_squared_error: 0.8070 - y2_output_root_mean_squared_error:
1.4497 - val_loss: 8.8791 - val_y1_output_loss: 1.7123 - val_y2_output_loss:
7.2236 - val_y1_output_root_mean_squared_error: 1.2986 -
val_y2_output_root_mean_squared_error: 2.6819
Epoch 114/500
614/614 [==============================] - 0s 130us/sample - loss: 2.8868 -
y1_output_loss: 0.7127 - y2_output_loss: 2.1712 -
y1_output_root_mean_squared_error: 0.8465 - y2_output_root_mean_squared_error:
1.4731 - val_loss: 8.4562 - val_y1_output_loss: 2.7460 - val_y2_output_loss:
5.7495 - val_y1_output_root_mean_squared_error: 1.6440 -
val_y2_output_root_mean_squared_error: 2.3986
Epoch 115/500
614/614 [==============================] - 0s 135us/sample - loss: 2.2673 -
y1_output_loss: 0.5311 - y2_output_loss: 1.7409 -
y1_output_root_mean_squared_error: 0.7302 - y2_output_root_mean_squared_error:
1.3168 - val_loss: 1.8330 - val_y1_output_loss: 0.4820 - val_y2_output_loss:
1.3009 - val_y1_output_root_mean_squared_error: 0.7043 -
val_y2_output_root_mean_squared_error: 1.1563
Epoch 116/500
614/614 [==============================] - 0s 137us/sample - loss: 2.1938 -
y1_output_loss: 0.4739 - y2_output_loss: 1.7549 -
y1_output_root_mean_squared_error: 0.6893 - y2_output_root_mean_squared_error:
1.3110 - val_loss: 1.9976 - val_y1_output_loss: 0.6012 - val_y2_output_loss:
1.3647 - val_y1_output_root_mean_squared_error: 0.7785 -
val_y2_output_root_mean_squared_error: 1.1797
Epoch 117/500
614/614 [==============================] - 0s 139us/sample - loss: 2.9424 -
y1_output_loss: 0.7170 - y2_output_loss: 2.2065 -
y1_output_root_mean_squared_error: 0.8504 - y2_output_root_mean_squared_error:
1.4897 - val_loss: 2.1735 - val_y1_output_loss: 0.6341 - val_y2_output_loss:
1.5153 - val_y1_output_root_mean_squared_error: 0.8011 -
val_y2_output_root_mean_squared_error: 1.2376
Epoch 118/500
614/614 [==============================] - 0s 140us/sample - loss: 2.4716 -
y1_output_loss: 0.5063 - y2_output_loss: 1.9592 -
y1_output_root_mean_squared_error: 0.7125 - y2_output_root_mean_squared_error:
1.4014 - val_loss: 2.8636 - val_y1_output_loss: 1.0280 - val_y2_output_loss:
1.7850 - val_y1_output_root_mean_squared_error: 1.0136 -
val_y2_output_root_mean_squared_error: 1.3551
Epoch 119/500
614/614 [==============================] - 0s 140us/sample - loss: 3.0886 -
y1_output_loss: 0.7208 - y2_output_loss: 2.3792 -
y1_output_root_mean_squared_error: 0.8506 - y2_output_root_mean_squared_error:
1.5379 - val_loss: 3.8539 - val_y1_output_loss: 1.1376 - val_y2_output_loss:

2.6259 - val_y1_output_root_mean_squared_error: 1.0730 -
val_y2_output_root_mean_squared_error: 1.6440
Epoch 120/500
614/614 [==============================] - 0s 132us/sample - loss: 3.0656 -
y1_output_loss: 0.5471 - y2_output_loss: 2.5006 -
y1_output_root_mean_squared_error: 0.7417 - y2_output_root_mean_squared_error:
1.5861 - val_loss: 2.3178 - val_y1_output_loss: 0.6375 - val_y2_output_loss:
1.6821 - val_y1_output_root_mean_squared_error: 0.7754 -
val_y2_output_root_mean_squared_error: 1.3102
Epoch 121/500
614/614 [==============================] - 0s 129us/sample - loss: 15.1184 -
y1_output_loss: 5.1500 - y2_output_loss: 9.8406 -
y1_output_root_mean_squared_error: 2.2801 - y2_output_root_mean_squared_error:
3.1495 - val_loss: 3.0670 - val_y1_output_loss: 0.6424 - val_y2_output_loss:
2.4120 - val_y1_output_root_mean_squared_error: 0.8132 -
val_y2_output_root_mean_squared_error: 1.5510
Epoch 122/500
614/614 [==============================] - 0s 131us/sample - loss: 2.7985 -
y1_output_loss: 0.6069 - y2_output_loss: 2.1852 -
y1_output_root_mean_squared_error: 0.7812 - y2_output_root_mean_squared_error:
1.4793 - val_loss: 2.3842 - val_y1_output_loss: 0.6050 - val_y2_output_loss:
1.7274 - val_y1_output_root_mean_squared_error: 0.7837 -
val_y2_output_root_mean_squared_error: 1.3304
Epoch 123/500
614/614 [==============================] - 0s 139us/sample - loss: 2.6355 -
y1_output_loss: 0.5338 - y2_output_loss: 2.0983 -
y1_output_root_mean_squared_error: 0.7292 - y2_output_root_mean_squared_error:
1.4504 - val_loss: 2.3671 - val_y1_output_loss: 0.5752 - val_y2_output_loss:
1.7626 - val_y1_output_root_mean_squared_error: 0.7695 -
val_y2_output_root_mean_squared_error: 1.3323
Epoch 124/500
614/614 [==============================] - 0s 135us/sample - loss: 2.1097 -
y1_output_loss: 0.4554 - y2_output_loss: 1.6404 -
y1_output_root_mean_squared_error: 0.6757 - y2_output_root_mean_squared_error:
1.2858 - val_loss: 1.5607 - val_y1_output_loss: 0.4058 - val_y2_output_loss:
1.1152 - val_y1_output_root_mean_squared_error: 0.6443 -
val_y2_output_root_mean_squared_error: 1.0703
Epoch 125/500
614/614 [==============================] - 0s 135us/sample - loss: 2.5688 -
y1_output_loss: 0.5546 - y2_output_loss: 2.0138 -
y1_output_root_mean_squared_error: 0.7359 - y2_output_root_mean_squared_error:
1.4238 - val_loss: 2.0917 - val_y1_output_loss: 0.4867 - val_y2_output_loss:
1.5699 - val_y1_output_root_mean_squared_error: 0.7084 -
val_y2_output_root_mean_squared_error: 1.2609
Epoch 126/500
614/614 [==============================] - 0s 139us/sample - loss: 2.1847 -
y1_output_loss: 0.4813 - y2_output_loss: 1.7048 -
y1_output_root_mean_squared_error: 0.6946 - y2_output_root_mean_squared_error:

1.3047 - val_loss: 4.1857 - val_y1_output_loss: 1.6359 - val_y2_output_loss: 2.5840 - val_y1_output_root_mean_squared_error: 1.2661 - val_y2_output_root_mean_squared_error: 1.6071
Epoch 127/500
614/614 [==============================] - 0s 141us/sample - loss: 2.2231 - y1_output_loss: 0.4767 - y2_output_loss: 1.7558 - y1_output_root_mean_squared_error: 0.6910 - y2_output_root_mean_squared_error: 1.3212 - val_loss: 2.3605 - val_y1_output_loss: 0.4818 - val_y2_output_loss: 1.8587 - val_y1_output_root_mean_squared_error: 0.7031 - val_y2_output_root_mean_squared_error: 1.3661
Epoch 128/500
614/614 [==============================] - 0s 139us/sample - loss: 2.1218 - y1_output_loss: 0.4623 - y2_output_loss: 1.6656 - y1_output_root_mean_squared_error: 0.6691 - y2_output_root_mean_squared_error: 1.2939 - val_loss: 1.9261 - val_y1_output_loss: 0.5947 - val_y2_output_loss: 1.3107 - val_y1_output_root_mean_squared_error: 0.7760 - val_y2_output_root_mean_squared_error: 1.1506
Epoch 129/500
614/614 [==============================] - 0s 139us/sample - loss: 2.2306 - y1_output_loss: 0.4378 - y2_output_loss: 1.7979 - y1_output_root_mean_squared_error: 0.6599 - y2_output_root_mean_squared_error: 1.3398 - val_loss: 2.7102 - val_y1_output_loss: 0.4920 - val_y2_output_loss: 2.2301 - val_y1_output_root_mean_squared_error: 0.7010 - val_y2_output_root_mean_squared_error: 1.4896
Epoch 130/500
614/614 [==============================] - 0s 135us/sample - loss: 2.4007 - y1_output_loss: 0.4877 - y2_output_loss: 1.9582 - y1_output_root_mean_squared_error: 0.7010 - y2_output_root_mean_squared_error: 1.3817 - val_loss: 5.5957 - val_y1_output_loss: 0.6396 - val_y2_output_loss: 4.9054 - val_y1_output_root_mean_squared_error: 0.8087 - val_y2_output_root_mean_squared_error: 2.2230
Epoch 131/500
614/614 [==============================] - 0s 134us/sample - loss: 1.9317 - y1_output_loss: 0.4385 - y2_output_loss: 1.4845 - y1_output_root_mean_squared_error: 0.6648 - y2_output_root_mean_squared_error: 1.2206 - val_loss: 2.0034 - val_y1_output_loss: 0.5455 - val_y2_output_loss: 1.4271 - val_y1_output_root_mean_squared_error: 0.7499 - val_y2_output_root_mean_squared_error: 1.2005
Epoch 132/500
614/614 [==============================] - 0s 130us/sample - loss: 2.1822 - y1_output_loss: 0.4485 - y2_output_loss: 1.7207 - y1_output_root_mean_squared_error: 0.6710 - y2_output_root_mean_squared_error: 1.3161 - val_loss: 2.5464 - val_y1_output_loss: 0.7870 - val_y2_output_loss: 1.6814 - val_y1_output_root_mean_squared_error: 0.8995 - val_y2_output_root_mean_squared_error: 1.3181
Epoch 133/500
614/614 [==============================] - 0s 132us/sample - loss: 2.7580 - y1_output_loss: 0.5777 - y2_output_loss: 2.1571 -

y1_output_root_mean_squared_error: 0.7628 - y2_output_root_mean_squared_error:
1.4752 - val_loss: 1.5051 - val_y1_output_loss: 0.3936 - val_y2_output_loss:
1.0863 - val_y1_output_root_mean_squared_error: 0.6375 -
val_y2_output_root_mean_squared_error: 1.0482
Epoch 134/500
614/614 [==============================] - 0s 130us/sample - loss: 1.9350 -
y1_output_loss: 0.3823 - y2_output_loss: 1.5504 -
y1_output_root_mean_squared_error: 0.6195 - y2_output_root_mean_squared_error:
1.2455 - val_loss: 1.4293 - val_y1_output_loss: 0.4215 - val_y2_output_loss:
0.9760 - val_y1_output_root_mean_squared_error: 0.6537 -
val_y2_output_root_mean_squared_error: 1.0010
Epoch 135/500
614/614 [==============================] - 0s 129us/sample - loss: 1.9601 -
y1_output_loss: 0.3876 - y2_output_loss: 1.5838 -
y1_output_root_mean_squared_error: 0.6203 - y2_output_root_mean_squared_error:
1.2551 - val_loss: 5.0130 - val_y1_output_loss: 1.7192 - val_y2_output_loss:
3.3625 - val_y1_output_root_mean_squared_error: 1.2808 -
val_y2_output_root_mean_squared_error: 1.8364
Epoch 136/500
614/614 [==============================] - 0s 130us/sample - loss: 1.8813 -
y1_output_loss: 0.3963 - y2_output_loss: 1.5097 -
y1_output_root_mean_squared_error: 0.6292 - y2_output_root_mean_squared_error:
1.2188 - val_loss: 5.7219 - val_y1_output_loss: 0.8269 - val_y2_output_loss:
4.8012 - val_y1_output_root_mean_squared_error: 0.9174 -
val_y2_output_root_mean_squared_error: 2.2091
Epoch 137/500
614/614 [==============================] - 0s 128us/sample - loss: 2.3723 -
y1_output_loss: 0.5390 - y2_output_loss: 1.8489 -
y1_output_root_mean_squared_error: 0.7236 - y2_output_root_mean_squared_error:
1.3596 - val_loss: 3.8886 - val_y1_output_loss: 1.4282 - val_y2_output_loss:
2.4333 - val_y1_output_root_mean_squared_error: 1.2044 -
val_y2_output_root_mean_squared_error: 1.5614
Epoch 138/500
614/614 [==============================] - 0s 136us/sample - loss: 2.0075 -
y1_output_loss: 0.4725 - y2_output_loss: 1.5253 -
y1_output_root_mean_squared_error: 0.6874 - y2_output_root_mean_squared_error:
1.2390 - val_loss: 1.7915 - val_y1_output_loss: 0.5291 - val_y2_output_loss:
1.2435 - val_y1_output_root_mean_squared_error: 0.7365 -
val_y2_output_root_mean_squared_error: 1.1176
Epoch 139/500
614/614 [==============================] - 0s 128us/sample - loss: 1.8106 -
y1_output_loss: 0.3669 - y2_output_loss: 1.4412 -
y1_output_root_mean_squared_error: 0.6066 - y2_output_root_mean_squared_error:
1.2011 - val_loss: 2.4816 - val_y1_output_loss: 0.4603 - val_y2_output_loss:
1.9632 - val_y1_output_root_mean_squared_error: 0.6851 -
val_y2_output_root_mean_squared_error: 1.4185
Epoch 140/500
614/614 [==============================] - 0s 127us/sample - loss: 2.5718 -

y1_output_loss: 0.5496 - y2_output_loss: 2.0095 -
y1_output_root_mean_squared_error: 0.7414 - y2_output_root_mean_squared_error:
1.4220 - val_loss: 1.3776 - val_y1_output_loss: 0.3954 - val_y2_output_loss:
0.9654 - val_y1_output_root_mean_squared_error: 0.6385 -
val_y2_output_root_mean_squared_error: 0.9849
Epoch 141/500
614/614 [==============================] - 0s 126us/sample - loss: 2.2076 -
y1_output_loss: 0.4350 - y2_output_loss: 1.7623 -
y1_output_root_mean_squared_error: 0.6596 - y2_output_root_mean_squared_error:
1.3314 - val_loss: 1.4812 - val_y1_output_loss: 0.3968 - val_y2_output_loss:
1.0715 - val_y1_output_root_mean_squared_error: 0.6398 -
val_y2_output_root_mean_squared_error: 1.0353
Epoch 142/500
614/614 [==============================] - 0s 125us/sample - loss: 2.0645 -
y1_output_loss: 0.3653 - y2_output_loss: 1.7107 -
y1_output_root_mean_squared_error: 0.6063 - y2_output_root_mean_squared_error:
1.3027 - val_loss: 2.9495 - val_y1_output_loss: 0.4957 - val_y2_output_loss:
2.5475 - val_y1_output_root_mean_squared_error: 0.7102 -
val_y2_output_root_mean_squared_error: 1.5637
Epoch 143/500
614/614 [==============================] - 0s 126us/sample - loss: 2.1444 -
y1_output_loss: 0.4511 - y2_output_loss: 1.6856 -
y1_output_root_mean_squared_error: 0.6675 - y2_output_root_mean_squared_error:
1.3034 - val_loss: 1.4641 - val_y1_output_loss: 0.4218 - val_y2_output_loss:
1.0417 - val_y1_output_root_mean_squared_error: 0.6582 -
val_y2_output_root_mean_squared_error: 1.0153
Epoch 144/500
614/614 [==============================] - 0s 129us/sample - loss: 2.8255 -
y1_output_loss: 0.6688 - y2_output_loss: 2.1664 -
y1_output_root_mean_squared_error: 0.8183 - y2_output_root_mean_squared_error:
1.4683 - val_loss: 1.9285 - val_y1_output_loss: 0.6348 - val_y2_output_loss:
1.2708 - val_y1_output_root_mean_squared_error: 0.7862 -
val_y2_output_root_mean_squared_error: 1.1447
Epoch 145/500
614/614 [==============================] - 0s 128us/sample - loss: 2.3795 -
y1_output_loss: 0.4454 - y2_output_loss: 1.9220 -
y1_output_root_mean_squared_error: 0.6672 - y2_output_root_mean_squared_error:
1.3908 - val_loss: 2.0035 - val_y1_output_loss: 0.5131 - val_y2_output_loss:
1.5162 - val_y1_output_root_mean_squared_error: 0.7218 -
val_y2_output_root_mean_squared_error: 1.2176
Epoch 146/500
614/614 [==============================] - 0s 126us/sample - loss: 1.8452 -
y1_output_loss: 0.3914 - y2_output_loss: 1.4379 -
y1_output_root_mean_squared_error: 0.6280 - y2_output_root_mean_squared_error:
1.2045 - val_loss: 1.8562 - val_y1_output_loss: 0.5023 - val_y2_output_loss:
1.3061 - val_y1_output_root_mean_squared_error: 0.7199 -
val_y2_output_root_mean_squared_error: 1.1567
Epoch 147/500

614/614 [==============================] - 0s 127us/sample - loss: 1.9056 -
y1_output_loss: 0.3936 - y2_output_loss: 1.5000 -
y1_output_root_mean_squared_error: 0.6294 - y2_output_root_mean_squared_error:
1.2286 - val_loss: 1.4179 - val_y1_output_loss: 0.3811 - val_y2_output_loss:
1.0259 - val_y1_output_root_mean_squared_error: 0.6281 -
val_y2_output_root_mean_squared_error: 1.0116
Epoch 148/500
614/614 [==============================] - 0s 127us/sample - loss: 1.7552 -
y1_output_loss: 0.3249 - y2_output_loss: 1.4532 -
y1_output_root_mean_squared_error: 0.5716 - y2_output_root_mean_squared_error:
1.1952 - val_loss: 7.5849 - val_y1_output_loss: 1.0330 - val_y2_output_loss:
6.8548 - val_y1_output_root_mean_squared_error: 1.0043 -
val_y2_output_root_mean_squared_error: 2.5644
Epoch 149/500
614/614 [==============================] - 0s 127us/sample - loss: 3.0880 -
y1_output_loss: 0.6725 - y2_output_loss: 2.3998 -
y1_output_root_mean_squared_error: 0.8234 - y2_output_root_mean_squared_error:
1.5525 - val_loss: 3.9111 - val_y1_output_loss: 0.6011 - val_y2_output_loss:
3.4278 - val_y1_output_root_mean_squared_error: 0.7799 -
val_y2_output_root_mean_squared_error: 1.8174
Epoch 150/500
614/614 [==============================] - 0s 126us/sample - loss: 3.0697 -
y1_output_loss: 0.7860 - y2_output_loss: 2.2694 -
y1_output_root_mean_squared_error: 0.8871 - y2_output_root_mean_squared_error:
1.5109 - val_loss: 2.4072 - val_y1_output_loss: 0.4363 - val_y2_output_loss:
1.9306 - val_y1_output_root_mean_squared_error: 0.6639 -
val_y2_output_root_mean_squared_error: 1.4023
Epoch 151/500
614/614 [==============================] - 0s 127us/sample - loss: 1.8300 -
y1_output_loss: 0.3900 - y2_output_loss: 1.4295 -
y1_output_root_mean_squared_error: 0.6246 - y2_output_root_mean_squared_error:
1.1999 - val_loss: 1.9532 - val_y1_output_loss: 0.3957 - val_y2_output_loss:
1.5823 - val_y1_output_root_mean_squared_error: 0.6357 -
val_y2_output_root_mean_squared_error: 1.2446
Epoch 152/500
614/614 [==============================] - 0s 132us/sample - loss: 1.9505 -
y1_output_loss: 0.3835 - y2_output_loss: 1.5675 -
y1_output_root_mean_squared_error: 0.6210 - y2_output_root_mean_squared_error:
1.2509 - val_loss: 7.9590 - val_y1_output_loss: 2.7922 - val_y2_output_loss:
5.3526 - val_y1_output_root_mean_squared_error: 1.6522 -
val_y2_output_root_mean_squared_error: 2.2868
Epoch 153/500
614/614 [==============================] - 0s 141us/sample - loss: 1.7804 -
y1_output_loss: 0.3815 - y2_output_loss: 1.3953 -
y1_output_root_mean_squared_error: 0.6167 - y2_output_root_mean_squared_error:
1.1832 - val_loss: 1.7730 - val_y1_output_loss: 0.6353 - val_y2_output_loss:
1.1419 - val_y1_output_root_mean_squared_error: 0.7767 -
val_y2_output_root_mean_squared_error: 1.0816

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Epoch 154/500
614/614 [==============================] - 0s 141us/sample - loss: 1.7177 -
y1_output_loss: 0.3474 - y2_output_loss: 1.3731 -
y1_output_root_mean_squared_error: 0.5843 - y2_output_root_mean_squared_error:
1.1732 - val_loss: 1.9954 - val_y1_output_loss: 0.6570 - val_y2_output_loss:
1.4032 - val_y1_output_root_mean_squared_error: 0.8083 -
val_y2_output_root_mean_squared_error: 1.1584
Epoch 155/500
614/614 [==============================] - 0s 137us/sample - loss: 1.6046 -
y1_output_loss: 0.3203 - y2_output_loss: 1.2874 -
y1_output_root_mean_squared_error: 0.5667 - y2_output_root_mean_squared_error:
1.1329 - val_loss: 1.8392 - val_y1_output_loss: 0.4830 - val_y2_output_loss:
1.3219 - val_y1_output_root_mean_squared_error: 0.6951 -
val_y2_output_root_mean_squared_error: 1.1645
Epoch 156/500
614/614 [==============================] - 0s 135us/sample - loss: 1.4873 -
y1_output_loss: 0.3034 - y2_output_loss: 1.2129 -
y1_output_root_mean_squared_error: 0.5517 - y2_output_root_mean_squared_error:
1.0876 - val_loss: 3.4204 - val_y1_output_loss: 0.4689 - val_y2_output_loss:
2.9348 - val_y1_output_root_mean_squared_error: 0.6904 -
val_y2_output_root_mean_squared_error: 1.7157
Epoch 157/500
614/614 [==============================] - 0s 125us/sample - loss: 1.7476 -
y1_output_loss: 0.3429 - y2_output_loss: 1.3920 -
y1_output_root_mean_squared_error: 0.5882 - y2_output_root_mean_squared_error:
1.1839 - val_loss: 1.7063 - val_y1_output_loss: 0.4693 - val_y2_output_loss:
1.2348 - val_y1_output_root_mean_squared_error: 0.6947 -
val_y2_output_root_mean_squared_error: 1.1062
Epoch 158/500
614/614 [==============================] - 0s 131us/sample - loss: 1.9978 -
y1_output_loss: 0.4379 - y2_output_loss: 1.5441 -
y1_output_root_mean_squared_error: 0.6647 - y2_output_root_mean_squared_error:
1.2474 - val_loss: 2.3234 - val_y1_output_loss: 0.5703 - val_y2_output_loss:
1.7814 - val_y1_output_root_mean_squared_error: 0.7550 -
val_y2_output_root_mean_squared_error: 1.3242
Epoch 159/500
614/614 [==============================] - 0s 137us/sample - loss: 1.6063 -
y1_output_loss: 0.3049 - y2_output_loss: 1.3073 -
y1_output_root_mean_squared_error: 0.5536 - y2_output_root_mean_squared_error:
1.1401 - val_loss: 3.6785 - val_y1_output_loss: 0.6214 - val_y2_output_loss:
3.0462 - val_y1_output_root_mean_squared_error: 0.7842 -
val_y2_output_root_mean_squared_error: 1.7503
Epoch 160/500
614/614 [==============================] - 0s 138us/sample - loss: 2.0409 -
y1_output_loss: 0.4529 - y2_output_loss: 1.5746 -
y1_output_root_mean_squared_error: 0.6761 - y2_output_root_mean_squared_error:
1.2585 - val_loss: 2.3081 - val_y1_output_loss: 0.4893 - val_y2_output_loss:
1.7811 - val_y1_output_root_mean_squared_error: 0.7094 -
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val_y2_output_root_mean_squared_error: 1.3435
Epoch 161/500
614/614 [==============================] - 0s 140us/sample - loss: 1.6709 -
y1_output_loss: 0.3207 - y2_output_loss: 1.3469 -
y1_output_root_mean_squared_error: 0.5655 - y2_output_root_mean_squared_error:
1.1624 - val_loss: 3.4157 - val_y1_output_loss: 1.0299 - val_y2_output_loss:
2.5825 - val_y1_output_root_mean_squared_error: 0.9994 -
val_y2_output_root_mean_squared_error: 1.5547
Epoch 162/500
614/614 [==============================] - 0s 137us/sample - loss: 1.5774 -
y1_output_loss: 0.3255 - y2_output_loss: 1.3097 -
y1_output_root_mean_squared_error: 0.5715 - y2_output_root_mean_squared_error:
1.1184 - val_loss: 2.9975 - val_y1_output_loss: 0.5796 - val_y2_output_loss:
2.3903 - val_y1_output_root_mean_squared_error: 0.7713 -
val_y2_output_root_mean_squared_error: 1.5500
Epoch 163/500
614/614 [==============================] - 0s 131us/sample - loss: 1.7597 -
y1_output_loss: 0.3502 - y2_output_loss: 1.3978 -
y1_output_root_mean_squared_error: 0.5931 - y2_output_root_mean_squared_error:
1.1865 - val_loss: 1.5148 - val_y1_output_loss: 0.3816 - val_y2_output_loss:
1.0999 - val_y1_output_root_mean_squared_error: 0.6252 -
val_y2_output_root_mean_squared_error: 1.0601
Epoch 164/500
614/614 [==============================] - 0s 127us/sample - loss: 1.9116 -
y1_output_loss: 0.3733 - y2_output_loss: 1.5476 -
y1_output_root_mean_squared_error: 0.6104 - y2_output_root_mean_squared_error:
1.2406 - val_loss: 3.4335 - val_y1_output_loss: 1.3739 - val_y2_output_loss:
2.0901 - val_y1_output_root_mean_squared_error: 1.1558 -
val_y2_output_root_mean_squared_error: 1.4483
Epoch 165/500
614/614 [==============================] - 0s 126us/sample - loss: 1.7546 -
y1_output_loss: 0.3899 - y2_output_loss: 1.3562 -
y1_output_root_mean_squared_error: 0.6259 - y2_output_root_mean_squared_error:
1.1674 - val_loss: 1.9338 - val_y1_output_loss: 0.7337 - val_y2_output_loss:
1.2040 - val_y1_output_root_mean_squared_error: 0.8402 -
val_y2_output_root_mean_squared_error: 1.1081
Epoch 166/500
614/614 [==============================] - 0s 138us/sample - loss: 1.8661 -
y1_output_loss: 0.3573 - y2_output_loss: 1.5192 -
y1_output_root_mean_squared_error: 0.5996 - y2_output_root_mean_squared_error:
1.2274 - val_loss: 1.6390 - val_y1_output_loss: 0.4163 - val_y2_output_loss:
1.2168 - val_y1_output_root_mean_squared_error: 0.6522 -
val_y2_output_root_mean_squared_error: 1.1017
Epoch 167/500
614/614 [==============================] - 0s 134us/sample - loss: 1.6858 -
y1_output_loss: 0.3304 - y2_output_loss: 1.3645 -
y1_output_root_mean_squared_error: 0.5768 - y2_output_root_mean_squared_error:
1.1632 - val_loss: 2.7739 - val_y1_output_loss: 0.4707 - val_y2_output_loss:

