C1_W1_Lab_2_multi-output

February 3, 2025

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):
```

```
    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.

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

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

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

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

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

[6]:
```
print(train_stats)
df.head()
```

```
      count         mean         std     min      25%      50%      75%      max
X1    614.0     0.761661    0.105539    0.62     0.66     0.74     0.82     0.98
X2    614.0   673.829805   88.172315  514.50   612.50   686.00   759.50   808.50
X3    614.0   319.617264   43.435568  245.00   294.00   318.50   343.00   416.50
X4    614.0   177.106270   45.077034  110.25   147.00   220.50   220.50   220.50
X5    614.0     5.232899    1.751343    3.50     3.50     3.50     7.00     7.00
X6    614.0     3.478827    1.134671    2.00     2.00     3.00     5.00     5.00
X7    614.0     0.237296    0.134236    0.00     0.10     0.25     0.40     0.40
X8    614.0     2.815961    1.564389    0.00     1.00     3.00     4.00     5.00
```

[6]:
```
     X1     X2     X3     X4   X5  X6    X7  X8     Y1     Y2
0  0.82  612.5  318.5  147.0  7.0   2  0.40   1  29.22  31.71
1  0.71  710.5  269.5  220.5  3.5   5  0.10   1  10.75  14.27
2  0.86  588.0  294.0  147.0  7.0   2  0.10   5  27.03  25.82
3  0.66  759.5  318.5  220.5  3.5   5  0.40   2  15.30  18.15
4  0.64  784.0  343.0  220.5  3.5   2  0.25   2  17.14  20.47
```

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.

[5]:
```
# 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())
```
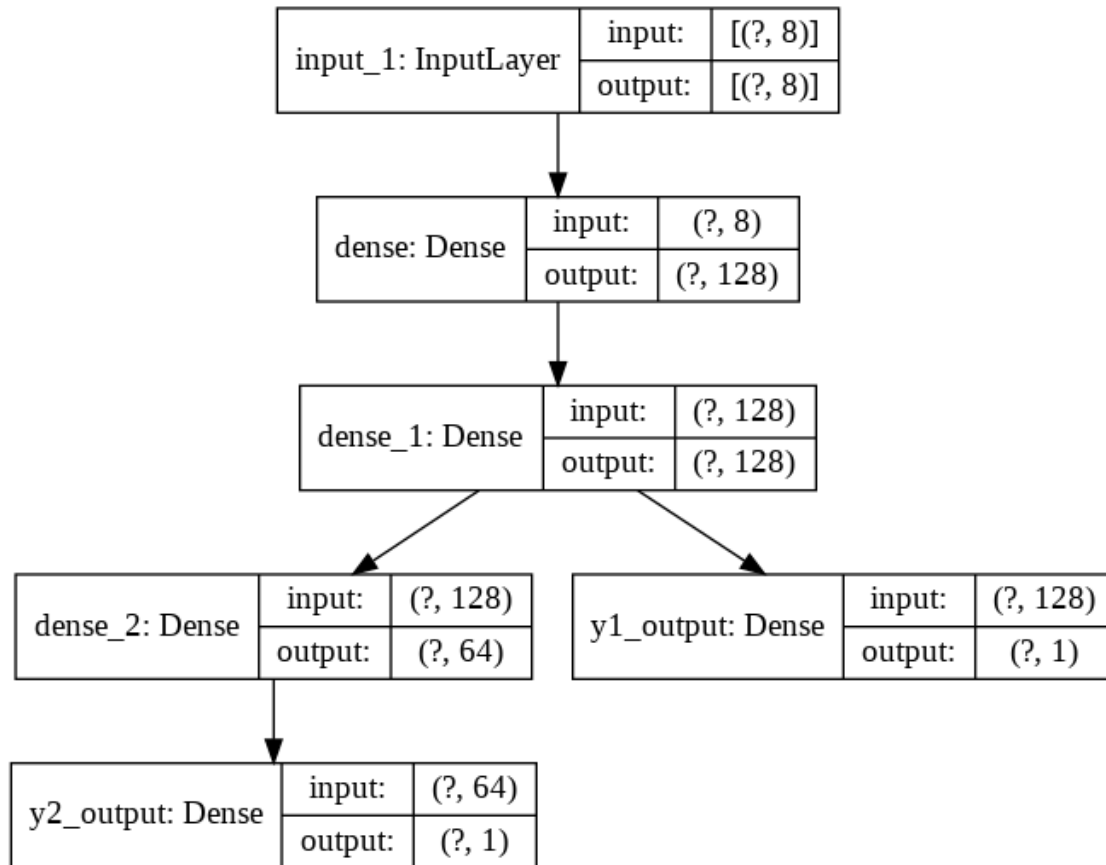
```
Model: "model"

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

```python
from tensorflow.python.keras.utils.vis_utils import plot_model
plot_model(model, show_shapes=True, show_layer_names=True, to_file='model.png')
```

[8]:
```python
[8]:
```

```
                 ┌──────────────────────┬─────────┬───────────┐
                 │                      │ input:  │  [(?, 8)] │
                 │ input_1: InputLayer  ├─────────┼───────────┤
                 │                      │ output: │  [(?, 8)] │
                 └──────────────────────┴─────────┴───────────┘
                              │
                              ▼
                 ┌──────────────┬─────────┬───────────┐
                 │              │ input:  │   (?, 8)  │
                 │ dense: Dense ├─────────┼───────────┤
                 │              │ output: │  (?, 128) │
                 └──────────────┴─────────┴───────────┘
                              │
                              ▼
              ┌─────────────────┬─────────┬───────────┐
              │                 │ input:  │  (?, 128) │
              │ dense_1: Dense  ├─────────┼───────────┤
              │                 │ output: │  (?, 128) │
              └─────────────────┴─────────┴───────────┘
                    │                          │
                    ▼                          ▼
    ┌────────────────┬────────┬──────────┐  ┌───────────────────┬────────┬──────────┐
    │                │ input: │ (?, 128) │  │                   │ input: │ (?, 128) │
    │ dense_2: Dense ├────────┼──────────┤  │ y1_output: Dense  ├────────┼──────────┤
    │                │ output:│  (?, 64) │  │                   │ output:│  (?, 1)  │
    └────────────────┴────────┴──────────┘  └───────────────────┴────────┴──────────┘
                    │
                    ▼
    ┌───────────────────┬────────┬──────────┐
    │                   │ input: │  (?, 64) │
    │ y2_output: Dense  ├────────┼──────────┤
    │                   │ output:│  (?, 1)  │
    └───────────────────┴────────┴──────────┘
```

1.5 Configure parameters

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

```python
[7]:  # 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

```
[9]: # 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 1ms/sample - loss: 251.2068 -
y1_output_loss: 115.0048 - y2_output_loss: 134.8394 -
y1_output_root_mean_squared_error: 10.7614 - y2_output_root_mean_squared_error:
11.6361 - val_loss: 170.4220 - val_y1_output_loss: 30.3846 - val_y2_output_loss:
138.3492 - val_y1_output_root_mean_squared_error: 5.5311 -
val_y2_output_root_mean_squared_error: 11.8249
Epoch 2/500
614/614 [==============================] - 0s 172us/sample - loss: 41.1131 -
y1_output_loss: 14.1455 - y2_output_loss: 26.8309 -
y1_output_root_mean_squared_error: 3.7538 - y2_output_root_mean_squared_error:
5.1983 - val_loss: 36.0559 - val_y1_output_loss: 11.7283 - val_y2_output_loss:
23.7598 - val_y1_output_root_mean_squared_error: 3.4592 -
val_y2_output_root_mean_squared_error: 4.9081
Epoch 3/500
614/614 [==============================] - 0s 148us/sample - loss: 41.1641 -
y1_output_loss: 13.2908 - y2_output_loss: 27.6604 -
y1_output_root_mean_squared_error: 3.6557 - y2_output_root_mean_squared_error:
5.2726 - val_loss: 22.4036 - val_y1_output_loss: 8.9469 - val_y2_output_loss:
12.9345 - val_y1_output_root_mean_squared_error: 3.0245 -
val_y2_output_root_mean_squared_error: 3.6409
Epoch 4/500
614/614 [==============================] - 0s 150us/sample - loss: 27.6352 -
y1_output_loss: 9.9343 - y2_output_loss: 17.5301 -
y1_output_root_mean_squared_error: 3.1599 - y2_output_root_mean_squared_error:
4.2013 - val_loss: 30.4454 - val_y1_output_loss: 10.4264 - val_y2_output_loss:
19.4128 - val_y1_output_root_mean_squared_error: 3.2647 -
val_y2_output_root_mean_squared_error: 4.4483
Epoch 5/500
614/614 [==============================] - 0s 157us/sample - loss: 25.1519 -
y1_output_loss: 9.7658 - y2_output_loss: 15.4052 -
y1_output_root_mean_squared_error: 3.1085 - y2_output_root_mean_squared_error:
3.9356 - val_loss: 30.1508 - val_y1_output_loss: 10.6763 - val_y2_output_loss:
18.8245 - val_y1_output_root_mean_squared_error: 3.3069 -
val_y2_output_root_mean_squared_error: 4.3835
Epoch 6/500
614/614 [==============================] - 0s 153us/sample - loss: 22.2359 -
y1_output_loss: 8.8123 - y2_output_loss: 13.2275 -
y1_output_root_mean_squared_error: 2.9825 - y2_output_root_mean_squared_error:
3.6525 - val_loss: 27.3276 - val_y1_output_loss: 8.6055 - val_y2_output_loss:
18.0701 - val_y1_output_root_mean_squared_error: 2.9767 -
```

val_y2_output_root_mean_squared_error: 4.2973
Epoch 7/500
614/614 [==============================] - 0s 153us/sample - loss: 22.7090 -
y1_output_loss: 8.6299 - y2_output_loss: 13.9192 -
y1_output_root_mean_squared_error: 2.9514 - y2_output_root_mean_squared_error:
3.7414 - val_loss: 16.3789 - val_y1_output_loss: 7.3582 - val_y2_output_loss:
8.5707 - val_y1_output_root_mean_squared_error: 2.7529 -
val_y2_output_root_mean_squared_error: 2.9665
Epoch 8/500
614/614 [==============================] - 0s 148us/sample - loss: 24.0852 -
y1_output_loss: 9.0450 - y2_output_loss: 14.8399 -
y1_output_root_mean_squared_error: 3.0190 - y2_output_root_mean_squared_error:
3.8692 - val_loss: 21.8480 - val_y1_output_loss: 7.8261 - val_y2_output_loss:
13.6078 - val_y1_output_root_mean_squared_error: 2.8309 -
val_y2_output_root_mean_squared_error: 3.7194
Epoch 9/500
614/614 [==============================] - 0s 165us/sample - loss: 24.3817 -
y1_output_loss: 8.5559 - y2_output_loss: 15.6300 -
y1_output_root_mean_squared_error: 2.9364 - y2_output_root_mean_squared_error:
3.9698 - val_loss: 17.8200 - val_y1_output_loss: 7.5936 - val_y2_output_loss:
9.6377 - val_y1_output_root_mean_squared_error: 2.8030 -
val_y2_output_root_mean_squared_error: 3.1565
Epoch 10/500
614/614 [==============================] - 0s 162us/sample - loss: 21.5951 -
y1_output_loss: 7.9241 - y2_output_loss: 13.5974 -
y1_output_root_mean_squared_error: 2.8230 - y2_output_root_mean_squared_error:
3.6913 - val_loss: 18.2903 - val_y1_output_loss: 7.0071 - val_y2_output_loss:
10.8046 - val_y1_output_root_mean_squared_error: 2.6885 -
val_y2_output_root_mean_squared_error: 3.3260
Epoch 11/500
614/614 [==============================] - 0s 163us/sample - loss: 17.9256 -
y1_output_loss: 7.0801 - y2_output_loss: 10.7000 -
y1_output_root_mean_squared_error: 2.6701 - y2_output_root_mean_squared_error:
3.2857 - val_loss: 15.5877 - val_y1_output_loss: 7.2100 - val_y2_output_loss:
8.0173 - val_y1_output_root_mean_squared_error: 2.7184 -
val_y2_output_root_mean_squared_error: 2.8632
Epoch 12/500
614/614 [==============================] - 0s 147us/sample - loss: 20.6644 -
y1_output_loss: 7.6334 - y2_output_loss: 12.9986 -
y1_output_root_mean_squared_error: 2.7660 - y2_output_root_mean_squared_error:
3.6074 - val_loss: 24.1300 - val_y1_output_loss: 7.9581 - val_y2_output_loss:
15.5521 - val_y1_output_root_mean_squared_error: 2.8640 -
val_y2_output_root_mean_squared_error: 3.9909
Epoch 13/500
614/614 [==============================] - 0s 154us/sample - loss: 17.4431 -
y1_output_loss: 6.7544 - y2_output_loss: 10.6132 -
y1_output_root_mean_squared_error: 2.5947 - y2_output_root_mean_squared_error:
3.2727 - val_loss: 16.7787 - val_y1_output_loss: 7.8445 - val_y2_output_loss:

```
8.4937 - val_y1_output_root_mean_squared_error: 2.8399 -
val_y2_output_root_mean_squared_error: 2.9519
Epoch 14/500
614/614 [==============================] - 0s 153us/sample - loss: 17.0985 -
y1_output_loss: 6.9642 - y2_output_loss: 10.3677 -
y1_output_root_mean_squared_error: 2.6360 - y2_output_root_mean_squared_error:
3.1859 - val_loss: 16.8255 - val_y1_output_loss: 6.9509 - val_y2_output_loss:
9.3782 - val_y1_output_root_mean_squared_error: 2.6759 -
val_y2_output_root_mean_squared_error: 3.1089
Epoch 15/500
614/614 [==============================] - 0s 155us/sample - loss: 22.3633 -
y1_output_loss: 7.1835 - y2_output_loss: 15.2384 -
y1_output_root_mean_squared_error: 2.6805 - y2_output_root_mean_squared_error:
3.8959 - val_loss: 28.3263 - val_y1_output_loss: 10.5429 - val_y2_output_loss:
17.3352 - val_y1_output_root_mean_squared_error: 3.2719 -
val_y2_output_root_mean_squared_error: 4.1977
Epoch 16/500
614/614 [==============================] - 0s 155us/sample - loss: 15.3072 -
y1_output_loss: 6.0310 - y2_output_loss: 9.2488 -
y1_output_root_mean_squared_error: 2.4556 - y2_output_root_mean_squared_error:
3.0459 - val_loss: 22.1250 - val_y1_output_loss: 6.0631 - val_y2_output_loss:
15.5936 - val_y1_output_root_mean_squared_error: 2.4975 -
val_y2_output_root_mean_squared_error: 3.9859
Epoch 17/500
614/614 [==============================] - 0s 156us/sample - loss: 15.5240 -
y1_output_loss: 5.7822 - y2_output_loss: 9.5987 -
y1_output_root_mean_squared_error: 2.4155 - y2_output_root_mean_squared_error:
3.1128 - val_loss: 26.6949 - val_y1_output_loss: 8.5210 - val_y2_output_loss:
17.4791 - val_y1_output_root_mean_squared_error: 2.9620 -
val_y2_output_root_mean_squared_error: 4.2334
Epoch 18/500
614/614 [==============================] - 0s 152us/sample - loss: 16.7235 -
y1_output_loss: 5.8751 - y2_output_loss: 10.7077 -
y1_output_root_mean_squared_error: 2.4340 - y2_output_root_mean_squared_error:
3.2862 - val_loss: 13.4452 - val_y1_output_loss: 5.6379 - val_y2_output_loss:
7.3444 - val_y1_output_root_mean_squared_error: 2.4165 -
val_y2_output_root_mean_squared_error: 2.7579
Epoch 19/500
614/614 [==============================] - 0s 150us/sample - loss: 14.5022 -
y1_output_loss: 5.3911 - y2_output_loss: 9.1013 -
y1_output_root_mean_squared_error: 2.3096 - y2_output_root_mean_squared_error:
3.0278 - val_loss: 13.2397 - val_y1_output_loss: 5.4473 - val_y2_output_loss:
7.4351 - val_y1_output_root_mean_squared_error: 2.3661 -
val_y2_output_root_mean_squared_error: 2.7643
Epoch 20/500
614/614 [==============================] - 0s 144us/sample - loss: 13.0969 -
y1_output_loss: 4.9034 - y2_output_loss: 8.3275 -
y1_output_root_mean_squared_error: 2.2013 - y2_output_root_mean_squared_error:
```

2.8725 - val_loss: 27.0037 - val_y1_output_loss: 9.5695 - val_y2_output_loss:
16.6571 - val_y1_output_root_mean_squared_error: 3.1419 -
val_y2_output_root_mean_squared_error: 4.1391
Epoch 21/500
614/614 [==============================] - 0s 150us/sample - loss: 13.3994 -
y1_output_loss: 5.2209 - y2_output_loss: 8.2005 -
y1_output_root_mean_squared_error: 2.2735 - y2_output_root_mean_squared_error:
2.8689 - val_loss: 13.2736 - val_y1_output_loss: 4.7431 - val_y2_output_loss:
8.1197 - val_y1_output_root_mean_squared_error: 2.2149 -
val_y2_output_root_mean_squared_error: 2.8927
Epoch 22/500
614/614 [==============================] - 0s 168us/sample - loss: 12.0287 -
y1_output_loss: 4.3941 - y2_output_loss: 7.5983 -
y1_output_root_mean_squared_error: 2.1050 - y2_output_root_mean_squared_error:
2.7564 - val_loss: 11.3078 - val_y1_output_loss: 4.5674 - val_y2_output_loss:
6.3678 - val_y1_output_root_mean_squared_error: 2.1732 -
val_y2_output_root_mean_squared_error: 2.5661
Epoch 23/500
614/614 [==============================] - 0s 152us/sample - loss: 11.9978 -
y1_output_loss: 4.5121 - y2_output_loss: 7.5969 -
y1_output_root_mean_squared_error: 2.1268 - y2_output_root_mean_squared_error:
2.7339 - val_loss: 13.1865 - val_y1_output_loss: 4.9067 - val_y2_output_loss:
7.9552 - val_y1_output_root_mean_squared_error: 2.2444 -
val_y2_output_root_mean_squared_error: 2.8547
Epoch 24/500
614/614 [==============================] - 0s 155us/sample - loss: 13.2875 -
y1_output_loss: 4.8457 - y2_output_loss: 8.3351 -
y1_output_root_mean_squared_error: 2.2078 - y2_output_root_mean_squared_error:
2.9005 - val_loss: 9.9527 - val_y1_output_loss: 3.9062 - val_y2_output_loss:
5.6849 - val_y1_output_root_mean_squared_error: 2.0133 -
val_y2_output_root_mean_squared_error: 2.4289
Epoch 25/500
614/614 [==============================] - 0s 144us/sample - loss: 10.0015 -
y1_output_loss: 3.8199 - y2_output_loss: 6.1447 -
y1_output_root_mean_squared_error: 1.9635 - y2_output_root_mean_squared_error:
2.4792 - val_loss: 10.3585 - val_y1_output_loss: 3.9174 - val_y2_output_loss:
6.0938 - val_y1_output_root_mean_squared_error: 2.0136 -
val_y2_output_root_mean_squared_error: 2.5107
Epoch 26/500
614/614 [==============================] - 0s 147us/sample - loss: 11.4020 -
y1_output_loss: 4.0884 - y2_output_loss: 7.2167 -
y1_output_root_mean_squared_error: 2.0295 - y2_output_root_mean_squared_error:
2.6987 - val_loss: 11.1775 - val_y1_output_loss: 3.7194 - val_y2_output_loss:
7.0984 - val_y1_output_root_mean_squared_error: 1.9630 -
val_y2_output_root_mean_squared_error: 2.7063
Epoch 27/500
614/614 [==============================] - 0s 149us/sample - loss: 12.1016 -
y1_output_loss: 4.1455 - y2_output_loss: 7.9388 -

```
y1_output_root_mean_squared_error: 2.0446 - y2_output_root_mean_squared_error:
2.8144 - val_loss: 9.6164 - val_y1_output_loss: 3.3274 - val_y2_output_loss:
5.9765 - val_y1_output_root_mean_squared_error: 1.8544 -
val_y2_output_root_mean_squared_error: 2.4855
Epoch 28/500
614/614 [==============================] - 0s 159us/sample - loss: 13.1113 -
y1_output_loss: 4.1179 - y2_output_loss: 9.0098 -
y1_output_root_mean_squared_error: 2.0325 - y2_output_root_mean_squared_error:
2.9967 - val_loss: 21.0242 - val_y1_output_loss: 4.9422 - val_y2_output_loss:
15.7093 - val_y1_output_root_mean_squared_error: 2.2414 -
val_y2_output_root_mean_squared_error: 4.0001
Epoch 29/500
614/614 [==============================] - 0s 153us/sample - loss: 10.6086 -
y1_output_loss: 3.6127 - y2_output_loss: 6.8994 -
y1_output_root_mean_squared_error: 1.9088 - y2_output_root_mean_squared_error:
2.6391 - val_loss: 10.2771 - val_y1_output_loss: 3.6995 - val_y2_output_loss:
6.2203 - val_y1_output_root_mean_squared_error: 1.9582 -
val_y2_output_root_mean_squared_error: 2.5382
Epoch 30/500
614/614 [==============================] - 0s 154us/sample - loss: 8.6704 -
y1_output_loss: 3.0960 - y2_output_loss: 5.4930 -
y1_output_root_mean_squared_error: 1.7680 - y2_output_root_mean_squared_error:
2.3547 - val_loss: 8.2725 - val_y1_output_loss: 2.9650 - val_y2_output_loss:
5.0876 - val_y1_output_root_mean_squared_error: 1.7446 -
val_y2_output_root_mean_squared_error: 2.2867
Epoch 31/500
614/614 [==============================] - 0s 155us/sample - loss: 9.0305 -
y1_output_loss: 3.3201 - y2_output_loss: 5.7588 -
y1_output_root_mean_squared_error: 1.8070 - y2_output_root_mean_squared_error:
2.4011 - val_loss: 15.9966 - val_y1_output_loss: 5.2063 - val_y2_output_loss:
10.2894 - val_y1_output_root_mean_squared_error: 2.3213 -
val_y2_output_root_mean_squared_error: 3.2571
Epoch 32/500
614/614 [==============================] - 0s 150us/sample - loss: 8.7278 -
y1_output_loss: 2.9001 - y2_output_loss: 5.7660 -
y1_output_root_mean_squared_error: 1.7054 - y2_output_root_mean_squared_error:
2.4124 - val_loss: 8.4505 - val_y1_output_loss: 3.0453 - val_y2_output_loss:
5.1128 - val_y1_output_root_mean_squared_error: 1.7747 -
val_y2_output_root_mean_squared_error: 2.3023
Epoch 33/500
614/614 [==============================] - 0s 151us/sample - loss: 8.0967 -
y1_output_loss: 2.8492 - y2_output_loss: 5.2457 -
y1_output_root_mean_squared_error: 1.6863 - y2_output_root_mean_squared_error:
2.2919 - val_loss: 14.9560 - val_y1_output_loss: 3.8818 - val_y2_output_loss:
10.7457 - val_y1_output_root_mean_squared_error: 1.9932 -
val_y2_output_root_mean_squared_error: 3.3141
Epoch 34/500
614/614 [==============================] - 0s 156us/sample - loss: 9.3420 -
```

y1_output_loss: 3.0454 - y2_output_loss: 6.3534 -
y1_output_root_mean_squared_error: 1.7470 - y2_output_root_mean_squared_error:
2.5080 - val_loss: 10.2036 - val_y1_output_loss: 3.3526 - val_y2_output_loss:
6.5013 - val_y1_output_root_mean_squared_error: 1.8636 -
val_y2_output_root_mean_squared_error: 2.5943
Epoch 35/500
614/614 [==============================] - 0s 149us/sample - loss: 7.6433 -
y1_output_loss: 2.7579 - y2_output_loss: 5.0312 -
y1_output_root_mean_squared_error: 1.6436 - y2_output_root_mean_squared_error:
2.2231 - val_loss: 31.4263 - val_y1_output_loss: 11.7018 - val_y2_output_loss:
18.6716 - val_y1_output_root_mean_squared_error: 3.4809 -
val_y2_output_root_mean_squared_error: 4.3943
Epoch 36/500
614/614 [==============================] - 0s 155us/sample - loss: 14.6925 -
y1_output_loss: 4.2709 - y2_output_loss: 10.6575 -
y1_output_root_mean_squared_error: 2.0572 - y2_output_root_mean_squared_error:
3.2343 - val_loss: 18.8761 - val_y1_output_loss: 4.6240 - val_y2_output_loss:
13.8970 - val_y1_output_root_mean_squared_error: 2.1697 -
val_y2_output_root_mean_squared_error: 3.7641
Epoch 37/500
614/614 [==============================] - 0s 143us/sample - loss: 8.5672 -
y1_output_loss: 2.9674 - y2_output_loss: 5.6076 -
y1_output_root_mean_squared_error: 1.7193 - y2_output_root_mean_squared_error:
2.3688 - val_loss: 14.4359 - val_y1_output_loss: 3.8741 - val_y2_output_loss:
10.0989 - val_y1_output_root_mean_squared_error: 2.0032 -
val_y2_output_root_mean_squared_error: 3.2285
Epoch 38/500
614/614 [==============================] - 0s 163us/sample - loss: 7.7860 -
y1_output_loss: 2.5645 - y2_output_loss: 5.2609 -
y1_output_root_mean_squared_error: 1.5843 - y2_output_root_mean_squared_error:
2.2970 - val_loss: 14.2953 - val_y1_output_loss: 4.2035 - val_y2_output_loss:
9.5993 - val_y1_output_root_mean_squared_error: 2.0884 -
val_y2_output_root_mean_squared_error: 3.1518
Epoch 39/500
614/614 [==============================] - 0s 155us/sample - loss: 8.7214 -
y1_output_loss: 2.7274 - y2_output_loss: 6.1592 -
y1_output_root_mean_squared_error: 1.6333 - y2_output_root_mean_squared_error:
2.4604 - val_loss: 23.1677 - val_y1_output_loss: 7.4171 - val_y2_output_loss:
15.1578 - val_y1_output_root_mean_squared_error: 2.7594 -
val_y2_output_root_mean_squared_error: 3.9438
Epoch 40/500
614/614 [==============================] - 0s 169us/sample - loss: 9.6287 -
y1_output_loss: 3.2296 - y2_output_loss: 6.4223 -
y1_output_root_mean_squared_error: 1.8005 - y2_output_root_mean_squared_error:
2.5272 - val_loss: 16.5686 - val_y1_output_loss: 4.2038 - val_y2_output_loss:
12.2486 - val_y1_output_root_mean_squared_error: 2.0535 -
val_y2_output_root_mean_squared_error: 3.5145
Epoch 41/500

```
614/614 [==============================] - 0s 147us/sample - loss: 11.2675 -
y1_output_loss: 3.6442 - y2_output_loss: 7.5927 -
y1_output_root_mean_squared_error: 1.9090 - y2_output_root_mean_squared_error:
2.7610 - val_loss: 11.3252 - val_y1_output_loss: 2.9707 - val_y2_output_loss:
7.9777 - val_y1_output_root_mean_squared_error: 1.7553 -
val_y2_output_root_mean_squared_error: 2.8713
Epoch 42/500
614/614 [==============================] - 0s 145us/sample - loss: 7.2292 -
y1_output_loss: 2.2131 - y2_output_loss: 4.9601 -
y1_output_root_mean_squared_error: 1.4925 - y2_output_root_mean_squared_error:
2.2365 - val_loss: 8.5293 - val_y1_output_loss: 2.2401 - val_y2_output_loss:
6.0453 - val_y1_output_root_mean_squared_error: 1.5190 -
val_y2_output_root_mean_squared_error: 2.4944
Epoch 43/500
614/614 [==============================] - 0s 142us/sample - loss: 6.1869 -
y1_output_loss: 2.1424 - y2_output_loss: 4.0618 -
y1_output_root_mean_squared_error: 1.4654 - y2_output_root_mean_squared_error:
2.0099 - val_loss: 16.7812 - val_y1_output_loss: 4.2761 - val_y2_output_loss:
11.9805 - val_y1_output_root_mean_squared_error: 2.1045 -
val_y2_output_root_mean_squared_error: 3.5146
Epoch 44/500
614/614 [==============================] - 0s 149us/sample - loss: 6.8610 -
y1_output_loss: 2.2128 - y2_output_loss: 4.6608 -
y1_output_root_mean_squared_error: 1.4875 - y2_output_root_mean_squared_error:
2.1560 - val_loss: 9.3070 - val_y1_output_loss: 3.2053 - val_y2_output_loss:
5.8762 - val_y1_output_root_mean_squared_error: 1.8126 -
val_y2_output_root_mean_squared_error: 2.4538
Epoch 45/500
614/614 [==============================] - 0s 160us/sample - loss: 8.2828 -
y1_output_loss: 2.5930 - y2_output_loss: 5.7683 -
y1_output_root_mean_squared_error: 1.5972 - y2_output_root_mean_squared_error:
2.3941 - val_loss: 20.3111 - val_y1_output_loss: 5.6268 - val_y2_output_loss:
14.4071 - val_y1_output_root_mean_squared_error: 2.3804 -
val_y2_output_root_mean_squared_error: 3.8268
Epoch 46/500
614/614 [==============================] - 0s 155us/sample - loss: 6.2709 -
y1_output_loss: 2.0492 - y2_output_loss: 4.2348 -
y1_output_root_mean_squared_error: 1.4341 - y2_output_root_mean_squared_error:
2.0529 - val_loss: 11.1990 - val_y1_output_loss: 3.6843 - val_y2_output_loss:
7.2942 - val_y1_output_root_mean_squared_error: 1.9371 -
val_y2_output_root_mean_squared_error: 2.7289
Epoch 47/500
614/614 [==============================] - 0s 152us/sample - loss: 6.4695 -
y1_output_loss: 2.2308 - y2_output_loss: 4.3798 -
y1_output_root_mean_squared_error: 1.4862 - y2_output_root_mean_squared_error:
2.0642 - val_loss: 24.2185 - val_y1_output_loss: 5.9299 - val_y2_output_loss:
17.6606 - val_y1_output_root_mean_squared_error: 2.4715 -
val_y2_output_root_mean_squared_error: 4.2556
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Epoch 48/500
614/614 [==============================] - 0s 148us/sample - loss: 14.0002 -
y1_output_loss: 4.2512 - y2_output_loss: 9.7836 -
y1_output_root_mean_squared_error: 2.0553 - y2_output_root_mean_squared_error:
3.1266 - val_loss: 7.2336 - val_y1_output_loss: 2.0124 - val_y2_output_loss:
4.9732 - val_y1_output_root_mean_squared_error: 1.4432 -
val_y2_output_root_mean_squared_error: 2.2695
Epoch 49/500
614/614 [==============================] - 0s 148us/sample - loss: 7.8296 -
y1_output_loss: 2.5370 - y2_output_loss: 5.3331 -
y1_output_root_mean_squared_error: 1.5776 - y2_output_root_mean_squared_error:
2.3110 - val_loss: 9.3819 - val_y1_output_loss: 2.7447 - val_y2_output_loss:
6.5353 - val_y1_output_root_mean_squared_error: 1.6623 -
val_y2_output_root_mean_squared_error: 2.5727
Epoch 50/500
614/614 [==============================] - 0s 147us/sample - loss: 6.5424 -
y1_output_loss: 1.9638 - y2_output_loss: 4.5770 -
y1_output_root_mean_squared_error: 1.3890 - y2_output_root_mean_squared_error:
2.1478 - val_loss: 6.0131 - val_y1_output_loss: 1.7912 - val_y2_output_loss:
4.0337 - val_y1_output_root_mean_squared_error: 1.3606 -
val_y2_output_root_mean_squared_error: 2.0401
Epoch 51/500
614/614 [==============================] - 0s 161us/sample - loss: 8.0971 -
y1_output_loss: 2.4917 - y2_output_loss: 5.5499 -
y1_output_root_mean_squared_error: 1.5846 - y2_output_root_mean_squared_error:
2.3635 - val_loss: 11.0999 - val_y1_output_loss: 2.9961 - val_y2_output_loss:
7.7425 - val_y1_output_root_mean_squared_error: 1.7579 -
val_y2_output_root_mean_squared_error: 2.8302
Epoch 52/500
614/614 [==============================] - 0s 149us/sample - loss: 5.8104 -
y1_output_loss: 1.7230 - y2_output_loss: 4.0736 -
y1_output_root_mean_squared_error: 1.3159 - y2_output_root_mean_squared_error:
2.0196 - val_loss: 6.6493 - val_y1_output_loss: 2.1690 - val_y2_output_loss:
4.2729 - val_y1_output_root_mean_squared_error: 1.4969 -
val_y2_output_root_mean_squared_error: 2.0997
Epoch 53/500
614/614 [==============================] - 0s 155us/sample - loss: 6.3903 -
y1_output_loss: 1.8835 - y2_output_loss: 4.5475 -
y1_output_root_mean_squared_error: 1.3612 - y2_output_root_mean_squared_error:
2.1301 - val_loss: 11.7346 - val_y1_output_loss: 3.6295 - val_y2_output_loss:
7.8369 - val_y1_output_root_mean_squared_error: 1.9208 -
val_y2_output_root_mean_squared_error: 2.8364
Epoch 54/500
614/614 [==============================] - 0s 151us/sample - loss: 6.4331 -
y1_output_loss: 2.0827 - y2_output_loss: 4.3427 -
y1_output_root_mean_squared_error: 1.4451 - y2_output_root_mean_squared_error:
2.0844 - val_loss: 7.3750 - val_y1_output_loss: 1.8879 - val_y2_output_loss:
5.2385 - val_y1_output_root_mean_squared_error: 1.3984 -
```

val_y2_output_root_mean_squared_error: 2.3279
Epoch 55/500
614/614 [==============================] - 0s 152us/sample - loss: 5.1621 -
y1_output_loss: 1.4801 - y2_output_loss: 3.6440 -
y1_output_root_mean_squared_error: 1.2204 - y2_output_root_mean_squared_error:
1.9164 - val_loss: 6.7343 - val_y1_output_loss: 1.8452 - val_y2_output_loss:
4.6707 - val_y1_output_root_mean_squared_error: 1.3805 -
val_y2_output_root_mean_squared_error: 2.1974
Epoch 56/500
614/614 [==============================] - 0s 150us/sample - loss: 5.9888 -
y1_output_loss: 1.6814 - y2_output_loss: 4.4128 -
y1_output_root_mean_squared_error: 1.2864 - y2_output_root_mean_squared_error:
2.0818 - val_loss: 40.9297 - val_y1_output_loss: 10.9431 - val_y2_output_loss:
28.6362 - val_y1_output_root_mean_squared_error: 3.3705 -
val_y2_output_root_mean_squared_error: 5.4378
Epoch 57/500
614/614 [==============================] - 0s 157us/sample - loss: 6.6930 -
y1_output_loss: 1.9398 - y2_output_loss: 4.7109 -
y1_output_root_mean_squared_error: 1.3957 - y2_output_root_mean_squared_error:
2.1783 - val_loss: 7.0488 - val_y1_output_loss: 2.2030 - val_y2_output_loss:
4.6123 - val_y1_output_root_mean_squared_error: 1.5080 -
val_y2_output_root_mean_squared_error: 2.1851
Epoch 58/500
614/614 [==============================] - 0s 141us/sample - loss: 5.6904 -
y1_output_loss: 1.6763 - y2_output_loss: 4.0335 -
y1_output_root_mean_squared_error: 1.3004 - y2_output_root_mean_squared_error:
1.9998 - val_loss: 14.5636 - val_y1_output_loss: 2.6467 - val_y2_output_loss:
11.7896 - val_y1_output_root_mean_squared_error: 1.6273 -
val_y2_output_root_mean_squared_error: 3.4519
Epoch 59/500
614/614 [==============================] - 0s 152us/sample - loss: 5.4141 -
y1_output_loss: 1.6367 - y2_output_loss: 3.8018 -
y1_output_root_mean_squared_error: 1.2750 - y2_output_root_mean_squared_error:
1.9464 - val_loss: 8.0685 - val_y1_output_loss: 2.7428 - val_y2_output_loss:
5.0826 - val_y1_output_root_mean_squared_error: 1.6809 -
val_y2_output_root_mean_squared_error: 2.2898
Epoch 60/500
614/614 [==============================] - 0s 152us/sample - loss: 5.3558 -
y1_output_loss: 1.5611 - y2_output_loss: 3.8237 -
y1_output_root_mean_squared_error: 1.2543 - y2_output_root_mean_squared_error:
1.9449 - val_loss: 12.7109 - val_y1_output_loss: 1.9813 - val_y2_output_loss:
10.4424 - val_y1_output_root_mean_squared_error: 1.4260 -
val_y2_output_root_mean_squared_error: 3.2677
Epoch 61/500
614/614 [==============================] - 0s 145us/sample - loss: 5.4620 -
y1_output_loss: 1.5150 - y2_output_loss: 4.1255 -
y1_output_root_mean_squared_error: 1.1981 - y2_output_root_mean_squared_error:
2.0066 - val_loss: 63.0444 - val_y1_output_loss: 23.3917 - val_y2_output_loss:

37.5380 - val_y1_output_root_mean_squared_error: 4.9215 -
val_y2_output_root_mean_squared_error: 6.2308
Epoch 62/500
614/614 [==============================] - 0s 148us/sample - loss: 11.5929 -
y1_output_loss: 3.9393 - y2_output_loss: 7.6005 -
y1_output_root_mean_squared_error: 1.9936 - y2_output_root_mean_squared_error:
2.7601 - val_loss: 10.6131 - val_y1_output_loss: 2.4496 - val_y2_output_loss:
8.0240 - val_y1_output_root_mean_squared_error: 1.5742 -
val_y2_output_root_mean_squared_error: 2.8522
Epoch 63/500
614/614 [==============================] - 0s 154us/sample - loss: 4.6384 -
y1_output_loss: 1.3736 - y2_output_loss: 3.2947 -
y1_output_root_mean_squared_error: 1.1767 - y2_output_root_mean_squared_error:
1.8038 - val_loss: 9.8112 - val_y1_output_loss: 1.9225 - val_y2_output_loss:
7.6513 - val_y1_output_root_mean_squared_error: 1.4023 -
val_y2_output_root_mean_squared_error: 2.8009
Epoch 64/500
614/614 [==============================] - 0s 141us/sample - loss: 6.2170 -
y1_output_loss: 1.6234 - y2_output_loss: 4.5509 -
y1_output_root_mean_squared_error: 1.2781 - y2_output_root_mean_squared_error:
2.1409 - val_loss: 5.9101 - val_y1_output_loss: 1.7779 - val_y2_output_loss:
3.9321 - val_y1_output_root_mean_squared_error: 1.3555 -
val_y2_output_root_mean_squared_error: 2.0181
Epoch 65/500
614/614 [==============================] - 0s 160us/sample - loss: 5.3122 -
y1_output_loss: 1.4101 - y2_output_loss: 3.8919 -
y1_output_root_mean_squared_error: 1.1910 - y2_output_root_mean_squared_error:
1.9732 - val_loss: 12.7111 - val_y1_output_loss: 2.3550 - val_y2_output_loss:
10.1236 - val_y1_output_root_mean_squared_error: 1.5429 -
val_y2_output_root_mean_squared_error: 3.2141
Epoch 66/500
614/614 [==============================] - 0s 145us/sample - loss: 5.1224 -
y1_output_loss: 1.3020 - y2_output_loss: 3.7960 -
y1_output_root_mean_squared_error: 1.1369 - y2_output_root_mean_squared_error:
1.9570 - val_loss: 4.9197 - val_y1_output_loss: 1.3120 - val_y2_output_loss:
3.4782 - val_y1_output_root_mean_squared_error: 1.1588 -
val_y2_output_root_mean_squared_error: 1.8913
Epoch 67/500
614/614 [==============================] - 0s 146us/sample - loss: 4.3136 -
y1_output_loss: 1.2017 - y2_output_loss: 3.1025 -
y1_output_root_mean_squared_error: 1.0930 - y2_output_root_mean_squared_error:
1.7661 - val_loss: 5.8938 - val_y1_output_loss: 1.5333 - val_y2_output_loss:
4.1719 - val_y1_output_root_mean_squared_error: 1.2588 -
val_y2_output_root_mean_squared_error: 2.0759
Epoch 68/500
614/614 [==============================] - 0s 147us/sample - loss: 4.5299 -
y1_output_loss: 1.2567 - y2_output_loss: 3.2540 -
y1_output_root_mean_squared_error: 1.1168 - y2_output_root_mean_squared_error:

1.8118 - val_loss: 4.1117 - val_y1_output_loss: 1.0572 - val_y2_output_loss:
2.9360 - val_y1_output_root_mean_squared_error: 1.0395 -
val_y2_output_root_mean_squared_error: 1.7410
Epoch 69/500
614/614 [==============================] - 0s 154us/sample - loss: 4.7250 -
y1_output_loss: 1.0830 - y2_output_loss: 3.6129 -
y1_output_root_mean_squared_error: 1.0388 - y2_output_root_mean_squared_error:
1.9094 - val_loss: 4.4758 - val_y1_output_loss: 1.2379 - val_y2_output_loss:
3.0836 - val_y1_output_root_mean_squared_error: 1.1328 -
val_y2_output_root_mean_squared_error: 1.7868
Epoch 70/500
614/614 [==============================] - 0s 145us/sample - loss: 4.0894 -
y1_output_loss: 1.1552 - y2_output_loss: 2.9324 -
y1_output_root_mean_squared_error: 1.0785 - y2_output_root_mean_squared_error:
1.7106 - val_loss: 10.5366 - val_y1_output_loss: 1.8321 - val_y2_output_loss:
8.5235 - val_y1_output_root_mean_squared_error: 1.3636 -
val_y2_output_root_mean_squared_error: 2.9457
Epoch 71/500
614/614 [==============================] - 0s 152us/sample - loss: 4.0228 -
y1_output_loss: 1.0681 - y2_output_loss: 2.9538 -
y1_output_root_mean_squared_error: 1.0314 - y2_output_root_mean_squared_error:
1.7202 - val_loss: 6.6908 - val_y1_output_loss: 1.5567 - val_y2_output_loss:
4.9896 - val_y1_output_root_mean_squared_error: 1.2570 -
val_y2_output_root_mean_squared_error: 2.2607
Epoch 72/500
614/614 [==============================] - 0s 138us/sample - loss: 4.2960 -
y1_output_loss: 0.9907 - y2_output_loss: 3.3220 -
y1_output_root_mean_squared_error: 0.9896 - y2_output_root_mean_squared_error:
1.8211 - val_loss: 4.1427 - val_y1_output_loss: 1.3286 - val_y2_output_loss:
2.7328 - val_y1_output_root_mean_squared_error: 1.1597 -
val_y2_output_root_mean_squared_error: 1.6726
Epoch 73/500
614/614 [==============================] - 0s 150us/sample - loss: 4.7265 -
y1_output_loss: 1.0866 - y2_output_loss: 3.5953 -
y1_output_root_mean_squared_error: 1.0472 - y2_output_root_mean_squared_error:
1.9052 - val_loss: 5.7385 - val_y1_output_loss: 1.5188 - val_y2_output_loss:
4.0517 - val_y1_output_root_mean_squared_error: 1.2503 -
val_y2_output_root_mean_squared_error: 2.0433
Epoch 74/500
614/614 [==============================] - 0s 148us/sample - loss: 5.7649 -
y1_output_loss: 1.4082 - y2_output_loss: 4.3157 -
y1_output_root_mean_squared_error: 1.1918 - y2_output_root_mean_squared_error:
2.0844 - val_loss: 3.9344 - val_y1_output_loss: 0.7984 - val_y2_output_loss:
3.0189 - val_y1_output_root_mean_squared_error: 0.9068 -
val_y2_output_root_mean_squared_error: 1.7641
Epoch 75/500
614/614 [==============================] - 0s 161us/sample - loss: 4.3142 -
y1_output_loss: 1.1153 - y2_output_loss: 3.2450 -

y1_output_root_mean_squared_error: 1.0524 - y2_output_root_mean_squared_error:
1.7907 - val_loss: 3.4534 - val_y1_output_loss: 0.7998 - val_y2_output_loss:
2.5468 - val_y1_output_root_mean_squared_error: 0.9044 -
val_y2_output_root_mean_squared_error: 1.6234
Epoch 76/500
614/614 [==============================] - 0s 149us/sample - loss: 3.6160 -
y1_output_loss: 0.8937 - y2_output_loss: 2.6946 -
y1_output_root_mean_squared_error: 0.9480 - y2_output_root_mean_squared_error:
1.6484 - val_loss: 3.4596 - val_y1_output_loss: 0.8037 - val_y2_output_loss:
2.5365 - val_y1_output_root_mean_squared_error: 0.9114 -
val_y2_output_root_mean_squared_error: 1.6214
Epoch 77/500
614/614 [==============================] - 0s 155us/sample - loss: 3.6048 -
y1_output_loss: 0.8442 - y2_output_loss: 2.7486 -
y1_output_root_mean_squared_error: 0.9184 - y2_output_root_mean_squared_error:
1.6617 - val_loss: 7.3172 - val_y1_output_loss: 1.6709 - val_y2_output_loss:
5.4075 - val_y1_output_root_mean_squared_error: 1.3143 -
val_y2_output_root_mean_squared_error: 2.3643
Epoch 78/500
614/614 [==============================] - 0s 146us/sample - loss: 4.9545 -
y1_output_loss: 1.4232 - y2_output_loss: 3.6493 -
y1_output_root_mean_squared_error: 1.1885 - y2_output_root_mean_squared_error:
1.8820 - val_loss: 22.0026 - val_y1_output_loss: 5.7945 - val_y2_output_loss:
15.5226 - val_y1_output_root_mean_squared_error: 2.4494 -
val_y2_output_root_mean_squared_error: 4.0004
Epoch 79/500
614/614 [==============================] - 0s 149us/sample - loss: 3.8487 -
y1_output_loss: 0.9710 - y2_output_loss: 2.8430 -
y1_output_root_mean_squared_error: 0.9898 - y2_output_root_mean_squared_error:
1.6938 - val_loss: 3.1989 - val_y1_output_loss: 0.7074 - val_y2_output_loss:
2.4108 - val_y1_output_root_mean_squared_error: 0.8484 -
val_y2_output_root_mean_squared_error: 1.5745
Epoch 80/500
614/614 [==============================] - 0s 144us/sample - loss: 4.7650 -
y1_output_loss: 1.3025 - y2_output_loss: 3.4221 -
y1_output_root_mean_squared_error: 1.1463 - y2_output_root_mean_squared_error:
1.8577 - val_loss: 3.3742 - val_y1_output_loss: 0.7242 - val_y2_output_loss:
2.5394 - val_y1_output_root_mean_squared_error: 0.8651 -
val_y2_output_root_mean_squared_error: 1.6204
Epoch 81/500
614/614 [==============================] - 0s 157us/sample - loss: 4.2530 -
y1_output_loss: 1.0574 - y2_output_loss: 3.2056 -
y1_output_root_mean_squared_error: 1.0250 - y2_output_root_mean_squared_error:
1.7895 - val_loss: 10.0319 - val_y1_output_loss: 2.4003 - val_y2_output_loss:
7.4112 - val_y1_output_root_mean_squared_error: 1.5662 -
val_y2_output_root_mean_squared_error: 2.7530
Epoch 82/500
614/614 [==============================] - 0s 144us/sample - loss: 3.6509 -