2.3860 - val_y1_output_root_mean_squared_error: 0.6947 -
val_y2_output_root_mean_squared_error: 1.5137
Epoch 168/500
614/614 [==============================] - 0s 126us/sample - loss: 1.6333 -
y1_output_loss: 0.3112 - y2_output_loss: 1.3241 -
y1_output_root_mean_squared_error: 0.5565 - y2_output_root_mean_squared_error:
1.1505 - val_loss: 1.5858 - val_y1_output_loss: 0.4845 - val_y2_output_loss:
1.0686 - val_y1_output_root_mean_squared_error: 0.6957 -
val_y2_output_root_mean_squared_error: 1.0497
Epoch 169/500
614/614 [==============================] - 0s 130us/sample - loss: 1.3891 -
y1_output_loss: 0.2715 - y2_output_loss: 1.1202 -
y1_output_root_mean_squared_error: 0.5217 - y2_output_root_mean_squared_error:
1.0569 - val_loss: 2.3074 - val_y1_output_loss: 0.5572 - val_y2_output_loss:
1.7714 - val_y1_output_root_mean_squared_error: 0.7459 -
val_y2_output_root_mean_squared_error: 1.3233
Epoch 170/500
614/614 [==============================] - 0s 137us/sample - loss: 1.4619 -
y1_output_loss: 0.3029 - y2_output_loss: 1.1743 -
y1_output_root_mean_squared_error: 0.5525 - y2_output_root_mean_squared_error:
1.0755 - val_loss: 3.8611 - val_y1_output_loss: 0.5240 - val_y2_output_loss:
3.3502 - val_y1_output_root_mean_squared_error: 0.7367 -
val_y2_output_root_mean_squared_error: 1.8217
Epoch 171/500
614/614 [==============================] - 0s 137us/sample - loss: 1.8394 -
y1_output_loss: 0.3469 - y2_output_loss: 1.4776 -
y1_output_root_mean_squared_error: 0.5914 - y2_output_root_mean_squared_error:
1.2205 - val_loss: 3.6663 - val_y1_output_loss: 0.8581 - val_y2_output_loss:
2.7876 - val_y1_output_root_mean_squared_error: 0.9228 -
val_y2_output_root_mean_squared_error: 1.6777
Epoch 172/500
614/614 [==============================] - 0s 136us/sample - loss: 1.6511 -
y1_output_loss: 0.3499 - y2_output_loss: 1.2904 -
y1_output_root_mean_squared_error: 0.5933 - y2_output_root_mean_squared_error:
1.1398 - val_loss: 1.4067 - val_y1_output_loss: 0.3886 - val_y2_output_loss:
0.9849 - val_y1_output_root_mean_squared_error: 0.6248 -
val_y2_output_root_mean_squared_error: 1.0082
Epoch 173/500
614/614 [==============================] - 0s 128us/sample - loss: 2.3887 -
y1_output_loss: 0.4796 - y2_output_loss: 1.9043 -
y1_output_root_mean_squared_error: 0.6942 - y2_output_root_mean_squared_error:
1.3808 - val_loss: 1.6678 - val_y1_output_loss: 0.4929 - val_y2_output_loss:
1.1788 - val_y1_output_root_mean_squared_error: 0.7114 -
val_y2_output_root_mean_squared_error: 1.0778
Epoch 174/500
614/614 [==============================] - 0s 126us/sample - loss: 1.6691 -
y1_output_loss: 0.3161 - y2_output_loss: 1.3709 -
y1_output_root_mean_squared_error: 0.5640 - y2_output_root_mean_squared_error:

29

1.1623 - val_loss: 3.3727 - val_y1_output_loss: 0.6054 - val_y2_output_loss:
2.7176 - val_y1_output_root_mean_squared_error: 0.7845 -
val_y2_output_root_mean_squared_error: 1.6605
Epoch 175/500
614/614 [==============================] - 0s 129us/sample - loss: 1.5696 -
y1_output_loss: 0.3065 - y2_output_loss: 1.2535 -
y1_output_root_mean_squared_error: 0.5521 - y2_output_root_mean_squared_error:
1.1247 - val_loss: 1.2517 - val_y1_output_loss: 0.3776 - val_y2_output_loss:
0.8758 - val_y1_output_root_mean_squared_error: 0.6239 -
val_y2_output_root_mean_squared_error: 0.9286
Epoch 176/500
614/614 [==============================] - 0s 136us/sample - loss: 2.3566 -
y1_output_loss: 0.4062 - y2_output_loss: 1.9326 -
y1_output_root_mean_squared_error: 0.6400 - y2_output_root_mean_squared_error:
1.3954 - val_loss: 1.4944 - val_y1_output_loss: 0.4221 - val_y2_output_loss:
1.0309 - val_y1_output_root_mean_squared_error: 0.6595 -
val_y2_output_root_mean_squared_error: 1.0293
Epoch 177/500
614/614 [==============================] - 0s 136us/sample - loss: 1.5605 -
y1_output_loss: 0.3230 - y2_output_loss: 1.2334 -
y1_output_root_mean_squared_error: 0.5683 - y2_output_root_mean_squared_error:
1.1125 - val_loss: 3.3122 - val_y1_output_loss: 0.8255 - val_y2_output_loss:
2.4680 - val_y1_output_root_mean_squared_error: 0.9067 -
val_y2_output_root_mean_squared_error: 1.5780
Epoch 178/500
614/614 [==============================] - 0s 140us/sample - loss: 1.8729 -
y1_output_loss: 0.3027 - y2_output_loss: 1.5619 -
y1_output_root_mean_squared_error: 0.5483 - y2_output_root_mean_squared_error:
1.2539 - val_loss: 1.1869 - val_y1_output_loss: 0.3501 - val_y2_output_loss:
0.8078 - val_y1_output_root_mean_squared_error: 0.5987 -
val_y2_output_root_mean_squared_error: 0.9102
Epoch 179/500
614/614 [==============================] - 0s 134us/sample - loss: 1.6632 -
y1_output_loss: 0.3613 - y2_output_loss: 1.2985 -
y1_output_root_mean_squared_error: 0.5980 - y2_output_root_mean_squared_error:
1.1426 - val_loss: 1.7292 - val_y1_output_loss: 0.6406 - val_y2_output_loss:
1.0918 - val_y1_output_root_mean_squared_error: 0.7992 -
val_y2_output_root_mean_squared_error: 1.0443
Epoch 180/500
614/614 [==============================] - 0s 132us/sample - loss: 3.0728 -
y1_output_loss: 0.6154 - y2_output_loss: 2.4339 -
y1_output_root_mean_squared_error: 0.7860 - y2_output_root_mean_squared_error:
1.5669 - val_loss: 2.9745 - val_y1_output_loss: 0.9777 - val_y2_output_loss:
2.0299 - val_y1_output_root_mean_squared_error: 0.9860 -
val_y2_output_root_mean_squared_error: 1.4150
Epoch 181/500
614/614 [==============================] - 0s 141us/sample - loss: 1.3881 -
y1_output_loss: 0.2524 - y2_output_loss: 1.1359 -

y1_output_root_mean_squared_error: 0.5036 - y2_output_root_mean_squared_error:
1.0651 - val_loss: 3.4370 - val_y1_output_loss: 0.9727 - val_y2_output_loss:
2.4383 - val_y1_output_root_mean_squared_error: 0.9805 -
val_y2_output_root_mean_squared_error: 1.5734
Epoch 182/500
614/614 [==============================] - 0s 133us/sample - loss: 1.5469 -
y1_output_loss: 0.3452 - y2_output_loss: 1.1892 -
y1_output_root_mean_squared_error: 0.5898 - y2_output_root_mean_squared_error:
1.0950 - val_loss: 1.2230 - val_y1_output_loss: 0.3263 - val_y2_output_loss:
0.8846 - val_y1_output_root_mean_squared_error: 0.5785 -
val_y2_output_root_mean_squared_error: 0.9425
Epoch 183/500
614/614 [==============================] - 0s 128us/sample - loss: 1.5396 -
y1_output_loss: 0.2744 - y2_output_loss: 1.2532 -
y1_output_root_mean_squared_error: 0.5257 - y2_output_root_mean_squared_error:
1.1239 - val_loss: 1.7654 - val_y1_output_loss: 0.5144 - val_y2_output_loss:
1.2682 - val_y1_output_root_mean_squared_error: 0.7227 -
val_y2_output_root_mean_squared_error: 1.1149
Epoch 184/500
614/614 [==============================] - 0s 128us/sample - loss: 1.6909 -
y1_output_loss: 0.2968 - y2_output_loss: 1.3968 -
y1_output_root_mean_squared_error: 0.5385 - y2_output_root_mean_squared_error:
1.1836 - val_loss: 2.6447 - val_y1_output_loss: 0.5938 - val_y2_output_loss:
1.9981 - val_y1_output_root_mean_squared_error: 0.7714 -
val_y2_output_root_mean_squared_error: 1.4317
Epoch 185/500
614/614 [==============================] - 0s 128us/sample - loss: 1.2317 -
y1_output_loss: 0.2339 - y2_output_loss: 1.0035 -
y1_output_root_mean_squared_error: 0.4853 - y2_output_root_mean_squared_error:
0.9981 - val_loss: 3.0964 - val_y1_output_loss: 0.5884 - val_y2_output_loss:
2.6014 - val_y1_output_root_mean_squared_error: 0.7660 -
val_y2_output_root_mean_squared_error: 1.5842
Epoch 186/500
614/614 [==============================] - 0s 128us/sample - loss: 1.5409 -
y1_output_loss: 0.2430 - y2_output_loss: 1.2863 -
y1_output_root_mean_squared_error: 0.4928 - y2_output_root_mean_squared_error:
1.1393 - val_loss: 1.1428 - val_y1_output_loss: 0.3435 - val_y2_output_loss:
0.7823 - val_y1_output_root_mean_squared_error: 0.5861 -
val_y2_output_root_mean_squared_error: 0.8941
Epoch 187/500
614/614 [==============================] - 0s 125us/sample - loss: 1.3639 -
y1_output_loss: 0.2884 - y2_output_loss: 1.0718 -
y1_output_root_mean_squared_error: 0.5373 - y2_output_root_mean_squared_error:
1.0369 - val_loss: 1.3727 - val_y1_output_loss: 0.3033 - val_y2_output_loss:
1.0312 - val_y1_output_root_mean_squared_error: 0.5560 -
val_y2_output_root_mean_squared_error: 1.0313
Epoch 188/500
614/614 [==============================] - 0s 135us/sample - loss: 1.2630 -

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y1_output_loss: 0.2454 - y2_output_loss: 1.0124 -
y1_output_root_mean_squared_error: 0.4955 - y2_output_root_mean_squared_error:
1.0087 - val_loss: 1.5623 - val_y1_output_loss: 0.3335 - val_y2_output_loss:
1.2389 - val_y1_output_root_mean_squared_error: 0.5819 -
val_y2_output_root_mean_squared_error: 1.1062
Epoch 189/500
614/614 [==============================] - 0s 125us/sample - loss: 1.1487 -
y1_output_loss: 0.2194 - y2_output_loss: 0.9264 -
y1_output_root_mean_squared_error: 0.4643 - y2_output_root_mean_squared_error:
0.9660 - val_loss: 1.9953 - val_y1_output_loss: 0.9250 - val_y2_output_loss:
1.0840 - val_y1_output_root_mean_squared_error: 0.9557 -
val_y2_output_root_mean_squared_error: 1.0401
Epoch 190/500
614/614 [==============================] - 0s 127us/sample - loss: 1.1494 -
y1_output_loss: 0.2338 - y2_output_loss: 0.9067 -
y1_output_root_mean_squared_error: 0.4849 - y2_output_root_mean_squared_error:
0.9562 - val_loss: 1.7884 - val_y1_output_loss: 0.5194 - val_y2_output_loss:
1.2408 - val_y1_output_root_mean_squared_error: 0.7299 -
val_y2_output_root_mean_squared_error: 1.1206
Epoch 191/500
614/614 [==============================] - 0s 127us/sample - loss: 1.6344 -
y1_output_loss: 0.3107 - y2_output_loss: 1.3127 -
y1_output_root_mean_squared_error: 0.5599 - y2_output_root_mean_squared_error:
1.1493 - val_loss: 1.4700 - val_y1_output_loss: 0.2964 - val_y2_output_loss:
1.1712 - val_y1_output_root_mean_squared_error: 0.5508 -
val_y2_output_root_mean_squared_error: 1.0801
Epoch 192/500
614/614 [==============================] - 0s 128us/sample - loss: 1.1907 -
y1_output_loss: 0.2288 - y2_output_loss: 0.9557 -
y1_output_root_mean_squared_error: 0.4793 - y2_output_root_mean_squared_error:
0.9803 - val_loss: 2.6016 - val_y1_output_loss: 0.6707 - val_y2_output_loss:
1.9502 - val_y1_output_root_mean_squared_error: 0.8173 -
val_y2_output_root_mean_squared_error: 1.3905
Epoch 193/500
614/614 [==============================] - 0s 127us/sample - loss: 1.5646 -
y1_output_loss: 0.2993 - y2_output_loss: 1.3176 -
y1_output_root_mean_squared_error: 0.5320 - y2_output_root_mean_squared_error:
1.1321 - val_loss: 15.9924 - val_y1_output_loss: 4.2306 - val_y2_output_loss:
12.4479 - val_y1_output_root_mean_squared_error: 1.9801 -
val_y2_output_root_mean_squared_error: 3.4744
Epoch 194/500
614/614 [==============================] - 0s 129us/sample - loss: 1.7280 -
y1_output_loss: 0.3318 - y2_output_loss: 1.3907 -
y1_output_root_mean_squared_error: 0.5783 - y2_output_root_mean_squared_error:
1.1805 - val_loss: 2.9602 - val_y1_output_loss: 0.5212 - val_y2_output_loss:
2.4818 - val_y1_output_root_mean_squared_error: 0.7267 -
val_y2_output_root_mean_squared_error: 1.5595
Epoch 195/500
```

614/614 [==============================] - 0s 129us/sample - loss: 1.5458 -
y1_output_loss: 0.2740 - y2_output_loss: 1.2737 -
y1_output_root_mean_squared_error: 0.5187 - y2_output_root_mean_squared_error:
1.1299 - val_loss: 5.0589 - val_y1_output_loss: 1.8132 - val_y2_output_loss:
3.4042 - val_y1_output_root_mean_squared_error: 1.3317 -
val_y2_output_root_mean_squared_error: 1.8126
Epoch 196/500
614/614 [==============================] - 0s 136us/sample - loss: 2.0093 -
y1_output_loss: 0.2892 - y2_output_loss: 1.7087 -
y1_output_root_mean_squared_error: 0.5363 - y2_output_root_mean_squared_error:
1.3121 - val_loss: 1.2633 - val_y1_output_loss: 0.4283 - val_y2_output_loss:
0.8306 - val_y1_output_root_mean_squared_error: 0.6518 -
val_y2_output_root_mean_squared_error: 0.9157
Epoch 197/500
614/614 [==============================] - 0s 127us/sample - loss: 1.1512 -
y1_output_loss: 0.2280 - y2_output_loss: 0.9197 -
y1_output_root_mean_squared_error: 0.4783 - y2_output_root_mean_squared_error:
0.9604 - val_loss: 1.1756 - val_y1_output_loss: 0.3113 - val_y2_output_loss:
0.8583 - val_y1_output_root_mean_squared_error: 0.5639 -
val_y2_output_root_mean_squared_error: 0.9261
Epoch 198/500
614/614 [==============================] - 0s 132us/sample - loss: 1.3031 -
y1_output_loss: 0.2288 - y2_output_loss: 1.0671 -
y1_output_root_mean_squared_error: 0.4787 - y2_output_root_mean_squared_error:
1.0363 - val_loss: 1.2095 - val_y1_output_loss: 0.3611 - val_y2_output_loss:
0.8247 - val_y1_output_root_mean_squared_error: 0.6024 -
val_y2_output_root_mean_squared_error: 0.9201
Epoch 199/500
614/614 [==============================] - 0s 129us/sample - loss: 1.3652 -
y1_output_loss: 0.2631 - y2_output_loss: 1.1127 -
y1_output_root_mean_squared_error: 0.5103 - y2_output_root_mean_squared_error:
1.0511 - val_loss: 1.4071 - val_y1_output_loss: 0.4932 - val_y2_output_loss:
0.9058 - val_y1_output_root_mean_squared_error: 0.6905 -
val_y2_output_root_mean_squared_error: 0.9646
Epoch 200/500
614/614 [==============================] - 0s 130us/sample - loss: 1.5389 -
y1_output_loss: 0.2819 - y2_output_loss: 1.2527 -
y1_output_root_mean_squared_error: 0.5316 - y2_output_root_mean_squared_error:
1.1208 - val_loss: 1.3231 - val_y1_output_loss: 0.2754 - val_y2_output_loss:
1.0525 - val_y1_output_root_mean_squared_error: 0.5320 -
val_y2_output_root_mean_squared_error: 1.0198
Epoch 201/500
614/614 [==============================] - 0s 130us/sample - loss: 1.5180 -
y1_output_loss: 0.2879 - y2_output_loss: 1.2403 -
y1_output_root_mean_squared_error: 0.5317 - y2_output_root_mean_squared_error:
1.1115 - val_loss: 2.6794 - val_y1_output_loss: 0.3899 - val_y2_output_loss:
2.3435 - val_y1_output_root_mean_squared_error: 0.6314 -
val_y2_output_root_mean_squared_error: 1.5102

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Epoch 202/500
614/614 [==============================] - 0s 132us/sample - loss: 1.8096 -
y1_output_loss: 0.3185 - y2_output_loss: 1.4766 -
y1_output_root_mean_squared_error: 0.5667 - y2_output_root_mean_squared_error:
1.2200 - val_loss: 1.3086 - val_y1_output_loss: 0.3413 - val_y2_output_loss:
0.9651 - val_y1_output_root_mean_squared_error: 0.5881 -
val_y2_output_root_mean_squared_error: 0.9812
Epoch 203/500
614/614 [==============================] - 0s 131us/sample - loss: 1.3276 -
y1_output_loss: 0.2463 - y2_output_loss: 1.0977 -
y1_output_root_mean_squared_error: 0.4978 - y2_output_root_mean_squared_error:
1.0392 - val_loss: 1.1665 - val_y1_output_loss: 0.2733 - val_y2_output_loss:
0.9067 - val_y1_output_root_mean_squared_error: 0.5307 -
val_y2_output_root_mean_squared_error: 0.9406
Epoch 204/500
614/614 [==============================] - 0s 128us/sample - loss: 1.2113 -
y1_output_loss: 0.2128 - y2_output_loss: 1.0274 -
y1_output_root_mean_squared_error: 0.4606 - y2_output_root_mean_squared_error:
0.9996 - val_loss: 3.9977 - val_y1_output_loss: 0.4790 - val_y2_output_loss:
3.5175 - val_y1_output_root_mean_squared_error: 0.7031 -
val_y2_output_root_mean_squared_error: 1.8717
Epoch 205/500
614/614 [==============================] - 0s 128us/sample - loss: 1.1957 -
y1_output_loss: 0.2266 - y2_output_loss: 0.9756 -
y1_output_root_mean_squared_error: 0.4750 - y2_output_root_mean_squared_error:
0.9849 - val_loss: 1.4490 - val_y1_output_loss: 0.5054 - val_y2_output_loss:
0.9476 - val_y1_output_root_mean_squared_error: 0.6903 -
val_y2_output_root_mean_squared_error: 0.9862
Epoch 206/500
614/614 [==============================] - 0s 128us/sample - loss: 1.1076 -
y1_output_loss: 0.2335 - y2_output_loss: 0.8758 -
y1_output_root_mean_squared_error: 0.4844 - y2_output_root_mean_squared_error:
0.9343 - val_loss: 1.7792 - val_y1_output_loss: 0.2904 - val_y2_output_loss:
1.4898 - val_y1_output_root_mean_squared_error: 0.5449 -
val_y2_output_root_mean_squared_error: 1.2175
Epoch 207/500
614/614 [==============================] - 0s 131us/sample - loss: 1.8369 -
y1_output_loss: 0.3954 - y2_output_loss: 1.4313 -
y1_output_root_mean_squared_error: 0.6304 - y2_output_root_mean_squared_error:
1.1998 - val_loss: 1.9797 - val_y1_output_loss: 0.3565 - val_y2_output_loss:
1.6704 - val_y1_output_root_mean_squared_error: 0.6034 -
val_y2_output_root_mean_squared_error: 1.2711
Epoch 208/500
614/614 [==============================] - 0s 141us/sample - loss: 1.2565 -
y1_output_loss: 0.2345 - y2_output_loss: 1.0320 -
y1_output_root_mean_squared_error: 0.4843 - y2_output_root_mean_squared_error:
1.0109 - val_loss: 2.5320 - val_y1_output_loss: 0.2848 - val_y2_output_loss:
2.2961 - val_y1_output_root_mean_squared_error: 0.5417 -
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val_y2_output_root_mean_squared_error: 1.4962
Epoch 209/500
614/614 [==============================] - 0s 141us/sample - loss: 1.1450 -
y1_output_loss: 0.2117 - y2_output_loss: 0.9261 -
y1_output_root_mean_squared_error: 0.4610 - y2_output_root_mean_squared_error:
0.9656 - val_loss: 2.5935 - val_y1_output_loss: 0.3456 - val_y2_output_loss:
2.2434 - val_y1_output_root_mean_squared_error: 0.5978 -
val_y2_output_root_mean_squared_error: 1.4954
Epoch 210/500
614/614 [==============================] - 0s 141us/sample - loss: 1.1021 -
y1_output_loss: 0.1933 - y2_output_loss: 0.9023 -
y1_output_root_mean_squared_error: 0.4410 - y2_output_root_mean_squared_error:
0.9527 - val_loss: 1.2684 - val_y1_output_loss: 0.2790 - val_y2_output_loss:
0.9772 - val_y1_output_root_mean_squared_error: 0.5352 -
val_y2_output_root_mean_squared_error: 0.9909
Epoch 211/500
614/614 [==============================] - 0s 141us/sample - loss: 1.2275 -
y1_output_loss: 0.2255 - y2_output_loss: 1.0208 -
y1_output_root_mean_squared_error: 0.4607 - y2_output_root_mean_squared_error:
1.0076 - val_loss: 7.7457 - val_y1_output_loss: 2.4660 - val_y2_output_loss:
5.3361 - val_y1_output_root_mean_squared_error: 1.5533 -
val_y2_output_root_mean_squared_error: 2.3093
Epoch 212/500
614/614 [==============================] - 0s 140us/sample - loss: 1.1659 -
y1_output_loss: 0.2197 - y2_output_loss: 0.9607 -
y1_output_root_mean_squared_error: 0.4685 - y2_output_root_mean_squared_error:
0.9728 - val_loss: 2.3274 - val_y1_output_loss: 0.3336 - val_y2_output_loss:
2.0006 - val_y1_output_root_mean_squared_error: 0.5825 -
val_y2_output_root_mean_squared_error: 1.4100
Epoch 213/500
614/614 [==============================] - 0s 142us/sample - loss: 1.5936 -
y1_output_loss: 0.3140 - y2_output_loss: 1.2766 -
y1_output_root_mean_squared_error: 0.5585 - y2_output_root_mean_squared_error:
1.1321 - val_loss: 2.9232 - val_y1_output_loss: 0.9883 - val_y2_output_loss:
1.9413 - val_y1_output_root_mean_squared_error: 0.9860 -
val_y2_output_root_mean_squared_error: 1.3968
Epoch 214/500
614/614 [==============================] - 0s 141us/sample - loss: 1.4949 -
y1_output_loss: 0.2765 - y2_output_loss: 1.2329 -
y1_output_root_mean_squared_error: 0.5244 - y2_output_root_mean_squared_error:
1.1045 - val_loss: 2.5575 - val_y1_output_loss: 0.6591 - val_y2_output_loss:
2.0568 - val_y1_output_root_mean_squared_error: 0.8034 -
val_y2_output_root_mean_squared_error: 1.3828
Epoch 215/500
614/614 [==============================] - 0s 138us/sample - loss: 1.1792 -
y1_output_loss: 0.2370 - y2_output_loss: 0.9320 -
y1_output_root_mean_squared_error: 0.4883 - y2_output_root_mean_squared_error:
0.9699 - val_loss: 1.0551 - val_y1_output_loss: 0.2874 - val_y2_output_loss:

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0.7678 - val_y1_output_root_mean_squared_error: 0.5432 -
val_y2_output_root_mean_squared_error: 0.8718
Epoch 216/500
614/614 [==============================] - 0s 138us/sample - loss: 0.9360 -
y1_output_loss: 0.1842 - y2_output_loss: 0.7531 -
y1_output_root_mean_squared_error: 0.4276 - y2_output_root_mean_squared_error:
0.8678 - val_loss: 4.7095 - val_y1_output_loss: 0.9932 - val_y2_output_loss:
3.8030 - val_y1_output_root_mean_squared_error: 0.9886 -
val_y2_output_root_mean_squared_error: 1.9319
Epoch 217/500
614/614 [==============================] - 0s 139us/sample - loss: 1.4339 -
y1_output_loss: 0.2920 - y2_output_loss: 1.1434 -
y1_output_root_mean_squared_error: 0.5422 - y2_output_root_mean_squared_error:
1.0677 - val_loss: 1.7785 - val_y1_output_loss: 0.6397 - val_y2_output_loss:
1.1392 - val_y1_output_root_mean_squared_error: 0.7891 -
val_y2_output_root_mean_squared_error: 1.0751
Epoch 218/500
614/614 [==============================] - 0s 136us/sample - loss: 1.1941 -
y1_output_loss: 0.2245 - y2_output_loss: 0.9681 -
y1_output_root_mean_squared_error: 0.4758 - y2_output_root_mean_squared_error:
0.9837 - val_loss: 1.4504 - val_y1_output_loss: 0.3098 - val_y2_output_loss:
1.1261 - val_y1_output_root_mean_squared_error: 0.5663 -
val_y2_output_root_mean_squared_error: 1.0629
Epoch 219/500
614/614 [==============================] - 0s 128us/sample - loss: 1.3195 -
y1_output_loss: 0.2544 - y2_output_loss: 1.0597 -
y1_output_root_mean_squared_error: 0.5046 - y2_output_root_mean_squared_error:
1.0319 - val_loss: 2.2765 - val_y1_output_loss: 0.5098 - val_y2_output_loss:
1.7897 - val_y1_output_root_mean_squared_error: 0.7118 -
val_y2_output_root_mean_squared_error: 1.3303
Epoch 220/500
614/614 [==============================] - 0s 130us/sample - loss: 1.2631 -
y1_output_loss: 0.2701 - y2_output_loss: 0.9899 -
y1_output_root_mean_squared_error: 0.5206 - y2_output_root_mean_squared_error:
0.9961 - val_loss: 1.7365 - val_y1_output_loss: 0.5689 - val_y2_output_loss:
1.1986 - val_y1_output_root_mean_squared_error: 0.7618 -
val_y2_output_root_mean_squared_error: 1.0753
Epoch 221/500
614/614 [==============================] - 0s 129us/sample - loss: 1.2023 -
y1_output_loss: 0.2436 - y2_output_loss: 0.9619 -
y1_output_root_mean_squared_error: 0.4863 - y2_output_root_mean_squared_error:
0.9828 - val_loss: 2.4240 - val_y1_output_loss: 0.8514 - val_y2_output_loss:
1.5345 - val_y1_output_root_mean_squared_error: 0.9265 -
val_y2_output_root_mean_squared_error: 1.2512
Epoch 222/500
614/614 [==============================] - 0s 129us/sample - loss: 1.3097 -
y1_output_loss: 0.2449 - y2_output_loss: 1.0568 -
y1_output_root_mean_squared_error: 0.4958 - y2_output_root_mean_squared_error:
```

1.0315 - val_loss: 1.4847 - val_y1_output_loss: 0.4022 - val_y2_output_loss:
1.0672 - val_y1_output_root_mean_squared_error: 0.6362 -
val_y2_output_root_mean_squared_error: 1.0392
Epoch 223/500
614/614 [==============================] - 0s 129us/sample - loss: 2.5190 -
y1_output_loss: 0.5274 - y2_output_loss: 1.9685 -
y1_output_root_mean_squared_error: 0.7291 - y2_output_root_mean_squared_error:
1.4098 - val_loss: 1.1409 - val_y1_output_loss: 0.3225 - val_y2_output_loss:
0.8053 - val_y1_output_root_mean_squared_error: 0.5632 -
val_y2_output_root_mean_squared_error: 0.9076
Epoch 224/500
614/614 [==============================] - 0s 129us/sample - loss: 1.0155 -
y1_output_loss: 0.2113 - y2_output_loss: 0.8015 -
y1_output_root_mean_squared_error: 0.4600 - y2_output_root_mean_squared_error:
0.8966 - val_loss: 1.3433 - val_y1_output_loss: 0.2679 - val_y2_output_loss:
1.0703 - val_y1_output_root_mean_squared_error: 0.5212 -
val_y2_output_root_mean_squared_error: 1.0352
Epoch 225/500
614/614 [==============================] - 0s 128us/sample - loss: 1.1424 -
y1_output_loss: 0.2252 - y2_output_loss: 0.9278 -
y1_output_root_mean_squared_error: 0.4763 - y2_output_root_mean_squared_error:
0.9568 - val_loss: 5.1598 - val_y1_output_loss: 0.7056 - val_y2_output_loss:
4.4144 - val_y1_output_root_mean_squared_error: 0.8422 -
val_y2_output_root_mean_squared_error: 2.1096
Epoch 226/500
614/614 [==============================] - 0s 129us/sample - loss: 1.3213 -
y1_output_loss: 0.2230 - y2_output_loss: 1.0886 -
y1_output_root_mean_squared_error: 0.4734 - y2_output_root_mean_squared_error:
1.0474 - val_loss: 1.0320 - val_y1_output_loss: 0.2751 - val_y2_output_loss:
0.7435 - val_y1_output_root_mean_squared_error: 0.5321 -
val_y2_output_root_mean_squared_error: 0.8653
Epoch 227/500
614/614 [==============================] - 0s 130us/sample - loss: 0.9842 -
y1_output_loss: 0.1892 - y2_output_loss: 0.7878 -
y1_output_root_mean_squared_error: 0.4364 - y2_output_root_mean_squared_error:
0.8909 - val_loss: 1.0499 - val_y1_output_loss: 0.2852 - val_y2_output_loss:
0.7451 - val_y1_output_root_mean_squared_error: 0.5375 -
val_y2_output_root_mean_squared_error: 0.8723
Epoch 228/500
614/614 [==============================] - 0s 141us/sample - loss: 1.2918 -
y1_output_loss: 0.2504 - y2_output_loss: 1.0663 -
y1_output_root_mean_squared_error: 0.4950 - y2_output_root_mean_squared_error:
1.0231 - val_loss: 9.5311 - val_y1_output_loss: 1.3432 - val_y2_output_loss:
8.3228 - val_y1_output_root_mean_squared_error: 1.1494 -
val_y2_output_root_mean_squared_error: 2.8653
Epoch 229/500
614/614 [==============================] - 0s 140us/sample - loss: 1.1666 -
y1_output_loss: 0.2539 - y2_output_loss: 0.9248 -

y1_output_root_mean_squared_error: 0.5053 - y2_output_root_mean_squared_error:
0.9546 - val_loss: 1.3489 - val_y1_output_loss: 0.3455 - val_y2_output_loss:
0.9815 - val_y1_output_root_mean_squared_error: 0.5853 -
val_y2_output_root_mean_squared_error: 1.0032
Epoch 230/500
614/614 [==============================] - 0s 138us/sample - loss: 1.1987 -
y1_output_loss: 0.2707 - y2_output_loss: 0.9262 -
y1_output_root_mean_squared_error: 0.5183 - y2_output_root_mean_squared_error:
0.9644 - val_loss: 1.2768 - val_y1_output_loss: 0.3354 - val_y2_output_loss:
0.9485 - val_y1_output_root_mean_squared_error: 0.5852 -
val_y2_output_root_mean_squared_error: 0.9666
Epoch 231/500
614/614 [==============================] - 0s 131us/sample - loss: 1.2080 -
y1_output_loss: 0.2163 - y2_output_loss: 0.9810 -
y1_output_root_mean_squared_error: 0.4672 - y2_output_root_mean_squared_error:
0.9948 - val_loss: 1.4718 - val_y1_output_loss: 0.3923 - val_y2_output_loss:
1.0843 - val_y1_output_root_mean_squared_error: 0.6349 -
val_y2_output_root_mean_squared_error: 1.0338
Epoch 232/500
614/614 [==============================] - 0s 140us/sample - loss: 1.1095 -
y1_output_loss: 0.2211 - y2_output_loss: 0.8866 -
y1_output_root_mean_squared_error: 0.4705 - y2_output_root_mean_squared_error:
0.9424 - val_loss: 1.6617 - val_y1_output_loss: 0.4122 - val_y2_output_loss:
1.2597 - val_y1_output_root_mean_squared_error: 0.6504 -
val_y2_output_root_mean_squared_error: 1.1129
Epoch 233/500
614/614 [==============================] - 0s 142us/sample - loss: 1.1289 -
y1_output_loss: 0.2192 - y2_output_loss: 0.9090 -
y1_output_root_mean_squared_error: 0.4651 - y2_output_root_mean_squared_error:
0.9553 - val_loss: 0.9616 - val_y1_output_loss: 0.2755 - val_y2_output_loss:
0.6719 - val_y1_output_root_mean_squared_error: 0.5250 -
val_y2_output_root_mean_squared_error: 0.8282
Epoch 234/500
614/614 [==============================] - 0s 133us/sample - loss: 1.1625 -
y1_output_loss: 0.2346 - y2_output_loss: 0.9246 -
y1_output_root_mean_squared_error: 0.4818 - y2_output_root_mean_squared_error:
0.9645 - val_loss: 1.9887 - val_y1_output_loss: 0.3417 - val_y2_output_loss:
1.6158 - val_y1_output_root_mean_squared_error: 0.5904 -
val_y2_output_root_mean_squared_error: 1.2807
Epoch 235/500
614/614 [==============================] - 0s 132us/sample - loss: 1.0001 -
y1_output_loss: 0.2414 - y2_output_loss: 0.7637 -
y1_output_root_mean_squared_error: 0.4904 - y2_output_root_mean_squared_error:
0.8716 - val_loss: 2.4759 - val_y1_output_loss: 0.8425 - val_y2_output_loss:
1.6346 - val_y1_output_root_mean_squared_error: 0.9216 -
val_y2_output_root_mean_squared_error: 1.2754
Epoch 236/500
614/614 [==============================] - 0s 130us/sample - loss: 1.5307 -

y1_output_loss: 0.2834 - y2_output_loss: 1.2361 -
y1_output_root_mean_squared_error: 0.5337 - y2_output_root_mean_squared_error:
1.1162 - val_loss: 1.2719 - val_y1_output_loss: 0.3733 - val_y2_output_loss:
0.9082 - val_y1_output_root_mean_squared_error: 0.6189 -
val_y2_output_root_mean_squared_error: 0.9428
Epoch 237/500
614/614 [==============================] - 0s 132us/sample - loss: 1.1691 -
y1_output_loss: 0.2211 - y2_output_loss: 0.9464 -
y1_output_root_mean_squared_error: 0.4687 - y2_output_root_mean_squared_error:
0.9744 - val_loss: 2.3381 - val_y1_output_loss: 0.8980 - val_y2_output_loss:
1.4277 - val_y1_output_root_mean_squared_error: 0.9463 -
val_y2_output_root_mean_squared_error: 1.2011
Epoch 238/500
614/614 [==============================] - 0s 135us/sample - loss: 1.1218 -
y1_output_loss: 0.2849 - y2_output_loss: 0.8302 -
y1_output_root_mean_squared_error: 0.5351 - y2_output_root_mean_squared_error:
0.9140 - val_loss: 1.1681 - val_y1_output_loss: 0.3467 - val_y2_output_loss:
0.8251 - val_y1_output_root_mean_squared_error: 0.5946 -
val_y2_output_root_mean_squared_error: 0.9025
Epoch 239/500
614/614 [==============================] - 0s 134us/sample - loss: 1.2279 -
y1_output_loss: 0.2217 - y2_output_loss: 1.0010 -
y1_output_root_mean_squared_error: 0.4714 - y2_output_root_mean_squared_error:
1.0028 - val_loss: 1.7155 - val_y1_output_loss: 0.2991 - val_y2_output_loss:
1.3837 - val_y1_output_root_mean_squared_error: 0.5540 -
val_y2_output_root_mean_squared_error: 1.1868
Epoch 240/500
614/614 [==============================] - 0s 130us/sample - loss: 1.0567 -
y1_output_loss: 0.2175 - y2_output_loss: 0.9030 -
y1_output_root_mean_squared_error: 0.4612 - y2_output_root_mean_squared_error:
0.9187 - val_loss: 23.0102 - val_y1_output_loss: 3.0711 - val_y2_output_loss:
20.1549 - val_y1_output_root_mean_squared_error: 1.7472 -
val_y2_output_root_mean_squared_error: 4.4674
Epoch 241/500
614/614 [==============================] - 0s 128us/sample - loss: 1.6138 -
y1_output_loss: 0.2677 - y2_output_loss: 1.3430 -
y1_output_root_mean_squared_error: 0.5180 - y2_output_root_mean_squared_error:
1.1599 - val_loss: 1.4470 - val_y1_output_loss: 0.2799 - val_y2_output_loss:
1.1573 - val_y1_output_root_mean_squared_error: 0.5346 -
val_y2_output_root_mean_squared_error: 1.0776
Epoch 242/500
614/614 [==============================] - 0s 129us/sample - loss: 1.0713 -
y1_output_loss: 0.2096 - y2_output_loss: 0.8957 -
y1_output_root_mean_squared_error: 0.4531 - y2_output_root_mean_squared_error:
0.9306 - val_loss: 5.9545 - val_y1_output_loss: 1.7153 - val_y2_output_loss:
4.2778 - val_y1_output_root_mean_squared_error: 1.3016 -
val_y2_output_root_mean_squared_error: 2.0641
Epoch 243/500

614/614 [==============================] - 0s 128us/sample - loss: 1.3712 - y1_output_loss: 0.2745 - y2_output_loss: 1.0869 - y1_output_root_mean_squared_error: 0.5263 - y2_output_root_mean_squared_error: 1.0461 - val_loss: 1.2580 - val_y1_output_loss: 0.3447 - val_y2_output_loss: 0.9032 - val_y1_output_root_mean_squared_error: 0.5940 - val_y2_output_root_mean_squared_error: 0.9514
Epoch 244/500
614/614 [==============================] - 0s 126us/sample - loss: 1.3160 - y1_output_loss: 0.2217 - y2_output_loss: 1.0848 - y1_output_root_mean_squared_error: 0.4719 - y2_output_root_mean_squared_error: 1.0456 - val_loss: 1.0720 - val_y1_output_loss: 0.2538 - val_y2_output_loss: 0.7911 - val_y1_output_root_mean_squared_error: 0.5075 - val_y2_output_root_mean_squared_error: 0.9025
Epoch 245/500
614/614 [==============================] - 0s 126us/sample - loss: 1.0062 - y1_output_loss: 0.1921 - y2_output_loss: 0.8105 - y1_output_root_mean_squared_error: 0.4369 - y2_output_root_mean_squared_error: 0.9029 - val_loss: 1.3648 - val_y1_output_loss: 0.4251 - val_y2_output_loss: 0.9296 - val_y1_output_root_mean_squared_error: 0.6423 - val_y2_output_root_mean_squared_error: 0.9758
Epoch 246/500
614/614 [==============================] - 0s 128us/sample - loss: 1.1202 - y1_output_loss: 0.2506 - y2_output_loss: 0.9273 - y1_output_root_mean_squared_error: 0.4957 - y2_output_root_mean_squared_error: 0.9351 - val_loss: 8.9225 - val_y1_output_loss: 1.4406 - val_y2_output_loss: 7.4501 - val_y1_output_root_mean_squared_error: 1.1946 - val_y2_output_root_mean_squared_error: 2.7378
Epoch 247/500
614/614 [==============================] - 0s 127us/sample - loss: 1.3730 - y1_output_loss: 0.2650 - y2_output_loss: 1.1007 - y1_output_root_mean_squared_error: 0.5170 - y2_output_root_mean_squared_error: 1.0515 - val_loss: 1.8054 - val_y1_output_loss: 0.3034 - val_y2_output_loss: 1.5215 - val_y1_output_root_mean_squared_error: 0.5570 - val_y2_output_root_mean_squared_error: 1.2228
Epoch 248/500
614/614 [==============================] - 0s 126us/sample - loss: 1.1290 - y1_output_loss: 0.1959 - y2_output_loss: 0.9347 - y1_output_root_mean_squared_error: 0.4443 - y2_output_root_mean_squared_error: 0.9652 - val_loss: 2.3470 - val_y1_output_loss: 0.2877 - val_y2_output_loss: 2.0892 - val_y1_output_root_mean_squared_error: 0.5463 - val_y2_output_root_mean_squared_error: 1.4313
Epoch 249/500
614/614 [==============================] - 0s 127us/sample - loss: 1.0981 - y1_output_loss: 0.2085 - y2_output_loss: 0.8808 - y1_output_root_mean_squared_error: 0.4585 - y2_output_root_mean_squared_error: 0.9423 - val_loss: 1.1103 - val_y1_output_loss: 0.3356 - val_y2_output_loss: 0.7567 - val_y1_output_root_mean_squared_error: 0.5767 - val_y2_output_root_mean_squared_error: 0.8819