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y1_output_loss: 0.8288 - y2_output_loss: 2.8068 -
y1_output_root_mean_squared_error: 0.9084 - y2_output_root_mean_squared_error:
1.6810 - val_loss: 3.4241 - val_y1_output_loss: 0.7031 - val_y2_output_loss:
2.6239 - val_y1_output_root_mean_squared_error: 0.8486 -
val_y2_output_root_mean_squared_error: 1.6443
Epoch 83/500
614/614 [==============================] - 0s 150us/sample - loss: 2.9898 -
y1_output_loss: 0.6676 - y2_output_loss: 2.3104 -
y1_output_root_mean_squared_error: 0.8162 - y2_output_root_mean_squared_error:
1.5243 - val_loss: 3.3223 - val_y1_output_loss: 0.6978 - val_y2_output_loss:
2.5453 - val_y1_output_root_mean_squared_error: 0.8466 -
val_y2_output_root_mean_squared_error: 1.6142
Epoch 84/500
614/614 [==============================] - 0s 137us/sample - loss: 3.8090 -
y1_output_loss: 0.8670 - y2_output_loss: 2.9984 -
y1_output_root_mean_squared_error: 0.9265 - y2_output_root_mean_squared_error:
1.7178 - val_loss: 14.8483 - val_y1_output_loss: 5.1574 - val_y2_output_loss:
9.2604 - val_y1_output_root_mean_squared_error: 2.3041 -
val_y2_output_root_mean_squared_error: 3.0886
Epoch 85/500
614/614 [==============================] - 0s 147us/sample - loss: 2.8035 -
y1_output_loss: 0.7930 - y2_output_loss: 2.0337 -
y1_output_root_mean_squared_error: 0.8862 - y2_output_root_mean_squared_error:
1.4206 - val_loss: 7.6353 - val_y1_output_loss: 2.5735 - val_y2_output_loss:
4.8367 - val_y1_output_root_mean_squared_error: 1.6269 -
val_y2_output_root_mean_squared_error: 2.2335
Epoch 86/500
614/614 [==============================] - 0s 146us/sample - loss: 5.1015 -
y1_output_loss: 1.2844 - y2_output_loss: 3.7874 -
y1_output_root_mean_squared_error: 1.1362 - y2_output_root_mean_squared_error:
1.9521 - val_loss: 5.1717 - val_y1_output_loss: 1.2406 - val_y2_output_loss:
3.8737 - val_y1_output_root_mean_squared_error: 1.1170 -
val_y2_output_root_mean_squared_error: 1.9809
Epoch 87/500
614/614 [==============================] - 0s 161us/sample - loss: 3.6307 -
y1_output_loss: 0.8859 - y2_output_loss: 2.7212 -
y1_output_root_mean_squared_error: 0.9449 - y2_output_root_mean_squared_error:
1.6547 - val_loss: 3.0716 - val_y1_output_loss: 0.8131 - val_y2_output_loss:
2.2186 - val_y1_output_root_mean_squared_error: 0.9026 -
val_y2_output_root_mean_squared_error: 1.5023
Epoch 88/500
614/614 [==============================] - 0s 147us/sample - loss: 3.1194 -
y1_output_loss: 0.7876 - y2_output_loss: 2.3609 -
y1_output_root_mean_squared_error: 0.8839 - y2_output_root_mean_squared_error:
1.5291 - val_loss: 6.1301 - val_y1_output_loss: 0.6260 - val_y2_output_loss:
5.3416 - val_y1_output_root_mean_squared_error: 0.8048 -
val_y2_output_root_mean_squared_error: 2.3415
Epoch 89/500
```

614/614 [==============================] - 0s 151us/sample - loss: 4.0251 -
y1_output_loss: 0.9908 - y2_output_loss: 3.0198 -
y1_output_root_mean_squared_error: 0.9980 - y2_output_root_mean_squared_error:
1.7405 - val_loss: 3.7705 - val_y1_output_loss: 0.6029 - val_y2_output_loss:
3.0518 - val_y1_output_root_mean_squared_error: 0.7886 -
val_y2_output_root_mean_squared_error: 1.7744
Epoch 90/500
614/614 [==============================] - 0s 144us/sample - loss: 3.3276 -
y1_output_loss: 0.7729 - y2_output_loss: 2.6011 -
y1_output_root_mean_squared_error: 0.8816 - y2_output_root_mean_squared_error:
1.5970 - val_loss: 6.8630 - val_y1_output_loss: 1.2322 - val_y2_output_loss:
5.5223 - val_y1_output_root_mean_squared_error: 1.1197 -
val_y2_output_root_mean_squared_error: 2.3684
Epoch 91/500
614/614 [==============================] - 0s 142us/sample - loss: 3.4452 -
y1_output_loss: 0.7404 - y2_output_loss: 2.7003 -
y1_output_root_mean_squared_error: 0.8622 - y2_output_root_mean_squared_error:
1.6437 - val_loss: 2.7879 - val_y1_output_loss: 0.7293 - val_y2_output_loss:
1.9643 - val_y1_output_root_mean_squared_error: 0.8670 -
val_y2_output_root_mean_squared_error: 1.4270
Epoch 92/500
614/614 [==============================] - 0s 148us/sample - loss: 2.4488 -
y1_output_loss: 0.5668 - y2_output_loss: 1.8643 -
y1_output_root_mean_squared_error: 0.7553 - y2_output_root_mean_squared_error:
1.3706 - val_loss: 3.0270 - val_y1_output_loss: 0.6089 - val_y2_output_loss:
2.3164 - val_y1_output_root_mean_squared_error: 0.7927 -
val_y2_output_root_mean_squared_error: 1.5488
Epoch 93/500
614/614 [==============================] - 0s 166us/sample - loss: 2.6010 -
y1_output_loss: 0.5462 - y2_output_loss: 2.0981 -
y1_output_root_mean_squared_error: 0.7300 - y2_output_root_mean_squared_error:
1.4381 - val_loss: 4.8962 - val_y1_output_loss: 1.3288 - val_y2_output_loss:
3.4421 - val_y1_output_root_mean_squared_error: 1.1658 -
val_y2_output_root_mean_squared_error: 1.8807
Epoch 94/500
614/614 [==============================] - 0s 161us/sample - loss: 3.3230 -
y1_output_loss: 0.7849 - y2_output_loss: 2.5578 -
y1_output_root_mean_squared_error: 0.8782 - y2_output_root_mean_squared_error:
1.5974 - val_loss: 18.2514 - val_y1_output_loss: 7.0497 - val_y2_output_loss:
10.5906 - val_y1_output_root_mean_squared_error: 2.7023 -
val_y2_output_root_mean_squared_error: 3.3089
Epoch 95/500
614/614 [==============================] - 0s 153us/sample - loss: 6.7034 -
y1_output_loss: 1.7382 - y2_output_loss: 5.0053 -
y1_output_root_mean_squared_error: 1.3187 - y2_output_root_mean_squared_error:
2.2281 - val_loss: 20.0299 - val_y1_output_loss: 3.3089 - val_y2_output_loss:
16.2887 - val_y1_output_root_mean_squared_error: 1.8432 -
val_y2_output_root_mean_squared_error: 4.0783

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Epoch 96/500
614/614 [==============================] - 0s 141us/sample - loss: 3.4590 -
y1_output_loss: 0.8384 - y2_output_loss: 2.6002 -
y1_output_root_mean_squared_error: 0.9170 - y2_output_root_mean_squared_error:
1.6181 - val_loss: 4.7061 - val_y1_output_loss: 0.9591 - val_y2_output_loss:
3.5992 - val_y1_output_root_mean_squared_error: 0.9967 -
val_y2_output_root_mean_squared_error: 1.9268
Epoch 97/500
614/614 [==============================] - 0s 150us/sample - loss: 3.1969 -
y1_output_loss: 0.7416 - y2_output_loss: 2.4267 -
y1_output_root_mean_squared_error: 0.8647 - y2_output_root_mean_squared_error:
1.5650 - val_loss: 2.9174 - val_y1_output_loss: 0.6698 - val_y2_output_loss:
2.1572 - val_y1_output_root_mean_squared_error: 0.8307 -
val_y2_output_root_mean_squared_error: 1.4925
Epoch 98/500
614/614 [==============================] - 0s 140us/sample - loss: 2.6906 -
y1_output_loss: 0.5608 - y2_output_loss: 2.1070 -
y1_output_root_mean_squared_error: 0.7516 - y2_output_root_mean_squared_error:
1.4580 - val_loss: 2.6170 - val_y1_output_loss: 0.6403 - val_y2_output_loss:
1.8958 - val_y1_output_root_mean_squared_error: 0.8128 -
val_y2_output_root_mean_squared_error: 1.3987
Epoch 99/500
614/614 [==============================] - 0s 158us/sample - loss: 3.0214 -
y1_output_loss: 0.7122 - y2_output_loss: 2.3436 -
y1_output_root_mean_squared_error: 0.8469 - y2_output_root_mean_squared_error:
1.5179 - val_loss: 3.9414 - val_y1_output_loss: 0.6369 - val_y2_output_loss:
3.2291 - val_y1_output_root_mean_squared_error: 0.8091 -
val_y2_output_root_mean_squared_error: 1.8129
Epoch 100/500
614/614 [==============================] - 0s 151us/sample - loss: 3.0552 -
y1_output_loss: 0.6235 - y2_output_loss: 2.4294 -
y1_output_root_mean_squared_error: 0.7869 - y2_output_root_mean_squared_error:
1.5608 - val_loss: 6.7287 - val_y1_output_loss: 2.2674 - val_y2_output_loss:
4.2722 - val_y1_output_root_mean_squared_error: 1.5274 -
val_y2_output_root_mean_squared_error: 2.0966
Epoch 101/500
614/614 [==============================] - 0s 152us/sample - loss: 3.4711 -
y1_output_loss: 0.8766 - y2_output_loss: 2.6149 -
y1_output_root_mean_squared_error: 0.9393 - y2_output_root_mean_squared_error:
1.6090 - val_loss: 8.1056 - val_y1_output_loss: 0.9177 - val_y2_output_loss:
7.0514 - val_y1_output_root_mean_squared_error: 0.9653 -
val_y2_output_root_mean_squared_error: 2.6784
Epoch 102/500
614/614 [==============================] - 0s 146us/sample - loss: 3.0689 -
y1_output_loss: 0.6336 - y2_output_loss: 2.4194 -
y1_output_root_mean_squared_error: 0.7989 - y2_output_root_mean_squared_error:
1.5591 - val_loss: 2.8325 - val_y1_output_loss: 0.5909 - val_y2_output_loss:
2.1495 - val_y1_output_root_mean_squared_error: 0.7812 -
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val_y2_output_root_mean_squared_error: 1.4907
Epoch 103/500
614/614 [==============================] - 0s 145us/sample - loss: 2.5312 -
y1_output_loss: 0.5608 - y2_output_loss: 1.9497 -
y1_output_root_mean_squared_error: 0.7519 - y2_output_root_mean_squared_error:
1.4021 - val_loss: 3.4914 - val_y1_output_loss: 0.7638 - val_y2_output_loss:
2.6632 - val_y1_output_root_mean_squared_error: 0.8798 -
val_y2_output_root_mean_squared_error: 1.6484
Epoch 104/500
614/614 [==============================] - 0s 155us/sample - loss: 3.2064 -
y1_output_loss: 0.6940 - y2_output_loss: 2.5850 -
y1_output_root_mean_squared_error: 0.8347 - y2_output_root_mean_squared_error:
1.5842 - val_loss: 10.3484 - val_y1_output_loss: 1.3083 - val_y2_output_loss:
8.8631 - val_y1_output_root_mean_squared_error: 1.1562 -
val_y2_output_root_mean_squared_error: 3.0019
Epoch 105/500
614/614 [==============================] - 0s 155us/sample - loss: 3.2611 -
y1_output_loss: 0.8144 - y2_output_loss: 2.4254 -
y1_output_root_mean_squared_error: 0.9048 - y2_output_root_mean_squared_error:
1.5628 - val_loss: 2.8752 - val_y1_output_loss: 0.5824 - val_y2_output_loss:
2.2240 - val_y1_output_root_mean_squared_error: 0.7703 -
val_y2_output_root_mean_squared_error: 1.5106
Epoch 106/500
614/614 [==============================] - 0s 155us/sample - loss: 3.9653 -
y1_output_loss: 0.9508 - y2_output_loss: 3.0255 -
y1_output_root_mean_squared_error: 0.9789 - y2_output_root_mean_squared_error:
1.7341 - val_loss: 3.7460 - val_y1_output_loss: 0.5852 - val_y2_output_loss:
3.0380 - val_y1_output_root_mean_squared_error: 0.7781 -
val_y2_output_root_mean_squared_error: 1.7722
Epoch 107/500
614/614 [==============================] - 0s 145us/sample - loss: 2.5510 -
y1_output_loss: 0.5452 - y2_output_loss: 1.9982 -
y1_output_root_mean_squared_error: 0.7357 - y2_output_root_mean_squared_error:
1.4176 - val_loss: 2.1684 - val_y1_output_loss: 0.5049 - val_y2_output_loss:
1.6086 - val_y1_output_root_mean_squared_error: 0.7178 -
val_y2_output_root_mean_squared_error: 1.2858
Epoch 108/500
614/614 [==============================] - 0s 154us/sample - loss: 2.6519 -
y1_output_loss: 0.6552 - y2_output_loss: 2.0005 -
y1_output_root_mean_squared_error: 0.8131 - y2_output_root_mean_squared_error:
1.4109 - val_loss: 4.0914 - val_y1_output_loss: 0.6306 - val_y2_output_loss:
3.3901 - val_y1_output_root_mean_squared_error: 0.8005 -
val_y2_output_root_mean_squared_error: 1.8576
Epoch 109/500
614/614 [==============================] - 0s 151us/sample - loss: 2.5338 -
y1_output_loss: 0.4551 - y2_output_loss: 2.0712 -
y1_output_root_mean_squared_error: 0.6762 - y2_output_root_mean_squared_error:
1.4410 - val_loss: 2.5062 - val_y1_output_loss: 0.5415 - val_y2_output_loss:

1.8974 - val_y1_output_root_mean_squared_error: 0.7424 -
val_y2_output_root_mean_squared_error: 1.3982
Epoch 110/500
614/614 [==============================] - 0s 149us/sample - loss: 3.0051 -
y1_output_loss: 0.6003 - y2_output_loss: 2.4461 -
y1_output_root_mean_squared_error: 0.7761 - y2_output_root_mean_squared_error:
1.5501 - val_loss: 6.4980 - val_y1_output_loss: 0.7817 - val_y2_output_loss:
5.6461 - val_y1_output_root_mean_squared_error: 0.8891 -
val_y2_output_root_mean_squared_error: 2.3890
Epoch 111/500
614/614 [==============================] - 0s 152us/sample - loss: 3.4187 -
y1_output_loss: 0.8196 - y2_output_loss: 2.5862 -
y1_output_root_mean_squared_error: 0.9000 - y2_output_root_mean_squared_error:
1.6152 - val_loss: 2.8356 - val_y1_output_loss: 0.7864 - val_y2_output_loss:
1.9537 - val_y1_output_root_mean_squared_error: 0.9027 -
val_y2_output_root_mean_squared_error: 1.4215
Epoch 112/500
614/614 [==============================] - 0s 156us/sample - loss: 2.9428 -
y1_output_loss: 0.7115 - y2_output_loss: 2.2143 -
y1_output_root_mean_squared_error: 0.8458 - y2_output_root_mean_squared_error:
1.4924 - val_loss: 2.5995 - val_y1_output_loss: 0.5203 - val_y2_output_loss:
2.0443 - val_y1_output_root_mean_squared_error: 0.7267 -
val_y2_output_root_mean_squared_error: 1.4392
Epoch 113/500
614/614 [==============================] - 0s 140us/sample - loss: 2.6327 -
y1_output_loss: 0.5211 - y2_output_loss: 2.0923 -
y1_output_root_mean_squared_error: 0.7251 - y2_output_root_mean_squared_error:
1.4516 - val_loss: 2.9892 - val_y1_output_loss: 0.5898 - val_y2_output_loss:
2.3544 - val_y1_output_root_mean_squared_error: 0.7729 -
val_y2_output_root_mean_squared_error: 1.5465
Epoch 114/500
614/614 [==============================] - 0s 150us/sample - loss: 3.9181 -
y1_output_loss: 0.9172 - y2_output_loss: 3.0024 -
y1_output_root_mean_squared_error: 0.9576 - y2_output_root_mean_squared_error:
1.7324 - val_loss: 5.4968 - val_y1_output_loss: 0.6366 - val_y2_output_loss:
4.7266 - val_y1_output_root_mean_squared_error: 0.8124 -
val_y2_output_root_mean_squared_error: 2.1993
Epoch 115/500
614/614 [==============================] - 0s 147us/sample - loss: 11.2417 -
y1_output_loss: 3.1276 - y2_output_loss: 8.0101 -
y1_output_root_mean_squared_error: 1.7763 - y2_output_root_mean_squared_error:
2.8437 - val_loss: 3.0038 - val_y1_output_loss: 0.5354 - val_y2_output_loss:
2.3910 - val_y1_output_root_mean_squared_error: 0.7428 -
val_y2_output_root_mean_squared_error: 1.5659
Epoch 116/500
614/614 [==============================] - 0s 158us/sample - loss: 2.4400 -
y1_output_loss: 0.5967 - y2_output_loss: 1.8659 -
y1_output_root_mean_squared_error: 0.7733 - y2_output_root_mean_squared_error:

1.3572 - val_loss: 6.2711 - val_y1_output_loss: 0.6927 - val_y2_output_loss:
5.4335 - val_y1_output_root_mean_squared_error: 0.8435 -
val_y2_output_root_mean_squared_error: 2.3579
Epoch 117/500
614/614 [==============================] - 0s 148us/sample - loss: 2.3638 -
y1_output_loss: 0.4917 - y2_output_loss: 1.8727 -
y1_output_root_mean_squared_error: 0.6969 - y2_output_root_mean_squared_error:
1.3704 - val_loss: 2.5530 - val_y1_output_loss: 0.5832 - val_y2_output_loss:
1.8776 - val_y1_output_root_mean_squared_error: 0.7778 -
val_y2_output_root_mean_squared_error: 1.3957
Epoch 118/500
614/614 [==============================] - 0s 151us/sample - loss: 3.2269 -
y1_output_loss: 0.5834 - y2_output_loss: 2.6153 -
y1_output_root_mean_squared_error: 0.7673 - y2_output_root_mean_squared_error:
1.6243 - val_loss: 2.3502 - val_y1_output_loss: 0.4900 - val_y2_output_loss:
1.8070 - val_y1_output_root_mean_squared_error: 0.7079 -
val_y2_output_root_mean_squared_error: 1.3598
Epoch 119/500
614/614 [==============================] - 0s 144us/sample - loss: 2.5946 -
y1_output_loss: 0.4995 - y2_output_loss: 2.1013 -
y1_output_root_mean_squared_error: 0.7040 - y2_output_root_mean_squared_error:
1.4488 - val_loss: 4.6646 - val_y1_output_loss: 1.1439 - val_y2_output_loss:
3.4949 - val_y1_output_root_mean_squared_error: 1.0724 -
val_y2_output_root_mean_squared_error: 1.8747
Epoch 120/500
614/614 [==============================] - 0s 147us/sample - loss: 2.3480 -
y1_output_loss: 0.4717 - y2_output_loss: 1.9360 -
y1_output_root_mean_squared_error: 0.6795 - y2_output_root_mean_squared_error:
1.3734 - val_loss: 13.2086 - val_y1_output_loss: 3.1772 - val_y2_output_loss:
9.9055 - val_y1_output_root_mean_squared_error: 1.7943 -
val_y2_output_root_mean_squared_error: 3.1605
Epoch 121/500
614/614 [==============================] - 0s 144us/sample - loss: 2.7445 -
y1_output_loss: 0.5871 - y2_output_loss: 2.1469 -
y1_output_root_mean_squared_error: 0.7651 - y2_output_root_mean_squared_error:
1.4694 - val_loss: 1.9957 - val_y1_output_loss: 0.4433 - val_y2_output_loss:
1.4966 - val_y1_output_root_mean_squared_error: 0.6747 -
val_y2_output_root_mean_squared_error: 1.2411
Epoch 122/500
614/614 [==============================] - 0s 159us/sample - loss: 2.4943 -
y1_output_loss: 0.4757 - y2_output_loss: 2.0320 -
y1_output_root_mean_squared_error: 0.6923 - y2_output_root_mean_squared_error:
1.4195 - val_loss: 8.1357 - val_y1_output_loss: 1.2719 - val_y2_output_loss:
6.6310 - val_y1_output_root_mean_squared_error: 1.1467 -
val_y2_output_root_mean_squared_error: 2.6117
Epoch 123/500
614/614 [==============================] - 0s 146us/sample - loss: 2.3078 -
y1_output_loss: 0.4729 - y2_output_loss: 1.8495 -

y1_output_root_mean_squared_error: 0.6892 - y2_output_root_mean_squared_error:
1.3538 - val_loss: 6.1099 - val_y1_output_loss: 1.0553 - val_y2_output_loss:
4.8886 - val_y1_output_root_mean_squared_error: 1.0426 -
val_y2_output_root_mean_squared_error: 2.2412
Epoch 124/500
614/614 [==============================] - 0s 153us/sample - loss: 5.2487 -
y1_output_loss: 1.1812 - y2_output_loss: 4.0432 -
y1_output_root_mean_squared_error: 1.0876 - y2_output_root_mean_squared_error:
2.0164 - val_loss: 4.0904 - val_y1_output_loss: 1.0125 - val_y2_output_loss:
2.9588 - val_y1_output_root_mean_squared_error: 1.0193 -
val_y2_output_root_mean_squared_error: 1.7468
Epoch 125/500
614/614 [==============================] - 0s 143us/sample - loss: 1.9986 -
y1_output_loss: 0.4171 - y2_output_loss: 1.6384 -
y1_output_root_mean_squared_error: 0.6419 - y2_output_root_mean_squared_error:
1.2596 - val_loss: 9.1563 - val_y1_output_loss: 1.4196 - val_y2_output_loss:
7.4583 - val_y1_output_root_mean_squared_error: 1.2126 -
val_y2_output_root_mean_squared_error: 2.7723
Epoch 126/500
614/614 [==============================] - 0s 148us/sample - loss: 3.0709 -
y1_output_loss: 0.6643 - y2_output_loss: 2.4133 -
y1_output_root_mean_squared_error: 0.8151 - y2_output_root_mean_squared_error:
1.5513 - val_loss: 7.0359 - val_y1_output_loss: 0.6784 - val_y2_output_loss:
6.3231 - val_y1_output_root_mean_squared_error: 0.8273 -
val_y2_output_root_mean_squared_error: 2.5202
Epoch 127/500
614/614 [==============================] - 0s 144us/sample - loss: 2.3527 -
y1_output_loss: 0.5030 - y2_output_loss: 1.8387 -
y1_output_root_mean_squared_error: 0.7083 - y2_output_root_mean_squared_error:
1.3605 - val_loss: 2.2861 - val_y1_output_loss: 0.5450 - val_y2_output_loss:
1.7388 - val_y1_output_root_mean_squared_error: 0.7367 -
val_y2_output_root_mean_squared_error: 1.3203
Epoch 128/500
614/614 [==============================] - 0s 159us/sample - loss: 2.2334 -
y1_output_loss: 0.4827 - y2_output_loss: 1.7698 -
y1_output_root_mean_squared_error: 0.6967 - y2_output_root_mean_squared_error:
1.3221 - val_loss: 2.0645 - val_y1_output_loss: 0.4332 - val_y2_output_loss:
1.5750 - val_y1_output_root_mean_squared_error: 0.6662 -
val_y2_output_root_mean_squared_error: 1.2730
Epoch 129/500
614/614 [==============================] - 0s 146us/sample - loss: 1.8965 -
y1_output_loss: 0.3976 - y2_output_loss: 1.5113 -
y1_output_root_mean_squared_error: 0.6288 - y2_output_root_mean_squared_error:
1.2252 - val_loss: 2.4897 - val_y1_output_loss: 0.3835 - val_y2_output_loss:
2.0454 - val_y1_output_root_mean_squared_error: 0.6271 -
val_y2_output_root_mean_squared_error: 1.4479
Epoch 130/500
614/614 [==============================] - 0s 157us/sample - loss: 2.5776 -

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y1_output_loss: 0.4868 - y2_output_loss: 2.0700 -
y1_output_root_mean_squared_error: 0.6996 - y2_output_root_mean_squared_error:
1.4450 - val_loss: 2.5205 - val_y1_output_loss: 0.6839 - val_y2_output_loss:
1.8081 - val_y1_output_root_mean_squared_error: 0.8339 -
val_y2_output_root_mean_squared_error: 1.3510
Epoch 131/500
614/614 [==============================] - 0s 144us/sample - loss: 2.0549 -
y1_output_loss: 0.4029 - y2_output_loss: 1.6580 -
y1_output_root_mean_squared_error: 0.6356 - y2_output_root_mean_squared_error:
1.2849 - val_loss: 5.9258 - val_y1_output_loss: 1.2141 - val_y2_output_loss:
4.5769 - val_y1_output_root_mean_squared_error: 1.1183 -
val_y2_output_root_mean_squared_error: 2.1622
Epoch 132/500
614/614 [==============================] - 0s 149us/sample - loss: 3.4951 -
y1_output_loss: 0.7038 - y2_output_loss: 2.7751 -
y1_output_root_mean_squared_error: 0.8426 - y2_output_root_mean_squared_error:
1.6689 - val_loss: 2.7577 - val_y1_output_loss: 0.7128 - val_y2_output_loss:
2.0329 - val_y1_output_root_mean_squared_error: 0.8481 -
val_y2_output_root_mean_squared_error: 1.4277
Epoch 133/500
614/614 [==============================] - 0s 149us/sample - loss: 1.9209 -
y1_output_loss: 0.3891 - y2_output_loss: 1.5332 -
y1_output_root_mean_squared_error: 0.6246 - y2_output_root_mean_squared_error:
1.2372 - val_loss: 2.8168 - val_y1_output_loss: 0.4578 - val_y2_output_loss:
2.2810 - val_y1_output_root_mean_squared_error: 0.6858 -
val_y2_output_root_mean_squared_error: 1.5318
Epoch 134/500
614/614 [==============================] - 0s 155us/sample - loss: 2.1932 -
y1_output_loss: 0.4685 - y2_output_loss: 1.7247 -
y1_output_root_mean_squared_error: 0.6839 - y2_output_root_mean_squared_error:
1.3136 - val_loss: 3.1235 - val_y1_output_loss: 0.4629 - val_y2_output_loss:
2.6074 - val_y1_output_root_mean_squared_error: 0.6909 -
val_y2_output_root_mean_squared_error: 1.6267
Epoch 135/500
614/614 [==============================] - 0s 147us/sample - loss: 2.2137 -
y1_output_loss: 0.4329 - y2_output_loss: 1.7764 -
y1_output_root_mean_squared_error: 0.6581 - y2_output_root_mean_squared_error:
1.3344 - val_loss: 2.7578 - val_y1_output_loss: 0.8368 - val_y2_output_loss:
1.8544 - val_y1_output_root_mean_squared_error: 0.9281 -
val_y2_output_root_mean_squared_error: 1.3771
Epoch 136/500
614/614 [==============================] - 0s 150us/sample - loss: 2.1791 -
y1_output_loss: 0.5381 - y2_output_loss: 1.6258 -
y1_output_root_mean_squared_error: 0.7368 - y2_output_root_mean_squared_error:
1.2791 - val_loss: 1.8432 - val_y1_output_loss: 0.4752 - val_y2_output_loss:
1.3536 - val_y1_output_root_mean_squared_error: 0.6963 -
val_y2_output_root_mean_squared_error: 1.1655
Epoch 137/500
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614/614 [==============================] - 0s 151us/sample - loss: 2.3344 - y1_output_loss: 0.4397 - y2_output_loss: 1.9147 - y1_output_root_mean_squared_error: 0.6653 - y2_output_root_mean_squared_error: 1.3754 - val_loss: 3.1702 - val_y1_output_loss: 0.6083 - val_y2_output_loss: 2.4824 - val_y1_output_root_mean_squared_error: 0.7902 - val_y2_output_root_mean_squared_error: 1.5956
Epoch 138/500
614/614 [==============================] - 0s 145us/sample - loss: 2.7281 - y1_output_loss: 0.6666 - y2_output_loss: 2.0409 - y1_output_root_mean_squared_error: 0.8174 - y2_output_root_mean_squared_error: 1.4352 - val_loss: 2.9437 - val_y1_output_loss: 0.3943 - val_y2_output_loss: 2.4940 - val_y1_output_root_mean_squared_error: 0.6347 - val_y2_output_root_mean_squared_error: 1.5940
Epoch 139/500
614/614 [==============================] - 0s 157us/sample - loss: 2.8767 - y1_output_loss: 0.6146 - y2_output_loss: 2.2418 - y1_output_root_mean_squared_error: 0.7866 - y2_output_root_mean_squared_error: 1.5026 - val_loss: 2.2003 - val_y1_output_loss: 0.4024 - val_y2_output_loss: 1.7960 - val_y1_output_root_mean_squared_error: 0.6351 - val_y2_output_root_mean_squared_error: 1.3405
Epoch 140/500
614/614 [==============================] - 0s 155us/sample - loss: 2.7819 - y1_output_loss: 0.5963 - y2_output_loss: 2.1711 - y1_output_root_mean_squared_error: 0.7747 - y2_output_root_mean_squared_error: 1.4770 - val_loss: 2.6206 - val_y1_output_loss: 0.8636 - val_y2_output_loss: 1.7409 - val_y1_output_root_mean_squared_error: 0.9359 - val_y2_output_root_mean_squared_error: 1.3209
Epoch 141/500
614/614 [==============================] - 0s 151us/sample - loss: 3.0273 - y1_output_loss: 0.5238 - y2_output_loss: 2.4920 - y1_output_root_mean_squared_error: 0.7265 - y2_output_root_mean_squared_error: 1.5810 - val_loss: 3.1070 - val_y1_output_loss: 0.8711 - val_y2_output_loss: 2.1510 - val_y1_output_root_mean_squared_error: 0.9472 - val_y2_output_root_mean_squared_error: 1.4865
Epoch 142/500
614/614 [==============================] - 0s 156us/sample - loss: 1.9031 - y1_output_loss: 0.3817 - y2_output_loss: 1.5267 - y1_output_root_mean_squared_error: 0.6142 - y2_output_root_mean_squared_error: 1.2352 - val_loss: 2.2596 - val_y1_output_loss: 0.6050 - val_y2_output_loss: 1.6004 - val_y1_output_root_mean_squared_error: 0.7898 - val_y2_output_root_mean_squared_error: 1.2790
Epoch 143/500
614/614 [==============================] - 0s 142us/sample - loss: 2.0623 - y1_output_loss: 0.4569 - y2_output_loss: 1.6122 - y1_output_root_mean_squared_error: 0.6755 - y2_output_root_mean_squared_error: 1.2673 - val_loss: 2.1109 - val_y1_output_loss: 0.7754 - val_y2_output_loss: 1.2783 - val_y1_output_root_mean_squared_error: 0.8944 - val_y2_output_root_mean_squared_error: 1.1450

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Epoch 144/500
614/614 [==============================] - 0s 158us/sample - loss: 1.8965 -
y1_output_loss: 0.3859 - y2_output_loss: 1.5092 -
y1_output_root_mean_squared_error: 0.6226 - y2_output_root_mean_squared_error:
1.2284 - val_loss: 1.6936 - val_y1_output_loss: 0.4824 - val_y2_output_loss:
1.2055 - val_y1_output_root_mean_squared_error: 0.6965 -
val_y2_output_root_mean_squared_error: 1.0993
Epoch 145/500
614/614 [==============================] - 0s 152us/sample - loss: 1.6778 -
y1_output_loss: 0.3670 - y2_output_loss: 1.2965 -
y1_output_root_mean_squared_error: 0.6078 - y2_output_root_mean_squared_error:
1.1438 - val_loss: 1.5666 - val_y1_output_loss: 0.3805 - val_y2_output_loss:
1.1471 - val_y1_output_root_mean_squared_error: 0.6239 -
val_y2_output_root_mean_squared_error: 1.0851
Epoch 146/500
614/614 [==============================] - 0s 162us/sample - loss: 1.7658 -
y1_output_loss: 0.3574 - y2_output_loss: 1.4382 -
y1_output_root_mean_squared_error: 0.6004 - y2_output_root_mean_squared_error:
1.1855 - val_loss: 4.9012 - val_y1_output_loss: 0.7865 - val_y2_output_loss:
3.9567 - val_y1_output_root_mean_squared_error: 0.9036 -
val_y2_output_root_mean_squared_error: 2.0211
Epoch 147/500
614/614 [==============================] - 0s 159us/sample - loss: 3.5542 -
y1_output_loss: 0.6464 - y2_output_loss: 2.8744 -
y1_output_root_mean_squared_error: 0.8075 - y2_output_root_mean_squared_error:
1.7036 - val_loss: 1.5336 - val_y1_output_loss: 0.3227 - val_y2_output_loss:
1.1817 - val_y1_output_root_mean_squared_error: 0.5732 -
val_y2_output_root_mean_squared_error: 1.0977
Epoch 148/500
614/614 [==============================] - 0s 159us/sample - loss: 1.9431 -
y1_output_loss: 0.3877 - y2_output_loss: 1.5402 -
y1_output_root_mean_squared_error: 0.6248 - y2_output_root_mean_squared_error:
1.2461 - val_loss: 1.6835 - val_y1_output_loss: 0.3315 - val_y2_output_loss:
1.3057 - val_y1_output_root_mean_squared_error: 0.5838 -
val_y2_output_root_mean_squared_error: 1.1588
Epoch 149/500
614/614 [==============================] - 0s 156us/sample - loss: 1.9929 -
y1_output_loss: 0.4174 - y2_output_loss: 1.5722 -
y1_output_root_mean_squared_error: 0.6477 - y2_output_root_mean_squared_error:
1.2543 - val_loss: 2.2451 - val_y1_output_loss: 0.3219 - val_y2_output_loss:
1.8602 - val_y1_output_root_mean_squared_error: 0.5768 -
val_y2_output_root_mean_squared_error: 1.3829
Epoch 150/500
614/614 [==============================] - 0s 147us/sample - loss: 2.0625 -
y1_output_loss: 0.4625 - y2_output_loss: 1.5930 -
y1_output_root_mean_squared_error: 0.6823 - y2_output_root_mean_squared_error:
1.2637 - val_loss: 5.9157 - val_y1_output_loss: 1.3296 - val_y2_output_loss:
4.5823 - val_y1_output_root_mean_squared_error: 1.1499 -
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val_y2_output_root_mean_squared_error: 2.1432
Epoch 151/500
614/614 [==============================] - 0s 157us/sample - loss: 1.9565 -
y1_output_loss: 0.4262 - y2_output_loss: 1.5963 -
y1_output_root_mean_squared_error: 0.6447 - y2_output_root_mean_squared_error:
1.2413 - val_loss: 23.6720 - val_y1_output_loss: 4.2567 - val_y2_output_loss:
19.0445 - val_y1_output_root_mean_squared_error: 2.0821 -
val_y2_output_root_mean_squared_error: 4.3974
Epoch 152/500
614/614 [==============================] - 0s 160us/sample - loss: 3.7582 -
y1_output_loss: 0.8669 - y2_output_loss: 2.8647 -
y1_output_root_mean_squared_error: 0.9332 - y2_output_root_mean_squared_error:
1.6992 - val_loss: 1.5634 - val_y1_output_loss: 0.3329 - val_y2_output_loss:
1.1986 - val_y1_output_root_mean_squared_error: 0.5834 -
val_y2_output_root_mean_squared_error: 1.1059
Epoch 153/500
614/614 [==============================] - 0s 154us/sample - loss: 1.7126 -
y1_output_loss: 0.2954 - y2_output_loss: 1.4039 -
y1_output_root_mean_squared_error: 0.5443 - y2_output_root_mean_squared_error:
1.1901 - val_loss: 1.5032 - val_y1_output_loss: 0.3645 - val_y2_output_loss:
1.1181 - val_y1_output_root_mean_squared_error: 0.6111 -
val_y2_output_root_mean_squared_error: 1.0629
Epoch 154/500
614/614 [==============================] - 0s 150us/sample - loss: 2.0027 -
y1_output_loss: 0.4316 - y2_output_loss: 1.5678 -
y1_output_root_mean_squared_error: 0.6583 - y2_output_root_mean_squared_error:
1.2527 - val_loss: 3.3886 - val_y1_output_loss: 0.6887 - val_y2_output_loss:
2.6958 - val_y1_output_root_mean_squared_error: 0.8373 -
val_y2_output_root_mean_squared_error: 1.6394
Epoch 155/500
614/614 [==============================] - 0s 151us/sample - loss: 2.1489 -
y1_output_loss: 0.5100 - y2_output_loss: 1.6286 -
y1_output_root_mean_squared_error: 0.7157 - y2_output_root_mean_squared_error:
1.2793 - val_loss: 2.7909 - val_y1_output_loss: 0.5362 - val_y2_output_loss:
2.2425 - val_y1_output_root_mean_squared_error: 0.7387 -
val_y2_output_root_mean_squared_error: 1.4984
Epoch 156/500
614/614 [==============================] - 0s 147us/sample - loss: 1.8025 -
y1_output_loss: 0.3491 - y2_output_loss: 1.4453 -
y1_output_root_mean_squared_error: 0.5914 - y2_output_root_mean_squared_error:
1.2053 - val_loss: 3.6406 - val_y1_output_loss: 0.5005 - val_y2_output_loss:
3.0994 - val_y1_output_root_mean_squared_error: 0.7161 -
val_y2_output_root_mean_squared_error: 1.7686
Epoch 157/500
614/614 [==============================] - 0s 157us/sample - loss: 2.0333 -
y1_output_loss: 0.4739 - y2_output_loss: 1.5580 -
y1_output_root_mean_squared_error: 0.6905 - y2_output_root_mean_squared_error:
1.2476 - val_loss: 3.4011 - val_y1_output_loss: 0.4477 - val_y2_output_loss:

2.9084 - val_y1_output_root_mean_squared_error: 0.6769 -
val_y2_output_root_mean_squared_error: 1.7155
Epoch 158/500
614/614 [==============================] - 0s 146us/sample - loss: 1.5399 -
y1_output_loss: 0.3090 - y2_output_loss: 1.2270 -
y1_output_root_mean_squared_error: 0.5560 - y2_output_root_mean_squared_error:
1.1094 - val_loss: 5.8866 - val_y1_output_loss: 0.8959 - val_y2_output_loss:
5.0086 - val_y1_output_root_mean_squared_error: 0.9431 -
val_y2_output_root_mean_squared_error: 2.2355
Epoch 159/500
614/614 [==============================] - 0s 157us/sample - loss: 2.4523 -
y1_output_loss: 0.5358 - y2_output_loss: 1.9287 -
y1_output_root_mean_squared_error: 0.7308 - y2_output_root_mean_squared_error:
1.3850 - val_loss: 4.7593 - val_y1_output_loss: 1.1301 - val_y2_output_loss:
3.5198 - val_y1_output_root_mean_squared_error: 1.0662 -
val_y2_output_root_mean_squared_error: 1.9033
Epoch 160/500
614/614 [==============================] - 0s 152us/sample - loss: 1.7492 -
y1_output_loss: 0.3548 - y2_output_loss: 1.3796 -
y1_output_root_mean_squared_error: 0.5976 - y2_output_root_mean_squared_error:
1.1799 - val_loss: 1.9032 - val_y1_output_loss: 0.3975 - val_y2_output_loss:
1.4738 - val_y1_output_root_mean_squared_error: 0.6392 -
val_y2_output_root_mean_squared_error: 1.2226
Epoch 161/500
614/614 [==============================] - 0s 146us/sample - loss: 2.0745 -
y1_output_loss: 0.4907 - y2_output_loss: 1.5980 -
y1_output_root_mean_squared_error: 0.6995 - y2_output_root_mean_squared_error:
1.2591 - val_loss: 5.7832 - val_y1_output_loss: 1.2616 - val_y2_output_loss:
4.3539 - val_y1_output_root_mean_squared_error: 1.1392 -
val_y2_output_root_mean_squared_error: 2.1179
Epoch 162/500
614/614 [==============================] - 0s 140us/sample - loss: 4.4461 -
y1_output_loss: 1.0536 - y2_output_loss: 3.3629 -
y1_output_root_mean_squared_error: 1.0279 - y2_output_root_mean_squared_error:
1.8411 - val_loss: 1.6330 - val_y1_output_loss: 0.4097 - val_y2_output_loss:
1.1773 - val_y1_output_root_mean_squared_error: 0.6506 -
val_y2_output_root_mean_squared_error: 1.0999
Epoch 163/500
614/614 [==============================] - 0s 155us/sample - loss: 1.9048 -
y1_output_loss: 0.4412 - y2_output_loss: 1.4865 -
y1_output_root_mean_squared_error: 0.6526 - y2_output_root_mean_squared_error:
1.2161 - val_loss: 1.7811 - val_y1_output_loss: 0.4579 - val_y2_output_loss:
1.3002 - val_y1_output_root_mean_squared_error: 0.6872 -
val_y2_output_root_mean_squared_error: 1.1441
Epoch 164/500
614/614 [==============================] - 0s 151us/sample - loss: 1.8559 -
y1_output_loss: 0.3283 - y2_output_loss: 1.5160 -
y1_output_root_mean_squared_error: 0.5753 - y2_output_root_mean_squared_error:

1.2349 - val_loss: 1.6753 - val_y1_output_loss: 0.3538 - val_y2_output_loss:
1.2966 - val_y1_output_root_mean_squared_error: 0.6025 -
val_y2_output_root_mean_squared_error: 1.1456
Epoch 165/500
614/614 [==============================] - 0s 153us/sample - loss: 1.6828 -
y1_output_loss: 0.3427 - y2_output_loss: 1.3269 -
y1_output_root_mean_squared_error: 0.5877 - y2_output_root_mean_squared_error:
1.1565 - val_loss: 1.9858 - val_y1_output_loss: 0.3629 - val_y2_output_loss:
1.5899 - val_y1_output_root_mean_squared_error: 0.6136 -
val_y2_output_root_mean_squared_error: 1.2686
Epoch 166/500
614/614 [==============================] - 0s 143us/sample - loss: 1.6975 -
y1_output_loss: 0.3050 - y2_output_loss: 1.4027 -
y1_output_root_mean_squared_error: 0.5460 - y2_output_root_mean_squared_error:
1.1829 - val_loss: 2.3737 - val_y1_output_loss: 0.7653 - val_y2_output_loss:
1.5318 - val_y1_output_root_mean_squared_error: 0.8875 -
val_y2_output_root_mean_squared_error: 1.2594
Epoch 167/500
614/614 [==============================] - 0s 143us/sample - loss: 1.5530 -
y1_output_loss: 0.3024 - y2_output_loss: 1.2484 -
y1_output_root_mean_squared_error: 0.5513 - y2_output_root_mean_squared_error:
1.1176 - val_loss: 1.6690 - val_y1_output_loss: 0.3274 - val_y2_output_loss:
1.3235 - val_y1_output_root_mean_squared_error: 0.5801 -
val_y2_output_root_mean_squared_error: 1.1543
Epoch 168/500
614/614 [==============================] - 0s 147us/sample - loss: 2.1726 -
y1_output_loss: 0.4651 - y2_output_loss: 1.6871 -
y1_output_root_mean_squared_error: 0.6852 - y2_output_root_mean_squared_error:
1.3051 - val_loss: 1.4999 - val_y1_output_loss: 0.2786 - val_y2_output_loss:
1.2175 - val_y1_output_root_mean_squared_error: 0.5359 -
val_y2_output_root_mean_squared_error: 1.1012
Epoch 169/500
614/614 [==============================] - 0s 160us/sample - loss: 1.4687 -
y1_output_loss: 0.2722 - y2_output_loss: 1.1857 -
y1_output_root_mean_squared_error: 0.5228 - y2_output_root_mean_squared_error:
1.0933 - val_loss: 1.2952 - val_y1_output_loss: 0.3044 - val_y2_output_loss:
0.9903 - val_y1_output_root_mean_squared_error: 0.5596 -
val_y2_output_root_mean_squared_error: 0.9910
Epoch 170/500
614/614 [==============================] - 0s 153us/sample - loss: 1.3816 -
y1_output_loss: 0.2771 - y2_output_loss: 1.1214 -
y1_output_root_mean_squared_error: 0.5255 - y2_output_root_mean_squared_error:
1.0514 - val_loss: 3.0171 - val_y1_output_loss: 0.3460 - val_y2_output_loss:
2.5899 - val_y1_output_root_mean_squared_error: 0.5958 -
val_y2_output_root_mean_squared_error: 1.6316
Epoch 171/500
614/614 [==============================] - 0s 143us/sample - loss: 1.6719 -
y1_output_loss: 0.3190 - y2_output_loss: 1.3438 -

y1_output_root_mean_squared_error: 0.5670 - y2_output_root_mean_squared_error: 1.1621 - val_loss: 2.2116 - val_y1_output_loss: 0.3561 - val_y2_output_loss: 1.8654 - val_y1_output_root_mean_squared_error: 0.6026 - val_y2_output_root_mean_squared_error: 1.3596
Epoch 172/500
614/614 [==============================] - 0s 157us/sample - loss: 1.6477 - y1_output_loss: 0.3017 - y2_output_loss: 1.3317 - y1_output_root_mean_squared_error: 0.5514 - y2_output_root_mean_squared_error: 1.1591 - val_loss: 1.5679 - val_y1_output_loss: 0.2519 - val_y2_output_loss: 1.2991 - val_y1_output_root_mean_squared_error: 0.5089 - val_y2_output_root_mean_squared_error: 1.1441
Epoch 173/500
614/614 [==============================] - 0s 149us/sample - loss: 1.9719 - y1_output_loss: 0.3438 - y2_output_loss: 1.6259 - y1_output_root_mean_squared_error: 0.5773 - y2_output_root_mean_squared_error: 1.2801 - val_loss: 1.8710 - val_y1_output_loss: 0.8260 - val_y2_output_loss: 1.0172 - val_y1_output_root_mean_squared_error: 0.9257 - val_y2_output_root_mean_squared_error: 1.0070
Epoch 174/500
614/614 [==============================] - 0s 147us/sample - loss: 1.5603 - y1_output_loss: 0.3633 - y2_output_loss: 1.1885 - y1_output_root_mean_squared_error: 0.6034 - y2_output_root_mean_squared_error: 1.0937 - val_loss: 1.3976 - val_y1_output_loss: 0.3390 - val_y2_output_loss: 1.0347 - val_y1_output_root_mean_squared_error: 0.5892 - val_y2_output_root_mean_squared_error: 1.0249
Epoch 175/500
614/614 [==============================] - 0s 160us/sample - loss: 1.2605 - y1_output_loss: 0.2697 - y2_output_loss: 0.9906 - y1_output_root_mean_squared_error: 0.5151 - y2_output_root_mean_squared_error: 0.9976 - val_loss: 1.7428 - val_y1_output_loss: 0.4266 - val_y2_output_loss: 1.3117 - val_y1_output_root_mean_squared_error: 0.6635 - val_y2_output_root_mean_squared_error: 1.1413
Epoch 176/500
614/614 [==============================] - 0s 145us/sample - loss: 1.2791 - y1_output_loss: 0.2447 - y2_output_loss: 1.0350 - y1_output_root_mean_squared_error: 0.4908 - y2_output_root_mean_squared_error: 1.0189 - val_loss: 1.5342 - val_y1_output_loss: 0.3981 - val_y2_output_loss: 1.0914 - val_y1_output_root_mean_squared_error: 0.6405 - val_y2_output_root_mean_squared_error: 1.0601
Epoch 177/500
614/614 [==============================] - 0s 146us/sample - loss: 1.3683 - y1_output_loss: 0.2682 - y2_output_loss: 1.1060 - y1_output_root_mean_squared_error: 0.5201 - y2_output_root_mean_squared_error: 1.0477 - val_loss: 6.1513 - val_y1_output_loss: 0.3539 - val_y2_output_loss: 5.6875 - val_y1_output_root_mean_squared_error: 0.6043 - val_y2_output_root_mean_squared_error: 2.4054
Epoch 178/500
614/614 [==============================] - 0s 147us/sample - loss: 2.0336 -

y1_output_loss: 0.4137 - y2_output_loss: 1.6142 -
y1_output_root_mean_squared_error: 0.6440 - y2_output_root_mean_squared_error:
1.2723 - val_loss: 1.3580 - val_y1_output_loss: 0.3175 - val_y2_output_loss:
1.0048 - val_y1_output_root_mean_squared_error: 0.5725 -
val_y2_output_root_mean_squared_error: 1.0150
Epoch 179/500
614/614 [==============================] - 0s 152us/sample - loss: 1.2448 -
y1_output_loss: 0.2462 - y2_output_loss: 0.9881 -
y1_output_root_mean_squared_error: 0.4975 - y2_output_root_mean_squared_error:
0.9987 - val_loss: 1.3849 - val_y1_output_loss: 0.3373 - val_y2_output_loss:
1.0502 - val_y1_output_root_mean_squared_error: 0.5834 -
val_y2_output_root_mean_squared_error: 1.0220
Epoch 180/500
614/614 [==============================] - 0s 150us/sample - loss: 1.3697 -
y1_output_loss: 0.2962 - y2_output_loss: 1.0958 -
y1_output_root_mean_squared_error: 0.5468 - y2_output_root_mean_squared_error:
1.0347 - val_loss: 6.3978 - val_y1_output_loss: 0.5253 - val_y2_output_loss:
5.7954 - val_y1_output_root_mean_squared_error: 0.7315 -
val_y2_output_root_mean_squared_error: 2.4213
Epoch 181/500
614/614 [==============================] - 0s 169us/sample - loss: 2.8362 -
y1_output_loss: 0.5820 - y2_output_loss: 2.2939 -
y1_output_root_mean_squared_error: 0.7536 - y2_output_root_mean_squared_error:
1.5061 - val_loss: 9.5839 - val_y1_output_loss: 3.7333 - val_y2_output_loss:
5.6294 - val_y1_output_root_mean_squared_error: 1.9619 -
val_y2_output_root_mean_squared_error: 2.3947
Epoch 182/500
614/614 [==============================] - 0s 154us/sample - loss: 2.3837 -
y1_output_loss: 0.4752 - y2_output_loss: 1.9365 -
y1_output_root_mean_squared_error: 0.6896 - y2_output_root_mean_squared_error:
1.3813 - val_loss: 14.1819 - val_y1_output_loss: 3.4508 - val_y2_output_loss:
10.2736 - val_y1_output_root_mean_squared_error: 1.8920 -
val_y2_output_root_mean_squared_error: 3.2561
Epoch 183/500
614/614 [==============================] - 0s 148us/sample - loss: 1.7222 -
y1_output_loss: 0.3376 - y2_output_loss: 1.3791 -
y1_output_root_mean_squared_error: 0.5819 - y2_output_root_mean_squared_error:
1.1762 - val_loss: 1.4302 - val_y1_output_loss: 0.3290 - val_y2_output_loss:
1.0965 - val_y1_output_root_mean_squared_error: 0.5838 -
val_y2_output_root_mean_squared_error: 1.0437
Epoch 184/500
614/614 [==============================] - 0s 148us/sample - loss: 1.2306 -
y1_output_loss: 0.2524 - y2_output_loss: 0.9843 -
y1_output_root_mean_squared_error: 0.5038 - y2_output_root_mean_squared_error:
0.9883 - val_loss: 2.3263 - val_y1_output_loss: 0.7097 - val_y2_output_loss:
1.5673 - val_y1_output_root_mean_squared_error: 0.8527 -
val_y2_output_root_mean_squared_error: 1.2646
Epoch 185/500

614/614 [==============================] - 0s 150us/sample - loss: 2.2681 -
y1_output_loss: 0.4656 - y2_output_loss: 1.7910 -
y1_output_root_mean_squared_error: 0.6823 - y2_output_root_mean_squared_error:
1.3426 - val_loss: 1.0865 - val_y1_output_loss: 0.2277 - val_y2_output_loss:
0.8514 - val_y1_output_root_mean_squared_error: 0.4828 -
val_y2_output_root_mean_squared_error: 0.9238
Epoch 186/500
614/614 [==============================] - 0s 149us/sample - loss: 1.4198 -
y1_output_loss: 0.2671 - y2_output_loss: 1.1530 -
y1_output_root_mean_squared_error: 0.5178 - y2_output_root_mean_squared_error:
1.0732 - val_loss: 1.3077 - val_y1_output_loss: 0.3292 - val_y2_output_loss:
0.9527 - val_y1_output_root_mean_squared_error: 0.5837 -
val_y2_output_root_mean_squared_error: 0.9834
Epoch 187/500
614/614 [==============================] - 0s 153us/sample - loss: 1.4262 -
y1_output_loss: 0.2868 - y2_output_loss: 1.1471 -
y1_output_root_mean_squared_error: 0.5362 - y2_output_root_mean_squared_error:
1.0671 - val_loss: 1.5469 - val_y1_output_loss: 0.3538 - val_y2_output_loss:
1.1609 - val_y1_output_root_mean_squared_error: 0.6007 -
val_y2_output_root_mean_squared_error: 1.0891
Epoch 188/500
614/614 [==============================] - 0s 155us/sample - loss: 2.3142 -
y1_output_loss: 0.5675 - y2_output_loss: 1.7365 -
y1_output_root_mean_squared_error: 0.7530 - y2_output_root_mean_squared_error:
1.3218 - val_loss: 2.0084 - val_y1_output_loss: 0.4306 - val_y2_output_loss:
1.5623 - val_y1_output_root_mean_squared_error: 0.6547 -
val_y2_output_root_mean_squared_error: 1.2569
Epoch 189/500
614/614 [==============================] - 0s 144us/sample - loss: 2.1717 -
y1_output_loss: 0.5618 - y2_output_loss: 1.5914 -
y1_output_root_mean_squared_error: 0.7523 - y2_output_root_mean_squared_error:
1.2672 - val_loss: 1.6349 - val_y1_output_loss: 0.3546 - val_y2_output_loss:
1.2514 - val_y1_output_root_mean_squared_error: 0.6042 -
val_y2_output_root_mean_squared_error: 1.1269
Epoch 190/500
614/614 [==============================] - 0s 149us/sample - loss: 1.1800 -
y1_output_loss: 0.2623 - y2_output_loss: 0.9096 -
y1_output_root_mean_squared_error: 0.5142 - y2_output_root_mean_squared_error:
0.9569 - val_loss: 1.3118 - val_y1_output_loss: 0.2704 - val_y2_output_loss:
1.0140 - val_y1_output_root_mean_squared_error: 0.5291 -
val_y2_output_root_mean_squared_error: 1.0158
Epoch 191/500
614/614 [==============================] - 0s 143us/sample - loss: 2.3738 -
y1_output_loss: 0.5078 - y2_output_loss: 1.8514 -
y1_output_root_mean_squared_error: 0.7153 - y2_output_root_mean_squared_error:
1.3646 - val_loss: 1.4170 - val_y1_output_loss: 0.3598 - val_y2_output_loss:
1.0583 - val_y1_output_root_mean_squared_error: 0.6006 -
val_y2_output_root_mean_squared_error: 1.0278

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Epoch 192/500
614/614 [==============================] - 0s 150us/sample - loss: 1.3219 -
y1_output_loss: 0.2523 - y2_output_loss: 1.0622 -
y1_output_root_mean_squared_error: 0.5032 - y2_output_root_mean_squared_error:
1.0338 - val_loss: 1.2037 - val_y1_output_loss: 0.2813 - val_y2_output_loss:
0.8947 - val_y1_output_root_mean_squared_error: 0.5397 -
val_y2_output_root_mean_squared_error: 0.9552
Epoch 193/500
614/614 [==============================] - 0s 152us/sample - loss: 1.4683 -
y1_output_loss: 0.2885 - y2_output_loss: 1.1840 -
y1_output_root_mean_squared_error: 0.5354 - y2_output_root_mean_squared_error:
1.0871 - val_loss: 2.9462 - val_y1_output_loss: 0.8942 - val_y2_output_loss:
1.9994 - val_y1_output_root_mean_squared_error: 0.9560 -
val_y2_output_root_mean_squared_error: 1.4256
Epoch 194/500
614/614 [==============================] - 0s 149us/sample - loss: 1.5938 -
y1_output_loss: 0.3144 - y2_output_loss: 1.2744 -
y1_output_root_mean_squared_error: 0.5572 - y2_output_root_mean_squared_error:
1.1328 - val_loss: 1.6043 - val_y1_output_loss: 0.5617 - val_y2_output_loss:
1.0509 - val_y1_output_root_mean_squared_error: 0.7574 -
val_y2_output_root_mean_squared_error: 1.0152
Epoch 195/500
614/614 [==============================] - 0s 150us/sample - loss: 1.8185 -
y1_output_loss: 0.3997 - y2_output_loss: 1.4208 -
y1_output_root_mean_squared_error: 0.6216 - y2_output_root_mean_squared_error:
1.1967 - val_loss: 1.4341 - val_y1_output_loss: 0.4038 - val_y2_output_loss:
1.0151 - val_y1_output_root_mean_squared_error: 0.6438 -
val_y2_output_root_mean_squared_error: 1.0098
Epoch 196/500
614/614 [==============================] - 0s 146us/sample - loss: 2.6896 -
y1_output_loss: 0.7068 - y2_output_loss: 1.9595 -
y1_output_root_mean_squared_error: 0.8441 - y2_output_root_mean_squared_error:
1.4061 - val_loss: 1.1745 - val_y1_output_loss: 0.3115 - val_y2_output_loss:
0.8419 - val_y1_output_root_mean_squared_error: 0.5683 -
val_y2_output_root_mean_squared_error: 0.9228
Epoch 197/500
614/614 [==============================] - 0s 147us/sample - loss: 2.1499 -
y1_output_loss: 0.4713 - y2_output_loss: 1.6601 -
y1_output_root_mean_squared_error: 0.6898 - y2_output_root_mean_squared_error:
1.2939 - val_loss: 1.2933 - val_y1_output_loss: 0.3176 - val_y2_output_loss:
0.9830 - val_y1_output_root_mean_squared_error: 0.5714 -
val_y2_output_root_mean_squared_error: 0.9833
Epoch 198/500
614/614 [==============================] - 0s 160us/sample - loss: 1.5199 -
y1_output_loss: 0.3102 - y2_output_loss: 1.1973 -
y1_output_root_mean_squared_error: 0.5584 - y2_output_root_mean_squared_error:
1.0991 - val_loss: 1.9008 - val_y1_output_loss: 0.2326 - val_y2_output_loss:
1.6499 - val_y1_output_root_mean_squared_error: 0.4883 -
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val_y2_output_root_mean_squared_error: 1.2893
Epoch 199/500
614/614 [==============================] - 0s 150us/sample - loss: 1.4266 -
y1_output_loss: 0.2974 - y2_output_loss: 1.1175 -
y1_output_root_mean_squared_error: 0.5476 - y2_output_root_mean_squared_error:
1.0615 - val_loss: 1.0391 - val_y1_output_loss: 0.2218 - val_y2_output_loss:
0.8046 - val_y1_output_root_mean_squared_error: 0.4785 -
val_y2_output_root_mean_squared_error: 0.9001
Epoch 200/500
614/614 [==============================] - 0s 158us/sample - loss: 1.5375 -
y1_output_loss: 0.3096 - y2_output_loss: 1.2180 -
y1_output_root_mean_squared_error: 0.5588 - y2_output_root_mean_squared_error:
1.1069 - val_loss: 1.5535 - val_y1_output_loss: 0.2757 - val_y2_output_loss:
1.2731 - val_y1_output_root_mean_squared_error: 0.5333 -
val_y2_output_root_mean_squared_error: 1.1265
Epoch 201/500
614/614 [==============================] - 0s 154us/sample - loss: 2.5650 -
y1_output_loss: 0.5068 - y2_output_loss: 2.0435 -
y1_output_root_mean_squared_error: 0.7123 - y2_output_root_mean_squared_error:
1.4344 - val_loss: 2.4412 - val_y1_output_loss: 0.2276 - val_y2_output_loss:
2.2198 - val_y1_output_root_mean_squared_error: 0.4849 -
val_y2_output_root_mean_squared_error: 1.4853
Epoch 202/500
614/614 [==============================] - 0s 154us/sample - loss: 1.2987 -
y1_output_loss: 0.2750 - y2_output_loss: 1.0206 -
y1_output_root_mean_squared_error: 0.5258 - y2_output_root_mean_squared_error:
1.0111 - val_loss: 1.7340 - val_y1_output_loss: 0.4859 - val_y2_output_loss:
1.2393 - val_y1_output_root_mean_squared_error: 0.7007 -
val_y2_output_root_mean_squared_error: 1.1149
Epoch 203/500
614/614 [==============================] - 0s 159us/sample - loss: 1.5132 -
y1_output_loss: 0.2749 - y2_output_loss: 1.2263 -
y1_output_root_mean_squared_error: 0.5261 - y2_output_root_mean_squared_error:
1.1119 - val_loss: 1.9476 - val_y1_output_loss: 0.2771 - val_y2_output_loss:
1.6542 - val_y1_output_root_mean_squared_error: 0.5340 -
val_y2_output_root_mean_squared_error: 1.2893
Epoch 204/500
614/614 [==============================] - 0s 160us/sample - loss: 1.2886 -
y1_output_loss: 0.2197 - y2_output_loss: 1.0924 -
y1_output_root_mean_squared_error: 0.4681 - y2_output_root_mean_squared_error:
1.0342 - val_loss: 3.6221 - val_y1_output_loss: 0.4475 - val_y2_output_loss:
3.1138 - val_y1_output_root_mean_squared_error: 0.6740 -
val_y2_output_root_mean_squared_error: 1.7798
Epoch 205/500
614/614 [==============================] - 0s 156us/sample - loss: 1.9170 -
y1_output_loss: 0.3736 - y2_output_loss: 1.5400 -
y1_output_root_mean_squared_error: 0.6088 - y2_output_root_mean_squared_error:
1.2435 - val_loss: 4.1565 - val_y1_output_loss: 0.6680 - val_y2_output_loss:

3.4065 - val_y1_output_root_mean_squared_error: 0.8316 -
val_y2_output_root_mean_squared_error: 1.8614
Epoch 206/500
614/614 [==============================] - 0s 154us/sample - loss: 1.5247 -
y1_output_loss: 0.2740 - y2_output_loss: 1.2388 -
y1_output_root_mean_squared_error: 0.5237 - y2_output_root_mean_squared_error:
1.1182 - val_loss: 1.1657 - val_y1_output_loss: 0.2406 - val_y2_output_loss:
0.9043 - val_y1_output_root_mean_squared_error: 0.4947 -
val_y2_output_root_mean_squared_error: 0.9597
Epoch 207/500
614/614 [==============================] - 0s 147us/sample - loss: 1.4513 -
y1_output_loss: 0.2764 - y2_output_loss: 1.1660 -
y1_output_root_mean_squared_error: 0.5250 - y2_output_root_mean_squared_error:
1.0843 - val_loss: 1.4269 - val_y1_output_loss: 0.2782 - val_y2_output_loss:
1.1423 - val_y1_output_root_mean_squared_error: 0.5273 -
val_y2_output_root_mean_squared_error: 1.0719
Epoch 208/500
614/614 [==============================] - 0s 147us/sample - loss: 1.1248 -
y1_output_loss: 0.2108 - y2_output_loss: 0.9057 -
y1_output_root_mean_squared_error: 0.4589 - y2_output_root_mean_squared_error:
0.9561 - val_loss: 1.2585 - val_y1_output_loss: 0.2491 - val_y2_output_loss:
1.0032 - val_y1_output_root_mean_squared_error: 0.5068 -
val_y2_output_root_mean_squared_error: 1.0008
Epoch 209/500
614/614 [==============================] - 0s 135us/sample - loss: 1.1318 -
y1_output_loss: 0.2301 - y2_output_loss: 0.8935 -
y1_output_root_mean_squared_error: 0.4807 - y2_output_root_mean_squared_error:
0.9490 - val_loss: 1.1908 - val_y1_output_loss: 0.2449 - val_y2_output_loss:
0.9151 - val_y1_output_root_mean_squared_error: 0.5018 -
val_y2_output_root_mean_squared_error: 0.9691
Epoch 210/500
614/614 [==============================] - 0s 160us/sample - loss: 1.2153 -
y1_output_loss: 0.2481 - y2_output_loss: 0.9651 -
y1_output_root_mean_squared_error: 0.4978 - y2_output_root_mean_squared_error:
0.9836 - val_loss: 2.4481 - val_y1_output_loss: 0.1980 - val_y2_output_loss:
2.2486 - val_y1_output_root_mean_squared_error: 0.4482 -
val_y2_output_root_mean_squared_error: 1.4991
Epoch 211/500
614/614 [==============================] - 0s 159us/sample - loss: 1.8786 -
y1_output_loss: 0.4617 - y2_output_loss: 1.4144 -
y1_output_root_mean_squared_error: 0.6808 - y2_output_root_mean_squared_error:
1.1896 - val_loss: 1.7780 - val_y1_output_loss: 0.5733 - val_y2_output_loss:
1.1956 - val_y1_output_root_mean_squared_error: 0.7645 -
val_y2_output_root_mean_squared_error: 1.0925
Epoch 212/500
614/614 [==============================] - 0s 151us/sample - loss: 1.2863 -
y1_output_loss: 0.2978 - y2_output_loss: 0.9919 -
y1_output_root_mean_squared_error: 0.5437 - y2_output_root_mean_squared_error:

0.9954 - val_loss: 1.2215 - val_y1_output_loss: 0.2826 - val_y2_output_loss:
0.9327 - val_y1_output_root_mean_squared_error: 0.5398 -
val_y2_output_root_mean_squared_error: 0.9644
Epoch 213/500
614/614 [==============================] - 0s 147us/sample - loss: 1.1324 -
y1_output_loss: 0.2332 - y2_output_loss: 0.9859 -
y1_output_root_mean_squared_error: 0.4695 - y2_output_root_mean_squared_error:
0.9550 - val_loss: 12.6376 - val_y1_output_loss: 3.6381 - val_y2_output_loss:
8.7164 - val_y1_output_root_mean_squared_error: 1.9263 -
val_y2_output_root_mean_squared_error: 2.9878
Epoch 214/500
614/614 [==============================] - 0s 147us/sample - loss: 1.5866 -
y1_output_loss: 0.3916 - y2_output_loss: 1.1828 -
y1_output_root_mean_squared_error: 0.6285 - y2_output_root_mean_squared_error:
1.0916 - val_loss: 2.8440 - val_y1_output_loss: 0.3885 - val_y2_output_loss:
2.4658 - val_y1_output_root_mean_squared_error: 0.6329 -
val_y2_output_root_mean_squared_error: 1.5632
Epoch 215/500
614/614 [==============================] - 0s 146us/sample - loss: 1.1835 -
y1_output_loss: 0.2470 - y2_output_loss: 0.9345 -
y1_output_root_mean_squared_error: 0.4984 - y2_output_root_mean_squared_error:
0.9670 - val_loss: 1.2233 - val_y1_output_loss: 0.2869 - val_y2_output_loss:
0.9191 - val_y1_output_root_mean_squared_error: 0.5456 -
val_y2_output_root_mean_squared_error: 0.9621
Epoch 216/500
614/614 [==============================] - 0s 162us/sample - loss: 1.0977 -
y1_output_loss: 0.2312 - y2_output_loss: 0.8599 -
y1_output_root_mean_squared_error: 0.4814 - y2_output_root_mean_squared_error:
0.9305 - val_loss: 1.1428 - val_y1_output_loss: 0.2747 - val_y2_output_loss:
0.8626 - val_y1_output_root_mean_squared_error: 0.5329 -
val_y2_output_root_mean_squared_error: 0.9267
Epoch 217/500
614/614 [==============================] - 0s 155us/sample - loss: 1.3241 -
y1_output_loss: 0.2966 - y2_output_loss: 1.0242 -
y1_output_root_mean_squared_error: 0.5465 - y2_output_root_mean_squared_error:
1.0126 - val_loss: 1.4031 - val_y1_output_loss: 0.3349 - val_y2_output_loss:
1.0332 - val_y1_output_root_mean_squared_error: 0.5853 -
val_y2_output_root_mean_squared_error: 1.0298
Epoch 218/500
614/614 [==============================] - 0s 150us/sample - loss: 1.4043 -
y1_output_loss: 0.2467 - y2_output_loss: 1.1597 -
y1_output_root_mean_squared_error: 0.4956 - y2_output_root_mean_squared_error:
1.0764 - val_loss: 1.5274 - val_y1_output_loss: 0.2798 - val_y2_output_loss:
1.2409 - val_y1_output_root_mean_squared_error: 0.5384 -
val_y2_output_root_mean_squared_error: 1.1125
Epoch 219/500
614/614 [==============================] - 0s 147us/sample - loss: 1.4695 -
y1_output_loss: 0.2782 - y2_output_loss: 1.1824 -

y1_output_root_mean_squared_error: 0.5273 - y2_output_root_mean_squared_error:
1.0916 - val_loss: 1.7847 - val_y1_output_loss: 0.3607 - val_y2_output_loss:
1.4207 - val_y1_output_root_mean_squared_error: 0.6079 -
val_y2_output_root_mean_squared_error: 1.1896
Epoch 220/500
614/614 [==============================] - 0s 149us/sample - loss: 1.3335 -
y1_output_loss: 0.2276 - y2_output_loss: 1.1114 -
y1_output_root_mean_squared_error: 0.4787 - y2_output_root_mean_squared_error:
1.0509 - val_loss: 1.9466 - val_y1_output_loss: 0.3009 - val_y2_output_loss:
1.6270 - val_y1_output_root_mean_squared_error: 0.5582 -
val_y2_output_root_mean_squared_error: 1.2787
Epoch 221/500
614/614 [==============================] - 0s 150us/sample - loss: 1.6308 -
y1_output_loss: 0.3212 - y2_output_loss: 1.3510 -
y1_output_root_mean_squared_error: 0.5676 - y2_output_root_mean_squared_error:
1.1439 - val_loss: 6.5854 - val_y1_output_loss: 0.9395 - val_y2_output_loss:
5.6016 - val_y1_output_root_mean_squared_error: 0.9803 -
val_y2_output_root_mean_squared_error: 2.3716
Epoch 222/500
614/614 [==============================] - 0s 157us/sample - loss: 1.1398 -
y1_output_loss: 0.2225 - y2_output_loss: 0.9188 -
y1_output_root_mean_squared_error: 0.4729 - y2_output_root_mean_squared_error:
0.9571 - val_loss: 2.3765 - val_y1_output_loss: 0.3377 - val_y2_output_loss:
1.9841 - val_y1_output_root_mean_squared_error: 0.5840 -
val_y2_output_root_mean_squared_error: 1.4267
Epoch 223/500
614/614 [==============================] - 0s 155us/sample - loss: 1.3679 -
y1_output_loss: 0.2407 - y2_output_loss: 1.1272 -
y1_output_root_mean_squared_error: 0.4874 - y2_output_root_mean_squared_error:
1.0632 - val_loss: 2.1710 - val_y1_output_loss: 0.3671 - val_y2_output_loss:
1.7919 - val_y1_output_root_mean_squared_error: 0.6052 -
val_y2_output_root_mean_squared_error: 1.3434
Epoch 224/500
614/614 [==============================] - 0s 154us/sample - loss: 1.2479 -
y1_output_loss: 0.2307 - y2_output_loss: 1.0171 -
y1_output_root_mean_squared_error: 0.4817 - y2_output_root_mean_squared_error:
1.0079 - val_loss: 1.3205 - val_y1_output_loss: 0.2107 - val_y2_output_loss:
1.0825 - val_y1_output_root_mean_squared_error: 0.4661 -
val_y2_output_root_mean_squared_error: 1.0504
Epoch 225/500
614/614 [==============================] - 0s 144us/sample - loss: 1.3944 -
y1_output_loss: 0.3096 - y2_output_loss: 1.0737 -
y1_output_root_mean_squared_error: 0.5584 - y2_output_root_mean_squared_error:
1.0405 - val_loss: 0.9977 - val_y1_output_loss: 0.2251 - val_y2_output_loss:
0.7947 - val_y1_output_root_mean_squared_error: 0.4799 -
val_y2_output_root_mean_squared_error: 0.8760
Epoch 226/500
614/614 [==============================] - 0s 144us/sample - loss: 1.0475 -

y1_output_loss: 0.2097 - y2_output_loss: 0.8326 -
y1_output_root_mean_squared_error: 0.4591 - y2_output_root_mean_squared_error:
0.9147 - val_loss: 1.9369 - val_y1_output_loss: 0.2869 - val_y2_output_loss:
1.6058 - val_y1_output_root_mean_squared_error: 0.5437 -
val_y2_output_root_mean_squared_error: 1.2811
Epoch 227/500
614/614 [==============================] - 0s 148us/sample - loss: 1.3524 -
y1_output_loss: 0.3134 - y2_output_loss: 1.0279 -
y1_output_root_mean_squared_error: 0.5614 - y2_output_root_mean_squared_error:
1.0185 - val_loss: 1.0525 - val_y1_output_loss: 0.2348 - val_y2_output_loss:
0.8104 - val_y1_output_root_mean_squared_error: 0.4930 -
val_y2_output_root_mean_squared_error: 0.8997
Epoch 228/500
614/614 [==============================] - 0s 152us/sample - loss: 1.0589 -
y1_output_loss: 0.2118 - y2_output_loss: 0.8426 -
y1_output_root_mean_squared_error: 0.4609 - y2_output_root_mean_squared_error:
0.9201 - val_loss: 1.4050 - val_y1_output_loss: 0.2362 - val_y2_output_loss:
1.1814 - val_y1_output_root_mean_squared_error: 0.4935 -
val_y2_output_root_mean_squared_error: 1.0777
Epoch 229/500
614/614 [==============================] - 0s 158us/sample - loss: 1.6088 -
y1_output_loss: 0.3346 - y2_output_loss: 1.2624 -
y1_output_root_mean_squared_error: 0.5804 - y2_output_root_mean_squared_error:
1.1278 - val_loss: 1.2256 - val_y1_output_loss: 0.2746 - val_y2_output_loss:
0.9540 - val_y1_output_root_mean_squared_error: 0.5334 -
val_y2_output_root_mean_squared_error: 0.9701
Epoch 230/500
614/614 [==============================] - 0s 148us/sample - loss: 1.0287 -
y1_output_loss: 0.2345 - y2_output_loss: 0.7866 -
y1_output_root_mean_squared_error: 0.4855 - y2_output_root_mean_squared_error:
0.8905 - val_loss: 1.1260 - val_y1_output_loss: 0.2261 - val_y2_output_loss:
0.8764 - val_y1_output_root_mean_squared_error: 0.4831 -
val_y2_output_root_mean_squared_error: 0.9448
Epoch 231/500
614/614 [==============================] - 0s 147us/sample - loss: 1.3302 -
y1_output_loss: 0.2541 - y2_output_loss: 1.0670 -
y1_output_root_mean_squared_error: 0.5055 - y2_output_root_mean_squared_error:
1.0366 - val_loss: 1.3998 - val_y1_output_loss: 0.2843 - val_y2_output_loss:
1.1113 - val_y1_output_root_mean_squared_error: 0.5379 -
val_y2_output_root_mean_squared_error: 1.0538
Epoch 232/500
614/614 [==============================] - 0s 144us/sample - loss: 1.4697 -
y1_output_loss: 0.3194 - y2_output_loss: 1.1499 -
y1_output_root_mean_squared_error: 0.5662 - y2_output_root_mean_squared_error:
1.0720 - val_loss: 1.8564 - val_y1_output_loss: 0.6439 - val_y2_output_loss:
1.1876 - val_y1_output_root_mean_squared_error: 0.8173 -
val_y2_output_root_mean_squared_error: 1.0901
Epoch 233/500

614/614 [==============================] - 0s 151us/sample - loss: 1.1545 - y1_output_loss: 0.2346 - y2_output_loss: 0.9095 - y1_output_root_mean_squared_error: 0.4863 - y2_output_root_mean_squared_error: 0.9581 - val_loss: 1.0273 - val_y1_output_loss: 0.2338 - val_y2_output_loss: 0.7764 - val_y1_output_root_mean_squared_error: 0.4907 - val_y2_output_root_mean_squared_error: 0.8868
Epoch 234/500
614/614 [==============================] - 0s 150us/sample - loss: 1.0324 - y1_output_loss: 0.2208 - y2_output_loss: 0.8101 - y1_output_root_mean_squared_error: 0.4687 - y2_output_root_mean_squared_error: 0.9015 - val_loss: 2.0873 - val_y1_output_loss: 0.4224 - val_y2_output_loss: 1.6156 - val_y1_output_root_mean_squared_error: 0.6613 - val_y2_output_root_mean_squared_error: 1.2845
Epoch 235/500
614/614 [==============================] - 0s 154us/sample - loss: 1.6741 - y1_output_loss: 0.3072 - y2_output_loss: 1.4223 - y1_output_root_mean_squared_error: 0.5446 - y2_output_root_mean_squared_error: 1.1737 - val_loss: 8.4068 - val_y1_output_loss: 2.0420 - val_y2_output_loss: 6.2006 - val_y1_output_root_mean_squared_error: 1.4348 - val_y2_output_root_mean_squared_error: 2.5196
Epoch 236/500
614/614 [==============================] - 0s 144us/sample - loss: 1.4469 - y1_output_loss: 0.3118 - y2_output_loss: 1.1262 - y1_output_root_mean_squared_error: 0.5595 - y2_output_root_mean_squared_error: 1.0648 - val_loss: 1.3737 - val_y1_output_loss: 0.2028 - val_y2_output_loss: 1.1542 - val_y1_output_root_mean_squared_error: 0.4555 - val_y2_output_root_mean_squared_error: 1.0799
Epoch 237/500
614/614 [==============================] - 0s 146us/sample - loss: 1.2600 - y1_output_loss: 0.2550 - y2_output_loss: 0.9980 - y1_output_root_mean_squared_error: 0.5054 - y2_output_root_mean_squared_error: 1.0023 - val_loss: 1.3417 - val_y1_output_loss: 0.2451 - val_y2_output_loss: 1.0793 - val_y1_output_root_mean_squared_error: 0.5016 - val_y2_output_root_mean_squared_error: 1.0440
Epoch 238/500
614/614 [==============================] - 0s 149us/sample - loss: 1.0819 - y1_output_loss: 0.2250 - y2_output_loss: 0.8617 - y1_output_root_mean_squared_error: 0.4620 - y2_output_root_mean_squared_error: 0.9319 - val_loss: 1.4010 - val_y1_output_loss: 0.3662 - val_y2_output_loss: 1.0032 - val_y1_output_root_mean_squared_error: 0.6141 - val_y2_output_root_mean_squared_error: 1.0119
Epoch 239/500
614/614 [==============================] - 0s 155us/sample - loss: 1.0114 - y1_output_loss: 0.1952 - y2_output_loss: 0.8091 - y1_output_root_mean_squared_error: 0.4435 - y2_output_root_mean_squared_error: 0.9026 - val_loss: 1.0539 - val_y1_output_loss: 0.1849 - val_y2_output_loss: 0.8437 - val_y1_output_root_mean_squared_error: 0.4376 - val_y2_output_root_mean_squared_error: 0.9287

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Epoch 240/500
614/614 [==============================] - 0s 143us/sample - loss: 1.1244 -
y1_output_loss: 0.2209 - y2_output_loss: 0.8937 -
y1_output_root_mean_squared_error: 0.4722 - y2_output_root_mean_squared_error:
0.9495 - val_loss: 1.1491 - val_y1_output_loss: 0.2296 - val_y2_output_loss:
0.9390 - val_y1_output_root_mean_squared_error: 0.4855 -
val_y2_output_root_mean_squared_error: 0.9557
Epoch 241/500
614/614 [==============================] - 0s 153us/sample - loss: 1.0984 -
y1_output_loss: 0.2255 - y2_output_loss: 0.8647 -
y1_output_root_mean_squared_error: 0.4751 - y2_output_root_mean_squared_error:
0.9341 - val_loss: 1.0741 - val_y1_output_loss: 0.2527 - val_y2_output_loss:
0.8210 - val_y1_output_root_mean_squared_error: 0.5091 -
val_y2_output_root_mean_squared_error: 0.9027
Epoch 242/500
614/614 [==============================] - 0s 148us/sample - loss: 1.0719 -
y1_output_loss: 0.1877 - y2_output_loss: 0.8799 -
y1_output_root_mean_squared_error: 0.4342 - y2_output_root_mean_squared_error:
0.9399 - val_loss: 1.0178 - val_y1_output_loss: 0.2229 - val_y2_output_loss:
0.8018 - val_y1_output_root_mean_squared_error: 0.4786 -
val_y2_output_root_mean_squared_error: 0.8881
Epoch 243/500
614/614 [==============================] - 0s 143us/sample - loss: 1.3315 -
y1_output_loss: 0.2385 - y2_output_loss: 1.0951 -
y1_output_root_mean_squared_error: 0.4883 - y2_output_root_mean_squared_error:
1.0455 - val_loss: 2.7851 - val_y1_output_loss: 0.2979 - val_y2_output_loss:
2.4683 - val_y1_output_root_mean_squared_error: 0.5558 -
val_y2_output_root_mean_squared_error: 1.5736
Epoch 244/500
614/614 [==============================] - 0s 142us/sample - loss: 1.1509 -
y1_output_loss: 0.2419 - y2_output_loss: 0.8991 -
y1_output_root_mean_squared_error: 0.4932 - y2_output_root_mean_squared_error:
0.9527 - val_loss: 1.0435 - val_y1_output_loss: 0.2115 - val_y2_output_loss:
0.8230 - val_y1_output_root_mean_squared_error: 0.4630 -
val_y2_output_root_mean_squared_error: 0.9106
Epoch 245/500
614/614 [==============================] - 0s 151us/sample - loss: 0.9113 -
y1_output_loss: 0.1984 - y2_output_loss: 0.7099 -
y1_output_root_mean_squared_error: 0.4447 - y2_output_root_mean_squared_error:
0.8448 - val_loss: 1.2666 - val_y1_output_loss: 0.2256 - val_y2_output_loss:
1.0488 - val_y1_output_root_mean_squared_error: 0.4837 -
val_y2_output_root_mean_squared_error: 1.0162
Epoch 246/500
614/614 [==============================] - 0s 144us/sample - loss: 0.9345 -
y1_output_loss: 0.1905 - y2_output_loss: 0.7385 -
y1_output_root_mean_squared_error: 0.4384 - y2_output_root_mean_squared_error:
0.8616 - val_loss: 1.0451 - val_y1_output_loss: 0.2068 - val_y2_output_loss:
0.8130 - val_y1_output_root_mean_squared_error: 0.4608 -
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val_y2_output_root_mean_squared_error: 0.9125
Epoch 247/500
614/614 [==============================] - 0s 153us/sample - loss: 0.9151 -
y1_output_loss: 0.1995 - y2_output_loss: 0.7082 -
y1_output_root_mean_squared_error: 0.4478 - y2_output_root_mean_squared_error:
0.8453 - val_loss: 1.6490 - val_y1_output_loss: 0.2110 - val_y2_output_loss:
1.4302 - val_y1_output_root_mean_squared_error: 0.4666 -
val_y2_output_root_mean_squared_error: 1.1964
Epoch 248/500
614/614 [==============================] - 0s 147us/sample - loss: 1.2844 -
y1_output_loss: 0.2131 - y2_output_loss: 1.0660 -
y1_output_root_mean_squared_error: 0.4634 - y2_output_root_mean_squared_error:
1.0342 - val_loss: 1.2015 - val_y1_output_loss: 0.2535 - val_y2_output_loss:
0.9220 - val_y1_output_root_mean_squared_error: 0.5126 -
val_y2_output_root_mean_squared_error: 0.9689
Epoch 249/500
614/614 [==============================] - 0s 146us/sample - loss: 1.0850 -
y1_output_loss: 0.2237 - y2_output_loss: 0.8554 -
y1_output_root_mean_squared_error: 0.4717 - y2_output_root_mean_squared_error:
0.9287 - val_loss: 1.0143 - val_y1_output_loss: 0.2293 - val_y2_output_loss:
0.7767 - val_y1_output_root_mean_squared_error: 0.4796 -
val_y2_output_root_mean_squared_error: 0.8856
Epoch 250/500
614/614 [==============================] - 0s 144us/sample - loss: 0.9229 -
y1_output_loss: 0.1881 - y2_output_loss: 0.7328 -
y1_output_root_mean_squared_error: 0.4340 - y2_output_root_mean_squared_error:
0.8571 - val_loss: 2.0101 - val_y1_output_loss: 0.5804 - val_y2_output_loss:
1.3742 - val_y1_output_root_mean_squared_error: 0.7750 -
val_y2_output_root_mean_squared_error: 1.1872
Epoch 251/500
614/614 [==============================] - 0s 150us/sample - loss: 1.0124 -
y1_output_loss: 0.2388 - y2_output_loss: 0.7718 -
y1_output_root_mean_squared_error: 0.4878 - y2_output_root_mean_squared_error:
0.8800 - val_loss: 1.9956 - val_y1_output_loss: 0.5505 - val_y2_output_loss:
1.4005 - val_y1_output_root_mean_squared_error: 0.7508 -
val_y2_output_root_mean_squared_error: 1.1966
Epoch 252/500
614/614 [==============================] - 0s 150us/sample - loss: 1.6787 -
y1_output_loss: 0.2921 - y2_output_loss: 1.3827 -
y1_output_root_mean_squared_error: 0.5425 - y2_output_root_mean_squared_error:
1.1766 - val_loss: 1.6156 - val_y1_output_loss: 0.2648 - val_y2_output_loss:
1.3273 - val_y1_output_root_mean_squared_error: 0.5199 -
val_y2_output_root_mean_squared_error: 1.1599
Epoch 253/500
614/614 [==============================] - 0s 158us/sample - loss: 1.9566 -
y1_output_loss: 0.3087 - y2_output_loss: 1.6355 -
y1_output_root_mean_squared_error: 0.5569 - y2_output_root_mean_squared_error:
1.2831 - val_loss: 1.8152 - val_y1_output_loss: 0.2195 - val_y2_output_loss:

1.5639 - val_y1_output_root_mean_squared_error: 0.4711 -
val_y2_output_root_mean_squared_error: 1.2622
Epoch 254/500
614/614 [==============================] - 0s 145us/sample - loss: 1.2409 -
y1_output_loss: 0.2605 - y2_output_loss: 0.9760 -
y1_output_root_mean_squared_error: 0.5109 - y2_output_root_mean_squared_error:
0.9899 - val_loss: 1.5122 - val_y1_output_loss: 0.3819 - val_y2_output_loss:
1.1154 - val_y1_output_root_mean_squared_error: 0.6165 -
val_y2_output_root_mean_squared_error: 1.0640
Epoch 255/500
614/614 [==============================] - 0s 160us/sample - loss: 1.0230 -
y1_output_loss: 0.2117 - y2_output_loss: 0.8151 -
y1_output_root_mean_squared_error: 0.4614 - y2_output_root_mean_squared_error:
0.9001 - val_loss: 3.0022 - val_y1_output_loss: 0.2451 - val_y2_output_loss:
2.7109 - val_y1_output_root_mean_squared_error: 0.5041 -
val_y2_output_root_mean_squared_error: 1.6577
Epoch 256/500
614/614 [==============================] - 0s 155us/sample - loss: 0.7874 -
y1_output_loss: 0.1631 - y2_output_loss: 0.6172 -
y1_output_root_mean_squared_error: 0.4056 - y2_output_root_mean_squared_error:
0.7893 - val_loss: 0.9631 - val_y1_output_loss: 0.1791 - val_y2_output_loss:
0.7825 - val_y1_output_root_mean_squared_error: 0.4290 -
val_y2_output_root_mean_squared_error: 0.8826
Epoch 257/500
614/614 [==============================] - 0s 174us/sample - loss: 0.9993 -
y1_output_loss: 0.1796 - y2_output_loss: 0.8140 -
y1_output_root_mean_squared_error: 0.4250 - y2_output_root_mean_squared_error:
0.9048 - val_loss: 1.2353 - val_y1_output_loss: 0.2581 - val_y2_output_loss:
0.9632 - val_y1_output_root_mean_squared_error: 0.5176 -
val_y2_output_root_mean_squared_error: 0.9836
Epoch 258/500
614/614 [==============================] - 0s 167us/sample - loss: 1.3343 -
y1_output_loss: 0.3078 - y2_output_loss: 1.0284 -
y1_output_root_mean_squared_error: 0.5555 - y2_output_root_mean_squared_error:
1.0128 - val_loss: 2.0798 - val_y1_output_loss: 0.4213 - val_y2_output_loss:
1.6128 - val_y1_output_root_mean_squared_error: 0.6541 -
val_y2_output_root_mean_squared_error: 1.2853
Epoch 259/500
614/614 [==============================] - 0s 153us/sample - loss: 1.1435 -
y1_output_loss: 0.2446 - y2_output_loss: 0.8891 -
y1_output_root_mean_squared_error: 0.4964 - y2_output_root_mean_squared_error:
0.9472 - val_loss: 1.0482 - val_y1_output_loss: 0.2222 - val_y2_output_loss:
0.8015 - val_y1_output_root_mean_squared_error: 0.4767 -
val_y2_output_root_mean_squared_error: 0.9061
Epoch 260/500
614/614 [==============================] - 0s 150us/sample - loss: 0.8536 -
y1_output_loss: 0.1765 - y2_output_loss: 0.6755 -
y1_output_root_mean_squared_error: 0.4198 - y2_output_root_mean_squared_error:

0.8230 - val_loss: 1.1879 - val_y1_output_loss: 0.2360 - val_y2_output_loss:
0.9443 - val_y1_output_root_mean_squared_error: 0.4928 -
val_y2_output_root_mean_squared_error: 0.9722
Epoch 261/500
614/614 [==============================] - 0s 147us/sample - loss: 1.1967 -
y1_output_loss: 0.2357 - y2_output_loss: 0.9554 -
y1_output_root_mean_squared_error: 0.4869 - y2_output_root_mean_squared_error:
0.9796 - val_loss: 1.3826 - val_y1_output_loss: 0.3622 - val_y2_output_loss:
0.9883 - val_y1_output_root_mean_squared_error: 0.6028 -
val_y2_output_root_mean_squared_error: 1.0095
Epoch 262/500
614/614 [==============================] - 0s 145us/sample - loss: 0.9341 -
y1_output_loss: 0.2107 - y2_output_loss: 0.7498 -
y1_output_root_mean_squared_error: 0.4572 - y2_output_root_mean_squared_error:
0.8515 - val_loss: 1.7472 - val_y1_output_loss: 0.2736 - val_y2_output_loss:
1.4670 - val_y1_output_root_mean_squared_error: 0.5327 -
val_y2_output_root_mean_squared_error: 1.2097
Epoch 263/500
614/614 [==============================] - 0s 156us/sample - loss: 1.0530 -
y1_output_loss: 0.2536 - y2_output_loss: 0.7992 -
y1_output_root_mean_squared_error: 0.4995 - y2_output_root_mean_squared_error:
0.8964 - val_loss: 1.3034 - val_y1_output_loss: 0.3253 - val_y2_output_loss:
0.9580 - val_y1_output_root_mean_squared_error: 0.5620 -
val_y2_output_root_mean_squared_error: 0.9938
Epoch 264/500
614/614 [==============================] - 0s 154us/sample - loss: 1.1270 -
y1_output_loss: 0.2231 - y2_output_loss: 0.9042 -
y1_output_root_mean_squared_error: 0.4657 - y2_output_root_mean_squared_error:
0.9540 - val_loss: 1.3233 - val_y1_output_loss: 0.3213 - val_y2_output_loss:
0.9809 - val_y1_output_root_mean_squared_error: 0.5648 -
val_y2_output_root_mean_squared_error: 1.0021
Epoch 265/500
614/614 [==============================] - 0s 150us/sample - loss: 1.1815 -
y1_output_loss: 0.2057 - y2_output_loss: 0.9761 -
y1_output_root_mean_squared_error: 0.4523 - y2_output_root_mean_squared_error:
0.9884 - val_loss: 1.9634 - val_y1_output_loss: 0.5968 - val_y2_output_loss:
1.3667 - val_y1_output_root_mean_squared_error: 0.7827 -
val_y2_output_root_mean_squared_error: 1.1623
Epoch 266/500
614/614 [==============================] - 0s 139us/sample - loss: 1.0159 -
y1_output_loss: 0.2097 - y2_output_loss: 0.8123 -
y1_output_root_mean_squared_error: 0.4583 - y2_output_root_mean_squared_error:
0.8977 - val_loss: 3.1054 - val_y1_output_loss: 0.3172 - val_y2_output_loss:
2.7640 - val_y1_output_root_mean_squared_error: 0.5736 -
val_y2_output_root_mean_squared_error: 1.6662
Epoch 267/500
614/614 [==============================] - 0s 138us/sample - loss: 1.2974 -
y1_output_loss: 0.3204 - y2_output_loss: 0.9673 -

y1_output_root_mean_squared_error: 0.5680 - y2_output_root_mean_squared_error:
0.9873 - val_loss: 1.0248 - val_y1_output_loss: 0.2210 - val_y2_output_loss:
0.8115 - val_y1_output_root_mean_squared_error: 0.4667 -
val_y2_output_root_mean_squared_error: 0.8984
Epoch 268/500
614/614 [==============================] - 0s 137us/sample - loss: 0.9704 -
y1_output_loss: 0.2081 - y2_output_loss: 0.7548 -
y1_output_root_mean_squared_error: 0.4571 - y2_output_root_mean_squared_error:
0.8726 - val_loss: 1.7196 - val_y1_output_loss: 0.2369 - val_y2_output_loss:
1.4676 - val_y1_output_root_mean_squared_error: 0.4956 -
val_y2_output_root_mean_squared_error: 1.2141
Epoch 269/500
614/614 [==============================] - 0s 155us/sample - loss: 1.1243 -
y1_output_loss: 0.2219 - y2_output_loss: 0.8959 -
y1_output_root_mean_squared_error: 0.4713 - y2_output_root_mean_squared_error:
0.9498 - val_loss: 1.0916 - val_y1_output_loss: 0.2007 - val_y2_output_loss:
0.8865 - val_y1_output_root_mean_squared_error: 0.4534 -
val_y2_output_root_mean_squared_error: 0.9413
Epoch 270/500
614/614 [==============================] - 0s 156us/sample - loss: 0.7314 -
y1_output_loss: 0.1602 - y2_output_loss: 0.5829 -
y1_output_root_mean_squared_error: 0.4007 - y2_output_root_mean_squared_error:
0.7555 - val_loss: 1.4066 - val_y1_output_loss: 0.2675 - val_y2_output_loss:
1.1221 - val_y1_output_root_mean_squared_error: 0.5247 -
val_y2_output_root_mean_squared_error: 1.0636
Epoch 271/500
614/614 [==============================] - 0s 146us/sample - loss: 0.8147 -
y1_output_loss: 0.1756 - y2_output_loss: 0.6466 -
y1_output_root_mean_squared_error: 0.4168 - y2_output_root_mean_squared_error:
0.8006 - val_loss: 2.3483 - val_y1_output_loss: 0.5415 - val_y2_output_loss:
1.7501 - val_y1_output_root_mean_squared_error: 0.7489 -
val_y2_output_root_mean_squared_error: 1.3370
Epoch 272/500
614/614 [==============================] - 0s 148us/sample - loss: 1.5911 -
y1_output_loss: 0.3199 - y2_output_loss: 1.2629 -
y1_output_root_mean_squared_error: 0.5676 - y2_output_root_mean_squared_error:
1.1265 - val_loss: 1.5100 - val_y1_output_loss: 0.2484 - val_y2_output_loss:
1.2277 - val_y1_output_root_mean_squared_error: 0.4988 -
val_y2_output_root_mean_squared_error: 1.1230
Epoch 273/500
614/614 [==============================] - 0s 149us/sample - loss: 1.7815 -
y1_output_loss: 0.3102 - y2_output_loss: 1.4821 -
y1_output_root_mean_squared_error: 0.5551 - y2_output_root_mean_squared_error:
1.2138 - val_loss: 3.3572 - val_y1_output_loss: 0.5263 - val_y2_output_loss:
2.8360 - val_y1_output_root_mean_squared_error: 0.7380 -
val_y2_output_root_mean_squared_error: 1.6771
Epoch 274/500
614/614 [==============================] - 0s 144us/sample - loss: 1.1790 -

y1_output_loss: 0.2441 - y2_output_loss: 0.9311 -
y1_output_root_mean_squared_error: 0.4926 - y2_output_root_mean_squared_error:
0.9676 - val_loss: 1.3084 - val_y1_output_loss: 0.3544 - val_y2_output_loss:
0.9233 - val_y1_output_root_mean_squared_error: 0.6025 -
val_y2_output_root_mean_squared_error: 0.9723
Epoch 275/500
614/614 [==============================] - 0s 156us/sample - loss: 0.8701 -
y1_output_loss: 0.2035 - y2_output_loss: 0.6626 -
y1_output_root_mean_squared_error: 0.4499 - y2_output_root_mean_squared_error:
0.8171 - val_loss: 1.2259 - val_y1_output_loss: 0.2413 - val_y2_output_loss:
0.9518 - val_y1_output_root_mean_squared_error: 0.4944 -
val_y2_output_root_mean_squared_error: 0.9907
Epoch 276/500
614/614 [==============================] - 0s 154us/sample - loss: 1.2684 -
y1_output_loss: 0.2678 - y2_output_loss: 0.9960 -
y1_output_root_mean_squared_error: 0.5189 - y2_output_root_mean_squared_error:
0.9996 - val_loss: 2.2119 - val_y1_output_loss: 0.2284 - val_y2_output_loss:
1.9924 - val_y1_output_root_mean_squared_error: 0.4863 -
val_y2_output_root_mean_squared_error: 1.4055
Epoch 277/500
614/614 [==============================] - 0s 146us/sample - loss: 0.8586 -
y1_output_loss: 0.1805 - y2_output_loss: 0.6872 -
y1_output_root_mean_squared_error: 0.4258 - y2_output_root_mean_squared_error:
0.8230 - val_loss: 2.4834 - val_y1_output_loss: 0.3729 - val_y2_output_loss:
2.0741 - val_y1_output_root_mean_squared_error: 0.6222 -
val_y2_output_root_mean_squared_error: 1.4478
Epoch 278/500
614/614 [==============================] - 0s 146us/sample - loss: 1.1090 -
y1_output_loss: 0.2629 - y2_output_loss: 0.8543 -
y1_output_root_mean_squared_error: 0.5124 - y2_output_root_mean_squared_error:
0.9200 - val_loss: 1.3912 - val_y1_output_loss: 0.2059 - val_y2_output_loss:
1.1590 - val_y1_output_root_mean_squared_error: 0.4530 -
val_y2_output_root_mean_squared_error: 1.0890
Epoch 279/500
614/614 [==============================] - 0s 141us/sample - loss: 0.7501 -
y1_output_loss: 0.1674 - y2_output_loss: 0.5909 -
y1_output_root_mean_squared_error: 0.4092 - y2_output_root_mean_squared_error:
0.7633 - val_loss: 1.4005 - val_y1_output_loss: 0.2757 - val_y2_output_loss:
1.0940 - val_y1_output_root_mean_squared_error: 0.5250 -
val_y2_output_root_mean_squared_error: 1.0606
Epoch 280/500
614/614 [==============================] - 0s 135us/sample - loss: 0.7722 -
y1_output_loss: 0.1684 - y2_output_loss: 0.6022 -
y1_output_root_mean_squared_error: 0.4103 - y2_output_root_mean_squared_error:
0.7771 - val_loss: 1.2463 - val_y1_output_loss: 0.2456 - val_y2_output_loss:
0.9911 - val_y1_output_root_mean_squared_error: 0.4960 -
val_y2_output_root_mean_squared_error: 1.0002
Epoch 281/500

614/614 [==============================] - 0s 157us/sample - loss: 0.8049 -
y1_output_loss: 0.1519 - y2_output_loss: 0.6507 -
y1_output_root_mean_squared_error: 0.3913 - y2_output_root_mean_squared_error:
0.8073 - val_loss: 1.1993 - val_y1_output_loss: 0.1480 - val_y2_output_loss:
1.0455 - val_y1_output_root_mean_squared_error: 0.3884 -
val_y2_output_root_mean_squared_error: 1.0239
Epoch 282/500
614/614 [==============================] - 0s 156us/sample - loss: 0.7810 -
y1_output_loss: 0.1797 - y2_output_loss: 0.6174 -
y1_output_root_mean_squared_error: 0.4257 - y2_output_root_mean_squared_error:
0.7745 - val_loss: 4.2404 - val_y1_output_loss: 0.3203 - val_y2_output_loss:
3.9047 - val_y1_output_root_mean_squared_error: 0.5754 -
val_y2_output_root_mean_squared_error: 1.9772
Epoch 283/500
614/614 [==============================] - 0s 146us/sample - loss: 1.2513 -
y1_output_loss: 0.2498 - y2_output_loss: 0.9952 -
y1_output_root_mean_squared_error: 0.5016 - y2_output_root_mean_squared_error:
0.9999 - val_loss: 1.0372 - val_y1_output_loss: 0.1767 - val_y2_output_loss:
0.8448 - val_y1_output_root_mean_squared_error: 0.4260 -
val_y2_output_root_mean_squared_error: 0.9251
Epoch 284/500
614/614 [==============================] - 0s 143us/sample - loss: 0.7538 -
y1_output_loss: 0.1683 - y2_output_loss: 0.5861 -
y1_output_root_mean_squared_error: 0.4100 - y2_output_root_mean_squared_error:
0.7653 - val_loss: 1.1350 - val_y1_output_loss: 0.2278 - val_y2_output_loss:
0.8859 - val_y1_output_root_mean_squared_error: 0.4747 -
val_y2_output_root_mean_squared_error: 0.9538
Epoch 285/500
614/614 [==============================] - 0s 142us/sample - loss: 0.8306 -
y1_output_loss: 0.1629 - y2_output_loss: 0.6658 -
y1_output_root_mean_squared_error: 0.4033 - y2_output_root_mean_squared_error:
0.8173 - val_loss: 1.4987 - val_y1_output_loss: 0.4681 - val_y2_output_loss:
0.9957 - val_y1_output_root_mean_squared_error: 0.6933 -
val_y2_output_root_mean_squared_error: 1.0090
Epoch 286/500
614/614 [==============================] - 0s 141us/sample - loss: 1.0196 -
y1_output_loss: 0.2260 - y2_output_loss: 0.7923 -
y1_output_root_mean_squared_error: 0.4771 - y2_output_root_mean_squared_error:
0.8899 - val_loss: 2.0106 - val_y1_output_loss: 0.1959 - val_y2_output_loss:
1.7963 - val_y1_output_root_mean_squared_error: 0.4475 -
val_y2_output_root_mean_squared_error: 1.3455
Epoch 287/500
614/614 [==============================] - 0s 152us/sample - loss: 1.0785 -
y1_output_loss: 0.2584 - y2_output_loss: 0.8247 -
y1_output_root_mean_squared_error: 0.5096 - y2_output_root_mean_squared_error:
0.9049 - val_loss: 2.3952 - val_y1_output_loss: 0.2644 - val_y2_output_loss:
2.1230 - val_y1_output_root_mean_squared_error: 0.5214 -
val_y2_output_root_mean_squared_error: 1.4572

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Epoch 288/500
614/614 [==============================] - 0s 152us/sample - loss: 0.8822 -
y1_output_loss: 0.1838 - y2_output_loss: 0.7085 -
y1_output_root_mean_squared_error: 0.4258 - y2_output_root_mean_squared_error:
0.8372 - val_loss: 2.9501 - val_y1_output_loss: 0.9150 - val_y2_output_loss:
1.9613 - val_y1_output_root_mean_squared_error: 0.9745 -
val_y2_output_root_mean_squared_error: 1.4144
Epoch 289/500
614/614 [==============================] - 0s 139us/sample - loss: 0.9468 -
y1_output_loss: 0.2208 - y2_output_loss: 0.7681 -
y1_output_root_mean_squared_error: 0.4707 - y2_output_root_mean_squared_error:
0.8516 - val_loss: 3.3474 - val_y1_output_loss: 0.4431 - val_y2_output_loss:
2.8478 - val_y1_output_root_mean_squared_error: 0.6568 -
val_y2_output_root_mean_squared_error: 1.7076
Epoch 290/500
614/614 [==============================] - 0s 148us/sample - loss: 1.1164 -
y1_output_loss: 0.2562 - y2_output_loss: 0.8522 -
y1_output_root_mean_squared_error: 0.5081 - y2_output_root_mean_squared_error:
0.9264 - val_loss: 0.9167 - val_y1_output_loss: 0.1934 - val_y2_output_loss:
0.7331 - val_y1_output_root_mean_squared_error: 0.4474 -
val_y2_output_root_mean_squared_error: 0.8464
Epoch 291/500
614/614 [==============================] - 0s 139us/sample - loss: 0.8777 -
y1_output_loss: 0.2098 - y2_output_loss: 0.6667 -
y1_output_root_mean_squared_error: 0.4591 - y2_output_root_mean_squared_error:
0.8167 - val_loss: 0.9409 - val_y1_output_loss: 0.1720 - val_y2_output_loss:
0.7709 - val_y1_output_root_mean_squared_error: 0.4191 -
val_y2_output_root_mean_squared_error: 0.8748
Epoch 292/500
614/614 [==============================] - 0s 146us/sample - loss: 0.9416 -
y1_output_loss: 0.1909 - y2_output_loss: 0.7555 -
y1_output_root_mean_squared_error: 0.4383 - y2_output_root_mean_squared_error:
0.8657 - val_loss: 1.9031 - val_y1_output_loss: 0.1838 - val_y2_output_loss:
1.6737 - val_y1_output_root_mean_squared_error: 0.4291 -
val_y2_output_root_mean_squared_error: 1.3111
Epoch 293/500
614/614 [==============================] - 0s 154us/sample - loss: 0.7577 -
y1_output_loss: 0.1691 - y2_output_loss: 0.5886 -
y1_output_root_mean_squared_error: 0.4107 - y2_output_root_mean_squared_error:
0.7675 - val_loss: 1.0356 - val_y1_output_loss: 0.1599 - val_y2_output_loss:
0.8594 - val_y1_output_root_mean_squared_error: 0.3985 -
val_y2_output_root_mean_squared_error: 0.9364
Epoch 294/500
614/614 [==============================] - 0s 159us/sample - loss: 1.2114 -
y1_output_loss: 0.2817 - y2_output_loss: 0.9209 -
y1_output_root_mean_squared_error: 0.5318 - y2_output_root_mean_squared_error:
0.9636 - val_loss: 1.1191 - val_y1_output_loss: 0.2705 - val_y2_output_loss:
0.8271 - val_y1_output_root_mean_squared_error: 0.5210 -
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val_y2_output_root_mean_squared_error: 0.9207
Epoch 295/500
614/614 [==============================] - 0s 155us/sample - loss: 0.8640 -
y1_output_loss: 0.1896 - y2_output_loss: 0.6740 -
y1_output_root_mean_squared_error: 0.4352 - y2_output_root_mean_squared_error:
0.8213 - val_loss: 1.2938 - val_y1_output_loss: 0.2433 - val_y2_output_loss:
1.0313 - val_y1_output_root_mean_squared_error: 0.4927 -
val_y2_output_root_mean_squared_error: 1.0252
Epoch 296/500
614/614 [==============================] - 0s 150us/sample - loss: 0.8879 -
y1_output_loss: 0.1997 - y2_output_loss: 0.6844 -
y1_output_root_mean_squared_error: 0.4474 - y2_output_root_mean_squared_error:
0.8293 - val_loss: 0.8732 - val_y1_output_loss: 0.1802 - val_y2_output_loss:
0.7033 - val_y1_output_root_mean_squared_error: 0.4301 -
val_y2_output_root_mean_squared_error: 0.8296
Epoch 297/500
614/614 [==============================] - 0s 143us/sample - loss: 0.7636 -
y1_output_loss: 0.1575 - y2_output_loss: 0.6046 -
y1_output_root_mean_squared_error: 0.3970 - y2_output_root_mean_squared_error:
0.7784 - val_loss: 0.9402 - val_y1_output_loss: 0.1815 - val_y2_output_loss:
0.7506 - val_y1_output_root_mean_squared_error: 0.4306 -
val_y2_output_root_mean_squared_error: 0.8688
Epoch 298/500
614/614 [==============================] - 0s 142us/sample - loss: 0.9341 -
y1_output_loss: 0.1776 - y2_output_loss: 0.7568 -
y1_output_root_mean_squared_error: 0.4176 - y2_output_root_mean_squared_error:
0.8716 - val_loss: 1.2989 - val_y1_output_loss: 0.3934 - val_y2_output_loss:
0.9223 - val_y1_output_root_mean_squared_error: 0.6351 -
val_y2_output_root_mean_squared_error: 0.9463
Epoch 299/500
614/614 [==============================] - 0s 152us/sample - loss: 0.8511 -
y1_output_loss: 0.1940 - y2_output_loss: 0.6508 -
y1_output_root_mean_squared_error: 0.4416 - y2_output_root_mean_squared_error:
0.8100 - val_loss: 0.9824 - val_y1_output_loss: 0.1948 - val_y2_output_loss:
0.7792 - val_y1_output_root_mean_squared_error: 0.4486 -
val_y2_output_root_mean_squared_error: 0.8838
Epoch 300/500
614/614 [==============================] - 0s 154us/sample - loss: 1.1316 -
y1_output_loss: 0.2258 - y2_output_loss: 0.8984 -
y1_output_root_mean_squared_error: 0.4772 - y2_output_root_mean_squared_error:
0.9507 - val_loss: 0.9669 - val_y1_output_loss: 0.1428 - val_y2_output_loss:
0.8397 - val_y1_output_root_mean_squared_error: 0.3841 -
val_y2_output_root_mean_squared_error: 0.9052
Epoch 301/500
614/614 [==============================] - 0s 149us/sample - loss: 0.9896 -
y1_output_loss: 0.2192 - y2_output_loss: 0.7621 -
y1_output_root_mean_squared_error: 0.4696 - y2_output_root_mean_squared_error:
0.8769 - val_loss: 1.1890 - val_y1_output_loss: 0.1842 - val_y2_output_loss:

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1.0124 - val_y1_output_root_mean_squared_error: 0.4349 -
val_y2_output_root_mean_squared_error: 0.9999
Epoch 302/500
614/614 [==============================] - 0s 139us/sample - loss: 0.8087 -
y1_output_loss: 0.1748 - y2_output_loss: 0.6383 -
y1_output_root_mean_squared_error: 0.4190 - y2_output_root_mean_squared_error:
0.7957 - val_loss: 5.6171 - val_y1_output_loss: 0.2763 - val_y2_output_loss:
5.3220 - val_y1_output_root_mean_squared_error: 0.5355 -
val_y2_output_root_mean_squared_error: 2.3087
Epoch 303/500
614/614 [==============================] - 0s 151us/sample - loss: 1.3897 -
y1_output_loss: 0.2548 - y2_output_loss: 1.1285 -
y1_output_root_mean_squared_error: 0.5053 - y2_output_root_mean_squared_error:
1.0651 - val_loss: 1.1722 - val_y1_output_loss: 0.2280 - val_y2_output_loss:
0.9077 - val_y1_output_root_mean_squared_error: 0.4802 -
val_y2_output_root_mean_squared_error: 0.9703
Epoch 304/500
614/614 [==============================] - 0s 150us/sample - loss: 0.8217 -
y1_output_loss: 0.1756 - y2_output_loss: 0.6437 -
y1_output_root_mean_squared_error: 0.4180 - y2_output_root_mean_squared_error:
0.8044 - val_loss: 1.4255 - val_y1_output_loss: 0.2300 - val_y2_output_loss:
1.1866 - val_y1_output_root_mean_squared_error: 0.4823 -
val_y2_output_root_mean_squared_error: 1.0922
Epoch 305/500
614/614 [==============================] - 0s 151us/sample - loss: 0.8057 -
y1_output_loss: 0.1766 - y2_output_loss: 0.6271 -
y1_output_root_mean_squared_error: 0.4207 - y2_output_root_mean_squared_error:
0.7929 - val_loss: 0.9313 - val_y1_output_loss: 0.1861 - val_y2_output_loss:
0.7548 - val_y1_output_root_mean_squared_error: 0.4321 -
val_y2_output_root_mean_squared_error: 0.8629
Epoch 306/500
614/614 [==============================] - 0s 157us/sample - loss: 0.5884 -
y1_output_loss: 0.1489 - y2_output_loss: 0.4391 -
y1_output_root_mean_squared_error: 0.3869 - y2_output_root_mean_squared_error:
0.6624 - val_loss: 0.8817 - val_y1_output_loss: 0.1693 - val_y2_output_loss:
0.7099 - val_y1_output_root_mean_squared_error: 0.4135 -
val_y2_output_root_mean_squared_error: 0.8430
Epoch 307/500
614/614 [==============================] - 0s 149us/sample - loss: 0.6514 -
y1_output_loss: 0.1479 - y2_output_loss: 0.5181 -
y1_output_root_mean_squared_error: 0.3829 - y2_output_root_mean_squared_error:
0.7105 - val_loss: 3.6136 - val_y1_output_loss: 0.4387 - val_y2_output_loss:
3.1905 - val_y1_output_root_mean_squared_error: 0.6706 -
val_y2_output_root_mean_squared_error: 1.7787
Epoch 308/500
614/614 [==============================] - 0s 145us/sample - loss: 1.2867 -
y1_output_loss: 0.2228 - y2_output_loss: 1.0529 -
y1_output_root_mean_squared_error: 0.4738 - y2_output_root_mean_squared_error:
```