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Epoch 250/500
614/614 [==============================] - 0s 126us/sample - loss: 0.9962 -
y1_output_loss: 0.1991 - y2_output_loss: 0.8022 -
y1_output_root_mean_squared_error: 0.4481 - y2_output_root_mean_squared_error:
0.8919 - val_loss: 2.0137 - val_y1_output_loss: 0.3121 - val_y2_output_loss:
1.6475 - val_y1_output_root_mean_squared_error: 0.5681 -
val_y2_output_root_mean_squared_error: 1.3004
Epoch 251/500
614/614 [==============================] - 0s 126us/sample - loss: 0.9032 -
y1_output_loss: 0.1766 - y2_output_loss: 0.7205 -
y1_output_root_mean_squared_error: 0.4219 - y2_output_root_mean_squared_error:
0.8516 - val_loss: 1.1667 - val_y1_output_loss: 0.2872 - val_y2_output_loss:
0.8514 - val_y1_output_root_mean_squared_error: 0.5424 -
val_y2_output_root_mean_squared_error: 0.9341
Epoch 252/500
614/614 [==============================] - 0s 136us/sample - loss: 0.8492 -
y1_output_loss: 0.1685 - y2_output_loss: 0.6740 -
y1_output_root_mean_squared_error: 0.4120 - y2_output_root_mean_squared_error:
0.8243 - val_loss: 1.2375 - val_y1_output_loss: 0.3854 - val_y2_output_loss:
0.8291 - val_y1_output_root_mean_squared_error: 0.6256 -
val_y2_output_root_mean_squared_error: 0.9198
Epoch 253/500
614/614 [==============================] - 0s 128us/sample - loss: 0.9381 -
y1_output_loss: 0.1767 - y2_output_loss: 0.7641 -
y1_output_root_mean_squared_error: 0.4219 - y2_output_root_mean_squared_error:
0.8719 - val_loss: 1.2189 - val_y1_output_loss: 0.2703 - val_y2_output_loss:
0.9332 - val_y1_output_root_mean_squared_error: 0.5283 -
val_y2_output_root_mean_squared_error: 0.9694
Epoch 254/500
614/614 [==============================] - 0s 135us/sample - loss: 1.0402 -
y1_output_loss: 0.2115 - y2_output_loss: 0.8248 -
y1_output_root_mean_squared_error: 0.4591 - y2_output_root_mean_squared_error:
0.9108 - val_loss: 1.1194 - val_y1_output_loss: 0.3941 - val_y2_output_loss:
0.7125 - val_y1_output_root_mean_squared_error: 0.6281 -
val_y2_output_root_mean_squared_error: 0.8514
Epoch 255/500
614/614 [==============================] - 0s 134us/sample - loss: 0.9285 -
y1_output_loss: 0.1756 - y2_output_loss: 0.7487 -
y1_output_root_mean_squared_error: 0.4201 - y2_output_root_mean_squared_error:
0.8672 - val_loss: 1.3784 - val_y1_output_loss: 0.2830 - val_y2_output_loss:
1.0823 - val_y1_output_root_mean_squared_error: 0.5333 -
val_y2_output_root_mean_squared_error: 1.0459
Epoch 256/500
614/614 [==============================] - 0s 126us/sample - loss: 1.0657 -
y1_output_loss: 0.2063 - y2_output_loss: 0.8552 -
y1_output_root_mean_squared_error: 0.4514 - y2_output_root_mean_squared_error:
0.9284 - val_loss: 1.9791 - val_y1_output_loss: 0.5091 - val_y2_output_loss:
1.4887 - val_y1_output_root_mean_squared_error: 0.7114 -
```

val_y2_output_root_mean_squared_error: 1.2137
Epoch 257/500
614/614 [==============================] - 0s 131us/sample - loss: 0.9121 -
y1_output_loss: 0.1826 - y2_output_loss: 0.7252 -
y1_output_root_mean_squared_error: 0.4293 - y2_output_root_mean_squared_error:
0.8531 - val_loss: 0.9936 - val_y1_output_loss: 0.2625 - val_y2_output_loss:
0.7095 - val_y1_output_root_mean_squared_error: 0.5181 -
val_y2_output_root_mean_squared_error: 0.8516
Epoch 258/500
614/614 [==============================] - 0s 128us/sample - loss: 0.8272 -
y1_output_loss: 0.1806 - y2_output_loss: 0.6540 -
y1_output_root_mean_squared_error: 0.4195 - y2_output_root_mean_squared_error:
0.8070 - val_loss: 2.7537 - val_y1_output_loss: 1.0583 - val_y2_output_loss:
1.7013 - val_y1_output_root_mean_squared_error: 1.0245 -
val_y2_output_root_mean_squared_error: 1.3055
Epoch 259/500
614/614 [==============================] - 0s 126us/sample - loss: 0.8318 -
y1_output_loss: 0.1782 - y2_output_loss: 0.6649 -
y1_output_root_mean_squared_error: 0.4236 - y2_output_root_mean_squared_error:
0.8077 - val_loss: 2.4402 - val_y1_output_loss: 0.3363 - val_y2_output_loss:
2.1303 - val_y1_output_root_mean_squared_error: 0.5824 -
val_y2_output_root_mean_squared_error: 1.4495
Epoch 260/500
614/614 [==============================] - 0s 127us/sample - loss: 0.9549 -
y1_output_loss: 0.2021 - y2_output_loss: 0.7484 -
y1_output_root_mean_squared_error: 0.4514 - y2_output_root_mean_squared_error:
0.8667 - val_loss: 1.0539 - val_y1_output_loss: 0.2843 - val_y2_output_loss:
0.7369 - val_y1_output_root_mean_squared_error: 0.5396 -
val_y2_output_root_mean_squared_error: 0.8734
Epoch 261/500
614/614 [==============================] - 0s 129us/sample - loss: 1.2322 -
y1_output_loss: 0.2389 - y2_output_loss: 0.9970 -
y1_output_root_mean_squared_error: 0.4815 - y2_output_root_mean_squared_error:
1.0002 - val_loss: 1.2878 - val_y1_output_loss: 0.5240 - val_y2_output_loss:
0.7381 - val_y1_output_root_mean_squared_error: 0.7342 -
val_y2_output_root_mean_squared_error: 0.8653
Epoch 262/500
614/614 [==============================] - 0s 135us/sample - loss: 0.8773 -
y1_output_loss: 0.1696 - y2_output_loss: 0.7098 -
y1_output_root_mean_squared_error: 0.4100 - y2_output_root_mean_squared_error:
0.8421 - val_loss: 1.5679 - val_y1_output_loss: 0.4306 - val_y2_output_loss:
1.1037 - val_y1_output_root_mean_squared_error: 0.6619 -
val_y2_output_root_mean_squared_error: 1.0629
Epoch 263/500
614/614 [==============================] - 0s 126us/sample - loss: 0.9661 -
y1_output_loss: 0.1989 - y2_output_loss: 0.7590 -
y1_output_root_mean_squared_error: 0.4474 - y2_output_root_mean_squared_error:
0.8752 - val_loss: 1.0233 - val_y1_output_loss: 0.2909 - val_y2_output_loss:

0.7051 - val_y1_output_root_mean_squared_error: 0.5424 -
val_y2_output_root_mean_squared_error: 0.8539
Epoch 264/500
614/614 [==============================] - 0s 127us/sample - loss: 1.3336 -
y1_output_loss: 0.2777 - y2_output_loss: 1.0545 -
y1_output_root_mean_squared_error: 0.5280 - y2_output_root_mean_squared_error:
1.0270 - val_loss: 1.0902 - val_y1_output_loss: 0.2612 - val_y2_output_loss:
0.8198 - val_y1_output_root_mean_squared_error: 0.5182 -
val_y2_output_root_mean_squared_error: 0.9065
Epoch 265/500
614/614 [==============================] - 0s 129us/sample - loss: 0.8807 -
y1_output_loss: 0.1735 - y2_output_loss: 0.7068 -
y1_output_root_mean_squared_error: 0.4161 - y2_output_root_mean_squared_error:
0.8412 - val_loss: 1.4491 - val_y1_output_loss: 0.5505 - val_y2_output_loss:
0.8828 - val_y1_output_root_mean_squared_error: 0.7393 -
val_y2_output_root_mean_squared_error: 0.9500
Epoch 266/500
614/614 [==============================] - 0s 128us/sample - loss: 1.3172 -
y1_output_loss: 0.2797 - y2_output_loss: 1.0465 -
y1_output_root_mean_squared_error: 0.5265 - y2_output_root_mean_squared_error:
1.0198 - val_loss: 5.2019 - val_y1_output_loss: 1.3072 - val_y2_output_loss:
3.9473 - val_y1_output_root_mean_squared_error: 1.1356 -
val_y2_output_root_mean_squared_error: 1.9779
Epoch 267/500
614/614 [==============================] - 0s 137us/sample - loss: 1.2192 -
y1_output_loss: 0.2071 - y2_output_loss: 1.0035 -
y1_output_root_mean_squared_error: 0.4556 - y2_output_root_mean_squared_error:
1.0058 - val_loss: 2.1135 - val_y1_output_loss: 0.3151 - val_y2_output_loss:
1.7687 - val_y1_output_root_mean_squared_error: 0.5633 -
val_y2_output_root_mean_squared_error: 1.3402
Epoch 268/500
614/614 [==============================] - 0s 137us/sample - loss: 0.8921 -
y1_output_loss: 0.1771 - y2_output_loss: 0.7117 -
y1_output_root_mean_squared_error: 0.4204 - y2_output_root_mean_squared_error:
0.8458 - val_loss: 0.9891 - val_y1_output_loss: 0.2742 - val_y2_output_loss:
0.6939 - val_y1_output_root_mean_squared_error: 0.5227 -
val_y2_output_root_mean_squared_error: 0.8461
Epoch 269/500
614/614 [==============================] - 0s 127us/sample - loss: 0.7815 -
y1_output_loss: 0.1626 - y2_output_loss: 0.6151 -
y1_output_root_mean_squared_error: 0.4038 - y2_output_root_mean_squared_error:
0.7864 - val_loss: 1.4325 - val_y1_output_loss: 0.3052 - val_y2_output_loss:
1.1488 - val_y1_output_root_mean_squared_error: 0.5533 -
val_y2_output_root_mean_squared_error: 1.0613
Epoch 270/500
614/614 [==============================] - 0s 135us/sample - loss: 1.1895 -
y1_output_loss: 0.2710 - y2_output_loss: 0.9110 -
y1_output_root_mean_squared_error: 0.5224 - y2_output_root_mean_squared_error:

0.9574 - val_loss: 1.0576 - val_y1_output_loss: 0.3119 - val_y2_output_loss:
0.7279 - val_y1_output_root_mean_squared_error: 0.5644 -
val_y2_output_root_mean_squared_error: 0.8597
Epoch 271/500
614/614 [==============================] - 0s 129us/sample - loss: 0.9590 -
y1_output_loss: 0.2440 - y2_output_loss: 0.7198 -
y1_output_root_mean_squared_error: 0.4900 - y2_output_root_mean_squared_error:
0.8479 - val_loss: 0.9955 - val_y1_output_loss: 0.2871 - val_y2_output_loss:
0.6806 - val_y1_output_root_mean_squared_error: 0.5409 -
val_y2_output_root_mean_squared_error: 0.8384
Epoch 272/500
614/614 [==============================] - 0s 134us/sample - loss: 0.7700 -
y1_output_loss: 0.1585 - y2_output_loss: 0.6070 -
y1_output_root_mean_squared_error: 0.3989 - y2_output_root_mean_squared_error:
0.7816 - val_loss: 1.0988 - val_y1_output_loss: 0.2951 - val_y2_output_loss:
0.7756 - val_y1_output_root_mean_squared_error: 0.5444 -
val_y2_output_root_mean_squared_error: 0.8958
Epoch 273/500
614/614 [==============================] - 0s 140us/sample - loss: 0.9706 -
y1_output_loss: 0.1760 - y2_output_loss: 0.7894 -
y1_output_root_mean_squared_error: 0.4204 - y2_output_root_mean_squared_error:
0.8910 - val_loss: 0.9412 - val_y1_output_loss: 0.2454 - val_y2_output_loss:
0.6809 - val_y1_output_root_mean_squared_error: 0.5008 -
val_y2_output_root_mean_squared_error: 0.8309
Epoch 274/500
614/614 [==============================] - 0s 127us/sample - loss: 0.7570 -
y1_output_loss: 0.1651 - y2_output_loss: 0.6015 -
y1_output_root_mean_squared_error: 0.4076 - y2_output_root_mean_squared_error:
0.7687 - val_loss: 3.1929 - val_y1_output_loss: 0.6512 - val_y2_output_loss:
2.7518 - val_y1_output_root_mean_squared_error: 0.7955 -
val_y2_output_root_mean_squared_error: 1.6000
Epoch 275/500
614/614 [==============================] - 0s 128us/sample - loss: 0.8905 -
y1_output_loss: 0.1665 - y2_output_loss: 0.7280 -
y1_output_root_mean_squared_error: 0.4068 - y2_output_root_mean_squared_error:
0.8515 - val_loss: 1.0579 - val_y1_output_loss: 0.2722 - val_y2_output_loss:
0.7584 - val_y1_output_root_mean_squared_error: 0.5219 -
val_y2_output_root_mean_squared_error: 0.8863
Epoch 276/500
614/614 [==============================] - 0s 127us/sample - loss: 0.8474 -
y1_output_loss: 0.1733 - y2_output_loss: 0.6785 -
y1_output_root_mean_squared_error: 0.4148 - y2_output_root_mean_squared_error:
0.8218 - val_loss: 2.2995 - val_y1_output_loss: 0.4593 - val_y2_output_loss:
1.8320 - val_y1_output_root_mean_squared_error: 0.6745 -
val_y2_output_root_mean_squared_error: 1.3581
Epoch 277/500
614/614 [==============================] - 0s 127us/sample - loss: 0.8452 -
y1_output_loss: 0.1683 - y2_output_loss: 0.6825 -

y1_output_root_mean_squared_error: 0.4103 - y2_output_root_mean_squared_error:
0.8227 - val_loss: 1.5063 - val_y1_output_loss: 0.3025 - val_y2_output_loss:
1.1941 - val_y1_output_root_mean_squared_error: 0.5492 -
val_y2_output_root_mean_squared_error: 1.0976
Epoch 278/500
614/614 [==============================] - 0s 138us/sample - loss: 0.9889 -
y1_output_loss: 0.1840 - y2_output_loss: 0.8074 -
y1_output_root_mean_squared_error: 0.4280 - y2_output_root_mean_squared_error:
0.8976 - val_loss: 1.6550 - val_y1_output_loss: 0.3395 - val_y2_output_loss:
1.2698 - val_y1_output_root_mean_squared_error: 0.5935 -
val_y2_output_root_mean_squared_error: 1.1414
Epoch 279/500
614/614 [==============================] - 0s 133us/sample - loss: 0.9386 -
y1_output_loss: 0.2090 - y2_output_loss: 0.7230 -
y1_output_root_mean_squared_error: 0.4591 - y2_output_root_mean_squared_error:
0.8531 - val_loss: 1.0729 - val_y1_output_loss: 0.2811 - val_y2_output_loss:
0.7617 - val_y1_output_root_mean_squared_error: 0.5350 -
val_y2_output_root_mean_squared_error: 0.8869
Epoch 280/500
614/614 [==============================] - 0s 134us/sample - loss: 0.8219 -
y1_output_loss: 0.1971 - y2_output_loss: 0.6240 -
y1_output_root_mean_squared_error: 0.4448 - y2_output_root_mean_squared_error:
0.7899 - val_loss: 2.0602 - val_y1_output_loss: 0.3227 - val_y2_output_loss:
1.7476 - val_y1_output_root_mean_squared_error: 0.5775 -
val_y2_output_root_mean_squared_error: 1.3140
Epoch 281/500
614/614 [==============================] - 0s 135us/sample - loss: 1.0067 -
y1_output_loss: 0.2029 - y2_output_loss: 0.7960 -
y1_output_root_mean_squared_error: 0.4515 - y2_output_root_mean_squared_error:
0.8960 - val_loss: 1.0265 - val_y1_output_loss: 0.2675 - val_y2_output_loss:
0.7499 - val_y1_output_root_mean_squared_error: 0.5220 -
val_y2_output_root_mean_squared_error: 0.8683
Epoch 282/500
614/614 [==============================] - 0s 126us/sample - loss: 0.7809 -
y1_output_loss: 0.1636 - y2_output_loss: 0.6146 -
y1_output_root_mean_squared_error: 0.4019 - y2_output_root_mean_squared_error:
0.7870 - val_loss: 0.9703 - val_y1_output_loss: 0.3035 - val_y2_output_loss:
0.6613 - val_y1_output_root_mean_squared_error: 0.5568 -
val_y2_output_root_mean_squared_error: 0.8126
Epoch 283/500
614/614 [==============================] - 0s 137us/sample - loss: 0.8719 -
y1_output_loss: 0.1706 - y2_output_loss: 0.7023 -
y1_output_root_mean_squared_error: 0.4149 - y2_output_root_mean_squared_error:
0.8365 - val_loss: 2.8302 - val_y1_output_loss: 0.6728 - val_y2_output_loss:
2.1403 - val_y1_output_root_mean_squared_error: 0.8171 -
val_y2_output_root_mean_squared_error: 1.4706
Epoch 284/500
614/614 [==============================] - 0s 140us/sample - loss: 0.7558 -

y1_output_loss: 0.1684 - y2_output_loss: 0.5824 -
y1_output_root_mean_squared_error: 0.4119 - y2_output_root_mean_squared_error:
0.7656 - val_loss: 1.0633 - val_y1_output_loss: 0.2819 - val_y2_output_loss:
0.7667 - val_y1_output_root_mean_squared_error: 0.5386 -
val_y2_output_root_mean_squared_error: 0.8793
Epoch 285/500
614/614 [==============================] - 0s 138us/sample - loss: 0.7648 -
y1_output_loss: 0.1520 - y2_output_loss: 0.6175 -
y1_output_root_mean_squared_error: 0.3868 - y2_output_root_mean_squared_error:
0.7844 - val_loss: 1.6644 - val_y1_output_loss: 0.2838 - val_y2_output_loss:
1.4023 - val_y1_output_root_mean_squared_error: 0.5389 -
val_y2_output_root_mean_squared_error: 1.1721
Epoch 286/500
614/614 [==============================] - 0s 139us/sample - loss: 0.9186 -
y1_output_loss: 0.1857 - y2_output_loss: 0.7245 -
y1_output_root_mean_squared_error: 0.4329 - y2_output_root_mean_squared_error:
0.8551 - val_loss: 1.0775 - val_y1_output_loss: 0.2906 - val_y2_output_loss:
0.7568 - val_y1_output_root_mean_squared_error: 0.5418 -
val_y2_output_root_mean_squared_error: 0.8854
Epoch 287/500
614/614 [==============================] - 0s 145us/sample - loss: 0.8782 -
y1_output_loss: 0.1814 - y2_output_loss: 0.7103 -
y1_output_root_mean_squared_error: 0.4263 - y2_output_root_mean_squared_error:
0.8345 - val_loss: 1.2834 - val_y1_output_loss: 0.2886 - val_y2_output_loss:
0.9577 - val_y1_output_root_mean_squared_error: 0.5413 -
val_y2_output_root_mean_squared_error: 0.9952
Epoch 288/500
614/614 [==============================] - 0s 139us/sample - loss: 0.7128 -
y1_output_loss: 0.1533 - y2_output_loss: 0.5601 -
y1_output_root_mean_squared_error: 0.3932 - y2_output_root_mean_squared_error:
0.7472 - val_loss: 2.6102 - val_y1_output_loss: 0.3295 - val_y2_output_loss:
2.3181 - val_y1_output_root_mean_squared_error: 0.5797 -
val_y2_output_root_mean_squared_error: 1.5080
Epoch 289/500
614/614 [==============================] - 0s 137us/sample - loss: 0.7406 -
y1_output_loss: 0.1516 - y2_output_loss: 0.5833 -
y1_output_root_mean_squared_error: 0.3900 - y2_output_root_mean_squared_error:
0.7671 - val_loss: 1.1870 - val_y1_output_loss: 0.3117 - val_y2_output_loss:
0.8400 - val_y1_output_root_mean_squared_error: 0.5659 -
val_y2_output_root_mean_squared_error: 0.9310
Epoch 290/500
614/614 [==============================] - 0s 141us/sample - loss: 0.8741 -
y1_output_loss: 0.1718 - y2_output_loss: 0.7000 -
y1_output_root_mean_squared_error: 0.4136 - y2_output_root_mean_squared_error:
0.8385 - val_loss: 0.9959 - val_y1_output_loss: 0.2995 - val_y2_output_loss:
0.6779 - val_y1_output_root_mean_squared_error: 0.5527 -
val_y2_output_root_mean_squared_error: 0.8309
Epoch 291/500

614/614 [==============================] - 0s 137us/sample - loss: 0.9161 -
y1_output_loss: 0.1915 - y2_output_loss: 0.7205 -
y1_output_root_mean_squared_error: 0.4375 - y2_output_root_mean_squared_error:
0.8513 - val_loss: 1.1642 - val_y1_output_loss: 0.2849 - val_y2_output_loss:
0.8532 - val_y1_output_root_mean_squared_error: 0.5404 -
val_y2_output_root_mean_squared_error: 0.9339
Epoch 292/500
614/614 [==============================] - 0s 138us/sample - loss: 0.8798 -
y1_output_loss: 0.1791 - y2_output_loss: 0.6935 -
y1_output_root_mean_squared_error: 0.4246 - y2_output_root_mean_squared_error:
0.8364 - val_loss: 0.9135 - val_y1_output_loss: 0.2773 - val_y2_output_loss:
0.6188 - val_y1_output_root_mean_squared_error: 0.5281 -
val_y2_output_root_mean_squared_error: 0.7966
Epoch 293/500
614/614 [==============================] - 0s 133us/sample - loss: 0.8781 -
y1_output_loss: 0.2014 - y2_output_loss: 0.6704 -
y1_output_root_mean_squared_error: 0.4505 - y2_output_root_mean_squared_error:
0.8217 - val_loss: 1.2604 - val_y1_output_loss: 0.2860 - val_y2_output_loss:
0.9653 - val_y1_output_root_mean_squared_error: 0.5338 -
val_y2_output_root_mean_squared_error: 0.9876
Epoch 294/500
614/614 [==============================] - 0s 129us/sample - loss: 0.7096 -
y1_output_loss: 0.1509 - y2_output_loss: 0.5610 -
y1_output_root_mean_squared_error: 0.3885 - y2_output_root_mean_squared_error:
0.7474 - val_loss: 1.0846 - val_y1_output_loss: 0.2727 - val_y2_output_loss:
0.8080 - val_y1_output_root_mean_squared_error: 0.5289 -
val_y2_output_root_mean_squared_error: 0.8971
Epoch 295/500
614/614 [==============================] - 0s 136us/sample - loss: 0.8969 -
y1_output_loss: 0.2042 - y2_output_loss: 0.6941 -
y1_output_root_mean_squared_error: 0.4531 - y2_output_root_mean_squared_error:
0.8316 - val_loss: 1.6356 - val_y1_output_loss: 0.2246 - val_y2_output_loss:
1.4570 - val_y1_output_root_mean_squared_error: 0.4798 -
val_y2_output_root_mean_squared_error: 1.1855
Epoch 296/500
614/614 [==============================] - 0s 134us/sample - loss: 1.0207 -
y1_output_loss: 0.2090 - y2_output_loss: 0.8048 -
y1_output_root_mean_squared_error: 0.4573 - y2_output_root_mean_squared_error:
0.9009 - val_loss: 1.1287 - val_y1_output_loss: 0.3272 - val_y2_output_loss:
0.7959 - val_y1_output_root_mean_squared_error: 0.5721 -
val_y2_output_root_mean_squared_error: 0.8952
Epoch 297/500
614/614 [==============================] - 0s 130us/sample - loss: 1.1738 -
y1_output_loss: 0.2892 - y2_output_loss: 0.8757 -
y1_output_root_mean_squared_error: 0.5399 - y2_output_root_mean_squared_error:
0.9393 - val_loss: 1.4861 - val_y1_output_loss: 0.4637 - val_y2_output_loss:
0.9823 - val_y1_output_root_mean_squared_error: 0.6863 -
val_y2_output_root_mean_squared_error: 1.0075

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Epoch 298/500
614/614 [==============================] - 0s 138us/sample - loss: 0.6715 -
y1_output_loss: 0.1487 - y2_output_loss: 0.5210 -
y1_output_root_mean_squared_error: 0.3843 - y2_output_root_mean_squared_error:
0.7237 - val_loss: 1.3565 - val_y1_output_loss: 0.5161 - val_y2_output_loss:
0.8315 - val_y1_output_root_mean_squared_error: 0.7152 -
val_y2_output_root_mean_squared_error: 0.9192
Epoch 299/500
614/614 [==============================] - 0s 128us/sample - loss: 0.7090 -
y1_output_loss: 0.1628 - y2_output_loss: 0.5487 -
y1_output_root_mean_squared_error: 0.4047 - y2_output_root_mean_squared_error:
0.7384 - val_loss: 1.0913 - val_y1_output_loss: 0.2582 - val_y2_output_loss:
0.8117 - val_y1_output_root_mean_squared_error: 0.5095 -
val_y2_output_root_mean_squared_error: 0.9120
Epoch 300/500
614/614 [==============================] - 0s 138us/sample - loss: 0.5883 -
y1_output_loss: 0.1342 - y2_output_loss: 0.4603 -
y1_output_root_mean_squared_error: 0.3659 - y2_output_root_mean_squared_error:
0.6741 - val_loss: 1.5227 - val_y1_output_loss: 0.4503 - val_y2_output_loss:
1.0435 - val_y1_output_root_mean_squared_error: 0.6681 -
val_y2_output_root_mean_squared_error: 1.0375
Epoch 301/500
614/614 [==============================] - 0s 128us/sample - loss: 0.8735 -
y1_output_loss: 0.1995 - y2_output_loss: 0.6671 -
y1_output_root_mean_squared_error: 0.4484 - y2_output_root_mean_squared_error:
0.8200 - val_loss: 1.4621 - val_y1_output_loss: 0.2699 - val_y2_output_loss:
1.1837 - val_y1_output_root_mean_squared_error: 0.5156 -
val_y2_output_root_mean_squared_error: 1.0937
Epoch 302/500
614/614 [==============================] - 0s 133us/sample - loss: 0.6606 -
y1_output_loss: 0.1513 - y2_output_loss: 0.5111 -
y1_output_root_mean_squared_error: 0.3903 - y2_output_root_mean_squared_error:
0.7129 - val_loss: 1.1778 - val_y1_output_loss: 0.3214 - val_y2_output_loss:
0.8326 - val_y1_output_root_mean_squared_error: 0.5636 -
val_y2_output_root_mean_squared_error: 0.9275
Epoch 303/500
614/614 [==============================] - 0s 137us/sample - loss: 0.7784 -
y1_output_loss: 0.1850 - y2_output_loss: 0.5960 -
y1_output_root_mean_squared_error: 0.4291 - y2_output_root_mean_squared_error:
0.7709 - val_loss: 2.1707 - val_y1_output_loss: 0.2758 - val_y2_output_loss:
1.8883 - val_y1_output_root_mean_squared_error: 0.5272 -
val_y2_output_root_mean_squared_error: 1.3758
Epoch 304/500
614/614 [==============================] - 0s 128us/sample - loss: 0.8751 -
y1_output_loss: 0.1727 - y2_output_loss: 0.7003 -
y1_output_root_mean_squared_error: 0.4149 - y2_output_root_mean_squared_error:
0.8384 - val_loss: 1.2384 - val_y1_output_loss: 0.2603 - val_y2_output_loss:
0.9588 - val_y1_output_root_mean_squared_error: 0.5150 -
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val_y2_output_root_mean_squared_error: 0.9865
Epoch 305/500
614/614 [==============================] - 0s 126us/sample - loss: 0.6633 -
y1_output_loss: 0.1435 - y2_output_loss: 0.5177 -
y1_output_root_mean_squared_error: 0.3806 - y2_output_root_mean_squared_error:
0.7201 - val_loss: 1.5960 - val_y1_output_loss: 0.3664 - val_y2_output_loss:
1.2782 - val_y1_output_root_mean_squared_error: 0.6041 -
val_y2_output_root_mean_squared_error: 1.1095
Epoch 306/500
614/614 [==============================] - 0s 136us/sample - loss: 1.0293 -
y1_output_loss: 0.1988 - y2_output_loss: 0.8369 -
y1_output_root_mean_squared_error: 0.4459 - y2_output_root_mean_squared_error:
0.9113 - val_loss: 4.6908 - val_y1_output_loss: 1.1202 - val_y2_output_loss:
3.5734 - val_y1_output_root_mean_squared_error: 1.0580 -
val_y2_output_root_mean_squared_error: 1.8898
Epoch 307/500
614/614 [==============================] - 0s 133us/sample - loss: 1.0791 -
y1_output_loss: 0.2440 - y2_output_loss: 0.8275 -
y1_output_root_mean_squared_error: 0.4960 - y2_output_root_mean_squared_error:
0.9127 - val_loss: 0.9474 - val_y1_output_loss: 0.2356 - val_y2_output_loss:
0.6893 - val_y1_output_root_mean_squared_error: 0.4928 -
val_y2_output_root_mean_squared_error: 0.8394
Epoch 308/500
614/614 [==============================] - 0s 138us/sample - loss: 2.0250 -
y1_output_loss: 0.3324 - y2_output_loss: 1.6734 -
y1_output_root_mean_squared_error: 0.5792 - y2_output_root_mean_squared_error:
1.2998 - val_loss: 0.9563 - val_y1_output_loss: 0.2727 - val_y2_output_loss:
0.6550 - val_y1_output_root_mean_squared_error: 0.5292 -
val_y2_output_root_mean_squared_error: 0.8223
Epoch 309/500
614/614 [==============================] - 0s 135us/sample - loss: 0.7368 -
y1_output_loss: 0.1546 - y2_output_loss: 0.5789 -
y1_output_root_mean_squared_error: 0.3933 - y2_output_root_mean_squared_error:
0.7629 - val_loss: 0.9182 - val_y1_output_loss: 0.2440 - val_y2_output_loss:
0.6457 - val_y1_output_root_mean_squared_error: 0.4981 -
val_y2_output_root_mean_squared_error: 0.8186
Epoch 310/500
614/614 [==============================] - 0s 126us/sample - loss: 0.6045 -
y1_output_loss: 0.1350 - y2_output_loss: 0.4707 -
y1_output_root_mean_squared_error: 0.3683 - y2_output_root_mean_squared_error:
0.6847 - val_loss: 1.0735 - val_y1_output_loss: 0.2515 - val_y2_output_loss:
0.8006 - val_y1_output_root_mean_squared_error: 0.5081 -
val_y2_output_root_mean_squared_error: 0.9029
Epoch 311/500
614/614 [==============================] - 0s 124us/sample - loss: 0.7588 -
y1_output_loss: 0.1496 - y2_output_loss: 0.6213 -
y1_output_root_mean_squared_error: 0.3869 - y2_output_root_mean_squared_error:
0.7804 - val_loss: 2.0892 - val_y1_output_loss: 0.2830 - val_y2_output_loss:

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1.8006 - val_y1_output_root_mean_squared_error: 0.5304 -
val_y2_output_root_mean_squared_error: 1.3446
Epoch 312/500
614/614 [==============================] - 0s 126us/sample - loss: 0.6867 -
y1_output_loss: 0.1458 - y2_output_loss: 0.5369 -
y1_output_root_mean_squared_error: 0.3822 - y2_output_root_mean_squared_error:
0.7353 - val_loss: 0.9182 - val_y1_output_loss: 0.2428 - val_y2_output_loss:
0.6559 - val_y1_output_root_mean_squared_error: 0.5014 -
val_y2_output_root_mean_squared_error: 0.8166
Epoch 313/500
614/614 [==============================] - 0s 132us/sample - loss: 0.6543 -
y1_output_loss: 0.1661 - y2_output_loss: 0.4830 -
y1_output_root_mean_squared_error: 0.4094 - y2_output_root_mean_squared_error:
0.6976 - val_loss: 1.0886 - val_y1_output_loss: 0.2988 - val_y2_output_loss:
0.7762 - val_y1_output_root_mean_squared_error: 0.5405 -
val_y2_output_root_mean_squared_error: 0.8924
Epoch 314/500
614/614 [==============================] - 0s 124us/sample - loss: 0.9768 -
y1_output_loss: 0.2100 - y2_output_loss: 0.7608 -
y1_output_root_mean_squared_error: 0.4589 - y2_output_root_mean_squared_error:
0.8753 - val_loss: 0.8903 - val_y1_output_loss: 0.2721 - val_y2_output_loss:
0.6011 - val_y1_output_root_mean_squared_error: 0.5275 -
val_y2_output_root_mean_squared_error: 0.7823
Epoch 315/500
614/614 [==============================] - 0s 125us/sample - loss: 0.7504 -
y1_output_loss: 0.1674 - y2_output_loss: 0.5778 -
y1_output_root_mean_squared_error: 0.4105 - y2_output_root_mean_squared_error:
0.7628 - val_loss: 1.1286 - val_y1_output_loss: 0.3290 - val_y2_output_loss:
0.7725 - val_y1_output_root_mean_squared_error: 0.5743 -
val_y2_output_root_mean_squared_error: 0.8938
Epoch 316/500
614/614 [==============================] - 0s 125us/sample - loss: 0.8043 -
y1_output_loss: 0.1684 - y2_output_loss: 0.6338 -
y1_output_root_mean_squared_error: 0.4091 - y2_output_root_mean_squared_error:
0.7981 - val_loss: 1.2501 - val_y1_output_loss: 0.3065 - val_y2_output_loss:
0.9227 - val_y1_output_root_mean_squared_error: 0.5550 -
val_y2_output_root_mean_squared_error: 0.9706
Epoch 317/500
614/614 [==============================] - 0s 124us/sample - loss: 0.8657 -
y1_output_loss: 0.1798 - y2_output_loss: 0.6803 -
y1_output_root_mean_squared_error: 0.4255 - y2_output_root_mean_squared_error:
0.8274 - val_loss: 0.9753 - val_y1_output_loss: 0.2444 - val_y2_output_loss:
0.7116 - val_y1_output_root_mean_squared_error: 0.4979 -
val_y2_output_root_mean_squared_error: 0.8529
Epoch 318/500
614/614 [==============================] - 0s 125us/sample - loss: 0.7677 -
y1_output_loss: 0.1696 - y2_output_loss: 0.5950 -
y1_output_root_mean_squared_error: 0.4090 - y2_output_root_mean_squared_error:
```