1.0306 - val_loss: 0.9019 - val_y1_output_loss: 0.1764 - val_y2_output_loss:
0.7309 - val_y1_output_root_mean_squared_error: 0.4226 -
val_y2_output_root_mean_squared_error: 0.8505
Epoch 309/500
614/614 [==============================] - 0s 144us/sample - loss: 0.7847 -
y1_output_loss: 0.1761 - y2_output_loss: 0.6029 -
y1_output_root_mean_squared_error: 0.4210 - y2_output_root_mean_squared_error:
0.7794 - val_loss: 0.8755 - val_y1_output_loss: 0.1742 - val_y2_output_loss:
0.6973 - val_y1_output_root_mean_squared_error: 0.4219 -
val_y2_output_root_mean_squared_error: 0.8352
Epoch 310/500
614/614 [==============================] - 0s 151us/sample - loss: 0.6739 -
y1_output_loss: 0.1619 - y2_output_loss: 0.5119 -
y1_output_root_mean_squared_error: 0.4040 - y2_output_root_mean_squared_error:
0.7147 - val_loss: 1.2336 - val_y1_output_loss: 0.3090 - val_y2_output_loss:
0.9370 - val_y1_output_root_mean_squared_error: 0.5616 -
val_y2_output_root_mean_squared_error: 0.9582
Epoch 311/500
614/614 [==============================] - 0s 156us/sample - loss: 0.6716 -
y1_output_loss: 0.1768 - y2_output_loss: 0.5117 -
y1_output_root_mean_squared_error: 0.4056 - y2_output_root_mean_squared_error:
0.7121 - val_loss: 2.2046 - val_y1_output_loss: 0.9255 - val_y2_output_loss:
1.2450 - val_y1_output_root_mean_squared_error: 0.9722 -
val_y2_output_root_mean_squared_error: 1.1223
Epoch 312/500
614/614 [==============================] - 0s 177us/sample - loss: 1.0392 -
y1_output_loss: 0.2206 - y2_output_loss: 0.8101 -
y1_output_root_mean_squared_error: 0.4714 - y2_output_root_mean_squared_error:
0.9039 - val_loss: 1.8273 - val_y1_output_loss: 0.3582 - val_y2_output_loss:
1.4459 - val_y1_output_root_mean_squared_error: 0.6090 -
val_y2_output_root_mean_squared_error: 1.2068
Epoch 313/500
614/614 [==============================] - 0s 156us/sample - loss: 0.7260 -
y1_output_loss: 0.1570 - y2_output_loss: 0.5674 -
y1_output_root_mean_squared_error: 0.3952 - y2_output_root_mean_squared_error:
0.7548 - val_loss: 1.1462 - val_y1_output_loss: 0.2376 - val_y2_output_loss:
0.9293 - val_y1_output_root_mean_squared_error: 0.4953 -
val_y2_output_root_mean_squared_error: 0.9492
Epoch 314/500
614/614 [==============================] - 0s 157us/sample - loss: 0.7337 -
y1_output_loss: 0.1899 - y2_output_loss: 0.5421 -
y1_output_root_mean_squared_error: 0.4372 - y2_output_root_mean_squared_error:
0.7366 - val_loss: 0.9073 - val_y1_output_loss: 0.1588 - val_y2_output_loss:
0.7344 - val_y1_output_root_mean_squared_error: 0.3963 -
val_y2_output_root_mean_squared_error: 0.8662
Epoch 315/500
614/614 [==============================] - 0s 149us/sample - loss: 1.0214 -
y1_output_loss: 0.2190 - y2_output_loss: 0.7985 -