0.7748 - val_loss: 1.0810 - val_y1_output_loss: 0.3147 - val_y2_output_loss:
0.7464 - val_y1_output_root_mean_squared_error: 0.5644 -
val_y2_output_root_mean_squared_error: 0.8732
Epoch 319/500
614/614 [==============================] - 0s 136us/sample - loss: 0.6190 -
y1_output_loss: 0.1340 - y2_output_loss: 0.4812 -
y1_output_root_mean_squared_error: 0.3658 - y2_output_root_mean_squared_error:
0.6965 - val_loss: 1.2739 - val_y1_output_loss: 0.2623 - val_y2_output_loss:
1.0066 - val_y1_output_root_mean_squared_error: 0.5084 -
val_y2_output_root_mean_squared_error: 1.0077
Epoch 320/500
614/614 [==============================] - 0s 135us/sample - loss: 1.1975 -
y1_output_loss: 0.2351 - y2_output_loss: 0.9529 -
y1_output_root_mean_squared_error: 0.4866 - y2_output_root_mean_squared_error:
0.9802 - val_loss: 1.2348 - val_y1_output_loss: 0.3204 - val_y2_output_loss:
0.9060 - val_y1_output_root_mean_squared_error: 0.5723 -
val_y2_output_root_mean_squared_error: 0.9525
Epoch 321/500
614/614 [==============================] - 0s 136us/sample - loss: 0.6999 -
y1_output_loss: 0.1681 - y2_output_loss: 0.5374 -
y1_output_root_mean_squared_error: 0.4093 - y2_output_root_mean_squared_error:
0.7297 - val_loss: 2.1922 - val_y1_output_loss: 0.4232 - val_y2_output_loss:
1.8537 - val_y1_output_root_mean_squared_error: 0.6476 -
val_y2_output_root_mean_squared_error: 1.3315
Epoch 322/500
614/614 [==============================] - 0s 136us/sample - loss: 0.8191 -
y1_output_loss: 0.1762 - y2_output_loss: 0.6417 -
y1_output_root_mean_squared_error: 0.4188 - y2_output_root_mean_squared_error:
0.8023 - val_loss: 1.1562 - val_y1_output_loss: 0.2848 - val_y2_output_loss:
0.8578 - val_y1_output_root_mean_squared_error: 0.5377 -
val_y2_output_root_mean_squared_error: 0.9312
Epoch 323/500
614/614 [==============================] - 0s 138us/sample - loss: 0.6636 -
y1_output_loss: 0.1470 - y2_output_loss: 0.5263 -
y1_output_root_mean_squared_error: 0.3806 - y2_output_root_mean_squared_error:
0.7202 - val_loss: 2.1238 - val_y1_output_loss: 0.4452 - val_y2_output_loss:
1.6610 - val_y1_output_root_mean_squared_error: 0.6626 -
val_y2_output_root_mean_squared_error: 1.2980
Epoch 324/500
614/614 [==============================] - 0s 135us/sample - loss: 0.7668 -
y1_output_loss: 0.1680 - y2_output_loss: 0.5971 -
y1_output_root_mean_squared_error: 0.4102 - y2_output_root_mean_squared_error:
0.7736 - val_loss: 1.3734 - val_y1_output_loss: 0.2616 - val_y2_output_loss:
1.1038 - val_y1_output_root_mean_squared_error: 0.5153 -
val_y2_output_root_mean_squared_error: 1.0525
Epoch 325/500
614/614 [==============================] - 0s 126us/sample - loss: 0.9421 -
y1_output_loss: 0.2028 - y2_output_loss: 0.7330 -

y1_output_root_mean_squared_error: 0.4522 - y2_output_root_mean_squared_error:
0.8589 - val_loss: 1.7995 - val_y1_output_loss: 0.4313 - val_y2_output_loss:
1.3706 - val_y1_output_root_mean_squared_error: 0.6516 -
val_y2_output_root_mean_squared_error: 1.1726
Epoch 326/500
614/614 [==============================] - 0s 134us/sample - loss: 0.6202 -
y1_output_loss: 0.1454 - y2_output_loss: 0.4782 -
y1_output_root_mean_squared_error: 0.3760 - y2_output_root_mean_squared_error:
0.6919 - val_loss: 2.2606 - val_y1_output_loss: 0.6942 - val_y2_output_loss:
1.5932 - val_y1_output_root_mean_squared_error: 0.8294 -
val_y2_output_root_mean_squared_error: 1.2540
Epoch 327/500
614/614 [==============================] - 0s 136us/sample - loss: 0.9076 -
y1_output_loss: 0.1846 - y2_output_loss: 0.7254 -
y1_output_root_mean_squared_error: 0.4286 - y2_output_root_mean_squared_error:
0.8508 - val_loss: 2.7082 - val_y1_output_loss: 0.3838 - val_y2_output_loss:
2.4045 - val_y1_output_root_mean_squared_error: 0.6236 -
val_y2_output_root_mean_squared_error: 1.5229
Epoch 328/500
614/614 [==============================] - 0s 136us/sample - loss: 0.7675 -
y1_output_loss: 0.1535 - y2_output_loss: 0.6156 -
y1_output_root_mean_squared_error: 0.3908 - y2_output_root_mean_squared_error:
0.7841 - val_loss: 0.9030 - val_y1_output_loss: 0.2459 - val_y2_output_loss:
0.6383 - val_y1_output_root_mean_squared_error: 0.4979 -
val_y2_output_root_mean_squared_error: 0.8094
Epoch 329/500
614/614 [==============================] - 0s 134us/sample - loss: 0.6609 -
y1_output_loss: 0.1483 - y2_output_loss: 0.5076 -
y1_output_root_mean_squared_error: 0.3864 - y2_output_root_mean_squared_error:
0.7153 - val_loss: 0.8884 - val_y1_output_loss: 0.2468 - val_y2_output_loss:
0.6164 - val_y1_output_root_mean_squared_error: 0.5017 -
val_y2_output_root_mean_squared_error: 0.7979
Epoch 330/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5963 -
y1_output_loss: 0.1327 - y2_output_loss: 0.4608 -
y1_output_root_mean_squared_error: 0.3633 - y2_output_root_mean_squared_error:
0.6814 - val_loss: 0.9062 - val_y1_output_loss: 0.2668 - val_y2_output_loss:
0.6210 - val_y1_output_root_mean_squared_error: 0.5219 -
val_y2_output_root_mean_squared_error: 0.7961
Epoch 331/500
614/614 [==============================] - 0s 127us/sample - loss: 0.6258 -
y1_output_loss: 0.1407 - y2_output_loss: 0.4807 -
y1_output_root_mean_squared_error: 0.3761 - y2_output_root_mean_squared_error:
0.6960 - val_loss: 0.9543 - val_y1_output_loss: 0.2720 - val_y2_output_loss:
0.6621 - val_y1_output_root_mean_squared_error: 0.5297 -
val_y2_output_root_mean_squared_error: 0.8208
Epoch 332/500
614/614 [==============================] - 0s 138us/sample - loss: 0.5942 -