y1_output_root_mean_squared_error: 0.4696 - y2_output_root_mean_squared_error:
0.8949 - val_loss: 0.9349 - val_y1_output_loss: 0.1643 - val_y2_output_loss:
0.7855 - val_y1_output_root_mean_squared_error: 0.4108 -
val_y2_output_root_mean_squared_error: 0.8753
Epoch 316/500
614/614 [==============================] - 0s 160us/sample - loss: 0.8453 -
y1_output_loss: 0.1526 - y2_output_loss: 0.6876 -
y1_output_root_mean_squared_error: 0.3923 - y2_output_root_mean_squared_error:
0.8315 - val_loss: 1.0042 - val_y1_output_loss: 0.2501 - val_y2_output_loss:
0.7416 - val_y1_output_root_mean_squared_error: 0.5090 -
val_y2_output_root_mean_squared_error: 0.8632
Epoch 317/500
614/614 [==============================] - 0s 157us/sample - loss: 0.9369 -
y1_output_loss: 0.2206 - y2_output_loss: 0.7178 -
y1_output_root_mean_squared_error: 0.4688 - y2_output_root_mean_squared_error:
0.8469 - val_loss: 1.2728 - val_y1_output_loss: 0.2938 - val_y2_output_loss:
0.9850 - val_y1_output_root_mean_squared_error: 0.5449 -
val_y2_output_root_mean_squared_error: 0.9879
Epoch 318/500
614/614 [==============================] - 0s 152us/sample - loss: 0.7352 -
y1_output_loss: 0.1593 - y2_output_loss: 0.5792 -
y1_output_root_mean_squared_error: 0.3988 - y2_output_root_mean_squared_error:
0.7591 - val_loss: 1.2339 - val_y1_output_loss: 0.2475 - val_y2_output_loss:
0.9910 - val_y1_output_root_mean_squared_error: 0.5059 -
val_y2_output_root_mean_squared_error: 0.9889
Epoch 319/500
614/614 [==============================] - 0s 145us/sample - loss: 1.0714 -
y1_output_loss: 0.2119 - y2_output_loss: 0.8497 -
y1_output_root_mean_squared_error: 0.4623 - y2_output_root_mean_squared_error:
0.9261 - val_loss: 0.8756 - val_y1_output_loss: 0.1735 - val_y2_output_loss:
0.6858 - val_y1_output_root_mean_squared_error: 0.4213 -
val_y2_output_root_mean_squared_error: 0.8355
Epoch 320/500
614/614 [==============================] - 0s 143us/sample - loss: 0.9567 -
y1_output_loss: 0.1951 - y2_output_loss: 0.8037 -
y1_output_root_mean_squared_error: 0.4414 - y2_output_root_mean_squared_error:
0.8729 - val_loss: 2.1809 - val_y1_output_loss: 0.3468 - val_y2_output_loss:
1.8226 - val_y1_output_root_mean_squared_error: 0.5867 -
val_y2_output_root_mean_squared_error: 1.3553
Epoch 321/500
614/614 [==============================] - 0s 143us/sample - loss: 0.8216 -
y1_output_loss: 0.1795 - y2_output_loss: 0.6613 -
y1_output_root_mean_squared_error: 0.4253 - y2_output_root_mean_squared_error:
0.8004 - val_loss: 1.6490 - val_y1_output_loss: 0.2214 - val_y2_output_loss:
1.4160 - val_y1_output_root_mean_squared_error: 0.4736 -
val_y2_output_root_mean_squared_error: 1.1936
Epoch 322/500
614/614 [==============================] - 0s 152us/sample - loss: 0.7390 -

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y1_output_loss: 0.1937 - y2_output_loss: 0.5402 -
y1_output_root_mean_squared_error: 0.4415 - y2_output_root_mean_squared_error:
0.7376 - val_loss: 0.9665 - val_y1_output_loss: 0.2326 - val_y2_output_loss:
0.7298 - val_y1_output_root_mean_squared_error: 0.4913 -
val_y2_output_root_mean_squared_error: 0.8515
Epoch 323/500
614/614 [==============================] - 0s 160us/sample - loss: 0.8824 -
y1_output_loss: 0.1920 - y2_output_loss: 0.6836 -
y1_output_root_mean_squared_error: 0.4390 - y2_output_root_mean_squared_error:
0.8305 - val_loss: 0.9298 - val_y1_output_loss: 0.1492 - val_y2_output_loss:
0.7784 - val_y1_output_root_mean_squared_error: 0.3878 -
val_y2_output_root_mean_squared_error: 0.8829
Epoch 324/500
614/614 [==============================] - 0s 146us/sample - loss: 0.6750 -
y1_output_loss: 0.1562 - y2_output_loss: 0.5141 -
y1_output_root_mean_squared_error: 0.3960 - y2_output_root_mean_squared_error:
0.7198 - val_loss: 1.1036 - val_y1_output_loss: 0.3176 - val_y2_output_loss:
0.7750 - val_y1_output_root_mean_squared_error: 0.5731 -
val_y2_output_root_mean_squared_error: 0.8805
Epoch 325/500
614/614 [==============================] - 0s 145us/sample - loss: 0.9187 -
y1_output_loss: 0.1997 - y2_output_loss: 0.7112 -
y1_output_root_mean_squared_error: 0.4483 - y2_output_root_mean_squared_error:
0.8472 - val_loss: 0.7965 - val_y1_output_loss: 0.1802 - val_y2_output_loss:
0.6062 - val_y1_output_root_mean_squared_error: 0.4253 -
val_y2_output_root_mean_squared_error: 0.7846
Epoch 326/500
614/614 [==============================] - 0s 144us/sample - loss: 0.9631 -
y1_output_loss: 0.2379 - y2_output_loss: 0.7216 -
y1_output_root_mean_squared_error: 0.4889 - y2_output_root_mean_squared_error:
0.8509 - val_loss: 0.8498 - val_y1_output_loss: 0.2071 - val_y2_output_loss:
0.6329 - val_y1_output_root_mean_squared_error: 0.4619 -
val_y2_output_root_mean_squared_error: 0.7978
Epoch 327/500
614/614 [==============================] - 0s 147us/sample - loss: 0.7951 -
y1_output_loss: 0.1960 - y2_output_loss: 0.5956 -
y1_output_root_mean_squared_error: 0.4443 - y2_output_root_mean_squared_error:
0.7731 - val_loss: 1.0671 - val_y1_output_loss: 0.1922 - val_y2_output_loss:
0.8622 - val_y1_output_root_mean_squared_error: 0.4453 -
val_y2_output_root_mean_squared_error: 0.9321
Epoch 328/500
614/614 [==============================] - 0s 157us/sample - loss: 0.8939 -
y1_output_loss: 0.2221 - y2_output_loss: 0.6656 -
y1_output_root_mean_squared_error: 0.4730 - y2_output_root_mean_squared_error:
0.8186 - val_loss: 0.7728 - val_y1_output_loss: 0.1704 - val_y2_output_loss:
0.6070 - val_y1_output_root_mean_squared_error: 0.4144 -
val_y2_output_root_mean_squared_error: 0.7753
Epoch 329/500
```

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614/614 [==============================] - 0s 156us/sample - loss: 0.9537 -
y1_output_loss: 0.2218 - y2_output_loss: 0.7300 -
y1_output_root_mean_squared_error: 0.4710 - y2_output_root_mean_squared_error:
0.8554 - val_loss: 1.0555 - val_y1_output_loss: 0.2099 - val_y2_output_loss:
0.8701 - val_y1_output_root_mean_squared_error: 0.4656 -
val_y2_output_root_mean_squared_error: 0.9158
Epoch 330/500
614/614 [==============================] - 0s 153us/sample - loss: 0.6449 -
y1_output_loss: 0.1598 - y2_output_loss: 0.4811 -
y1_output_root_mean_squared_error: 0.4003 - y2_output_root_mean_squared_error:
0.6962 - val_loss: 0.8540 - val_y1_output_loss: 0.1797 - val_y2_output_loss:
0.6800 - val_y1_output_root_mean_squared_error: 0.4266 -
val_y2_output_root_mean_squared_error: 0.8198
Epoch 331/500
614/614 [==============================] - 0s 147us/sample - loss: 0.8164 -
y1_output_loss: 0.1680 - y2_output_loss: 0.6742 -
y1_output_root_mean_squared_error: 0.4105 - y2_output_root_mean_squared_error:
0.8049 - val_loss: 4.1310 - val_y1_output_loss: 0.3418 - val_y2_output_loss:
3.7359 - val_y1_output_root_mean_squared_error: 0.5953 -
val_y2_output_root_mean_squared_error: 1.9433
Epoch 332/500
614/614 [==============================] - 0s 148us/sample - loss: 1.1011 -
y1_output_loss: 0.2310 - y2_output_loss: 0.8616 -
y1_output_root_mean_squared_error: 0.4821 - y2_output_root_mean_squared_error:
0.9320 - val_loss: 1.2910 - val_y1_output_loss: 0.1834 - val_y2_output_loss:
1.1135 - val_y1_output_root_mean_squared_error: 0.4326 -
val_y2_output_root_mean_squared_error: 1.0507
Epoch 333/500
614/614 [==============================] - 0s 144us/sample - loss: 0.7033 -
y1_output_loss: 0.1643 - y2_output_loss: 0.5331 -
y1_output_root_mean_squared_error: 0.4070 - y2_output_root_mean_squared_error:
0.7333 - val_loss: 0.8405 - val_y1_output_loss: 0.1825 - val_y2_output_loss:
0.6578 - val_y1_output_root_mean_squared_error: 0.4320 -
val_y2_output_root_mean_squared_error: 0.8086
Epoch 334/500
614/614 [==============================] - 0s 156us/sample - loss: 0.7738 -
y1_output_loss: 0.2067 - y2_output_loss: 0.5631 -
y1_output_root_mean_squared_error: 0.4567 - y2_output_root_mean_squared_error:
0.7518 - val_loss: 0.8376 - val_y1_output_loss: 0.1677 - val_y2_output_loss:
0.6716 - val_y1_output_root_mean_squared_error: 0.4168 -
val_y2_output_root_mean_squared_error: 0.8148
Epoch 335/500
614/614 [==============================] - 0s 154us/sample - loss: 0.6424 -
y1_output_loss: 0.1665 - y2_output_loss: 0.4789 -
y1_output_root_mean_squared_error: 0.4070 - y2_output_root_mean_squared_error:
0.6904 - val_loss: 2.3634 - val_y1_output_loss: 0.3429 - val_y2_output_loss:
2.0501 - val_y1_output_root_mean_squared_error: 0.5948 -
val_y2_output_root_mean_squared_error: 1.4176
```

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Epoch 336/500
614/614 [==============================] - 0s 148us/sample - loss: 0.7430 -
y1_output_loss: 0.1779 - y2_output_loss: 0.5705 -
y1_output_root_mean_squared_error: 0.4228 - y2_output_root_mean_squared_error:
0.7512 - val_loss: 1.5194 - val_y1_output_loss: 0.3313 - val_y2_output_loss:
1.1606 - val_y1_output_root_mean_squared_error: 0.5789 -
val_y2_output_root_mean_squared_error: 1.0882
Epoch 337/500
614/614 [==============================] - 0s 153us/sample - loss: 0.8512 -
y1_output_loss: 0.1820 - y2_output_loss: 0.6640 -
y1_output_root_mean_squared_error: 0.4268 - y2_output_root_mean_squared_error:
0.8179 - val_loss: 0.8227 - val_y1_output_loss: 0.1776 - val_y2_output_loss:
0.6325 - val_y1_output_root_mean_squared_error: 0.4257 -
val_y2_output_root_mean_squared_error: 0.8009
Epoch 338/500
614/614 [==============================] - 0s 145us/sample - loss: 0.6067 -
y1_output_loss: 0.1439 - y2_output_loss: 0.4586 -
y1_output_root_mean_squared_error: 0.3795 - y2_output_root_mean_squared_error:
0.6802 - val_loss: 0.7689 - val_y1_output_loss: 0.1921 - val_y2_output_loss:
0.5692 - val_y1_output_root_mean_squared_error: 0.4461 -
val_y2_output_root_mean_squared_error: 0.7549
Epoch 339/500
614/614 [==============================] - 0s 141us/sample - loss: 0.6441 -
y1_output_loss: 0.1707 - y2_output_loss: 0.4705 -
y1_output_root_mean_squared_error: 0.4117 - y2_output_root_mean_squared_error:
0.6890 - val_loss: 1.0176 - val_y1_output_loss: 0.2527 - val_y2_output_loss:
0.7732 - val_y1_output_root_mean_squared_error: 0.5117 -
val_y2_output_root_mean_squared_error: 0.8693
Epoch 340/500
614/614 [==============================] - 0s 158us/sample - loss: 0.6368 -
y1_output_loss: 0.1596 - y2_output_loss: 0.4738 -
y1_output_root_mean_squared_error: 0.4009 - y2_output_root_mean_squared_error:
0.6900 - val_loss: 1.1731 - val_y1_output_loss: 0.2829 - val_y2_output_loss:
0.8941 - val_y1_output_root_mean_squared_error: 0.5372 -
val_y2_output_root_mean_squared_error: 0.9404
Epoch 341/500
614/614 [==============================] - 0s 151us/sample - loss: 0.6694 -
y1_output_loss: 0.1521 - y2_output_loss: 0.5169 -
y1_output_root_mean_squared_error: 0.3908 - y2_output_root_mean_squared_error:
0.7188 - val_loss: 2.5050 - val_y1_output_loss: 0.2683 - val_y2_output_loss:
2.2177 - val_y1_output_root_mean_squared_error: 0.5271 -
val_y2_output_root_mean_squared_error: 1.4924
Epoch 342/500
614/614 [==============================] - 0s 151us/sample - loss: 0.7274 -
y1_output_loss: 0.1660 - y2_output_loss: 0.5618 -
y1_output_root_mean_squared_error: 0.4064 - y2_output_root_mean_squared_error:
0.7498 - val_loss: 0.9056 - val_y1_output_loss: 0.1582 - val_y2_output_loss:
0.7312 - val_y1_output_root_mean_squared_error: 0.4019 -
```

val_y2_output_root_mean_squared_error: 0.8626
Epoch 343/500
614/614 [==============================] - 0s 147us/sample - loss: 0.6022 -
y1_output_loss: 0.1458 - y2_output_loss: 0.4680 -
y1_output_root_mean_squared_error: 0.3833 - y2_output_root_mean_squared_error:
0.6747 - val_loss: 3.2864 - val_y1_output_loss: 0.2524 - val_y2_output_loss:
2.9752 - val_y1_output_root_mean_squared_error: 0.5106 -
val_y2_output_root_mean_squared_error: 1.7394
Epoch 344/500
614/614 [==============================] - 0s 146us/sample - loss: 0.7849 -
y1_output_loss: 0.1681 - y2_output_loss: 0.6156 -
y1_output_root_mean_squared_error: 0.4096 - y2_output_root_mean_squared_error:
0.7855 - val_loss: 1.7244 - val_y1_output_loss: 0.1703 - val_y2_output_loss:
1.5463 - val_y1_output_root_mean_squared_error: 0.4165 -
val_y2_output_root_mean_squared_error: 1.2454
Epoch 345/500
614/614 [==============================] - 0s 148us/sample - loss: 0.6154 -
y1_output_loss: 0.1461 - y2_output_loss: 0.4756 -
y1_output_root_mean_squared_error: 0.3826 - y2_output_root_mean_squared_error:
0.6849 - val_loss: 3.7256 - val_y1_output_loss: 0.3037 - val_y2_output_loss:
3.3854 - val_y1_output_root_mean_squared_error: 0.5605 -
val_y2_output_root_mean_squared_error: 1.8470
Epoch 346/500
614/614 [==============================] - 0s 162us/sample - loss: 0.7678 -
y1_output_loss: 0.1621 - y2_output_loss: 0.6023 -
y1_output_root_mean_squared_error: 0.4033 - y2_output_root_mean_squared_error:
0.7779 - val_loss: 1.0989 - val_y1_output_loss: 0.2499 - val_y2_output_loss:
0.8464 - val_y1_output_root_mean_squared_error: 0.4966 -
val_y2_output_root_mean_squared_error: 0.9232
Epoch 347/500
614/614 [==============================] - 0s 157us/sample - loss: 1.0389 -
y1_output_loss: 0.2843 - y2_output_loss: 0.7552 -
y1_output_root_mean_squared_error: 0.5346 - y2_output_root_mean_squared_error:
0.8678 - val_loss: 1.2553 - val_y1_output_loss: 0.2279 - val_y2_output_loss:
0.9964 - val_y1_output_root_mean_squared_error: 0.4732 -
val_y2_output_root_mean_squared_error: 1.0155
Epoch 348/500
614/614 [==============================] - 0s 151us/sample - loss: 0.7237 -
y1_output_loss: 0.1691 - y2_output_loss: 0.5536 -
y1_output_root_mean_squared_error: 0.4095 - y2_output_root_mean_squared_error:
0.7456 - val_loss: 0.9388 - val_y1_output_loss: 0.3286 - val_y2_output_loss:
0.6081 - val_y1_output_root_mean_squared_error: 0.5830 -
val_y2_output_root_mean_squared_error: 0.7739
Epoch 349/500
614/614 [==============================] - 0s 147us/sample - loss: 1.3094 -
y1_output_loss: 0.2636 - y2_output_loss: 1.0348 -
y1_output_root_mean_squared_error: 0.5151 - y2_output_root_mean_squared_error:
1.0218 - val_loss: 1.9140 - val_y1_output_loss: 0.2850 - val_y2_output_loss:

1.6194 - val_y1_output_root_mean_squared_error: 0.5432 -
val_y2_output_root_mean_squared_error: 1.2724
Epoch 350/500
614/614 [==============================] - 0s 148us/sample - loss: 0.8493 -
y1_output_loss: 0.1980 - y2_output_loss: 0.6453 -
y1_output_root_mean_squared_error: 0.4469 - y2_output_root_mean_squared_error:
0.8060 - val_loss: 0.7771 - val_y1_output_loss: 0.1455 - val_y2_output_loss:
0.6349 - val_y1_output_root_mean_squared_error: 0.3861 -
val_y2_output_root_mean_squared_error: 0.7925
Epoch 351/500
614/614 [==============================] - 0s 146us/sample - loss: 0.7083 -
y1_output_loss: 0.1786 - y2_output_loss: 0.5319 -
y1_output_root_mean_squared_error: 0.4229 - y2_output_root_mean_squared_error:
0.7276 - val_loss: 1.4079 - val_y1_output_loss: 0.3706 - val_y2_output_loss:
1.0057 - val_y1_output_root_mean_squared_error: 0.6194 -
val_y2_output_root_mean_squared_error: 1.0120
Epoch 352/500
614/614 [==============================] - 0s 145us/sample - loss: 0.7751 -
y1_output_loss: 0.1635 - y2_output_loss: 0.6071 -
y1_output_root_mean_squared_error: 0.4056 - y2_output_root_mean_squared_error:
0.7814 - val_loss: 0.8296 - val_y1_output_loss: 0.2036 - val_y2_output_loss:
0.6137 - val_y1_output_root_mean_squared_error: 0.4543 -
val_y2_output_root_mean_squared_error: 0.7894
Epoch 353/500
614/614 [==============================] - 0s 153us/sample - loss: 1.1220 -
y1_output_loss: 0.2598 - y2_output_loss: 0.8576 -
y1_output_root_mean_squared_error: 0.5081 - y2_output_root_mean_squared_error:
0.9294 - val_loss: 1.3438 - val_y1_output_loss: 0.3910 - val_y2_output_loss:
0.9368 - val_y1_output_root_mean_squared_error: 0.6270 -
val_y2_output_root_mean_squared_error: 0.9750
Epoch 354/500
614/614 [==============================] - 0s 140us/sample - loss: 0.6919 -
y1_output_loss: 0.2010 - y2_output_loss: 0.4854 -
y1_output_root_mean_squared_error: 0.4498 - y2_output_root_mean_squared_error:
0.6997 - val_loss: 1.0826 - val_y1_output_loss: 0.2046 - val_y2_output_loss:
0.8692 - val_y1_output_root_mean_squared_error: 0.4519 -
val_y2_output_root_mean_squared_error: 0.9373
Epoch 355/500
614/614 [==============================] - 0s 145us/sample - loss: 0.8470 -
y1_output_loss: 0.1860 - y2_output_loss: 0.6542 -
y1_output_root_mean_squared_error: 0.4327 - y2_output_root_mean_squared_error:
0.8123 - val_loss: 0.9349 - val_y1_output_loss: 0.2318 - val_y2_output_loss:
0.6984 - val_y1_output_root_mean_squared_error: 0.4884 -
val_y2_output_root_mean_squared_error: 0.8345
Epoch 356/500
614/614 [==============================] - 0s 150us/sample - loss: 0.6930 -
y1_output_loss: 0.1478 - y2_output_loss: 0.5520 -
y1_output_root_mean_squared_error: 0.3861 - y2_output_root_mean_squared_error:

0.7376 - val_loss: 0.9977 - val_y1_output_loss: 0.2954 - val_y2_output_loss:
0.6921 - val_y1_output_root_mean_squared_error: 0.5495 -
val_y2_output_root_mean_squared_error: 0.8341
Epoch 357/500
614/614 [==============================] - 0s 157us/sample - loss: 0.5855 -
y1_output_loss: 0.1591 - y2_output_loss: 0.4564 -
y1_output_root_mean_squared_error: 0.3994 - y2_output_root_mean_squared_error:
0.6527 - val_loss: 7.7140 - val_y1_output_loss: 0.6869 - val_y2_output_loss:
6.8430 - val_y1_output_root_mean_squared_error: 0.8440 -
val_y2_output_root_mean_squared_error: 2.6461
Epoch 358/500
614/614 [==============================] - 0s 157us/sample - loss: 0.8725 -
y1_output_loss: 0.2093 - y2_output_loss: 0.6560 -
y1_output_root_mean_squared_error: 0.4595 - y2_output_root_mean_squared_error:
0.8132 - val_loss: 0.8559 - val_y1_output_loss: 0.1660 - val_y2_output_loss:
0.6786 - val_y1_output_root_mean_squared_error: 0.4103 -
val_y2_output_root_mean_squared_error: 0.8292
Epoch 359/500
614/614 [==============================] - 0s 150us/sample - loss: 0.6149 -
y1_output_loss: 0.1410 - y2_output_loss: 0.4735 -
y1_output_root_mean_squared_error: 0.3752 - y2_output_root_mean_squared_error:
0.6886 - val_loss: 1.0073 - val_y1_output_loss: 0.1655 - val_y2_output_loss:
0.8267 - val_y1_output_root_mean_squared_error: 0.4070 -
val_y2_output_root_mean_squared_error: 0.9174
Epoch 360/500
614/614 [==============================] - 0s 144us/sample - loss: 0.6802 -
y1_output_loss: 0.1569 - y2_output_loss: 0.5193 -
y1_output_root_mean_squared_error: 0.3972 - y2_output_root_mean_squared_error:
0.7228 - val_loss: 1.0259 - val_y1_output_loss: 0.2879 - val_y2_output_loss:
0.7251 - val_y1_output_root_mean_squared_error: 0.5439 -
val_y2_output_root_mean_squared_error: 0.8544
Epoch 361/500
614/614 [==============================] - 0s 149us/sample - loss: 0.9345 -
y1_output_loss: 0.2574 - y2_output_loss: 0.6754 -
y1_output_root_mean_squared_error: 0.5035 - y2_output_root_mean_squared_error:
0.8252 - val_loss: 1.6055 - val_y1_output_loss: 0.3665 - val_y2_output_loss:
1.2697 - val_y1_output_root_mean_squared_error: 0.5973 -
val_y2_output_root_mean_squared_error: 1.1175
Epoch 362/500
614/614 [==============================] - 0s 140us/sample - loss: 0.5683 -
y1_output_loss: 0.1546 - y2_output_loss: 0.4165 -
y1_output_root_mean_squared_error: 0.3942 - y2_output_root_mean_squared_error:
0.6426 - val_loss: 1.3579 - val_y1_output_loss: 0.4656 - val_y2_output_loss:
0.8775 - val_y1_output_root_mean_squared_error: 0.6919 -
val_y2_output_root_mean_squared_error: 0.9376
Epoch 363/500
614/614 [==============================] - 0s 154us/sample - loss: 1.0194 -
y1_output_loss: 0.2932 - y2_output_loss: 0.7238 -

y1_output_root_mean_squared_error: 0.5426 - y2_output_root_mean_squared_error: 0.8514 - val_loss: 1.5694 - val_y1_output_loss: 0.4352 - val_y2_output_loss: 1.0874 - val_y1_output_root_mean_squared_error: 0.6689 - val_y2_output_root_mean_squared_error: 1.0592
Epoch 364/500
614/614 [==============================] - 0s 152us/sample - loss: 0.9076 - y1_output_loss: 0.2310 - y2_output_loss: 0.6717 - y1_output_root_mean_squared_error: 0.4820 - y2_output_root_mean_squared_error: 0.8217 - val_loss: 0.8394 - val_y1_output_loss: 0.1969 - val_y2_output_loss: 0.6342 - val_y1_output_root_mean_squared_error: 0.4461 - val_y2_output_root_mean_squared_error: 0.8003
Epoch 365/500
614/614 [==============================] - 0s 152us/sample - loss: 0.6810 - y1_output_loss: 0.1572 - y2_output_loss: 0.5182 - y1_output_root_mean_squared_error: 0.3983 - y2_output_root_mean_squared_error: 0.7227 - val_loss: 0.8048 - val_y1_output_loss: 0.1717 - val_y2_output_loss: 0.6605 - val_y1_output_root_mean_squared_error: 0.4203 - val_y2_output_root_mean_squared_error: 0.7926
Epoch 366/500
614/614 [==============================] - 0s 159us/sample - loss: 0.5691 - y1_output_loss: 0.1586 - y2_output_loss: 0.4083 - y1_output_root_mean_squared_error: 0.3966 - y2_output_root_mean_squared_error: 0.6417 - val_loss: 0.7866 - val_y1_output_loss: 0.2109 - val_y2_output_loss: 0.5683 - val_y1_output_root_mean_squared_error: 0.4674 - val_y2_output_root_mean_squared_error: 0.7537
Epoch 367/500
614/614 [==============================] - 0s 150us/sample - loss: 0.6491 - y1_output_loss: 0.1493 - y2_output_loss: 0.4982 - y1_output_root_mean_squared_error: 0.3880 - y2_output_root_mean_squared_error: 0.7061 - val_loss: 1.0952 - val_y1_output_loss: 0.2681 - val_y2_output_loss: 0.8003 - val_y1_output_root_mean_squared_error: 0.5201 - val_y2_output_root_mean_squared_error: 0.9081
Epoch 368/500
614/614 [==============================] - 0s 147us/sample - loss: 0.7451 - y1_output_loss: 0.1849 - y2_output_loss: 0.5599 - y1_output_root_mean_squared_error: 0.4297 - y2_output_root_mean_squared_error: 0.7486 - val_loss: 0.9030 - val_y1_output_loss: 0.2233 - val_y2_output_loss: 0.6829 - val_y1_output_root_mean_squared_error: 0.4749 - val_y2_output_root_mean_squared_error: 0.8231
Epoch 369/500
614/614 [==============================] - 0s 159us/sample - loss: 0.5494 - y1_output_loss: 0.1286 - y2_output_loss: 0.4166 - y1_output_root_mean_squared_error: 0.3596 - y2_output_root_mean_squared_error: 0.6482 - val_loss: 0.9191 - val_y1_output_loss: 0.1691 - val_y2_output_loss: 0.7487 - val_y1_output_root_mean_squared_error: 0.4144 - val_y2_output_root_mean_squared_error: 0.8645
Epoch 370/500
614/614 [==============================] - 0s 151us/sample - loss: 0.5367 -

y1_output_loss: 0.1518 - y2_output_loss: 0.3813 -
y1_output_root_mean_squared_error: 0.3914 - y2_output_root_mean_squared_error:
0.6193 - val_loss: 0.8350 - val_y1_output_loss: 0.1649 - val_y2_output_loss:
0.6634 - val_y1_output_root_mean_squared_error: 0.4065 -
val_y2_output_root_mean_squared_error: 0.8184
Epoch 371/500
614/614 [==============================] - 0s 156us/sample - loss: 0.6777 -
y1_output_loss: 0.1712 - y2_output_loss: 0.5152 -
y1_output_root_mean_squared_error: 0.4144 - y2_output_root_mean_squared_error:
0.7113 - val_loss: 0.9782 - val_y1_output_loss: 0.2160 - val_y2_output_loss:
0.7722 - val_y1_output_root_mean_squared_error: 0.4713 -
val_y2_output_root_mean_squared_error: 0.8695
Epoch 372/500
614/614 [==============================] - 0s 153us/sample - loss: 0.7265 -
y1_output_loss: 0.1540 - y2_output_loss: 0.5665 -
y1_output_root_mean_squared_error: 0.3943 - y2_output_root_mean_squared_error:
0.7557 - val_loss: 0.8456 - val_y1_output_loss: 0.1692 - val_y2_output_loss:
0.6802 - val_y1_output_root_mean_squared_error: 0.4154 -
val_y2_output_root_mean_squared_error: 0.8204
Epoch 373/500
614/614 [==============================] - 0s 147us/sample - loss: 0.6124 -
y1_output_loss: 0.1490 - y2_output_loss: 0.4602 -
y1_output_root_mean_squared_error: 0.3877 - y2_output_root_mean_squared_error:
0.6798 - val_loss: 0.8240 - val_y1_output_loss: 0.1648 - val_y2_output_loss:
0.6586 - val_y1_output_root_mean_squared_error: 0.4114 -
val_y2_output_root_mean_squared_error: 0.8092
Epoch 374/500
614/614 [==============================] - 0s 154us/sample - loss: 0.7829 -
y1_output_loss: 0.1644 - y2_output_loss: 0.6205 -
y1_output_root_mean_squared_error: 0.4063 - y2_output_root_mean_squared_error:
0.7860 - val_loss: 2.1415 - val_y1_output_loss: 0.2212 - val_y2_output_loss:
1.8815 - val_y1_output_root_mean_squared_error: 0.4757 -
val_y2_output_root_mean_squared_error: 1.3839
Epoch 375/500
614/614 [==============================] - 0s 164us/sample - loss: 1.9063 -
y1_output_loss: 0.4395 - y2_output_loss: 1.4703 -
y1_output_root_mean_squared_error: 0.6656 - y2_output_root_mean_squared_error:
1.2097 - val_loss: 1.7147 - val_y1_output_loss: 0.2211 - val_y2_output_loss:
1.4808 - val_y1_output_root_mean_squared_error: 0.4692 -
val_y2_output_root_mean_squared_error: 1.2225
Epoch 376/500
614/614 [==============================] - 0s 158us/sample - loss: 0.6021 -
y1_output_loss: 0.1382 - y2_output_loss: 0.4613 -
y1_output_root_mean_squared_error: 0.3720 - y2_output_root_mean_squared_error:
0.6809 - val_loss: 0.9019 - val_y1_output_loss: 0.2097 - val_y2_output_loss:
0.7181 - val_y1_output_root_mean_squared_error: 0.4613 -
val_y2_output_root_mean_squared_error: 0.8302
Epoch 377/500

614/614 [==============================] - 0s 151us/sample - loss: 0.5497 - y1_output_loss: 0.1399 - y2_output_loss: 0.4051 - y1_output_root_mean_squared_error: 0.3754 - y2_output_root_mean_squared_error: 0.6394 - val_loss: 0.8293 - val_y1_output_loss: 0.1801 - val_y2_output_loss: 0.6537 - val_y1_output_root_mean_squared_error: 0.4318 - val_y2_output_root_mean_squared_error: 0.8018
Epoch 378/500
614/614 [==============================] - 0s 151us/sample - loss: 0.6165 - y1_output_loss: 0.1412 - y2_output_loss: 0.4718 - y1_output_root_mean_squared_error: 0.3769 - y2_output_root_mean_squared_error: 0.6888 - val_loss: 1.1140 - val_y1_output_loss: 0.2101 - val_y2_output_loss: 0.8985 - val_y1_output_root_mean_squared_error: 0.4654 - val_y2_output_root_mean_squared_error: 0.9473
Epoch 379/500
614/614 [==============================] - 0s 145us/sample - loss: 0.5252 - y1_output_loss: 0.1615 - y2_output_loss: 0.3597 - y1_output_root_mean_squared_error: 0.4037 - y2_output_root_mean_squared_error: 0.6019 - val_loss: 0.7577 - val_y1_output_loss: 0.1628 - val_y2_output_loss: 0.5952 - val_y1_output_root_mean_squared_error: 0.4106 - val_y2_output_root_mean_squared_error: 0.7676
Epoch 380/500
614/614 [==============================] - 0s 153us/sample - loss: 0.6734 - y1_output_loss: 0.1573 - y2_output_loss: 0.5103 - y1_output_root_mean_squared_error: 0.3977 - y2_output_root_mean_squared_error: 0.7178 - val_loss: 0.8464 - val_y1_output_loss: 0.1824 - val_y2_output_loss: 0.6593 - val_y1_output_root_mean_squared_error: 0.4312 - val_y2_output_root_mean_squared_error: 0.8127
Epoch 381/500
614/614 [==============================] - 0s 162us/sample - loss: 0.5075 - y1_output_loss: 0.1479 - y2_output_loss: 0.3574 - y1_output_root_mean_squared_error: 0.3861 - y2_output_root_mean_squared_error: 0.5986 - val_loss: 0.7192 - val_y1_output_loss: 0.1561 - val_y2_output_loss: 0.5625 - val_y1_output_root_mean_squared_error: 0.3996 - val_y2_output_root_mean_squared_error: 0.7480
Epoch 382/500
614/614 [==============================] - 0s 159us/sample - loss: 0.4663 - y1_output_loss: 0.1271 - y2_output_loss: 0.3447 - y1_output_root_mean_squared_error: 0.3561 - y2_output_root_mean_squared_error: 0.5827 - val_loss: 0.9753 - val_y1_output_loss: 0.2535 - val_y2_output_loss: 0.7244 - val_y1_output_root_mean_squared_error: 0.5131 - val_y2_output_root_mean_squared_error: 0.8438
Epoch 383/500
614/614 [==============================] - 0s 154us/sample - loss: 0.5495 - y1_output_loss: 0.1470 - y2_output_loss: 0.4023 - y1_output_root_mean_squared_error: 0.3835 - y2_output_root_mean_squared_error: 0.6343 - val_loss: 0.9836 - val_y1_output_loss: 0.1701 - val_y2_output_loss: 0.8027 - val_y1_output_root_mean_squared_error: 0.4163 - val_y2_output_root_mean_squared_error: 0.9002

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Epoch 384/500
614/614 [==============================] - 0s 150us/sample - loss: 0.6736 -
y1_output_loss: 0.1605 - y2_output_loss: 0.5140 -
y1_output_root_mean_squared_error: 0.3997 - y2_output_root_mean_squared_error:
0.7168 - val_loss: 1.5944 - val_y1_output_loss: 0.1939 - val_y2_output_loss:
1.3914 - val_y1_output_root_mean_squared_error: 0.4463 -
val_y2_output_root_mean_squared_error: 1.1812
Epoch 385/500
614/614 [==============================] - 0s 153us/sample - loss: 0.5856 -
y1_output_loss: 0.1312 - y2_output_loss: 0.4583 -
y1_output_root_mean_squared_error: 0.3604 - y2_output_root_mean_squared_error:
0.6751 - val_loss: 0.9535 - val_y1_output_loss: 0.1683 - val_y2_output_loss:
0.7834 - val_y1_output_root_mean_squared_error: 0.4090 -
val_y2_output_root_mean_squared_error: 0.8867
Epoch 386/500
614/614 [==============================] - 0s 152us/sample - loss: 0.5216 -
y1_output_loss: 0.1371 - y2_output_loss: 0.3859 -
y1_output_root_mean_squared_error: 0.3651 - y2_output_root_mean_squared_error:
0.6232 - val_loss: 1.3906 - val_y1_output_loss: 0.4477 - val_y2_output_loss:
0.9108 - val_y1_output_root_mean_squared_error: 0.6784 -
val_y2_output_root_mean_squared_error: 0.9645
Epoch 387/500
614/614 [==============================] - 0s 151us/sample - loss: 0.5728 -
y1_output_loss: 0.1557 - y2_output_loss: 0.4134 -
y1_output_root_mean_squared_error: 0.3953 - y2_output_root_mean_squared_error:
0.6454 - val_loss: 0.8418 - val_y1_output_loss: 0.1750 - val_y2_output_loss:
0.6518 - val_y1_output_root_mean_squared_error: 0.4252 -
val_y2_output_root_mean_squared_error: 0.8130
Epoch 388/500
614/614 [==============================] - 0s 148us/sample - loss: 0.7694 -
y1_output_loss: 0.1818 - y2_output_loss: 0.5973 -
y1_output_root_mean_squared_error: 0.4265 - y2_output_root_mean_squared_error:
0.7665 - val_loss: 1.1532 - val_y1_output_loss: 0.2079 - val_y2_output_loss:
0.9240 - val_y1_output_root_mean_squared_error: 0.4536 -
val_y2_output_root_mean_squared_error: 0.9734
Epoch 389/500
614/614 [==============================] - 0s 154us/sample - loss: 0.5334 -
y1_output_loss: 0.1464 - y2_output_loss: 0.4112 -
y1_output_root_mean_squared_error: 0.3791 - y2_output_root_mean_squared_error:
0.6242 - val_loss: 6.9934 - val_y1_output_loss: 0.7852 - val_y2_output_loss:
6.0576 - val_y1_output_root_mean_squared_error: 0.8886 -
val_y2_output_root_mean_squared_error: 2.4907
Epoch 390/500
614/614 [==============================] - 0s 142us/sample - loss: 0.9196 -
y1_output_loss: 0.2090 - y2_output_loss: 0.7068 -
y1_output_root_mean_squared_error: 0.4584 - y2_output_root_mean_squared_error:
0.8423 - val_loss: 0.8958 - val_y1_output_loss: 0.2194 - val_y2_output_loss:
0.6586 - val_y1_output_root_mean_squared_error: 0.4736 -
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val_y2_output_root_mean_squared_error: 0.8195
Epoch 391/500
614/614 [==============================] - 0s 144us/sample - loss: 0.9061 -
y1_output_loss: 0.2414 - y2_output_loss: 0.7233 -
y1_output_root_mean_squared_error: 0.4834 - y2_output_root_mean_squared_error:
0.8200 - val_loss: 1.9332 - val_y1_output_loss: 0.2655 - val_y2_output_loss:
1.6343 - val_y1_output_root_mean_squared_error: 0.5210 -
val_y2_output_root_mean_squared_error: 1.2891
Epoch 392/500
614/614 [==============================] - 0s 156us/sample - loss: 0.7407 -
y1_output_loss: 0.1987 - y2_output_loss: 0.5408 -
y1_output_root_mean_squared_error: 0.4454 - y2_output_root_mean_squared_error:
0.7364 - val_loss: 0.9536 - val_y1_output_loss: 0.1876 - val_y2_output_loss:
0.7872 - val_y1_output_root_mean_squared_error: 0.4409 -
val_y2_output_root_mean_squared_error: 0.8713
Epoch 393/500
614/614 [==============================] - 0s 154us/sample - loss: 0.4958 -
y1_output_loss: 0.1410 - y2_output_loss: 0.3526 -
y1_output_root_mean_squared_error: 0.3763 - y2_output_root_mean_squared_error:
0.5951 - val_loss: 0.8999 - val_y1_output_loss: 0.2196 - val_y2_output_loss:
0.6654 - val_y1_output_root_mean_squared_error: 0.4680 -
val_y2_output_root_mean_squared_error: 0.8251
Epoch 394/500
614/614 [==============================] - 0s 153us/sample - loss: 0.5035 -
y1_output_loss: 0.1296 - y2_output_loss: 0.3728 -
y1_output_root_mean_squared_error: 0.3612 - y2_output_root_mean_squared_error:
0.6108 - val_loss: 0.8917 - val_y1_output_loss: 0.1522 - val_y2_output_loss:
0.7365 - val_y1_output_root_mean_squared_error: 0.3935 -
val_y2_output_root_mean_squared_error: 0.8584
Epoch 395/500
614/614 [==============================] - 0s 147us/sample - loss: 0.5902 -
y1_output_loss: 0.1492 - y2_output_loss: 0.4375 -
y1_output_root_mean_squared_error: 0.3875 - y2_output_root_mean_squared_error:
0.6634 - val_loss: 0.7652 - val_y1_output_loss: 0.1279 - val_y2_output_loss:
0.6487 - val_y1_output_root_mean_squared_error: 0.3589 -
val_y2_output_root_mean_squared_error: 0.7978
Epoch 396/500
614/614 [==============================] - 0s 146us/sample - loss: 0.5898 -
y1_output_loss: 0.1430 - y2_output_loss: 0.4440 -
y1_output_root_mean_squared_error: 0.3786 - y2_output_root_mean_squared_error:
0.6682 - val_loss: 0.8342 - val_y1_output_loss: 0.1882 - val_y2_output_loss:
0.6313 - val_y1_output_root_mean_squared_error: 0.4400 -
val_y2_output_root_mean_squared_error: 0.8003
Epoch 397/500
614/614 [==============================] - 0s 144us/sample - loss: 0.4842 -
y1_output_loss: 0.1232 - y2_output_loss: 0.3600 -
y1_output_root_mean_squared_error: 0.3521 - y2_output_root_mean_squared_error:
0.6002 - val_loss: 1.3244 - val_y1_output_loss: 0.1886 - val_y2_output_loss:

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1.0950 - val_y1_output_root_mean_squared_error: 0.4387 -
val_y2_output_root_mean_squared_error: 1.0639
Epoch 398/500
614/614 [==============================] - 0s 157us/sample - loss: 0.5610 -
y1_output_loss: 0.1535 - y2_output_loss: 0.4043 -
y1_output_root_mean_squared_error: 0.3929 - y2_output_root_mean_squared_error:
0.6377 - val_loss: 0.7003 - val_y1_output_loss: 0.1313 - val_y2_output_loss:
0.5699 - val_y1_output_root_mean_squared_error: 0.3679 -
val_y2_output_root_mean_squared_error: 0.7516
Epoch 399/500
614/614 [==============================] - 0s 154us/sample - loss: 0.5170 -
y1_output_loss: 0.1629 - y2_output_loss: 0.3506 -
y1_output_root_mean_squared_error: 0.4054 - y2_output_root_mean_squared_error:
0.5939 - val_loss: 0.9132 - val_y1_output_loss: 0.2254 - val_y2_output_loss:
0.6820 - val_y1_output_root_mean_squared_error: 0.4829 -
val_y2_output_root_mean_squared_error: 0.8247
Epoch 400/500
614/614 [==============================] - 0s 152us/sample - loss: 0.5427 -
y1_output_loss: 0.1512 - y2_output_loss: 0.3919 -
y1_output_root_mean_squared_error: 0.3886 - y2_output_root_mean_squared_error:
0.6258 - val_loss: 1.3971 - val_y1_output_loss: 0.3472 - val_y2_output_loss:
1.0231 - val_y1_output_root_mean_squared_error: 0.5942 -
val_y2_output_root_mean_squared_error: 1.0218
Epoch 401/500
614/614 [==============================] - 0s 145us/sample - loss: 0.4436 -
y1_output_loss: 0.1185 - y2_output_loss: 0.3216 -
y1_output_root_mean_squared_error: 0.3456 - y2_output_root_mean_squared_error:
0.5693 - val_loss: 0.7571 - val_y1_output_loss: 0.1779 - val_y2_output_loss:
0.5775 - val_y1_output_root_mean_squared_error: 0.4295 -
val_y2_output_root_mean_squared_error: 0.7567
Epoch 402/500
614/614 [==============================] - 0s 140us/sample - loss: 0.5491 -
y1_output_loss: 0.1428 - y2_output_loss: 0.4052 -
y1_output_root_mean_squared_error: 0.3789 - y2_output_root_mean_squared_error:
0.6369 - val_loss: 0.7151 - val_y1_output_loss: 0.1399 - val_y2_output_loss:
0.5684 - val_y1_output_root_mean_squared_error: 0.3795 -
val_y2_output_root_mean_squared_error: 0.7557
Epoch 403/500
614/614 [==============================] - 0s 141us/sample - loss: 0.5510 -
y1_output_loss: 0.1436 - y2_output_loss: 0.4038 -
y1_output_root_mean_squared_error: 0.3804 - y2_output_root_mean_squared_error:
0.6374 - val_loss: 0.9446 - val_y1_output_loss: 0.1528 - val_y2_output_loss:
0.7899 - val_y1_output_root_mean_squared_error: 0.3960 -
val_y2_output_root_mean_squared_error: 0.8876
Epoch 404/500
614/614 [==============================] - 0s 157us/sample - loss: 0.5193 -
y1_output_loss: 0.1202 - y2_output_loss: 0.3990 -
y1_output_root_mean_squared_error: 0.3480 - y2_output_root_mean_squared_error:
```