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y1_output_loss: 0.1366 - y2_output_loss: 0.4548 -
y1_output_root_mean_squared_error: 0.3680 - y2_output_root_mean_squared_error:
0.6773 - val_loss: 0.9949 - val_y1_output_loss: 0.2448 - val_y2_output_loss:
0.7245 - val_y1_output_root_mean_squared_error: 0.4998 -
val_y2_output_root_mean_squared_error: 0.8632
Epoch 333/500
614/614 [==============================] - 0s 133us/sample - loss: 0.7324 -
y1_output_loss: 0.1469 - y2_output_loss: 0.5796 -
y1_output_root_mean_squared_error: 0.3838 - y2_output_root_mean_squared_error:
0.7649 - val_loss: 1.2692 - val_y1_output_loss: 0.2388 - val_y2_output_loss:
1.0183 - val_y1_output_root_mean_squared_error: 0.4899 -
val_y2_output_root_mean_squared_error: 1.0145
Epoch 334/500
614/614 [==============================] - 0s 129us/sample - loss: 0.7254 -
y1_output_loss: 0.1648 - y2_output_loss: 0.5558 -
y1_output_root_mean_squared_error: 0.4069 - y2_output_root_mean_squared_error:
0.7482 - val_loss: 0.9155 - val_y1_output_loss: 0.3151 - val_y2_output_loss:
0.5870 - val_y1_output_root_mean_squared_error: 0.5560 -
val_y2_output_root_mean_squared_error: 0.7787
Epoch 335/500
614/614 [==============================] - 0s 129us/sample - loss: 0.6735 -
y1_output_loss: 0.1605 - y2_output_loss: 0.5145 -
y1_output_root_mean_squared_error: 0.4023 - y2_output_root_mean_squared_error:
0.7153 - val_loss: 1.1907 - val_y1_output_loss: 0.3706 - val_y2_output_loss:
0.7948 - val_y1_output_root_mean_squared_error: 0.6141 -
val_y2_output_root_mean_squared_error: 0.9020
Epoch 336/500
614/614 [==============================] - 0s 129us/sample - loss: 0.9640 -
y1_output_loss: 0.2099 - y2_output_loss: 0.7623 -
y1_output_root_mean_squared_error: 0.4572 - y2_output_root_mean_squared_error:
0.8689 - val_loss: 2.0474 - val_y1_output_loss: 0.4775 - val_y2_output_loss:
1.5614 - val_y1_output_root_mean_squared_error: 0.6804 -
val_y2_output_root_mean_squared_error: 1.2587
Epoch 337/500
614/614 [==============================] - 0s 129us/sample - loss: 0.6577 -
y1_output_loss: 0.1679 - y2_output_loss: 0.4969 -
y1_output_root_mean_squared_error: 0.4104 - y2_output_root_mean_squared_error:
0.6994 - val_loss: 1.8067 - val_y1_output_loss: 0.4158 - val_y2_output_loss:
1.3803 - val_y1_output_root_mean_squared_error: 0.6506 -
val_y2_output_root_mean_squared_error: 1.1762
Epoch 338/500
614/614 [==============================] - 0s 129us/sample - loss: 0.6340 -
y1_output_loss: 0.1448 - y2_output_loss: 0.4992 -
y1_output_root_mean_squared_error: 0.3754 - y2_output_root_mean_squared_error:
0.7022 - val_loss: 2.3223 - val_y1_output_loss: 0.5241 - val_y2_output_loss:
1.8335 - val_y1_output_root_mean_squared_error: 0.7275 -
val_y2_output_root_mean_squared_error: 1.3390
Epoch 339/500
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614/614 [==============================] - 0s 129us/sample - loss: 0.7354 -
y1_output_loss: 0.1747 - y2_output_loss: 0.5627 -
y1_output_root_mean_squared_error: 0.4146 - y2_output_root_mean_squared_error:
0.7507 - val_loss: 1.8168 - val_y1_output_loss: 0.7897 - val_y2_output_loss:
1.0334 - val_y1_output_root_mean_squared_error: 0.8880 -
val_y2_output_root_mean_squared_error: 1.0140
Epoch 340/500
614/614 [==============================] - 0s 125us/sample - loss: 0.7665 -
y1_output_loss: 0.1588 - y2_output_loss: 0.6012 -
y1_output_root_mean_squared_error: 0.3997 - y2_output_root_mean_squared_error:
0.7789 - val_loss: 0.7974 - val_y1_output_loss: 0.2463 - val_y2_output_loss:
0.5347 - val_y1_output_root_mean_squared_error: 0.4989 -
val_y2_output_root_mean_squared_error: 0.7406
Epoch 341/500
614/614 [==============================] - 0s 127us/sample - loss: 0.6033 -
y1_output_loss: 0.1517 - y2_output_loss: 0.4512 -
y1_output_root_mean_squared_error: 0.3894 - y2_output_root_mean_squared_error:
0.6721 - val_loss: 1.4353 - val_y1_output_loss: 0.3056 - val_y2_output_loss:
1.1145 - val_y1_output_root_mean_squared_error: 0.5593 -
val_y2_output_root_mean_squared_error: 1.0594
Epoch 342/500
614/614 [==============================] - 0s 127us/sample - loss: 0.7201 -
y1_output_loss: 0.1618 - y2_output_loss: 0.5609 -
y1_output_root_mean_squared_error: 0.4035 - y2_output_root_mean_squared_error:
0.7465 - val_loss: 1.8737 - val_y1_output_loss: 0.2882 - val_y2_output_loss:
1.6078 - val_y1_output_root_mean_squared_error: 0.5371 -
val_y2_output_root_mean_squared_error: 1.2591
Epoch 343/500
614/614 [==============================] - 0s 136us/sample - loss: 0.7916 -
y1_output_loss: 0.1806 - y2_output_loss: 0.6064 -
y1_output_root_mean_squared_error: 0.4258 - y2_output_root_mean_squared_error:
0.7812 - val_loss: 0.8537 - val_y1_output_loss: 0.2283 - val_y2_output_loss:
0.6017 - val_y1_output_root_mean_squared_error: 0.4824 -
val_y2_output_root_mean_squared_error: 0.7880
Epoch 344/500
614/614 [==============================] - 0s 138us/sample - loss: 0.6153 -
y1_output_loss: 0.1556 - y2_output_loss: 0.4572 -
y1_output_root_mean_squared_error: 0.3928 - y2_output_root_mean_squared_error:
0.6790 - val_loss: 1.1472 - val_y1_output_loss: 0.3010 - val_y2_output_loss:
0.8253 - val_y1_output_root_mean_squared_error: 0.5483 -
val_y2_output_root_mean_squared_error: 0.9201
Epoch 345/500
614/614 [==============================] - 0s 135us/sample - loss: 0.7719 -
y1_output_loss: 0.1577 - y2_output_loss: 0.6080 -
y1_output_root_mean_squared_error: 0.3983 - y2_output_root_mean_squared_error:
0.7831 - val_loss: 0.9397 - val_y1_output_loss: 0.2743 - val_y2_output_loss:
0.6467 - val_y1_output_root_mean_squared_error: 0.5311 -
val_y2_output_root_mean_squared_error: 0.8110
```

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Epoch 346/500
614/614 [==============================] - 0s 127us/sample - loss: 0.6318 -
y1_output_loss: 0.1455 - y2_output_loss: 0.4825 -
y1_output_root_mean_squared_error: 0.3828 - y2_output_root_mean_squared_error:
0.6966 - val_loss: 1.3988 - val_y1_output_loss: 0.2436 - val_y2_output_loss:
1.1595 - val_y1_output_root_mean_squared_error: 0.5000 -
val_y2_output_root_mean_squared_error: 1.0718
Epoch 347/500
614/614 [==============================] - 0s 134us/sample - loss: 0.5984 -
y1_output_loss: 0.1240 - y2_output_loss: 0.4718 -
y1_output_root_mean_squared_error: 0.3533 - y2_output_root_mean_squared_error:
0.6881 - val_loss: 1.0208 - val_y1_output_loss: 0.2301 - val_y2_output_loss:
0.7781 - val_y1_output_root_mean_squared_error: 0.4868 -
val_y2_output_root_mean_squared_error: 0.8853
Epoch 348/500
614/614 [==============================] - 0s 127us/sample - loss: 0.6383 -
y1_output_loss: 0.1354 - y2_output_loss: 0.5004 -
y1_output_root_mean_squared_error: 0.3684 - y2_output_root_mean_squared_error:
0.7089 - val_loss: 1.0480 - val_y1_output_loss: 0.2710 - val_y2_output_loss:
0.7532 - val_y1_output_root_mean_squared_error: 0.5226 -
val_y2_output_root_mean_squared_error: 0.8803
Epoch 349/500
614/614 [==============================] - 0s 127us/sample - loss: 0.9519 -
y1_output_loss: 0.2122 - y2_output_loss: 0.7355 -
y1_output_root_mean_squared_error: 0.4602 - y2_output_root_mean_squared_error:
0.8603 - val_loss: 1.2047 - val_y1_output_loss: 0.3265 - val_y2_output_loss:
0.8705 - val_y1_output_root_mean_squared_error: 0.5737 -
val_y2_output_root_mean_squared_error: 0.9358
Epoch 350/500
614/614 [==============================] - 0s 128us/sample - loss: 0.7966 -
y1_output_loss: 0.1746 - y2_output_loss: 0.6179 -
y1_output_root_mean_squared_error: 0.4187 - y2_output_root_mean_squared_error:
0.7883 - val_loss: 0.8460 - val_y1_output_loss: 0.2295 - val_y2_output_loss:
0.5925 - val_y1_output_root_mean_squared_error: 0.4847 -
val_y2_output_root_mean_squared_error: 0.7817
Epoch 351/500
614/614 [==============================] - 0s 128us/sample - loss: 0.7356 -
y1_output_loss: 0.1562 - y2_output_loss: 0.5799 -
y1_output_root_mean_squared_error: 0.3962 - y2_output_root_mean_squared_error:
0.7607 - val_loss: 1.2748 - val_y1_output_loss: 0.3246 - val_y2_output_loss:
0.9356 - val_y1_output_root_mean_squared_error: 0.5717 -
val_y2_output_root_mean_squared_error: 0.9736
Epoch 352/500
614/614 [==============================] - 0s 131us/sample - loss: 0.6784 -
y1_output_loss: 0.1594 - y2_output_loss: 0.5186 -
y1_output_root_mean_squared_error: 0.3981 - y2_output_root_mean_squared_error:
0.7211 - val_loss: 0.8362 - val_y1_output_loss: 0.2418 - val_y2_output_loss:
0.5701 - val_y1_output_root_mean_squared_error: 0.4945 -
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val_y2_output_root_mean_squared_error: 0.7692
Epoch 353/500
614/614 [==============================] - 0s 130us/sample - loss: 0.5319 -
y1_output_loss: 0.1217 - y2_output_loss: 0.4069 -
y1_output_root_mean_squared_error: 0.3499 - y2_output_root_mean_squared_error:
0.6399 - val_loss: 0.9817 - val_y1_output_loss: 0.2814 - val_y2_output_loss:
0.6949 - val_y1_output_root_mean_squared_error: 0.5378 -
val_y2_output_root_mean_squared_error: 0.8322
Epoch 354/500
614/614 [==============================] - 0s 130us/sample - loss: 0.5915 -
y1_output_loss: 0.1251 - y2_output_loss: 0.4693 -
y1_output_root_mean_squared_error: 0.3500 - y2_output_root_mean_squared_error:
0.6848 - val_loss: 0.9283 - val_y1_output_loss: 0.2686 - val_y2_output_loss:
0.6565 - val_y1_output_root_mean_squared_error: 0.5255 -
val_y2_output_root_mean_squared_error: 0.8075
Epoch 355/500
614/614 [==============================] - 0s 131us/sample - loss: 0.6939 -
y1_output_loss: 0.1431 - y2_output_loss: 0.5452 -
y1_output_root_mean_squared_error: 0.3794 - y2_output_root_mean_squared_error:
0.7416 - val_loss: 0.8109 - val_y1_output_loss: 0.2152 - val_y2_output_loss:
0.5710 - val_y1_output_root_mean_squared_error: 0.4687 -
val_y2_output_root_mean_squared_error: 0.7689
Epoch 356/500
614/614 [==============================] - 0s 128us/sample - loss: 1.0489 -
y1_output_loss: 0.2326 - y2_output_loss: 0.8475 -
y1_output_root_mean_squared_error: 0.4747 - y2_output_root_mean_squared_error:
0.9075 - val_loss: 5.7360 - val_y1_output_loss: 1.3710 - val_y2_output_loss:
4.7887 - val_y1_output_root_mean_squared_error: 1.1424 -
val_y2_output_root_mean_squared_error: 2.1050
Epoch 357/500
614/614 [==============================] - 0s 133us/sample - loss: 1.0289 -
y1_output_loss: 0.1977 - y2_output_loss: 0.8265 -
y1_output_root_mean_squared_error: 0.4425 - y2_output_root_mean_squared_error:
0.9128 - val_loss: 1.1403 - val_y1_output_loss: 0.4235 - val_y2_output_loss:
0.6989 - val_y1_output_root_mean_squared_error: 0.6491 -
val_y2_output_root_mean_squared_error: 0.8480
Epoch 358/500
614/614 [==============================] - 0s 140us/sample - loss: 0.6232 -
y1_output_loss: 0.1371 - y2_output_loss: 0.4888 -
y1_output_root_mean_squared_error: 0.3654 - y2_output_root_mean_squared_error:
0.6998 - val_loss: 1.0209 - val_y1_output_loss: 0.2704 - val_y2_output_loss:
0.7282 - val_y1_output_root_mean_squared_error: 0.5236 -
val_y2_output_root_mean_squared_error: 0.8642
Epoch 359/500
614/614 [==============================] - 0s 140us/sample - loss: 0.6472 -
y1_output_loss: 0.1495 - y2_output_loss: 0.4990 -
y1_output_root_mean_squared_error: 0.3853 - y2_output_root_mean_squared_error:
0.7062 - val_loss: 0.9413 - val_y1_output_loss: 0.2445 - val_y2_output_loss:

0.6852 - val_y1_output_root_mean_squared_error: 0.4965 -
val_y2_output_root_mean_squared_error: 0.8336
Epoch 360/500
614/614 [==============================] - 0s 141us/sample - loss: 0.6636 -
y1_output_loss: 0.1566 - y2_output_loss: 0.5126 -
y1_output_root_mean_squared_error: 0.3943 - y2_output_root_mean_squared_error:
0.7128 - val_loss: 2.3663 - val_y1_output_loss: 0.7866 - val_y2_output_loss:
1.5917 - val_y1_output_root_mean_squared_error: 0.8864 -
val_y2_output_root_mean_squared_error: 1.2572
Epoch 361/500
614/614 [==============================] - 0s 130us/sample - loss: 0.6868 -
y1_output_loss: 0.1589 - y2_output_loss: 0.5260 -
y1_output_root_mean_squared_error: 0.4000 - y2_output_root_mean_squared_error:
0.7259 - val_loss: 0.8678 - val_y1_output_loss: 0.2365 - val_y2_output_loss:
0.6069 - val_y1_output_root_mean_squared_error: 0.4901 -
val_y2_output_root_mean_squared_error: 0.7922
Epoch 362/500
614/614 [==============================] - 0s 132us/sample - loss: 0.7184 -
y1_output_loss: 0.1700 - y2_output_loss: 0.5434 -
y1_output_root_mean_squared_error: 0.4139 - y2_output_root_mean_squared_error:
0.7397 - val_loss: 0.9838 - val_y1_output_loss: 0.2596 - val_y2_output_loss:
0.7216 - val_y1_output_root_mean_squared_error: 0.5100 -
val_y2_output_root_mean_squared_error: 0.8507
Epoch 363/500
614/614 [==============================] - 0s 139us/sample - loss: 0.5587 -
y1_output_loss: 0.1294 - y2_output_loss: 0.4310 -
y1_output_root_mean_squared_error: 0.3588 - y2_output_root_mean_squared_error:
0.6557 - val_loss: 1.6719 - val_y1_output_loss: 0.2713 - val_y2_output_loss:
1.3975 - val_y1_output_root_mean_squared_error: 0.5231 -
val_y2_output_root_mean_squared_error: 1.1825
Epoch 364/500
614/614 [==============================] - 0s 137us/sample - loss: 0.7045 -
y1_output_loss: 0.1531 - y2_output_loss: 0.5504 -
y1_output_root_mean_squared_error: 0.3909 - y2_output_root_mean_squared_error:
0.7427 - val_loss: 1.1983 - val_y1_output_loss: 0.3664 - val_y2_output_loss:
0.8389 - val_y1_output_root_mean_squared_error: 0.6105 -
val_y2_output_root_mean_squared_error: 0.9086
Epoch 365/500
614/614 [==============================] - 0s 132us/sample - loss: 0.4581 -
y1_output_loss: 0.1256 - y2_output_loss: 0.3316 -
y1_output_root_mean_squared_error: 0.3530 - y2_output_root_mean_squared_error:
0.5775 - val_loss: 0.9700 - val_y1_output_loss: 0.3850 - val_y2_output_loss:
0.5654 - val_y1_output_root_mean_squared_error: 0.6217 -
val_y2_output_root_mean_squared_error: 0.7639
Epoch 366/500
614/614 [==============================] - 0s 134us/sample - loss: 0.6638 -
y1_output_loss: 0.1639 - y2_output_loss: 0.5101 -
y1_output_root_mean_squared_error: 0.4030 - y2_output_root_mean_squared_error:

0.7081 - val_loss: 1.0174 - val_y1_output_loss: 0.3182 - val_y2_output_loss:
0.6761 - val_y1_output_root_mean_squared_error: 0.5714 -
val_y2_output_root_mean_squared_error: 0.8312
Epoch 367/500
614/614 [==============================] - 0s 126us/sample - loss: 0.7640 -
y1_output_loss: 0.1547 - y2_output_loss: 0.6180 -
y1_output_root_mean_squared_error: 0.3914 - y2_output_root_mean_squared_error:
0.7815 - val_loss: 1.0436 - val_y1_output_loss: 0.3118 - val_y2_output_loss:
0.7122 - val_y1_output_root_mean_squared_error: 0.5602 -
val_y2_output_root_mean_squared_error: 0.8543
Epoch 368/500
614/614 [==============================] - 0s 128us/sample - loss: 0.6121 -
y1_output_loss: 0.1685 - y2_output_loss: 0.4416 -
y1_output_root_mean_squared_error: 0.4106 - y2_output_root_mean_squared_error:
0.6660 - val_loss: 0.9384 - val_y1_output_loss: 0.2515 - val_y2_output_loss:
0.6657 - val_y1_output_root_mean_squared_error: 0.5011 -
val_y2_output_root_mean_squared_error: 0.8290
Epoch 369/500
614/614 [==============================] - 0s 127us/sample - loss: 0.4973 -
y1_output_loss: 0.1215 - y2_output_loss: 0.3765 -
y1_output_root_mean_squared_error: 0.3496 - y2_output_root_mean_squared_error:
0.6125 - val_loss: 1.1890 - val_y1_output_loss: 0.2632 - val_y2_output_loss:
0.9546 - val_y1_output_root_mean_squared_error: 0.5167 -
val_y2_output_root_mean_squared_error: 0.9602
Epoch 370/500
614/614 [==============================] - 0s 128us/sample - loss: 0.6379 -
y1_output_loss: 0.1455 - y2_output_loss: 0.4893 -
y1_output_root_mean_squared_error: 0.3824 - y2_output_root_mean_squared_error:
0.7013 - val_loss: 0.9660 - val_y1_output_loss: 0.2611 - val_y2_output_loss:
0.6891 - val_y1_output_root_mean_squared_error: 0.5127 -
val_y2_output_root_mean_squared_error: 0.8385
Epoch 371/500
614/614 [==============================] - 0s 129us/sample - loss: 0.5448 -
y1_output_loss: 0.1205 - y2_output_loss: 0.4209 -
y1_output_root_mean_squared_error: 0.3476 - y2_output_root_mean_squared_error:
0.6511 - val_loss: 1.0105 - val_y1_output_loss: 0.3453 - val_y2_output_loss:
0.6661 - val_y1_output_root_mean_squared_error: 0.5877 -
val_y2_output_root_mean_squared_error: 0.8156
Epoch 372/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4595 -
y1_output_loss: 0.1167 - y2_output_loss: 0.3407 -
y1_output_root_mean_squared_error: 0.3427 - y2_output_root_mean_squared_error:
0.5849 - val_loss: 0.9391 - val_y1_output_loss: 0.2606 - val_y2_output_loss:
0.6821 - val_y1_output_root_mean_squared_error: 0.5146 -
val_y2_output_root_mean_squared_error: 0.8211
Epoch 373/500
614/614 [==============================] - 0s 136us/sample - loss: 0.4702 -
y1_output_loss: 0.1214 - y2_output_loss: 0.3487 -

y1_output_root_mean_squared_error: 0.3480 - y2_output_root_mean_squared_error:
0.5908 - val_loss: 0.7813 - val_y1_output_loss: 0.2296 - val_y2_output_loss:
0.5330 - val_y1_output_root_mean_squared_error: 0.4833 -
val_y2_output_root_mean_squared_error: 0.7401
Epoch 374/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5156 -
y1_output_loss: 0.1186 - y2_output_loss: 0.3933 -
y1_output_root_mean_squared_error: 0.3458 - y2_output_root_mean_squared_error:
0.6293 - val_loss: 0.7772 - val_y1_output_loss: 0.2195 - val_y2_output_loss:
0.5337 - val_y1_output_root_mean_squared_error: 0.4736 -
val_y2_output_root_mean_squared_error: 0.7436
Epoch 375/500
614/614 [==============================] - 0s 126us/sample - loss: 0.4460 -
y1_output_loss: 0.1277 - y2_output_loss: 0.3171 -
y1_output_root_mean_squared_error: 0.3561 - y2_output_root_mean_squared_error:
0.5650 - val_loss: 0.7596 - val_y1_output_loss: 0.2394 - val_y2_output_loss:
0.5056 - val_y1_output_root_mean_squared_error: 0.4911 -
val_y2_output_root_mean_squared_error: 0.7200
Epoch 376/500
614/614 [==============================] - 0s 125us/sample - loss: 0.4979 -
y1_output_loss: 0.1172 - y2_output_loss: 0.3795 -
y1_output_root_mean_squared_error: 0.3430 - y2_output_root_mean_squared_error:
0.6167 - val_loss: 0.8242 - val_y1_output_loss: 0.2192 - val_y2_output_loss:
0.5822 - val_y1_output_root_mean_squared_error: 0.4731 -
val_y2_output_root_mean_squared_error: 0.7748
Epoch 377/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5875 -
y1_output_loss: 0.1379 - y2_output_loss: 0.4514 -
y1_output_root_mean_squared_error: 0.3728 - y2_output_root_mean_squared_error:
0.6697 - val_loss: 3.2801 - val_y1_output_loss: 0.4736 - val_y2_output_loss:
2.7967 - val_y1_output_root_mean_squared_error: 0.6903 -
val_y2_output_root_mean_squared_error: 1.6744
Epoch 378/500
614/614 [==============================] - 0s 124us/sample - loss: 0.6488 -
y1_output_loss: 0.1658 - y2_output_loss: 0.4846 -
y1_output_root_mean_squared_error: 0.4085 - y2_output_root_mean_squared_error:
0.6942 - val_loss: 1.4570 - val_y1_output_loss: 0.2269 - val_y2_output_loss:
1.2120 - val_y1_output_root_mean_squared_error: 0.4810 -
val_y2_output_root_mean_squared_error: 1.1071
Epoch 379/500
614/614 [==============================] - 0s 126us/sample - loss: 0.7349 -
y1_output_loss: 0.1435 - y2_output_loss: 0.5878 -
y1_output_root_mean_squared_error: 0.3799 - y2_output_root_mean_squared_error:
0.7685 - val_loss: 0.9656 - val_y1_output_loss: 0.2771 - val_y2_output_loss:
0.6644 - val_y1_output_root_mean_squared_error: 0.5297 -
val_y2_output_root_mean_squared_error: 0.8277
Epoch 380/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5751 -

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y1_output_loss: 0.1353 - y2_output_loss: 0.4371 -
y1_output_root_mean_squared_error: 0.3686 - y2_output_root_mean_squared_error:
0.6627 - val_loss: 0.8722 - val_y1_output_loss: 0.2749 - val_y2_output_loss:
0.5806 - val_y1_output_root_mean_squared_error: 0.5222 -
val_y2_output_root_mean_squared_error: 0.7742
Epoch 381/500
614/614 [==============================] - 0s 128us/sample - loss: 0.5368 -
y1_output_loss: 0.1445 - y2_output_loss: 0.3880 -
y1_output_root_mean_squared_error: 0.3813 - y2_output_root_mean_squared_error:
0.6256 - val_loss: 0.8082 - val_y1_output_loss: 0.2147 - val_y2_output_loss:
0.5703 - val_y1_output_root_mean_squared_error: 0.4709 -
val_y2_output_root_mean_squared_error: 0.7658
Epoch 382/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5744 -
y1_output_loss: 0.1504 - y2_output_loss: 0.4202 -
y1_output_root_mean_squared_error: 0.3886 - y2_output_root_mean_squared_error:
0.6506 - val_loss: 0.8796 - val_y1_output_loss: 0.2418 - val_y2_output_loss:
0.6149 - val_y1_output_root_mean_squared_error: 0.4958 -
val_y2_output_root_mean_squared_error: 0.7961
Epoch 383/500
614/614 [==============================] - 0s 125us/sample - loss: 0.8339 -
y1_output_loss: 0.1835 - y2_output_loss: 0.6463 -
y1_output_root_mean_squared_error: 0.4274 - y2_output_root_mean_squared_error:
0.8070 - val_loss: 0.9811 - val_y1_output_loss: 0.2702 - val_y2_output_loss:
0.6921 - val_y1_output_root_mean_squared_error: 0.5260 -
val_y2_output_root_mean_squared_error: 0.8393
Epoch 384/500
614/614 [==============================] - 0s 125us/sample - loss: 0.4865 -
y1_output_loss: 0.1274 - y2_output_loss: 0.3569 -
y1_output_root_mean_squared_error: 0.3566 - y2_output_root_mean_squared_error:
0.5995 - val_loss: 1.2452 - val_y1_output_loss: 0.3857 - val_y2_output_loss:
0.8414 - val_y1_output_root_mean_squared_error: 0.6232 -
val_y2_output_root_mean_squared_error: 0.9257
Epoch 385/500
614/614 [==============================] - 0s 126us/sample - loss: 1.1976 -
y1_output_loss: 0.2402 - y2_output_loss: 0.9579 -
y1_output_root_mean_squared_error: 0.4906 - y2_output_root_mean_squared_error:
0.9782 - val_loss: 1.0033 - val_y1_output_loss: 0.3275 - val_y2_output_loss:
0.6624 - val_y1_output_root_mean_squared_error: 0.5680 -
val_y2_output_root_mean_squared_error: 0.8250
Epoch 386/500
614/614 [==============================] - 0s 124us/sample - loss: 0.6597 -
y1_output_loss: 0.1555 - y2_output_loss: 0.4997 -
y1_output_root_mean_squared_error: 0.3960 - y2_output_root_mean_squared_error:
0.7091 - val_loss: 0.9719 - val_y1_output_loss: 0.2601 - val_y2_output_loss:
0.7174 - val_y1_output_root_mean_squared_error: 0.5167 -
val_y2_output_root_mean_squared_error: 0.8396
Epoch 387/500
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614/614 [==============================] - 0s 125us/sample - loss: 0.4767 - y1_output_loss: 0.1137 - y2_output_loss: 0.3616 - y1_output_root_mean_squared_error: 0.3379 - y2_output_root_mean_squared_error: 0.6021 - val_loss: 0.9415 - val_y1_output_loss: 0.2299 - val_y2_output_loss: 0.7117 - val_y1_output_root_mean_squared_error: 0.4862 - val_y2_output_root_mean_squared_error: 0.8397
Epoch 388/500
614/614 [==============================] - 0s 126us/sample - loss: 0.4701 - y1_output_loss: 0.1206 - y2_output_loss: 0.3456 - y1_output_root_mean_squared_error: 0.3485 - y2_output_root_mean_squared_error: 0.5904 - val_loss: 0.8430 - val_y1_output_loss: 0.2254 - val_y2_output_loss: 0.5966 - val_y1_output_root_mean_squared_error: 0.4812 - val_y2_output_root_mean_squared_error: 0.7820
Epoch 389/500
614/614 [==============================] - 0s 126us/sample - loss: 0.4798 - y1_output_loss: 0.1229 - y2_output_loss: 0.3532 - y1_output_root_mean_squared_error: 0.3520 - y2_output_root_mean_squared_error: 0.5966 - val_loss: 0.7847 - val_y1_output_loss: 0.2114 - val_y2_output_loss: 0.5581 - val_y1_output_root_mean_squared_error: 0.4653 - val_y2_output_root_mean_squared_error: 0.7538
Epoch 390/500
614/614 [==============================] - 0s 127us/sample - loss: 0.4564 - y1_output_loss: 0.1134 - y2_output_loss: 0.3404 - y1_output_root_mean_squared_error: 0.3380 - y2_output_root_mean_squared_error: 0.5849 - val_loss: 1.0958 - val_y1_output_loss: 0.3137 - val_y2_output_loss: 0.7557 - val_y1_output_root_mean_squared_error: 0.5616 - val_y2_output_root_mean_squared_error: 0.8834
Epoch 391/500
614/614 [==============================] - 0s 125us/sample - loss: 0.4030 - y1_output_loss: 0.1129 - y2_output_loss: 0.2882 - y1_output_root_mean_squared_error: 0.3368 - y2_output_root_mean_squared_error: 0.5381 - val_loss: 0.7625 - val_y1_output_loss: 0.2189 - val_y2_output_loss: 0.5230 - val_y1_output_root_mean_squared_error: 0.4730 - val_y2_output_root_mean_squared_error: 0.7340
Epoch 392/500
614/614 [==============================] - 0s 126us/sample - loss: 0.4088 - y1_output_loss: 0.1258 - y2_output_loss: 0.2836 - y1_output_root_mean_squared_error: 0.3544 - y2_output_root_mean_squared_error: 0.5322 - val_loss: 1.6154 - val_y1_output_loss: 0.5011 - val_y2_output_loss: 1.1184 - val_y1_output_root_mean_squared_error: 0.7053 - val_y2_output_root_mean_squared_error: 1.0573
Epoch 393/500
614/614 [==============================] - 0s 126us/sample - loss: 0.8597 - y1_output_loss: 0.1863 - y2_output_loss: 0.6678 - y1_output_root_mean_squared_error: 0.4334 - y2_output_root_mean_squared_error: 0.8197 - val_loss: 1.2084 - val_y1_output_loss: 0.2599 - val_y2_output_loss: 0.9301 - val_y1_output_root_mean_squared_error: 0.5146 - val_y2_output_root_mean_squared_error: 0.9714

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Epoch 394/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5302 -
y1_output_loss: 0.1249 - y2_output_loss: 0.4077 -
y1_output_root_mean_squared_error: 0.3544 - y2_output_root_mean_squared_error:
0.6361 - val_loss: 1.3281 - val_y1_output_loss: 0.2946 - val_y2_output_loss:
1.0161 - val_y1_output_root_mean_squared_error: 0.5449 -
val_y2_output_root_mean_squared_error: 1.0155
Epoch 395/500
614/614 [==============================] - 0s 127us/sample - loss: 0.7956 -
y1_output_loss: 0.1676 - y2_output_loss: 0.6239 -
y1_output_root_mean_squared_error: 0.4112 - y2_output_root_mean_squared_error:
0.7915 - val_loss: 1.7021 - val_y1_output_loss: 0.3375 - val_y2_output_loss:
1.3741 - val_y1_output_root_mean_squared_error: 0.5854 -
val_y2_output_root_mean_squared_error: 1.1659
Epoch 396/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5474 -
y1_output_loss: 0.1317 - y2_output_loss: 0.4121 -
y1_output_root_mean_squared_error: 0.3634 - y2_output_root_mean_squared_error:
0.6445 - val_loss: 1.1267 - val_y1_output_loss: 0.3333 - val_y2_output_loss:
0.7682 - val_y1_output_root_mean_squared_error: 0.5850 -
val_y2_output_root_mean_squared_error: 0.8857
Epoch 397/500
614/614 [==============================] - 0s 129us/sample - loss: 0.5223 -
y1_output_loss: 0.1394 - y2_output_loss: 0.3913 -
y1_output_root_mean_squared_error: 0.3674 - y2_output_root_mean_squared_error:
0.6223 - val_loss: 1.8045 - val_y1_output_loss: 0.5522 - val_y2_output_loss:
1.2390 - val_y1_output_root_mean_squared_error: 0.7441 -
val_y2_output_root_mean_squared_error: 1.1184
Epoch 398/500
614/614 [==============================] - 0s 128us/sample - loss: 0.5381 -
y1_output_loss: 0.1198 - y2_output_loss: 0.4159 -
y1_output_root_mean_squared_error: 0.3464 - y2_output_root_mean_squared_error:
0.6466 - val_loss: 1.2069 - val_y1_output_loss: 0.2540 - val_y2_output_loss:
0.9281 - val_y1_output_root_mean_squared_error: 0.5079 -
val_y2_output_root_mean_squared_error: 0.9741
Epoch 399/500
614/614 [==============================] - 0s 137us/sample - loss: 0.7269 -
y1_output_loss: 0.1710 - y2_output_loss: 0.5529 -
y1_output_root_mean_squared_error: 0.4115 - y2_output_root_mean_squared_error:
0.7467 - val_loss: 0.9107 - val_y1_output_loss: 0.3055 - val_y2_output_loss:
0.5801 - val_y1_output_root_mean_squared_error: 0.5614 -
val_y2_output_root_mean_squared_error: 0.7717
Epoch 400/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4228 -
y1_output_loss: 0.1167 - y2_output_loss: 0.3137 -
y1_output_root_mean_squared_error: 0.3398 - y2_output_root_mean_squared_error:
0.5544 - val_loss: 1.6002 - val_y1_output_loss: 0.2778 - val_y2_output_loss:
1.3028 - val_y1_output_root_mean_squared_error: 0.5353 -
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val_y2_output_root_mean_squared_error: 1.1462
Epoch 401/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4379 -
y1_output_loss: 0.1245 - y2_output_loss: 0.3136 -
y1_output_root_mean_squared_error: 0.3538 - y2_output_root_mean_squared_error:
0.5592 - val_loss: 1.1419 - val_y1_output_loss: 0.2371 - val_y2_output_loss:
0.9185 - val_y1_output_root_mean_squared_error: 0.4932 -
val_y2_output_root_mean_squared_error: 0.9480
Epoch 402/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4982 -
y1_output_loss: 0.1233 - y2_output_loss: 0.3918 -
y1_output_root_mean_squared_error: 0.3451 - y2_output_root_mean_squared_error:
0.6157 - val_loss: 2.4530 - val_y1_output_loss: 0.6737 - val_y2_output_loss:
1.8283 - val_y1_output_root_mean_squared_error: 0.8157 -
val_y2_output_root_mean_squared_error: 1.3370
Epoch 403/500
614/614 [==============================] - 0s 130us/sample - loss: 0.5221 -
y1_output_loss: 0.1493 - y2_output_loss: 0.3851 -
y1_output_root_mean_squared_error: 0.3823 - y2_output_root_mean_squared_error:
0.6131 - val_loss: 2.4111 - val_y1_output_loss: 0.4566 - val_y2_output_loss:
2.0168 - val_y1_output_root_mean_squared_error: 0.6615 -
val_y2_output_root_mean_squared_error: 1.4048
Epoch 404/500
614/614 [==============================] - 0s 137us/sample - loss: 0.4751 -
y1_output_loss: 0.1398 - y2_output_loss: 0.3323 -
y1_output_root_mean_squared_error: 0.3752 - y2_output_root_mean_squared_error:
0.5782 - val_loss: 0.8283 - val_y1_output_loss: 0.2796 - val_y2_output_loss:
0.5354 - val_y1_output_root_mean_squared_error: 0.5283 -
val_y2_output_root_mean_squared_error: 0.7411
Epoch 405/500
614/614 [==============================] - 0s 140us/sample - loss: 0.6927 -
y1_output_loss: 0.1597 - y2_output_loss: 0.5277 -
y1_output_root_mean_squared_error: 0.4000 - y2_output_root_mean_squared_error:
0.7298 - val_loss: 0.8984 - val_y1_output_loss: 0.2621 - val_y2_output_loss:
0.6213 - val_y1_output_root_mean_squared_error: 0.5135 -
val_y2_output_root_mean_squared_error: 0.7967
Epoch 406/500
614/614 [==============================] - 0s 142us/sample - loss: 0.4886 -
y1_output_loss: 0.1366 - y2_output_loss: 0.3530 -
y1_output_root_mean_squared_error: 0.3670 - y2_output_root_mean_squared_error:
0.5950 - val_loss: 1.1484 - val_y1_output_loss: 0.2833 - val_y2_output_loss:
0.8274 - val_y1_output_root_mean_squared_error: 0.5384 -
val_y2_output_root_mean_squared_error: 0.9265
Epoch 407/500
614/614 [==============================] - 0s 140us/sample - loss: 0.5304 -
y1_output_loss: 0.1441 - y2_output_loss: 0.3894 -
y1_output_root_mean_squared_error: 0.3766 - y2_output_root_mean_squared_error:
0.6234 - val_loss: 1.8141 - val_y1_output_loss: 0.7183 - val_y2_output_loss:

```
1.1070 - val_y1_output_root_mean_squared_error: 0.8421 -
val_y2_output_root_mean_squared_error: 1.0512
Epoch 408/500
614/614 [==============================] - 0s 134us/sample - loss: 0.4243 -
y1_output_loss: 0.1322 - y2_output_loss: 0.2894 -
y1_output_root_mean_squared_error: 0.3640 - y2_output_root_mean_squared_error:
0.5402 - val_loss: 0.9289 - val_y1_output_loss: 0.2793 - val_y2_output_loss:
0.6341 - val_y1_output_root_mean_squared_error: 0.5265 -
val_y2_output_root_mean_squared_error: 0.8073
Epoch 409/500
614/614 [==============================] - 0s 130us/sample - loss: 0.4166 -
y1_output_loss: 0.1196 - y2_output_loss: 0.2966 -
y1_output_root_mean_squared_error: 0.3429 - y2_output_root_mean_squared_error:
0.5468 - val_loss: 1.3830 - val_y1_output_loss: 0.4696 - val_y2_output_loss:
0.9066 - val_y1_output_root_mean_squared_error: 0.6826 -
val_y2_output_root_mean_squared_error: 0.9576
Epoch 410/500
614/614 [==============================] - 0s 142us/sample - loss: 0.4454 -
y1_output_loss: 0.1318 - y2_output_loss: 0.3192 -
y1_output_root_mean_squared_error: 0.3578 - y2_output_root_mean_squared_error:
0.5633 - val_loss: 1.5525 - val_y1_output_loss: 0.7787 - val_y2_output_loss:
0.7751 - val_y1_output_root_mean_squared_error: 0.8801 -
val_y2_output_root_mean_squared_error: 0.8820
Epoch 411/500
614/614 [==============================] - 0s 133us/sample - loss: 1.4079 -
y1_output_loss: 0.2543 - y2_output_loss: 1.1542 -
y1_output_root_mean_squared_error: 0.5066 - y2_output_root_mean_squared_error:
1.0729 - val_loss: 2.2843 - val_y1_output_loss: 0.3249 - val_y2_output_loss:
1.9882 - val_y1_output_root_mean_squared_error: 0.5736 -
val_y2_output_root_mean_squared_error: 1.3983
Epoch 412/500
614/614 [==============================] - 0s 128us/sample - loss: 0.5845 -
y1_output_loss: 0.1393 - y2_output_loss: 0.4458 -
y1_output_root_mean_squared_error: 0.3722 - y2_output_root_mean_squared_error:
0.6678 - val_loss: 1.2859 - val_y1_output_loss: 0.3312 - val_y2_output_loss:
0.9340 - val_y1_output_root_mean_squared_error: 0.5729 -
val_y2_output_root_mean_squared_error: 0.9786
Epoch 413/500
614/614 [==============================] - 0s 136us/sample - loss: 0.4589 -
y1_output_loss: 0.1242 - y2_output_loss: 0.3319 -
y1_output_root_mean_squared_error: 0.3525 - y2_output_root_mean_squared_error:
0.5784 - val_loss: 0.7973 - val_y1_output_loss: 0.2616 - val_y2_output_loss:
0.5219 - val_y1_output_root_mean_squared_error: 0.5154 -
val_y2_output_root_mean_squared_error: 0.7292
Epoch 414/500
614/614 [==============================] - 0s 129us/sample - loss: 0.5016 -
y1_output_loss: 0.1334 - y2_output_loss: 0.3674 -
y1_output_root_mean_squared_error: 0.3664 - y2_output_root_mean_squared_error:
```

0.6061 - val_loss: 0.8905 - val_y1_output_loss: 0.2667 - val_y2_output_loss: 0.6077 - val_y1_output_root_mean_squared_error: 0.5153 - val_y2_output_root_mean_squared_error: 0.7905
Epoch 415/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4312 - y1_output_loss: 0.1118 - y2_output_loss: 0.3186 - y1_output_root_mean_squared_error: 0.3337 - y2_output_root_mean_squared_error: 0.5655 - val_loss: 0.8604 - val_y1_output_loss: 0.2841 - val_y2_output_loss: 0.5609 - val_y1_output_root_mean_squared_error: 0.5302 - val_y2_output_root_mean_squared_error: 0.7611
Epoch 416/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4392 - y1_output_loss: 0.1231 - y2_output_loss: 0.3150 - y1_output_root_mean_squared_error: 0.3519 - y2_output_root_mean_squared_error: 0.5616 - val_loss: 0.9051 - val_y1_output_loss: 0.2334 - val_y2_output_loss: 0.6506 - val_y1_output_root_mean_squared_error: 0.4891 - val_y2_output_root_mean_squared_error: 0.8161
Epoch 417/500
614/614 [==============================] - 0s 130us/sample - loss: 0.4029 - y1_output_loss: 0.1188 - y2_output_loss: 0.2835 - y1_output_root_mean_squared_error: 0.3455 - y2_output_root_mean_squared_error: 0.5325 - val_loss: 0.8010 - val_y1_output_loss: 0.2205 - val_y2_output_loss: 0.5579 - val_y1_output_root_mean_squared_error: 0.4744 - val_y2_output_root_mean_squared_error: 0.7589
Epoch 418/500
614/614 [==============================] - 0s 130us/sample - loss: 0.4427 - y1_output_loss: 0.1173 - y2_output_loss: 0.3273 - y1_output_root_mean_squared_error: 0.3392 - y2_output_root_mean_squared_error: 0.5724 - val_loss: 1.5956 - val_y1_output_loss: 0.3886 - val_y2_output_loss: 1.2021 - val_y1_output_root_mean_squared_error: 0.6151 - val_y2_output_root_mean_squared_error: 1.1033
Epoch 419/500
614/614 [==============================] - 0s 130us/sample - loss: 0.5000 - y1_output_loss: 0.1320 - y2_output_loss: 0.3689 - y1_output_root_mean_squared_error: 0.3615 - y2_output_root_mean_squared_error: 0.6078 - val_loss: 0.8982 - val_y1_output_loss: 0.2383 - val_y2_output_loss: 0.6422 - val_y1_output_root_mean_squared_error: 0.4883 - val_y2_output_root_mean_squared_error: 0.8123
Epoch 420/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4178 - y1_output_loss: 0.1185 - y2_output_loss: 0.2971 - y1_output_root_mean_squared_error: 0.3459 - y2_output_root_mean_squared_error: 0.5460 - val_loss: 0.7416 - val_y1_output_loss: 0.2197 - val_y2_output_loss: 0.5025 - val_y1_output_root_mean_squared_error: 0.4715 - val_y2_output_root_mean_squared_error: 0.7206
Epoch 421/500
614/614 [==============================] - 0s 126us/sample - loss: 0.4187 - y1_output_loss: 0.1067 - y2_output_loss: 0.3089 -

y1_output_root_mean_squared_error: 0.3280 - y2_output_root_mean_squared_error:
0.5578 - val_loss: 0.8561 - val_y1_output_loss: 0.2773 - val_y2_output_loss:
0.5602 - val_y1_output_root_mean_squared_error: 0.5310 -
val_y2_output_root_mean_squared_error: 0.7577
Epoch 422/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4513 -
y1_output_loss: 0.1288 - y2_output_loss: 0.3351 -
y1_output_root_mean_squared_error: 0.3478 - y2_output_root_mean_squared_error:
0.5747 - val_loss: 2.6273 - val_y1_output_loss: 0.9813 - val_y2_output_loss:
1.6758 - val_y1_output_root_mean_squared_error: 0.9832 -
val_y2_output_root_mean_squared_error: 1.2887
Epoch 423/500
614/614 [==============================] - 0s 137us/sample - loss: 0.5132 -
y1_output_loss: 0.1356 - y2_output_loss: 0.3812 -
y1_output_root_mean_squared_error: 0.3664 - y2_output_root_mean_squared_error:
0.6156 - val_loss: 1.7705 - val_y1_output_loss: 0.5756 - val_y2_output_loss:
1.1903 - val_y1_output_root_mean_squared_error: 0.7562 -
val_y2_output_root_mean_squared_error: 1.0948
Epoch 424/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5003 -
y1_output_loss: 0.1338 - y2_output_loss: 0.3635 -
y1_output_root_mean_squared_error: 0.3671 - y2_output_root_mean_squared_error:
0.6046 - val_loss: 0.9231 - val_y1_output_loss: 0.2576 - val_y2_output_loss:
0.6401 - val_y1_output_root_mean_squared_error: 0.5139 -
val_y2_output_root_mean_squared_error: 0.8118
Epoch 425/500
614/614 [==============================] - 0s 128us/sample - loss: 0.3822 -
y1_output_loss: 0.1059 - y2_output_loss: 0.2745 -
y1_output_root_mean_squared_error: 0.3256 - y2_output_root_mean_squared_error:
0.5256 - val_loss: 0.8386 - val_y1_output_loss: 0.2046 - val_y2_output_loss:
0.6122 - val_y1_output_root_mean_squared_error: 0.4574 -
val_y2_output_root_mean_squared_error: 0.7934
Epoch 426/500
614/614 [==============================] - 0s 126us/sample - loss: 0.3819 -
y1_output_loss: 0.1114 - y2_output_loss: 0.2676 -
y1_output_root_mean_squared_error: 0.3344 - y2_output_root_mean_squared_error:
0.5197 - val_loss: 0.9307 - val_y1_output_loss: 0.2823 - val_y2_output_loss:
0.6292 - val_y1_output_root_mean_squared_error: 0.5347 -
val_y2_output_root_mean_squared_error: 0.8030
Epoch 427/500
614/614 [==============================] - 0s 128us/sample - loss: 0.4553 -
y1_output_loss: 0.1208 - y2_output_loss: 0.3368 -
y1_output_root_mean_squared_error: 0.3434 - y2_output_root_mean_squared_error:
0.5808 - val_loss: 1.9927 - val_y1_output_loss: 0.3782 - val_y2_output_loss:
1.6414 - val_y1_output_root_mean_squared_error: 0.6211 -
val_y2_output_root_mean_squared_error: 1.2677
Epoch 428/500
614/614 [==============================] - 0s 135us/sample - loss: 0.4332 -

```
y1_output_loss: 0.1162 - y2_output_loss: 0.3142 -
y1_output_root_mean_squared_error: 0.3422 - y2_output_root_mean_squared_error:
0.5622 - val_loss: 0.8559 - val_y1_output_loss: 0.2045 - val_y2_output_loss:
0.6544 - val_y1_output_root_mean_squared_error: 0.4579 -
val_y2_output_root_mean_squared_error: 0.8039
Epoch 429/500
614/614 [==============================] - 0s 134us/sample - loss: 0.4754 -
y1_output_loss: 0.1126 - y2_output_loss: 0.3594 -
y1_output_root_mean_squared_error: 0.3362 - y2_output_root_mean_squared_error:
0.6019 - val_loss: 0.7930 - val_y1_output_loss: 0.2273 - val_y2_output_loss:
0.5481 - val_y1_output_root_mean_squared_error: 0.4831 -
val_y2_output_root_mean_squared_error: 0.7481
Epoch 430/500
614/614 [==============================] - 0s 141us/sample - loss: 0.6812 -
y1_output_loss: 0.1505 - y2_output_loss: 0.5377 -
y1_output_root_mean_squared_error: 0.3832 - y2_output_root_mean_squared_error:
0.7310 - val_loss: 1.6666 - val_y1_output_loss: 0.5777 - val_y2_output_loss:
1.1180 - val_y1_output_root_mean_squared_error: 0.7455 -
val_y2_output_root_mean_squared_error: 1.0540
Epoch 431/500
614/614 [==============================] - 0s 138us/sample - loss: 0.4789 -
y1_output_loss: 0.1351 - y2_output_loss: 0.3432 -
y1_output_root_mean_squared_error: 0.3687 - y2_output_root_mean_squared_error:
0.5857 - val_loss: 1.2152 - val_y1_output_loss: 0.2230 - val_y2_output_loss:
0.9832 - val_y1_output_root_mean_squared_error: 0.4795 -
val_y2_output_root_mean_squared_error: 0.9926
Epoch 432/500
614/614 [==============================] - 0s 137us/sample - loss: 0.4441 -
y1_output_loss: 0.1115 - y2_output_loss: 0.3296 -
y1_output_root_mean_squared_error: 0.3353 - y2_output_root_mean_squared_error:
0.5759 - val_loss: 1.1312 - val_y1_output_loss: 0.2523 - val_y2_output_loss:
0.8790 - val_y1_output_root_mean_squared_error: 0.5039 -
val_y2_output_root_mean_squared_error: 0.9366
Epoch 433/500
614/614 [==============================] - 0s 140us/sample - loss: 0.3906 -
y1_output_loss: 0.1100 - y2_output_loss: 0.2837 -
y1_output_root_mean_squared_error: 0.3321 - y2_output_root_mean_squared_error:
0.5295 - val_loss: 1.2188 - val_y1_output_loss: 0.2411 - val_y2_output_loss:
0.9997 - val_y1_output_root_mean_squared_error: 0.4980 -
val_y2_output_root_mean_squared_error: 0.9853
Epoch 434/500
614/614 [==============================] - 0s 136us/sample - loss: 0.3477 -
y1_output_loss: 0.1080 - y2_output_loss: 0.2397 -
y1_output_root_mean_squared_error: 0.3284 - y2_output_root_mean_squared_error:
0.4898 - val_loss: 0.9234 - val_y1_output_loss: 0.2115 - val_y2_output_loss:
0.6994 - val_y1_output_root_mean_squared_error: 0.4624 -
val_y2_output_root_mean_squared_error: 0.8424
Epoch 435/500
```

614/614 [==============================] - 0s 127us/sample - loss: 0.4982 - y1_output_loss: 0.1287 - y2_output_loss: 0.3676 - y1_output_root_mean_squared_error: 0.3589 - y2_output_root_mean_squared_error: 0.6078 - val_loss: 0.9752 - val_y1_output_loss: 0.2205 - val_y2_output_loss: 0.7346 - val_y1_output_root_mean_squared_error: 0.4752 - val_y2_output_root_mean_squared_error: 0.8657
Epoch 436/500
614/614 [==============================] - 0s 128us/sample - loss: 0.3435 - y1_output_loss: 0.1048 - y2_output_loss: 0.2375 - y1_output_root_mean_squared_error: 0.3240 - y2_output_root_mean_squared_error: 0.4884 - val_loss: 0.9341 - val_y1_output_loss: 0.2335 - val_y2_output_loss: 0.6856 - val_y1_output_root_mean_squared_error: 0.4881 - val_y2_output_root_mean_squared_error: 0.8342
Epoch 437/500
614/614 [==============================] - 0s 126us/sample - loss: 0.4543 - y1_output_loss: 0.1121 - y2_output_loss: 0.3428 - y1_output_root_mean_squared_error: 0.3357 - y2_output_root_mean_squared_error: 0.5844 - val_loss: 0.8720 - val_y1_output_loss: 0.2175 - val_y2_output_loss: 0.6333 - val_y1_output_root_mean_squared_error: 0.4694 - val_y2_output_root_mean_squared_error: 0.8073
Epoch 438/500
614/614 [==============================] - 0s 126us/sample - loss: 0.9569 - y1_output_loss: 0.2250 - y2_output_loss: 0.7248 - y1_output_root_mean_squared_error: 0.4755 - y2_output_root_mean_squared_error: 0.8549 - val_loss: 0.6835 - val_y1_output_loss: 0.1974 - val_y2_output_loss: 0.4691 - val_y1_output_root_mean_squared_error: 0.4484 - val_y2_output_root_mean_squared_error: 0.6946
Epoch 439/500
614/614 [==============================] - 0s 130us/sample - loss: 0.4196 - y1_output_loss: 0.1082 - y2_output_loss: 0.3118 - y1_output_root_mean_squared_error: 0.3277 - y2_output_root_mean_squared_error: 0.5588 - val_loss: 0.9891 - val_y1_output_loss: 0.3374 - val_y2_output_loss: 0.6362 - val_y1_output_root_mean_squared_error: 0.5877 - val_y2_output_root_mean_squared_error: 0.8023
Epoch 440/500
614/614 [==============================] - 0s 130us/sample - loss: 0.6180 - y1_output_loss: 0.1423 - y2_output_loss: 0.4708 - y1_output_root_mean_squared_error: 0.3787 - y2_output_root_mean_squared_error: 0.6889 - val_loss: 0.9651 - val_y1_output_loss: 0.2325 - val_y2_output_loss: 0.7293 - val_y1_output_root_mean_squared_error: 0.4842 - val_y2_output_root_mean_squared_error: 0.8548
Epoch 441/500
614/614 [==============================] - 0s 138us/sample - loss: 0.3621 - y1_output_loss: 0.1104 - y2_output_loss: 0.2547 - y1_output_root_mean_squared_error: 0.3334 - y2_output_root_mean_squared_error: 0.5009 - val_loss: 0.9814 - val_y1_output_loss: 0.2040 - val_y2_output_loss: 0.7512 - val_y1_output_root_mean_squared_error: 0.4569 - val_y2_output_root_mean_squared_error: 0.8790