0.6311 - val_loss: 0.7147 - val_y1_output_loss: 0.1368 - val_y2_output_loss: 0.5906 - val_y1_output_root_mean_squared_error: 0.3743 - val_y2_output_root_mean_squared_error: 0.7580
Epoch 405/500
614/614 [==============================] - 0s 160us/sample - loss: 0.7283 - y1_output_loss: 0.1815 - y2_output_loss: 0.5415 - y1_output_root_mean_squared_error: 0.4275 - y2_output_root_mean_squared_error: 0.7386 - val_loss: 0.7771 - val_y1_output_loss: 0.1369 - val_y2_output_loss: 0.6223 - val_y1_output_root_mean_squared_error: 0.3739 - val_y2_output_root_mean_squared_error: 0.7983
Epoch 406/500
614/614 [==============================] - 0s 149us/sample - loss: 1.1369 - y1_output_loss: 0.2344 - y2_output_loss: 0.8921 - y1_output_root_mean_squared_error: 0.4862 - y2_output_root_mean_squared_error: 0.9489 - val_loss: 0.7878 - val_y1_output_loss: 0.1461 - val_y2_output_loss: 0.6364 - val_y1_output_root_mean_squared_error: 0.3885 - val_y2_output_root_mean_squared_error: 0.7980
Epoch 407/500
614/614 [==============================] - 0s 150us/sample - loss: 0.5163 - y1_output_loss: 0.1558 - y2_output_loss: 0.3591 - y1_output_root_mean_squared_error: 0.3957 - y2_output_root_mean_squared_error: 0.5998 - val_loss: 0.7567 - val_y1_output_loss: 0.1739 - val_y2_output_loss: 0.5761 - val_y1_output_root_mean_squared_error: 0.4221 - val_y2_output_root_mean_squared_error: 0.7606
Epoch 408/500
614/614 [==============================] - 0s 145us/sample - loss: 0.5172 - y1_output_loss: 0.1424 - y2_output_loss: 0.3716 - y1_output_root_mean_squared_error: 0.3773 - y2_output_root_mean_squared_error: 0.6122 - val_loss: 0.8423 - val_y1_output_loss: 0.1742 - val_y2_output_loss: 0.6520 - val_y1_output_root_mean_squared_error: 0.4180 - val_y2_output_root_mean_squared_error: 0.8171
Epoch 409/500
614/614 [==============================] - 0s 147us/sample - loss: 0.5903 - y1_output_loss: 0.1587 - y2_output_loss: 0.4290 - y1_output_root_mean_squared_error: 0.3998 - y2_output_root_mean_squared_error: 0.6561 - val_loss: 0.9024 - val_y1_output_loss: 0.1518 - val_y2_output_loss: 0.7487 - val_y1_output_root_mean_squared_error: 0.3965 - val_y2_output_root_mean_squared_error: 0.8632
Epoch 410/500
614/614 [==============================] - 0s 153us/sample - loss: 0.5021 - y1_output_loss: 0.1301 - y2_output_loss: 0.3680 - y1_output_root_mean_squared_error: 0.3621 - y2_output_root_mean_squared_error: 0.6091 - val_loss: 0.8356 - val_y1_output_loss: 0.1811 - val_y2_output_loss: 0.6452 - val_y1_output_root_mean_squared_error: 0.4297 - val_y2_output_root_mean_squared_error: 0.8069
Epoch 411/500
614/614 [==============================] - 0s 161us/sample - loss: 0.5452 - y1_output_loss: 0.1437 - y2_output_loss: 0.3972 -

y1_output_root_mean_squared_error: 0.3802 - y2_output_root_mean_squared_error:
0.6330 - val_loss: 0.7592 - val_y1_output_loss: 0.1575 - val_y2_output_loss:
0.5974 - val_y1_output_root_mean_squared_error: 0.4024 -
val_y2_output_root_mean_squared_error: 0.7728
Epoch 412/500
614/614 [==============================] - 0s 148us/sample - loss: 0.5081 -
y1_output_loss: 0.1530 - y2_output_loss: 0.3608 -
y1_output_root_mean_squared_error: 0.3849 - y2_output_root_mean_squared_error:
0.5999 - val_loss: 1.0732 - val_y1_output_loss: 0.3420 - val_y2_output_loss:
0.7108 - val_y1_output_root_mean_squared_error: 0.5842 -
val_y2_output_root_mean_squared_error: 0.8555
Epoch 413/500
614/614 [==============================] - 0s 146us/sample - loss: 0.4842 -
y1_output_loss: 0.1355 - y2_output_loss: 0.3450 -
y1_output_root_mean_squared_error: 0.3697 - y2_output_root_mean_squared_error:
0.5895 - val_loss: 0.6905 - val_y1_output_loss: 0.1470 - val_y2_output_loss:
0.5345 - val_y1_output_root_mean_squared_error: 0.3855 -
val_y2_output_root_mean_squared_error: 0.7361
Epoch 414/500
614/614 [==============================] - 0s 143us/sample - loss: 1.1330 -
y1_output_loss: 0.2872 - y2_output_loss: 0.8379 -
y1_output_root_mean_squared_error: 0.5373 - y2_output_root_mean_squared_error:
0.9189 - val_loss: 1.1233 - val_y1_output_loss: 0.1818 - val_y2_output_loss:
0.9310 - val_y1_output_root_mean_squared_error: 0.4335 -
val_y2_output_root_mean_squared_error: 0.9672
Epoch 415/500
614/614 [==============================] - 0s 131us/sample - loss: 0.6046 -
y1_output_loss: 0.1492 - y2_output_loss: 0.4549 -
y1_output_root_mean_squared_error: 0.3850 - y2_output_root_mean_squared_error:
0.6756 - val_loss: 1.1395 - val_y1_output_loss: 0.2653 - val_y2_output_loss:
0.8852 - val_y1_output_root_mean_squared_error: 0.5183 -
val_y2_output_root_mean_squared_error: 0.9332
Epoch 416/500
614/614 [==============================] - 0s 159us/sample - loss: 0.4623 -
y1_output_loss: 0.1232 - y2_output_loss: 0.3367 -
y1_output_root_mean_squared_error: 0.3522 - y2_output_root_mean_squared_error:
0.5816 - val_loss: 0.7715 - val_y1_output_loss: 0.2277 - val_y2_output_loss:
0.5435 - val_y1_output_root_mean_squared_error: 0.4816 -
val_y2_output_root_mean_squared_error: 0.7346
Epoch 417/500
614/614 [==============================] - 0s 157us/sample - loss: 0.7629 -
y1_output_loss: 0.1955 - y2_output_loss: 0.5641 -
y1_output_root_mean_squared_error: 0.4434 - y2_output_root_mean_squared_error:
0.7526 - val_loss: 1.1669 - val_y1_output_loss: 0.1746 - val_y2_output_loss:
0.9903 - val_y1_output_root_mean_squared_error: 0.4222 -
val_y2_output_root_mean_squared_error: 0.9943
Epoch 418/500
614/614 [==============================] - 0s 149us/sample - loss: 0.4311 -

y1_output_loss: 0.1241 - y2_output_loss: 0.3068 -
y1_output_root_mean_squared_error: 0.3530 - y2_output_root_mean_squared_error:
0.5536 - val_loss: 0.9769 - val_y1_output_loss: 0.2275 - val_y2_output_loss:
0.7320 - val_y1_output_root_mean_squared_error: 0.4826 -
val_y2_output_root_mean_squared_error: 0.8626
Epoch 419/500
614/614 [==============================] - 0s 145us/sample - loss: 0.4010 -
y1_output_loss: 0.1240 - y2_output_loss: 0.2777 -
y1_output_root_mean_squared_error: 0.3498 - y2_output_root_mean_squared_error:
0.5279 - val_loss: 0.6955 - val_y1_output_loss: 0.2011 - val_y2_output_loss:
0.4897 - val_y1_output_root_mean_squared_error: 0.4562 -
val_y2_output_root_mean_squared_error: 0.6981
Epoch 420/500
614/614 [==============================] - 0s 138us/sample - loss: 0.4125 -
y1_output_loss: 0.1264 - y2_output_loss: 0.2846 -
y1_output_root_mean_squared_error: 0.3556 - y2_output_root_mean_squared_error:
0.5348 - val_loss: 0.6883 - val_y1_output_loss: 0.1532 - val_y2_output_loss:
0.5269 - val_y1_output_root_mean_squared_error: 0.3963 -
val_y2_output_root_mean_squared_error: 0.7289
Epoch 421/500
614/614 [==============================] - 0s 142us/sample - loss: 0.5886 -
y1_output_loss: 0.1679 - y2_output_loss: 0.4174 -
y1_output_root_mean_squared_error: 0.4103 - y2_output_root_mean_squared_error:
0.6483 - val_loss: 0.8948 - val_y1_output_loss: 0.2036 - val_y2_output_loss:
0.6761 - val_y1_output_root_mean_squared_error: 0.4573 -
val_y2_output_root_mean_squared_error: 0.8280
Epoch 422/500
614/614 [==============================] - 0s 155us/sample - loss: 0.4886 -
y1_output_loss: 0.1341 - y2_output_loss: 0.3516 -
y1_output_root_mean_squared_error: 0.3673 - y2_output_root_mean_squared_error:
0.5947 - val_loss: 0.7659 - val_y1_output_loss: 0.1802 - val_y2_output_loss:
0.5703 - val_y1_output_root_mean_squared_error: 0.4298 -
val_y2_output_root_mean_squared_error: 0.7624
Epoch 423/500
614/614 [==============================] - 0s 148us/sample - loss: 0.6419 -
y1_output_loss: 0.1704 - y2_output_loss: 0.4778 -
y1_output_root_mean_squared_error: 0.4108 - y2_output_root_mean_squared_error:
0.6878 - val_loss: 0.9535 - val_y1_output_loss: 0.1835 - val_y2_output_loss:
0.7559 - val_y1_output_root_mean_squared_error: 0.4320 -
val_y2_output_root_mean_squared_error: 0.8757
Epoch 424/500
614/614 [==============================] - 0s 149us/sample - loss: 0.4619 -
y1_output_loss: 0.1312 - y2_output_loss: 0.3300 -
y1_output_root_mean_squared_error: 0.3618 - y2_output_root_mean_squared_error:
0.5753 - val_loss: 1.1060 - val_y1_output_loss: 0.2520 - val_y2_output_loss:
0.8338 - val_y1_output_root_mean_squared_error: 0.5109 -
val_y2_output_root_mean_squared_error: 0.9193
Epoch 425/500

614/614 [==============================] - 0s 141us/sample - loss: 0.4844 - y1_output_loss: 0.1335 - y2_output_loss: 0.3510 - y1_output_root_mean_squared_error: 0.3642 - y2_output_root_mean_squared_error: 0.5931 - val_loss: 1.5163 - val_y1_output_loss: 0.3350 - val_y2_output_loss: 1.1600 - val_y1_output_root_mean_squared_error: 0.5886 - val_y2_output_root_mean_squared_error: 1.0816
Epoch 426/500
614/614 [==============================] - 0s 148us/sample - loss: 0.6314 - y1_output_loss: 0.1655 - y2_output_loss: 0.4641 - y1_output_root_mean_squared_error: 0.4062 - y2_output_root_mean_squared_error: 0.6829 - val_loss: 0.9523 - val_y1_output_loss: 0.2194 - val_y2_output_loss: 0.7256 - val_y1_output_root_mean_squared_error: 0.4768 - val_y2_output_root_mean_squared_error: 0.8514
Epoch 427/500
614/614 [==============================] - 0s 142us/sample - loss: 0.3887 - y1_output_loss: 0.1137 - y2_output_loss: 0.2757 - y1_output_root_mean_squared_error: 0.3387 - y2_output_root_mean_squared_error: 0.5234 - val_loss: 1.8292 - val_y1_output_loss: 0.2128 - val_y2_output_loss: 1.5926 - val_y1_output_root_mean_squared_error: 0.4689 - val_y2_output_root_mean_squared_error: 1.2686
Epoch 428/500
614/614 [==============================] - 0s 153us/sample - loss: 0.6299 - y1_output_loss: 0.1549 - y2_output_loss: 0.4746 - y1_output_root_mean_squared_error: 0.3913 - y2_output_root_mean_squared_error: 0.6905 - val_loss: 0.7994 - val_y1_output_loss: 0.1987 - val_y2_output_loss: 0.5894 - val_y1_output_root_mean_squared_error: 0.4466 - val_y2_output_root_mean_squared_error: 0.7746
Epoch 429/500
614/614 [==============================] - 0s 152us/sample - loss: 0.5377 - y1_output_loss: 0.1402 - y2_output_loss: 0.3949 - y1_output_root_mean_squared_error: 0.3742 - y2_output_root_mean_squared_error: 0.6306 - val_loss: 1.3317 - val_y1_output_loss: 0.4186 - val_y2_output_loss: 0.8994 - val_y1_output_root_mean_squared_error: 0.6589 - val_y2_output_root_mean_squared_error: 0.9474
Epoch 430/500
614/614 [==============================] - 0s 152us/sample - loss: 0.5710 - y1_output_loss: 0.1535 - y2_output_loss: 0.4145 - y1_output_root_mean_squared_error: 0.3929 - y2_output_root_mean_squared_error: 0.6454 - val_loss: 1.2893 - val_y1_output_loss: 0.1501 - val_y2_output_loss: 1.1494 - val_y1_output_root_mean_squared_error: 0.3926 - val_y2_output_root_mean_squared_error: 1.0654
Epoch 431/500
614/614 [==============================] - 0s 148us/sample - loss: 0.5937 - y1_output_loss: 0.1423 - y2_output_loss: 0.4472 - y1_output_root_mean_squared_error: 0.3788 - y2_output_root_mean_squared_error: 0.6710 - val_loss: 1.0051 - val_y1_output_loss: 0.1980 - val_y2_output_loss: 0.7831 - val_y1_output_root_mean_squared_error: 0.4505 - val_y2_output_root_mean_squared_error: 0.8956