```
Epoch 442/500
614/614 [==============================] - 0s 127us/sample - loss: 0.5143 -
y1_output_loss: 0.1324 - y2_output_loss: 0.3778 -
y1_output_root_mean_squared_error: 0.3652 - y2_output_root_mean_squared_error:
0.6172 - val_loss: 0.6962 - val_y1_output_loss: 0.2172 - val_y2_output_loss:
0.4624 - val_y1_output_root_mean_squared_error: 0.4699 -
val_y2_output_root_mean_squared_error: 0.6895
Epoch 443/500
614/614 [==============================] - 0s 128us/sample - loss: 0.4831 -
y1_output_loss: 0.1383 - y2_output_loss: 0.3424 -
y1_output_root_mean_squared_error: 0.3728 - y2_output_root_mean_squared_error:
0.5866 - val_loss: 0.9211 - val_y1_output_loss: 0.2004 - val_y2_output_loss:
0.6955 - val_y1_output_root_mean_squared_error: 0.4529 -
val_y2_output_root_mean_squared_error: 0.8462
Epoch 444/500
614/614 [==============================] - 0s 126us/sample - loss: 0.4114 -
y1_output_loss: 0.1138 - y2_output_loss: 0.2939 -
y1_output_root_mean_squared_error: 0.3386 - y2_output_root_mean_squared_error:
0.5447 - val_loss: 0.7532 - val_y1_output_loss: 0.2278 - val_y2_output_loss:
0.5037 - val_y1_output_root_mean_squared_error: 0.4820 -
val_y2_output_root_mean_squared_error: 0.7217
Epoch 445/500
614/614 [==============================] - 0s 126us/sample - loss: 0.5354 -
y1_output_loss: 0.1370 - y2_output_loss: 0.3964 -
y1_output_root_mean_squared_error: 0.3685 - y2_output_root_mean_squared_error:
0.6322 - val_loss: 0.7789 - val_y1_output_loss: 0.2311 - val_y2_output_loss:
0.5297 - val_y1_output_root_mean_squared_error: 0.4856 -
val_y2_output_root_mean_squared_error: 0.7369
Epoch 446/500
614/614 [==============================] - 0s 127us/sample - loss: 0.3853 -
y1_output_loss: 0.1053 - y2_output_loss: 0.2789 -
y1_output_root_mean_squared_error: 0.3240 - y2_output_root_mean_squared_error:
0.5294 - val_loss: 0.7781 - val_y1_output_loss: 0.2320 - val_y2_output_loss:
0.5385 - val_y1_output_root_mean_squared_error: 0.4877 -
val_y2_output_root_mean_squared_error: 0.7350
Epoch 447/500
614/614 [==============================] - 0s 126us/sample - loss: 0.3529 -
y1_output_loss: 0.1002 - y2_output_loss: 0.2509 -
y1_output_root_mean_squared_error: 0.3178 - y2_output_root_mean_squared_error:
0.5019 - val_loss: 0.7054 - val_y1_output_loss: 0.2166 - val_y2_output_loss:
0.4685 - val_y1_output_root_mean_squared_error: 0.4720 -
val_y2_output_root_mean_squared_error: 0.6947
Epoch 448/500
614/614 [==============================] - 0s 127us/sample - loss: 0.3672 -
y1_output_loss: 0.1112 - y2_output_loss: 0.2556 -
y1_output_root_mean_squared_error: 0.3321 - y2_output_root_mean_squared_error:
0.5068 - val_loss: 0.8527 - val_y1_output_loss: 0.2971 - val_y2_output_loss:
0.5407 - val_y1_output_root_mean_squared_error: 0.5453 -
```

val_y2_output_root_mean_squared_error: 0.7452
Epoch 449/500
614/614 [==============================] - 0s 128us/sample - loss: 0.3463 -
y1_output_loss: 0.1008 - y2_output_loss: 0.2438 -
y1_output_root_mean_squared_error: 0.3188 - y2_output_root_mean_squared_error:
0.4947 - val_loss: 0.7490 - val_y1_output_loss: 0.2263 - val_y2_output_loss:
0.5040 - val_y1_output_root_mean_squared_error: 0.4808 -
val_y2_output_root_mean_squared_error: 0.7196
Epoch 450/500
614/614 [==============================] - 0s 127us/sample - loss: 0.3219 -
y1_output_loss: 0.1132 - y2_output_loss: 0.2078 -
y1_output_root_mean_squared_error: 0.3366 - y2_output_root_mean_squared_error:
0.4567 - val_loss: 0.7242 - val_y1_output_loss: 0.2389 - val_y2_output_loss:
0.4658 - val_y1_output_root_mean_squared_error: 0.4927 -
val_y2_output_root_mean_squared_error: 0.6939
Epoch 451/500
614/614 [==============================] - 0s 128us/sample - loss: 0.4399 -
y1_output_loss: 0.1152 - y2_output_loss: 0.3225 -
y1_output_root_mean_squared_error: 0.3408 - y2_output_root_mean_squared_error:
0.5690 - val_loss: 0.9181 - val_y1_output_loss: 0.2753 - val_y2_output_loss:
0.6337 - val_y1_output_root_mean_squared_error: 0.5300 -
val_y2_output_root_mean_squared_error: 0.7983
Epoch 452/500
614/614 [==============================] - 0s 127us/sample - loss: 0.3111 -
y1_output_loss: 0.1020 - y2_output_loss: 0.2071 -
y1_output_root_mean_squared_error: 0.3206 - y2_output_root_mean_squared_error:
0.4564 - val_loss: 0.8575 - val_y1_output_loss: 0.2292 - val_y2_output_loss:
0.6101 - val_y1_output_root_mean_squared_error: 0.4852 -
val_y2_output_root_mean_squared_error: 0.7887
Epoch 453/500
614/614 [==============================] - 0s 128us/sample - loss: 0.4113 -
y1_output_loss: 0.1239 - y2_output_loss: 0.2850 -
y1_output_root_mean_squared_error: 0.3532 - y2_output_root_mean_squared_error:
0.5353 - val_loss: 0.7335 - val_y1_output_loss: 0.2299 - val_y2_output_loss:
0.4849 - val_y1_output_root_mean_squared_error: 0.4842 -
val_y2_output_root_mean_squared_error: 0.7064
Epoch 454/500
614/614 [==============================] - 0s 128us/sample - loss: 0.3433 -
y1_output_loss: 0.1106 - y2_output_loss: 0.2309 -
y1_output_root_mean_squared_error: 0.3322 - y2_output_root_mean_squared_error:
0.4826 - val_loss: 0.7501 - val_y1_output_loss: 0.2818 - val_y2_output_loss:
0.4594 - val_y1_output_root_mean_squared_error: 0.5308 -
val_y2_output_root_mean_squared_error: 0.6844
Epoch 455/500
614/614 [==============================] - 0s 132us/sample - loss: 0.4354 -
y1_output_loss: 0.1170 - y2_output_loss: 0.3187 -
y1_output_root_mean_squared_error: 0.3429 - y2_output_root_mean_squared_error:
0.5638 - val_loss: 0.9268 - val_y1_output_loss: 0.2115 - val_y2_output_loss:

0.6955 - val_y1_output_root_mean_squared_error: 0.4663 -
val_y2_output_root_mean_squared_error: 0.8422
Epoch 456/500
614/614 [==============================] - 0s 125us/sample - loss: 0.3702 -
y1_output_loss: 0.1154 - y2_output_loss: 0.2522 -
y1_output_root_mean_squared_error: 0.3403 - y2_output_root_mean_squared_error:
0.5044 - val_loss: 0.6477 - val_y1_output_loss: 0.2041 - val_y2_output_loss:
0.4267 - val_y1_output_root_mean_squared_error: 0.4548 -
val_y2_output_root_mean_squared_error: 0.6640
Epoch 457/500
614/614 [==============================] - 0s 128us/sample - loss: 0.4162 -
y1_output_loss: 0.1181 - y2_output_loss: 0.2945 -
y1_output_root_mean_squared_error: 0.3448 - y2_output_root_mean_squared_error:
0.5453 - val_loss: 0.7406 - val_y1_output_loss: 0.2151 - val_y2_output_loss:
0.5076 - val_y1_output_root_mean_squared_error: 0.4690 -
val_y2_output_root_mean_squared_error: 0.7215
Epoch 458/500
614/614 [==============================] - 0s 136us/sample - loss: 0.3452 -
y1_output_loss: 0.1103 - y2_output_loss: 0.2340 -
y1_output_root_mean_squared_error: 0.3320 - y2_output_root_mean_squared_error:
0.4847 - val_loss: 0.7854 - val_y1_output_loss: 0.2565 - val_y2_output_loss:
0.5150 - val_y1_output_root_mean_squared_error: 0.5023 -
val_y2_output_root_mean_squared_error: 0.7301
Epoch 459/500
614/614 [==============================] - 0s 134us/sample - loss: 0.3540 -
y1_output_loss: 0.1144 - y2_output_loss: 0.2411 -
y1_output_root_mean_squared_error: 0.3382 - y2_output_root_mean_squared_error:
0.4896 - val_loss: 1.3972 - val_y1_output_loss: 0.4248 - val_y2_output_loss:
0.9789 - val_y1_output_root_mean_squared_error: 0.6420 -
val_y2_output_root_mean_squared_error: 0.9925
Epoch 460/500
614/614 [==============================] - 0s 128us/sample - loss: 0.6008 -
y1_output_loss: 0.1413 - y2_output_loss: 0.4663 -
y1_output_root_mean_squared_error: 0.3770 - y2_output_root_mean_squared_error:
0.6772 - val_loss: 1.5188 - val_y1_output_loss: 0.3054 - val_y2_output_loss:
1.2526 - val_y1_output_root_mean_squared_error: 0.5533 -
val_y2_output_root_mean_squared_error: 1.1012
Epoch 461/500
614/614 [==============================] - 0s 126us/sample - loss: 0.6145 -
y1_output_loss: 0.1314 - y2_output_loss: 0.4820 -
y1_output_root_mean_squared_error: 0.3582 - y2_output_root_mean_squared_error:
0.6972 - val_loss: 1.1443 - val_y1_output_loss: 0.4917 - val_y2_output_loss:
0.6405 - val_y1_output_root_mean_squared_error: 0.6981 -
val_y2_output_root_mean_squared_error: 0.8106
Epoch 462/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4027 -
y1_output_loss: 0.1169 - y2_output_loss: 0.2868 -
y1_output_root_mean_squared_error: 0.3430 - y2_output_root_mean_squared_error:

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0.5339 - val_loss: 0.7758 - val_y1_output_loss: 0.1942 - val_y2_output_loss:
0.5626 - val_y1_output_root_mean_squared_error: 0.4450 -
val_y2_output_root_mean_squared_error: 0.7602
Epoch 463/500
614/614 [==============================] - 0s 128us/sample - loss: 0.4290 -
y1_output_loss: 0.1148 - y2_output_loss: 0.3147 -
y1_output_root_mean_squared_error: 0.3362 - y2_output_root_mean_squared_error:
0.5621 - val_loss: 0.7876 - val_y1_output_loss: 0.2343 - val_y2_output_loss:
0.5446 - val_y1_output_root_mean_squared_error: 0.4900 -
val_y2_output_root_mean_squared_error: 0.7399
Epoch 464/500
614/614 [==============================] - 0s 129us/sample - loss: 0.3739 -
y1_output_loss: 0.1068 - y2_output_loss: 0.2678 -
y1_output_root_mean_squared_error: 0.3268 - y2_output_root_mean_squared_error:
0.5168 - val_loss: 1.6025 - val_y1_output_loss: 0.3573 - val_y2_output_loss:
1.2393 - val_y1_output_root_mean_squared_error: 0.5992 -
val_y2_output_root_mean_squared_error: 1.1151
Epoch 465/500
614/614 [==============================] - 0s 127us/sample - loss: 0.4495 -
y1_output_loss: 0.1229 - y2_output_loss: 0.3258 -
y1_output_root_mean_squared_error: 0.3485 - y2_output_root_mean_squared_error:
0.5727 - val_loss: 0.7530 - val_y1_output_loss: 0.2211 - val_y2_output_loss:
0.5134 - val_y1_output_root_mean_squared_error: 0.4735 -
val_y2_output_root_mean_squared_error: 0.7272
Epoch 466/500
614/614 [==============================] - 0s 128us/sample - loss: 0.3822 -
y1_output_loss: 0.1102 - y2_output_loss: 0.2715 -
y1_output_root_mean_squared_error: 0.3300 - y2_output_root_mean_squared_error:
0.5228 - val_loss: 0.7975 - val_y1_output_loss: 0.3025 - val_y2_output_loss:
0.4841 - val_y1_output_root_mean_squared_error: 0.5535 -
val_y2_output_root_mean_squared_error: 0.7008
Epoch 467/500
614/614 [==============================] - 0s 129us/sample - loss: 0.3469 -
y1_output_loss: 0.1109 - y2_output_loss: 0.2342 -
y1_output_root_mean_squared_error: 0.3339 - y2_output_root_mean_squared_error:
0.4852 - val_loss: 0.9310 - val_y1_output_loss: 0.3213 - val_y2_output_loss:
0.6011 - val_y1_output_root_mean_squared_error: 0.5647 -
val_y2_output_root_mean_squared_error: 0.7823
Epoch 468/500
614/614 [==============================] - 0s 127us/sample - loss: 0.3845 -
y1_output_loss: 0.1248 - y2_output_loss: 0.2640 -
y1_output_root_mean_squared_error: 0.3486 - y2_output_root_mean_squared_error:
0.5128 - val_loss: 1.0818 - val_y1_output_loss: 0.3408 - val_y2_output_loss:
0.7382 - val_y1_output_root_mean_squared_error: 0.5839 -
val_y2_output_root_mean_squared_error: 0.8607
Epoch 469/500
614/614 [==============================] - 0s 127us/sample - loss: 0.4163 -
y1_output_loss: 0.1156 - y2_output_loss: 0.2977 -
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y1_output_root_mean_squared_error: 0.3411 - y2_output_root_mean_squared_error:
0.5477 - val_loss: 1.0325 - val_y1_output_loss: 0.3428 - val_y2_output_loss:
0.6790 - val_y1_output_root_mean_squared_error: 0.5883 -
val_y2_output_root_mean_squared_error: 0.8285
Epoch 470/500
614/614 [==============================] - 0s 128us/sample - loss: 0.3853 -
y1_output_loss: 0.1125 - y2_output_loss: 0.2733 -
y1_output_root_mean_squared_error: 0.3335 - y2_output_root_mean_squared_error:
0.5235 - val_loss: 0.7529 - val_y1_output_loss: 0.2685 - val_y2_output_loss:
0.4726 - val_y1_output_root_mean_squared_error: 0.5223 -
val_y2_output_root_mean_squared_error: 0.6929
Epoch 471/500
614/614 [==============================] - 0s 127us/sample - loss: 0.3635 -
y1_output_loss: 0.1094 - y2_output_loss: 0.2525 -
y1_output_root_mean_squared_error: 0.3311 - y2_output_root_mean_squared_error:
0.5038 - val_loss: 0.9742 - val_y1_output_loss: 0.2366 - val_y2_output_loss:
0.7251 - val_y1_output_root_mean_squared_error: 0.4900 -
val_y2_output_root_mean_squared_error: 0.8568
Epoch 472/500
614/614 [==============================] - 0s 130us/sample - loss: 0.3375 -
y1_output_loss: 0.1038 - y2_output_loss: 0.2312 -
y1_output_root_mean_squared_error: 0.3234 - y2_output_root_mean_squared_error:
0.4827 - val_loss: 0.9439 - val_y1_output_loss: 0.3165 - val_y2_output_loss:
0.6194 - val_y1_output_root_mean_squared_error: 0.5653 -
val_y2_output_root_mean_squared_error: 0.7902
Epoch 473/500
614/614 [==============================] - 0s 129us/sample - loss: 0.4281 -
y1_output_loss: 0.1081 - y2_output_loss: 0.3215 -
y1_output_root_mean_squared_error: 0.3283 - y2_output_root_mean_squared_error:
0.5660 - val_loss: 1.0788 - val_y1_output_loss: 0.3208 - val_y2_output_loss:
0.7415 - val_y1_output_root_mean_squared_error: 0.5677 -
val_y2_output_root_mean_squared_error: 0.8698
Epoch 474/500
614/614 [==============================] - 0s 132us/sample - loss: 0.6636 -
y1_output_loss: 0.1730 - y2_output_loss: 0.4874 -
y1_output_root_mean_squared_error: 0.4166 - y2_output_root_mean_squared_error:
0.7000 - val_loss: 0.8151 - val_y1_output_loss: 0.2446 - val_y2_output_loss:
0.5497 - val_y1_output_root_mean_squared_error: 0.5010 -
val_y2_output_root_mean_squared_error: 0.7511
Epoch 475/500
614/614 [==============================] - 0s 137us/sample - loss: 0.3704 -
y1_output_loss: 0.1088 - y2_output_loss: 0.2601 -
y1_output_root_mean_squared_error: 0.3303 - y2_output_root_mean_squared_error:
0.5112 - val_loss: 0.6668 - val_y1_output_loss: 0.2252 - val_y2_output_loss:
0.4230 - val_y1_output_root_mean_squared_error: 0.4776 -
val_y2_output_root_mean_squared_error: 0.6623
Epoch 476/500
614/614 [==============================] - 0s 141us/sample - loss: 0.4172 -

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y1_output_loss: 0.1079 - y2_output_loss: 0.3057 -
y1_output_root_mean_squared_error: 0.3299 - y2_output_root_mean_squared_error:
0.5553 - val_loss: 0.6697 - val_y1_output_loss: 0.1961 - val_y2_output_loss:
0.4569 - val_y1_output_root_mean_squared_error: 0.4486 -
val_y2_output_root_mean_squared_error: 0.6844
Epoch 477/500
614/614 [==============================] - 0s 130us/sample - loss: 0.6286 -
y1_output_loss: 0.1542 - y2_output_loss: 0.4698 -
y1_output_root_mean_squared_error: 0.3944 - y2_output_root_mean_squared_error:
0.6878 - val_loss: 0.6584 - val_y1_output_loss: 0.2066 - val_y2_output_loss:
0.4313 - val_y1_output_root_mean_squared_error: 0.4607 -
val_y2_output_root_mean_squared_error: 0.6680
Epoch 478/500
614/614 [==============================] - 0s 130us/sample - loss: 0.3509 -
y1_output_loss: 0.1154 - y2_output_loss: 0.2342 -
y1_output_root_mean_squared_error: 0.3394 - y2_output_root_mean_squared_error:
0.4855 - val_loss: 0.6835 - val_y1_output_loss: 0.2008 - val_y2_output_loss:
0.4621 - val_y1_output_root_mean_squared_error: 0.4551 -
val_y2_output_root_mean_squared_error: 0.6902
Epoch 479/500
614/614 [==============================] - 0s 135us/sample - loss: 0.3792 -
y1_output_loss: 0.1078 - y2_output_loss: 0.2685 -
y1_output_root_mean_squared_error: 0.3294 - y2_output_root_mean_squared_error:
0.5202 - val_loss: 0.7536 - val_y1_output_loss: 0.2163 - val_y2_output_loss:
0.5221 - val_y1_output_root_mean_squared_error: 0.4658 -
val_y2_output_root_mean_squared_error: 0.7325
Epoch 480/500
614/614 [==============================] - 0s 127us/sample - loss: 0.3345 -
y1_output_loss: 0.1055 - y2_output_loss: 0.2263 -
y1_output_root_mean_squared_error: 0.3261 - y2_output_root_mean_squared_error:
0.4776 - val_loss: 0.7499 - val_y1_output_loss: 0.2621 - val_y2_output_loss:
0.4744 - val_y1_output_root_mean_squared_error: 0.5101 -
val_y2_output_root_mean_squared_error: 0.6998
Epoch 481/500
614/614 [==============================] - 0s 136us/sample - loss: 0.3132 -
y1_output_loss: 0.1137 - y2_output_loss: 0.1996 -
y1_output_root_mean_squared_error: 0.3374 - y2_output_root_mean_squared_error:
0.4466 - val_loss: 0.8882 - val_y1_output_loss: 0.3533 - val_y2_output_loss:
0.5231 - val_y1_output_root_mean_squared_error: 0.5922 -
val_y2_output_root_mean_squared_error: 0.7331
Epoch 482/500
614/614 [==============================] - 0s 137us/sample - loss: 0.3370 -
y1_output_loss: 0.0981 - y2_output_loss: 0.2437 -
y1_output_root_mean_squared_error: 0.3147 - y2_output_root_mean_squared_error:
0.4877 - val_loss: 1.5549 - val_y1_output_loss: 0.2288 - val_y2_output_loss:
1.3289 - val_y1_output_root_mean_squared_error: 0.4805 -
val_y2_output_root_mean_squared_error: 1.1507
Epoch 483/500
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614/614 [==============================] - 0s 131us/sample - loss: 0.3623 -
y1_output_loss: 0.0974 - y2_output_loss: 0.2629 -
y1_output_root_mean_squared_error: 0.3123 - y2_output_root_mean_squared_error:
0.5146 - val_loss: 0.8344 - val_y1_output_loss: 0.2229 - val_y2_output_loss:
0.5925 - val_y1_output_root_mean_squared_error: 0.4761 -
val_y2_output_root_mean_squared_error: 0.7795
Epoch 484/500
614/614 [==============================] - 0s 128us/sample - loss: 0.4180 -
y1_output_loss: 0.1094 - y2_output_loss: 0.3053 -
y1_output_root_mean_squared_error: 0.3320 - y2_output_root_mean_squared_error:
0.5548 - val_loss: 0.6379 - val_y1_output_loss: 0.2022 - val_y2_output_loss:
0.4164 - val_y1_output_root_mean_squared_error: 0.4555 -
val_y2_output_root_mean_squared_error: 0.6560
Epoch 485/500
614/614 [==============================] - 0s 134us/sample - loss: 0.4006 -
y1_output_loss: 0.1112 - y2_output_loss: 0.2955 -
y1_output_root_mean_squared_error: 0.3313 - y2_output_root_mean_squared_error:
0.5393 - val_loss: 1.2727 - val_y1_output_loss: 0.4114 - val_y2_output_loss:
0.9057 - val_y1_output_root_mean_squared_error: 0.6336 -
val_y2_output_root_mean_squared_error: 0.9334
Epoch 486/500
614/614 [==============================] - 0s 139us/sample - loss: 0.4319 -
y1_output_loss: 0.1303 - y2_output_loss: 0.3021 -
y1_output_root_mean_squared_error: 0.3611 - y2_output_root_mean_squared_error:
0.5491 - val_loss: 0.9204 - val_y1_output_loss: 0.2243 - val_y2_output_loss:
0.6758 - val_y1_output_root_mean_squared_error: 0.4743 -
val_y2_output_root_mean_squared_error: 0.8339
Epoch 487/500
614/614 [==============================] - 0s 129us/sample - loss: 0.3424 -
y1_output_loss: 0.1053 - y2_output_loss: 0.2398 -
y1_output_root_mean_squared_error: 0.3247 - y2_output_root_mean_squared_error:
0.4868 - val_loss: 1.3575 - val_y1_output_loss: 0.3206 - val_y2_output_loss:
1.0254 - val_y1_output_root_mean_squared_error: 0.5675 -
val_y2_output_root_mean_squared_error: 1.0176
Epoch 488/500
614/614 [==============================] - 0s 126us/sample - loss: 0.3699 -
y1_output_loss: 0.1082 - y2_output_loss: 0.2607 -
y1_output_root_mean_squared_error: 0.3302 - y2_output_root_mean_squared_error:
0.5107 - val_loss: 0.7924 - val_y1_output_loss: 0.2185 - val_y2_output_loss:
0.5574 - val_y1_output_root_mean_squared_error: 0.4707 -
val_y2_output_root_mean_squared_error: 0.7555
Epoch 489/500
614/614 [==============================] - 0s 135us/sample - loss: 0.5305 -
y1_output_loss: 0.1173 - y2_output_loss: 0.4101 -
y1_output_root_mean_squared_error: 0.3434 - y2_output_root_mean_squared_error:
0.6423 - val_loss: 0.7185 - val_y1_output_loss: 0.2393 - val_y2_output_loss:
0.4724 - val_y1_output_root_mean_squared_error: 0.4948 -
val_y2_output_root_mean_squared_error: 0.6882
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Epoch 490/500
614/614 [==============================] - 0s 141us/sample - loss: 0.4165 -
y1_output_loss: 0.1136 - y2_output_loss: 0.3007 -
y1_output_root_mean_squared_error: 0.3381 - y2_output_root_mean_squared_error:
0.5497 - val_loss: 0.6774 - val_y1_output_loss: 0.2029 - val_y2_output_loss:
0.4552 - val_y1_output_root_mean_squared_error: 0.4568 -
val_y2_output_root_mean_squared_error: 0.6846
Epoch 491/500
614/614 [==============================] - 0s 134us/sample - loss: 0.3540 -
y1_output_loss: 0.1043 - y2_output_loss: 0.2499 -
y1_output_root_mean_squared_error: 0.3234 - y2_output_root_mean_squared_error:
0.4995 - val_loss: 0.7851 - val_y1_output_loss: 0.2169 - val_y2_output_loss:
0.5496 - val_y1_output_root_mean_squared_error: 0.4711 -
val_y2_output_root_mean_squared_error: 0.7504
Epoch 492/500
614/614 [==============================] - 0s 132us/sample - loss: 0.3854 -
y1_output_loss: 0.1261 - y2_output_loss: 0.2804 -
y1_output_root_mean_squared_error: 0.3518 - y2_output_root_mean_squared_error:
0.5116 - val_loss: 1.0870 - val_y1_output_loss: 0.2508 - val_y2_output_loss:
0.8122 - val_y1_output_root_mean_squared_error: 0.5002 -
val_y2_output_root_mean_squared_error: 0.9148
Epoch 493/500
614/614 [==============================] - 0s 125us/sample - loss: 0.5705 -
y1_output_loss: 0.1476 - y2_output_loss: 0.4210 -
y1_output_root_mean_squared_error: 0.3858 - y2_output_root_mean_squared_error:
0.6494 - val_loss: 0.8056 - val_y1_output_loss: 0.2107 - val_y2_output_loss:
0.5819 - val_y1_output_root_mean_squared_error: 0.4660 -
val_y2_output_root_mean_squared_error: 0.7672
Epoch 494/500
614/614 [==============================] - 0s 126us/sample - loss: 0.4832 -
y1_output_loss: 0.1281 - y2_output_loss: 0.3508 -
y1_output_root_mean_squared_error: 0.3592 - y2_output_root_mean_squared_error:
0.5951 - val_loss: 0.6623 - val_y1_output_loss: 0.2133 - val_y2_output_loss:
0.4305 - val_y1_output_root_mean_squared_error: 0.4678 -
val_y2_output_root_mean_squared_error: 0.6659
Epoch 495/500
614/614 [==============================] - 0s 124us/sample - loss: 0.3515 -
y1_output_loss: 0.1036 - y2_output_loss: 0.2469 -
y1_output_root_mean_squared_error: 0.3216 - y2_output_root_mean_squared_error:
0.4981 - val_loss: 0.7806 - val_y1_output_loss: 0.2728 - val_y2_output_loss:
0.4851 - val_y1_output_root_mean_squared_error: 0.5264 -
val_y2_output_root_mean_squared_error: 0.7096
Epoch 496/500
614/614 [==============================] - 0s 124us/sample - loss: 0.3802 -
y1_output_loss: 0.1111 - y2_output_loss: 0.2672 -
y1_output_root_mean_squared_error: 0.3345 - y2_output_root_mean_squared_error:
0.5180 - val_loss: 0.7728 - val_y1_output_loss: 0.2145 - val_y2_output_loss:
0.5402 - val_y1_output_root_mean_squared_error: 0.4663 -
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val_y2_output_root_mean_squared_error: 0.7452
Epoch 497/500
614/614 [==============================] - 0s 126us/sample - loss: 0.3931 -
y1_output_loss: 0.1137 - y2_output_loss: 0.2777 -
y1_output_root_mean_squared_error: 0.3377 - y2_output_root_mean_squared_error:
0.5282 - val_loss: 0.7253 - val_y1_output_loss: 0.2176 - val_y2_output_loss:
0.4885 - val_y1_output_root_mean_squared_error: 0.4743 -
val_y2_output_root_mean_squared_error: 0.7073
Epoch 498/500
614/614 [==============================] - 0s 125us/sample - loss: 0.2815 -
y1_output_loss: 0.1043 - y2_output_loss: 0.1785 -
y1_output_root_mean_squared_error: 0.3203 - y2_output_root_mean_squared_error:
0.4230 - val_loss: 0.7247 - val_y1_output_loss: 0.2151 - val_y2_output_loss:
0.4940 - val_y1_output_root_mean_squared_error: 0.4706 -
val_y2_output_root_mean_squared_error: 0.7093
Epoch 499/500
614/614 [==============================] - 0s 124us/sample - loss: 0.3735 -
y1_output_loss: 0.1054 - y2_output_loss: 0.2654 -
y1_output_root_mean_squared_error: 0.3260 - y2_output_root_mean_squared_error:
0.5169 - val_loss: 0.6714 - val_y1_output_loss: 0.2012 - val_y2_output_loss:
0.4575 - val_y1_output_root_mean_squared_error: 0.4546 -
val_y2_output_root_mean_squared_error: 0.6817
Epoch 500/500
614/614 [==============================] - 0s 126us/sample - loss: 0.6087 -
y1_output_loss: 0.1577 - y2_output_loss: 0.4487 -
y1_output_root_mean_squared_error: 0.3973 - y2_output_root_mean_squared_error:
0.6714 - val_loss: 1.7030 - val_y1_output_loss: 0.4319 - val_y2_output_loss:
1.2853 - val_y1_output_root_mean_squared_error: 0.6561 -
val_y2_output_root_mean_squared_error: 1.1280
```

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 40us/sample - loss: 1.7030 -
y1_output_loss: 0.4292 - y2_output_loss: 1.2643 -
y1_output_root_mean_squared_error: 0.6561 - y2_output_root_mean_squared_error:
1.1280
Loss = 1.7029663246947448, Y1_loss = 0.42916303873062134, Y1_mse =
0.6561410427093506, Y2_loss = 1.264311944198608, Y2_mse = 1.128027081489563
```

```
[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