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Epoch 432/500
614/614 [==============================] - 0s 132us/sample - loss: 0.5513 -
y1_output_loss: 0.1763 - y2_output_loss: 0.3777 -
y1_output_root_mean_squared_error: 0.4172 - y2_output_root_mean_squared_error:
0.6142 - val_loss: 1.9356 - val_y1_output_loss: 0.4744 - val_y2_output_loss:
1.4210 - val_y1_output_root_mean_squared_error: 0.7017 -
val_y2_output_root_mean_squared_error: 1.2013
Epoch 433/500
614/614 [==============================] - 0s 150us/sample - loss: 0.5388 -
y1_output_loss: 0.1514 - y2_output_loss: 0.3845 -
y1_output_root_mean_squared_error: 0.3899 - y2_output_root_mean_squared_error:
0.6219 - val_loss: 1.0044 - val_y1_output_loss: 0.1758 - val_y2_output_loss:
0.8145 - val_y1_output_root_mean_squared_error: 0.4260 -
val_y2_output_root_mean_squared_error: 0.9072
Epoch 434/500
614/614 [==============================] - 0s 158us/sample - loss: 0.4738 -
y1_output_loss: 0.1360 - y2_output_loss: 0.3343 -
y1_output_root_mean_squared_error: 0.3705 - y2_output_root_mean_squared_error:
0.5802 - val_loss: 0.9148 - val_y1_output_loss: 0.1562 - val_y2_output_loss:
0.7517 - val_y1_output_root_mean_squared_error: 0.3974 -
val_y2_output_root_mean_squared_error: 0.8700
Epoch 435/500
614/614 [==============================] - 0s 150us/sample - loss: 0.3938 -
y1_output_loss: 0.1198 - y2_output_loss: 0.2746 -
y1_output_root_mean_squared_error: 0.3474 - y2_output_root_mean_squared_error:
0.5226 - val_loss: 0.8838 - val_y1_output_loss: 0.1509 - val_y2_output_loss:
0.7457 - val_y1_output_root_mean_squared_error: 0.3892 -
val_y2_output_root_mean_squared_error: 0.8558
Epoch 436/500
614/614 [==============================] - 0s 153us/sample - loss: 0.4467 -
y1_output_loss: 0.1201 - y2_output_loss: 0.3232 -
y1_output_root_mean_squared_error: 0.3478 - y2_output_root_mean_squared_error:
0.5707 - val_loss: 0.7901 - val_y1_output_loss: 0.2027 - val_y2_output_loss:
0.5815 - val_y1_output_root_mean_squared_error: 0.4518 -
val_y2_output_root_mean_squared_error: 0.7655
Epoch 437/500
614/614 [==============================] - 0s 152us/sample - loss: 0.4507 -
y1_output_loss: 0.1280 - y2_output_loss: 0.3322 -
y1_output_root_mean_squared_error: 0.3550 - y2_output_root_mean_squared_error:
0.5698 - val_loss: 5.0408 - val_y1_output_loss: 0.9392 - val_y2_output_loss:
3.9894 - val_y1_output_root_mean_squared_error: 0.9873 -
val_y2_output_root_mean_squared_error: 2.0165
Epoch 438/500
614/614 [==============================] - 0s 144us/sample - loss: 0.7629 -
y1_output_loss: 0.1972 - y2_output_loss: 0.5677 -
y1_output_root_mean_squared_error: 0.4415 - y2_output_root_mean_squared_error:
0.7536 - val_loss: 1.8337 - val_y1_output_loss: 0.5197 - val_y2_output_loss:
1.2715 - val_y1_output_root_mean_squared_error: 0.7290 -
```

val_y2_output_root_mean_squared_error: 1.1412
Epoch 439/500
614/614 [==============================] - 0s 150us/sample - loss: 0.8538 -
y1_output_loss: 0.2424 - y2_output_loss: 0.6048 -
y1_output_root_mean_squared_error: 0.4943 - y2_output_root_mean_squared_error:
0.7807 - val_loss: 0.7676 - val_y1_output_loss: 0.1961 - val_y2_output_loss:
0.5573 - val_y1_output_root_mean_squared_error: 0.4487 -
val_y2_output_root_mean_squared_error: 0.7525
Epoch 440/500
614/614 [==============================] - 0s 166us/sample - loss: 0.5451 -
y1_output_loss: 0.1548 - y2_output_loss: 0.3881 -
y1_output_root_mean_squared_error: 0.3948 - y2_output_root_mean_squared_error:
0.6239 - val_loss: 0.7237 - val_y1_output_loss: 0.1549 - val_y2_output_loss:
0.5602 - val_y1_output_root_mean_squared_error: 0.3989 -
val_y2_output_root_mean_squared_error: 0.7514
Epoch 441/500
614/614 [==============================] - 0s 155us/sample - loss: 0.4381 -
y1_output_loss: 0.1319 - y2_output_loss: 0.3085 -
y1_output_root_mean_squared_error: 0.3634 - y2_output_root_mean_squared_error:
0.5532 - val_loss: 1.5722 - val_y1_output_loss: 0.2185 - val_y2_output_loss:
1.3450 - val_y1_output_root_mean_squared_error: 0.4755 -
val_y2_output_root_mean_squared_error: 1.1602
Epoch 442/500
614/614 [==============================] - 0s 149us/sample - loss: 0.5199 -
y1_output_loss: 0.1340 - y2_output_loss: 0.3937 -
y1_output_root_mean_squared_error: 0.3647 - y2_output_root_mean_squared_error:
0.6220 - val_loss: 1.8667 - val_y1_output_loss: 0.2811 - val_y2_output_loss:
1.6083 - val_y1_output_root_mean_squared_error: 0.5366 -
val_y2_output_root_mean_squared_error: 1.2565
Epoch 443/500
614/614 [==============================] - 0s 136us/sample - loss: 0.5906 -
y1_output_loss: 0.1669 - y2_output_loss: 0.4287 -
y1_output_root_mean_squared_error: 0.4086 - y2_output_root_mean_squared_error:
0.6509 - val_loss: 1.3245 - val_y1_output_loss: 0.2030 - val_y2_output_loss:
1.0809 - val_y1_output_root_mean_squared_error: 0.4584 -
val_y2_output_root_mean_squared_error: 1.0556
Epoch 444/500
614/614 [==============================] - 0s 143us/sample - loss: 0.6202 -
y1_output_loss: 0.1481 - y2_output_loss: 0.4678 -
y1_output_root_mean_squared_error: 0.3866 - y2_output_root_mean_squared_error:
0.6861 - val_loss: 0.7984 - val_y1_output_loss: 0.1544 - val_y2_output_loss:
0.6418 - val_y1_output_root_mean_squared_error: 0.3950 -
val_y2_output_root_mean_squared_error: 0.8015
Epoch 445/500
614/614 [==============================] - 0s 147us/sample - loss: 0.6286 -
y1_output_loss: 0.1618 - y2_output_loss: 0.4616 -
y1_output_root_mean_squared_error: 0.4038 - y2_output_root_mean_squared_error:
0.6823 - val_loss: 0.8258 - val_y1_output_loss: 0.1578 - val_y2_output_loss:

0.6690 - val_y1_output_root_mean_squared_error: 0.4010 -
val_y2_output_root_mean_squared_error: 0.8155
Epoch 446/500
614/614 [==============================] - 0s 154us/sample - loss: 0.6951 -
y1_output_loss: 0.1416 - y2_output_loss: 0.5474 -
y1_output_root_mean_squared_error: 0.3779 - y2_output_root_mean_squared_error:
0.7431 - val_loss: 1.1811 - val_y1_output_loss: 0.3471 - val_y2_output_loss:
0.8031 - val_y1_output_root_mean_squared_error: 0.5983 -
val_y2_output_root_mean_squared_error: 0.9073
Epoch 447/500
614/614 [==============================] - 0s 148us/sample - loss: 0.6883 -
y1_output_loss: 0.1809 - y2_output_loss: 0.5037 -
y1_output_root_mean_squared_error: 0.4261 - y2_output_root_mean_squared_error:
0.7118 - val_loss: 0.6841 - val_y1_output_loss: 0.1705 - val_y2_output_loss:
0.5072 - val_y1_output_root_mean_squared_error: 0.4177 -
val_y2_output_root_mean_squared_error: 0.7139
Epoch 448/500
614/614 [==============================] - 0s 147us/sample - loss: 0.4884 -
y1_output_loss: 0.1389 - y2_output_loss: 0.3565 -
y1_output_root_mean_squared_error: 0.3600 - y2_output_root_mean_squared_error:
0.5990 - val_loss: 0.8952 - val_y1_output_loss: 0.2675 - val_y2_output_loss:
0.6072 - val_y1_output_root_mean_squared_error: 0.5250 -
val_y2_output_root_mean_squared_error: 0.7871
Epoch 449/500
614/614 [==============================] - 0s 147us/sample - loss: 0.3922 -
y1_output_loss: 0.1254 - y2_output_loss: 0.2686 -
y1_output_root_mean_squared_error: 0.3552 - y2_output_root_mean_squared_error:
0.5158 - val_loss: 0.7857 - val_y1_output_loss: 0.1688 - val_y2_output_loss:
0.5959 - val_y1_output_root_mean_squared_error: 0.4174 -
val_y2_output_root_mean_squared_error: 0.7820
Epoch 450/500
614/614 [==============================] - 0s 143us/sample - loss: 0.5324 -
y1_output_loss: 0.1418 - y2_output_loss: 0.3874 -
y1_output_root_mean_squared_error: 0.3776 - y2_output_root_mean_squared_error:
0.6243 - val_loss: 0.7332 - val_y1_output_loss: 0.1454 - val_y2_output_loss:
0.5809 - val_y1_output_root_mean_squared_error: 0.3838 -
val_y2_output_root_mean_squared_error: 0.7655
Epoch 451/500
614/614 [==============================] - 0s 151us/sample - loss: 0.4713 -
y1_output_loss: 0.1349 - y2_output_loss: 0.3533 -
y1_output_root_mean_squared_error: 0.3615 - y2_output_root_mean_squared_error:
0.5836 - val_loss: 3.9639 - val_y1_output_loss: 0.6377 - val_y2_output_loss:
3.2376 - val_y1_output_root_mean_squared_error: 0.8054 -
val_y2_output_root_mean_squared_error: 1.8208
Epoch 452/500
614/614 [==============================] - 0s 148us/sample - loss: 0.5396 -
y1_output_loss: 0.1403 - y2_output_loss: 0.3957 -
y1_output_root_mean_squared_error: 0.3763 - y2_output_root_mean_squared_error:

0.6309 - val_loss: 1.1998 - val_y1_output_loss: 0.1437 - val_y2_output_loss: 1.0549 - val_y1_output_root_mean_squared_error: 0.3841 - val_y2_output_root_mean_squared_error: 1.0258
Epoch 453/500
614/614 [==============================] - 0s 147us/sample - loss: 0.4641 - y1_output_loss: 0.1295 - y2_output_loss: 0.3326 - y1_output_root_mean_squared_error: 0.3584 - y2_output_root_mean_squared_error: 0.5794 - val_loss: 0.8155 - val_y1_output_loss: 0.1970 - val_y2_output_loss: 0.6072 - val_y1_output_root_mean_squared_error: 0.4501 - val_y2_output_root_mean_squared_error: 0.7829
Epoch 454/500
614/614 [==============================] - 0s 149us/sample - loss: 0.4113 - y1_output_loss: 0.1198 - y2_output_loss: 0.2893 - y1_output_root_mean_squared_error: 0.3472 - y2_output_root_mean_squared_error: 0.5392 - val_loss: 0.6474 - val_y1_output_loss: 0.1376 - val_y2_output_loss: 0.4978 - val_y1_output_root_mean_squared_error: 0.3758 - val_y2_output_root_mean_squared_error: 0.7115
Epoch 455/500
614/614 [==============================] - 0s 141us/sample - loss: 0.4374 - y1_output_loss: 0.1327 - y2_output_loss: 0.3098 - y1_output_root_mean_squared_error: 0.3650 - y2_output_root_mean_squared_error: 0.5516 - val_loss: 1.6719 - val_y1_output_loss: 0.2559 - val_y2_output_loss: 1.4170 - val_y1_output_root_mean_squared_error: 0.5130 - val_y2_output_root_mean_squared_error: 1.1869
Epoch 456/500
614/614 [==============================] - 0s 143us/sample - loss: 0.6332 - y1_output_loss: 0.1834 - y2_output_loss: 0.4467 - y1_output_root_mean_squared_error: 0.4299 - y2_output_root_mean_squared_error: 0.6696 - val_loss: 0.9034 - val_y1_output_loss: 0.2434 - val_y2_output_loss: 0.6393 - val_y1_output_root_mean_squared_error: 0.5003 - val_y2_output_root_mean_squared_error: 0.8082
Epoch 457/500
614/614 [==============================] - 0s 147us/sample - loss: 0.3910 - y1_output_loss: 0.1200 - y2_output_loss: 0.2688 - y1_output_root_mean_squared_error: 0.3461 - y2_output_root_mean_squared_error: 0.5208 - val_loss: 0.7546 - val_y1_output_loss: 0.1996 - val_y2_output_loss: 0.5478 - val_y1_output_root_mean_squared_error: 0.4531 - val_y2_output_root_mean_squared_error: 0.7411
Epoch 458/500
614/614 [==============================] - 0s 164us/sample - loss: 0.4651 - y1_output_loss: 0.1450 - y2_output_loss: 0.3354 - y1_output_root_mean_squared_error: 0.3743 - y2_output_root_mean_squared_error: 0.5701 - val_loss: 2.8317 - val_y1_output_loss: 0.3436 - val_y2_output_loss: 2.4378 - val_y1_output_root_mean_squared_error: 0.5826 - val_y2_output_root_mean_squared_error: 1.5787
Epoch 459/500
614/614 [==============================] - 0s 161us/sample - loss: 0.6411 - y1_output_loss: 0.1549 - y2_output_loss: 0.4835 -

y1_output_root_mean_squared_error: 0.3948 - y2_output_root_mean_squared_error:
0.6966 - val_loss: 0.8689 - val_y1_output_loss: 0.1567 - val_y2_output_loss:
0.6943 - val_y1_output_root_mean_squared_error: 0.3994 -
val_y2_output_root_mean_squared_error: 0.8422
Epoch 460/500
614/614 [==============================] - 0s 147us/sample - loss: 0.4080 -
y1_output_loss: 0.1211 - y2_output_loss: 0.2891 -
y1_output_root_mean_squared_error: 0.3475 - y2_output_root_mean_squared_error:
0.5359 - val_loss: 1.4490 - val_y1_output_loss: 0.2208 - val_y2_output_loss:
1.2167 - val_y1_output_root_mean_squared_error: 0.4779 -
val_y2_output_root_mean_squared_error: 1.1048
Epoch 461/500
614/614 [==============================] - 0s 141us/sample - loss: 0.4776 -
y1_output_loss: 0.1319 - y2_output_loss: 0.3438 -
y1_output_root_mean_squared_error: 0.3646 - y2_output_root_mean_squared_error:
0.5871 - val_loss: 0.6822 - val_y1_output_loss: 0.1438 - val_y2_output_loss:
0.5327 - val_y1_output_root_mean_squared_error: 0.3863 -
val_y2_output_root_mean_squared_error: 0.7300
Epoch 462/500
614/614 [==============================] - 0s 147us/sample - loss: 0.3975 -
y1_output_loss: 0.1250 - y2_output_loss: 0.2704 -
y1_output_root_mean_squared_error: 0.3535 - y2_output_root_mean_squared_error:
0.5220 - val_loss: 0.7460 - val_y1_output_loss: 0.1884 - val_y2_output_loss:
0.5476 - val_y1_output_root_mean_squared_error: 0.4418 -
val_y2_output_root_mean_squared_error: 0.7421
Epoch 463/500
614/614 [==============================] - 0s 153us/sample - loss: 0.4382 -
y1_output_loss: 0.1305 - y2_output_loss: 0.3061 -
y1_output_root_mean_squared_error: 0.3624 - y2_output_root_mean_squared_error:
0.5539 - val_loss: 0.7841 - val_y1_output_loss: 0.1592 - val_y2_output_loss:
0.6052 - val_y1_output_root_mean_squared_error: 0.4020 -
val_y2_output_root_mean_squared_error: 0.7890
Epoch 464/500
614/614 [==============================] - 0s 161us/sample - loss: 0.4691 -
y1_output_loss: 0.1405 - y2_output_loss: 0.3296 -
y1_output_root_mean_squared_error: 0.3743 - y2_output_root_mean_squared_error:
0.5736 - val_loss: 0.7180 - val_y1_output_loss: 0.1879 - val_y2_output_loss:
0.5148 - val_y1_output_root_mean_squared_error: 0.4388 -
val_y2_output_root_mean_squared_error: 0.7249
Epoch 465/500
614/614 [==============================] - 0s 158us/sample - loss: 0.5155 -
y1_output_loss: 0.1448 - y2_output_loss: 0.3676 -
y1_output_root_mean_squared_error: 0.3804 - y2_output_root_mean_squared_error:
0.6089 - val_loss: 0.6389 - val_y1_output_loss: 0.1394 - val_y2_output_loss:
0.4857 - val_y1_output_root_mean_squared_error: 0.3768 -
val_y2_output_root_mean_squared_error: 0.7050
Epoch 466/500
614/614 [==============================] - 0s 145us/sample - loss: 0.4024 -

y1_output_loss: 0.1334 - y2_output_loss: 0.2769 -
y1_output_root_mean_squared_error: 0.3602 - y2_output_root_mean_squared_error:
0.5222 - val_loss: 1.7179 - val_y1_output_loss: 0.5284 - val_y2_output_loss:
1.1552 - val_y1_output_root_mean_squared_error: 0.7353 -
val_y2_output_root_mean_squared_error: 1.0850
Epoch 467/500
614/614 [==============================] - 0s 138us/sample - loss: 0.4710 -
y1_output_loss: 0.1399 - y2_output_loss: 0.3289 -
y1_output_root_mean_squared_error: 0.3750 - y2_output_root_mean_squared_error:
0.5748 - val_loss: 0.7893 - val_y1_output_loss: 0.1806 - val_y2_output_loss:
0.5929 - val_y1_output_root_mean_squared_error: 0.4301 -
val_y2_output_root_mean_squared_error: 0.7773
Epoch 468/500
614/614 [==============================] - 0s 150us/sample - loss: 0.5849 -
y1_output_loss: 0.1697 - y2_output_loss: 0.4162 -
y1_output_root_mean_squared_error: 0.4073 - y2_output_root_mean_squared_error:
0.6473 - val_loss: 1.0404 - val_y1_output_loss: 0.3537 - val_y2_output_loss:
0.6839 - val_y1_output_root_mean_squared_error: 0.5955 -
val_y2_output_root_mean_squared_error: 0.8281
Epoch 469/500
614/614 [==============================] - 0s 160us/sample - loss: 0.4165 -
y1_output_loss: 0.1266 - y2_output_loss: 0.2889 -
y1_output_root_mean_squared_error: 0.3563 - y2_output_root_mean_squared_error:
0.5381 - val_loss: 1.0614 - val_y1_output_loss: 0.2011 - val_y2_output_loss:
0.8458 - val_y1_output_root_mean_squared_error: 0.4552 -
val_y2_output_root_mean_squared_error: 0.9242
Epoch 470/500
614/614 [==============================] - 0s 156us/sample - loss: 0.4645 -
y1_output_loss: 0.1128 - y2_output_loss: 0.3512 -
y1_output_root_mean_squared_error: 0.3372 - y2_output_root_mean_squared_error:
0.5922 - val_loss: 1.7521 - val_y1_output_loss: 0.2818 - val_y2_output_loss:
1.4282 - val_y1_output_root_mean_squared_error: 0.5395 -
val_y2_output_root_mean_squared_error: 1.2087
Epoch 471/500
614/614 [==============================] - 0s 149us/sample - loss: 0.3686 -
y1_output_loss: 0.1218 - y2_output_loss: 0.2442 -
y1_output_root_mean_squared_error: 0.3498 - y2_output_root_mean_squared_error:
0.4962 - val_loss: 0.6963 - val_y1_output_loss: 0.1363 - val_y2_output_loss:
0.5527 - val_y1_output_root_mean_squared_error: 0.3712 -
val_y2_output_root_mean_squared_error: 0.7473
Epoch 472/500
614/614 [==============================] - 0s 158us/sample - loss: 0.5447 -
y1_output_loss: 0.1312 - y2_output_loss: 0.4142 -
y1_output_root_mean_squared_error: 0.3639 - y2_output_root_mean_squared_error:
0.6420 - val_loss: 0.8570 - val_y1_output_loss: 0.1585 - val_y2_output_loss:
0.6853 - val_y1_output_root_mean_squared_error: 0.4026 -
val_y2_output_root_mean_squared_error: 0.8336
Epoch 473/500

614/614 [==============================] - 0s 148us/sample - loss: 0.4428 - y1_output_loss: 0.1311 - y2_output_loss: 0.3101 - y1_output_root_mean_squared_error: 0.3624 - y2_output_root_mean_squared_error: 0.5581 - val_loss: 0.8255 - val_y1_output_loss: 0.1764 - val_y2_output_loss: 0.6434 - val_y1_output_root_mean_squared_error: 0.4258 - val_y2_output_root_mean_squared_error: 0.8026
Epoch 474/500
614/614 [==============================] - 0s 149us/sample - loss: 0.3933 - y1_output_loss: 0.1298 - y2_output_loss: 0.2653 - y1_output_root_mean_squared_error: 0.3607 - y2_output_root_mean_squared_error: 0.5130 - val_loss: 1.1610 - val_y1_output_loss: 0.2951 - val_y2_output_loss: 0.8337 - val_y1_output_root_mean_squared_error: 0.5524 - val_y2_output_root_mean_squared_error: 0.9252
Epoch 475/500
614/614 [==============================] - 0s 160us/sample - loss: 0.3947 - y1_output_loss: 0.1185 - y2_output_loss: 0.2761 - y1_output_root_mean_squared_error: 0.3441 - y2_output_root_mean_squared_error: 0.5256 - val_loss: 1.0507 - val_y1_output_loss: 0.2756 - val_y2_output_loss: 0.7601 - val_y1_output_root_mean_squared_error: 0.5344 - val_y2_output_root_mean_squared_error: 0.8747
Epoch 476/500
614/614 [==============================] - 0s 153us/sample - loss: 0.3865 - y1_output_loss: 0.1223 - y2_output_loss: 0.2643 - y1_output_root_mean_squared_error: 0.3502 - y2_output_root_mean_squared_error: 0.5137 - val_loss: 0.8833 - val_y1_output_loss: 0.1778 - val_y2_output_loss: 0.6815 - val_y1_output_root_mean_squared_error: 0.4271 - val_y2_output_root_mean_squared_error: 0.8372
Epoch 477/500
614/614 [==============================] - 0s 157us/sample - loss: 0.4732 - y1_output_loss: 0.1251 - y2_output_loss: 0.3461 - y1_output_root_mean_squared_error: 0.3528 - y2_output_root_mean_squared_error: 0.5905 - val_loss: 0.7400 - val_y1_output_loss: 0.1775 - val_y2_output_loss: 0.5526 - val_y1_output_root_mean_squared_error: 0.4285 - val_y2_output_root_mean_squared_error: 0.7459
Epoch 478/500
614/614 [==============================] - 0s 141us/sample - loss: 0.3651 - y1_output_loss: 0.1147 - y2_output_loss: 0.2482 - y1_output_root_mean_squared_error: 0.3400 - y2_output_root_mean_squared_error: 0.4996 - val_loss: 0.7383 - val_y1_output_loss: 0.1808 - val_y2_output_loss: 0.5576 - val_y1_output_root_mean_squared_error: 0.4269 - val_y2_output_root_mean_squared_error: 0.7457
Epoch 479/500
614/614 [==============================] - 0s 145us/sample - loss: 0.3612 - y1_output_loss: 0.1158 - y2_output_loss: 0.2520 - y1_output_root_mean_squared_error: 0.3417 - y2_output_root_mean_squared_error: 0.4944 - val_loss: 1.2499 - val_y1_output_loss: 0.2049 - val_y2_output_loss: 1.0677 - val_y1_output_root_mean_squared_error: 0.4594 - val_y2_output_root_mean_squared_error: 1.0193

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Epoch 480/500
614/614 [==============================] - 0s 151us/sample - loss: 1.0038 -
y1_output_loss: 0.2559 - y2_output_loss: 0.7406 -
y1_output_root_mean_squared_error: 0.5070 - y2_output_root_mean_squared_error:
0.8642 - val_loss: 0.6978 - val_y1_output_loss: 0.2103 - val_y2_output_loss:
0.4803 - val_y1_output_root_mean_squared_error: 0.4649 -
val_y2_output_root_mean_squared_error: 0.6941
Epoch 481/500
614/614 [==============================] - 0s 156us/sample - loss: 0.6494 -
y1_output_loss: 0.1441 - y2_output_loss: 0.5057 -
y1_output_root_mean_squared_error: 0.3743 - y2_output_root_mean_squared_error:
0.7136 - val_loss: 0.9197 - val_y1_output_loss: 0.2971 - val_y2_output_loss:
0.6015 - val_y1_output_root_mean_squared_error: 0.5457 -
val_y2_output_root_mean_squared_error: 0.7886
Epoch 482/500
614/614 [==============================] - 0s 158us/sample - loss: 0.4539 -
y1_output_loss: 0.1277 - y2_output_loss: 0.3245 -
y1_output_root_mean_squared_error: 0.3588 - y2_output_root_mean_squared_error:
0.5703 - val_loss: 1.1111 - val_y1_output_loss: 0.2283 - val_y2_output_loss:
0.8654 - val_y1_output_root_mean_squared_error: 0.4864 -
val_y2_output_root_mean_squared_error: 0.9352
Epoch 483/500
614/614 [==============================] - 0s 160us/sample - loss: 0.3847 -
y1_output_loss: 0.1066 - y2_output_loss: 0.2766 -
y1_output_root_mean_squared_error: 0.3276 - y2_output_root_mean_squared_error:
0.5267 - val_loss: 0.8173 - val_y1_output_loss: 0.1630 - val_y2_output_loss:
0.6389 - val_y1_output_root_mean_squared_error: 0.4093 -
val_y2_output_root_mean_squared_error: 0.8061
Epoch 484/500
614/614 [==============================] - 0s 150us/sample - loss: 0.4249 -
y1_output_loss: 0.1258 - y2_output_loss: 0.2998 -
y1_output_root_mean_squared_error: 0.3522 - y2_output_root_mean_squared_error:
0.5485 - val_loss: 0.7813 - val_y1_output_loss: 0.1623 - val_y2_output_loss:
0.6090 - val_y1_output_root_mean_squared_error: 0.4085 -
val_y2_output_root_mean_squared_error: 0.7839
Epoch 485/500
614/614 [==============================] - 0s 142us/sample - loss: 0.4064 -
y1_output_loss: 0.1281 - y2_output_loss: 0.2766 -
y1_output_root_mean_squared_error: 0.3577 - y2_output_root_mean_squared_error:
0.5277 - val_loss: 1.0483 - val_y1_output_loss: 0.2201 - val_y2_output_loss:
0.8122 - val_y1_output_root_mean_squared_error: 0.4773 -
val_y2_output_root_mean_squared_error: 0.9058
Epoch 486/500
614/614 [==============================] - 0s 150us/sample - loss: 0.4157 -
y1_output_loss: 0.1178 - y2_output_loss: 0.3026 -
y1_output_root_mean_squared_error: 0.3387 - y2_output_root_mean_squared_error:
0.5486 - val_loss: 1.4746 - val_y1_output_loss: 0.2915 - val_y2_output_loss:
1.1516 - val_y1_output_root_mean_squared_error: 0.5374 -
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val_y2_output_root_mean_squared_error: 1.0889
Epoch 487/500
614/614 [==============================] - 0s 149us/sample - loss: 0.4493 -
y1_output_loss: 0.1351 - y2_output_loss: 0.3114 -
y1_output_root_mean_squared_error: 0.3692 - y2_output_root_mean_squared_error:
0.5595 - val_loss: 0.7021 - val_y1_output_loss: 0.1360 - val_y2_output_loss:
0.5513 - val_y1_output_root_mean_squared_error: 0.3720 -
val_y2_output_root_mean_squared_error: 0.7508
Epoch 488/500
614/614 [==============================] - 0s 157us/sample - loss: 0.3662 -
y1_output_loss: 0.1119 - y2_output_loss: 0.2540 -
y1_output_root_mean_squared_error: 0.3341 - y2_output_root_mean_squared_error:
0.5045 - val_loss: 0.7638 - val_y1_output_loss: 0.1782 - val_y2_output_loss:
0.5691 - val_y1_output_root_mean_squared_error: 0.4204 -
val_y2_output_root_mean_squared_error: 0.7662
Epoch 489/500
614/614 [==============================] - 0s 150us/sample - loss: 0.3885 -
y1_output_loss: 0.1140 - y2_output_loss: 0.2769 -
y1_output_root_mean_squared_error: 0.3364 - y2_output_root_mean_squared_error:
0.5248 - val_loss: 0.7280 - val_y1_output_loss: 0.1426 - val_y2_output_loss:
0.5668 - val_y1_output_root_mean_squared_error: 0.3819 -
val_y2_output_root_mean_squared_error: 0.7630
Epoch 490/500
614/614 [==============================] - 0s 146us/sample - loss: 0.5499 -
y1_output_loss: 0.1528 - y2_output_loss: 0.3981 -
y1_output_root_mean_squared_error: 0.3913 - y2_output_root_mean_squared_error:
0.6299 - val_loss: 1.8690 - val_y1_output_loss: 0.1836 - val_y2_output_loss:
1.6333 - val_y1_output_root_mean_squared_error: 0.4323 -
val_y2_output_root_mean_squared_error: 1.2969
Epoch 491/500
614/614 [==============================] - 0s 142us/sample - loss: 0.5750 -
y1_output_loss: 0.1293 - y2_output_loss: 0.4440 -
y1_output_root_mean_squared_error: 0.3607 - y2_output_root_mean_squared_error:
0.6670 - val_loss: 0.9267 - val_y1_output_loss: 0.1541 - val_y2_output_loss:
0.7556 - val_y1_output_root_mean_squared_error: 0.3988 -
val_y2_output_root_mean_squared_error: 0.8761
Epoch 492/500
614/614 [==============================] - 0s 153us/sample - loss: 0.3270 -
y1_output_loss: 0.1046 - y2_output_loss: 0.2248 -
y1_output_root_mean_squared_error: 0.3229 - y2_output_root_mean_squared_error:
0.4720 - val_loss: 0.7535 - val_y1_output_loss: 0.2073 - val_y2_output_loss:
0.5323 - val_y1_output_root_mean_squared_error: 0.4588 -
val_y2_output_root_mean_squared_error: 0.7369
Epoch 493/500
614/614 [==============================] - 0s 166us/sample - loss: 0.4273 -
y1_output_loss: 0.1260 - y2_output_loss: 0.2990 -
y1_output_root_mean_squared_error: 0.3562 - y2_output_root_mean_squared_error:
0.5481 - val_loss: 0.8380 - val_y1_output_loss: 0.2223 - val_y2_output_loss:

0.5968 - val_y1_output_root_mean_squared_error: 0.4755 -
val_y2_output_root_mean_squared_error: 0.7822
Epoch 494/500
614/614 [==============================] - 0s 157us/sample - loss: 0.3578 -
y1_output_loss: 0.1217 - y2_output_loss: 0.2361 -
y1_output_root_mean_squared_error: 0.3504 - y2_output_root_mean_squared_error:
0.4848 - val_loss: 1.0030 - val_y1_output_loss: 0.1592 - val_y2_output_loss:
0.8138 - val_y1_output_root_mean_squared_error: 0.4025 -
val_y2_output_root_mean_squared_error: 0.9171
Epoch 495/500
614/614 [==============================] - 0s 160us/sample - loss: 0.4543 -
y1_output_loss: 0.1106 - y2_output_loss: 0.3428 -
y1_output_root_mean_squared_error: 0.3339 - y2_output_root_mean_squared_error:
0.5855 - val_loss: 1.1039 - val_y1_output_loss: 0.1770 - val_y2_output_loss:
0.9208 - val_y1_output_root_mean_squared_error: 0.4271 -
val_y2_output_root_mean_squared_error: 0.9599
Epoch 496/500
614/614 [==============================] - 0s 157us/sample - loss: 0.4096 -
y1_output_loss: 0.1184 - y2_output_loss: 0.2905 -
y1_output_root_mean_squared_error: 0.3449 - y2_output_root_mean_squared_error:
0.5391 - val_loss: 0.8780 - val_y1_output_loss: 0.1776 - val_y2_output_loss:
0.6958 - val_y1_output_root_mean_squared_error: 0.4292 -
val_y2_output_root_mean_squared_error: 0.8329
Epoch 497/500
614/614 [==============================] - 0s 138us/sample - loss: 0.6050 -
y1_output_loss: 0.1880 - y2_output_loss: 0.4257 -
y1_output_root_mean_squared_error: 0.4217 - y2_output_root_mean_squared_error:
0.6535 - val_loss: 0.9950 - val_y1_output_loss: 0.3176 - val_y2_output_loss:
0.6644 - val_y1_output_root_mean_squared_error: 0.5720 -
val_y2_output_root_mean_squared_error: 0.8172
Epoch 498/500
614/614 [==============================] - 0s 169us/sample - loss: 0.5904 -
y1_output_loss: 0.1419 - y2_output_loss: 0.4574 -
y1_output_root_mean_squared_error: 0.3762 - y2_output_root_mean_squared_error:
0.6700 - val_loss: 2.7873 - val_y1_output_loss: 0.3523 - val_y2_output_loss:
2.3506 - val_y1_output_root_mean_squared_error: 0.5983 -
val_y2_output_root_mean_squared_error: 1.5586
Epoch 499/500
614/614 [==============================] - 0s 156us/sample - loss: 0.4880 -
y1_output_loss: 0.1251 - y2_output_loss: 0.3609 -
y1_output_root_mean_squared_error: 0.3545 - y2_output_root_mean_squared_error:
0.6019 - val_loss: 0.8834 - val_y1_output_loss: 0.1782 - val_y2_output_loss:
0.6995 - val_y1_output_root_mean_squared_error: 0.4285 -
val_y2_output_root_mean_squared_error: 0.8365
Epoch 500/500
614/614 [==============================] - 0s 148us/sample - loss: 0.3183 -
y1_output_loss: 0.1044 - y2_output_loss: 0.2210 -
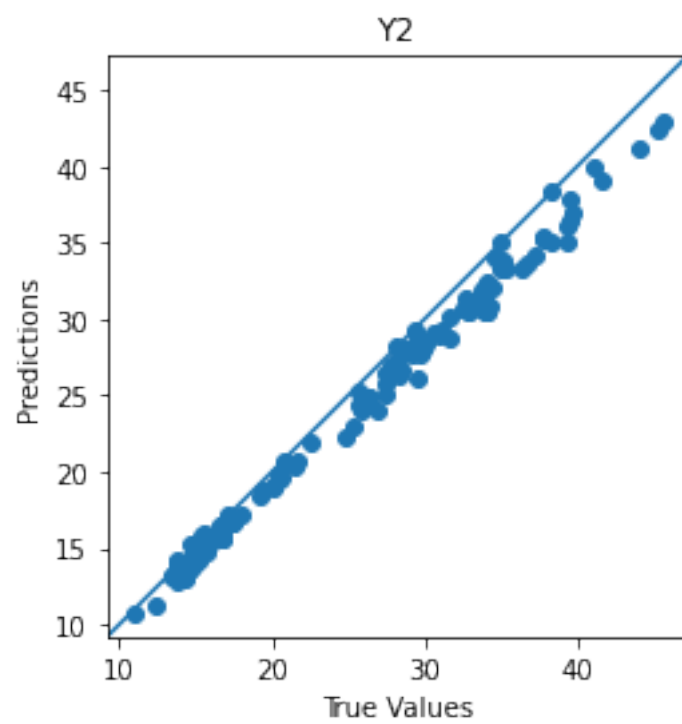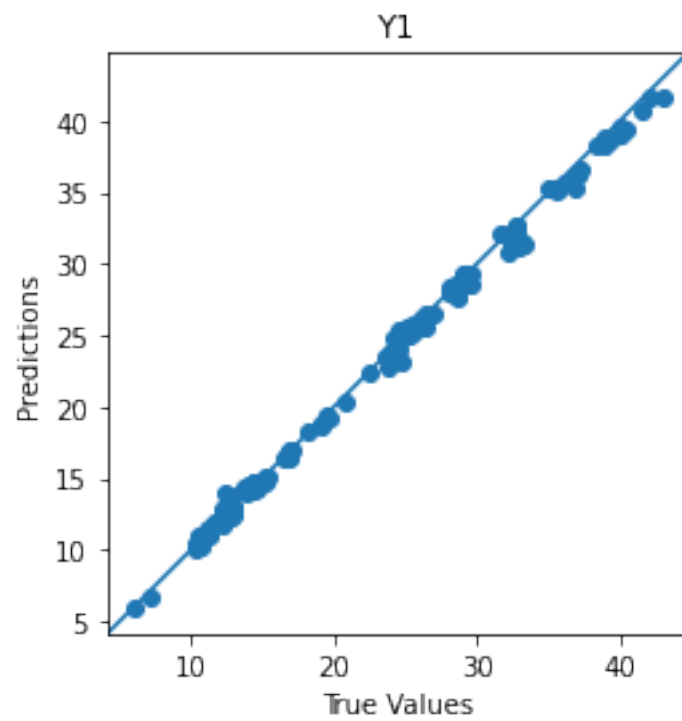y1_output_root_mean_squared_error: 0.3239 - y2_output_root_mean_squared_error:

0.4619 - val_loss: 2.9975 - val_y1_output_loss: 0.3048 - val_y2_output_loss:
2.6027 - val_y1_output_root_mean_squared_error: 0.5577 -
val_y2_output_root_mean_squared_error: 1.6390

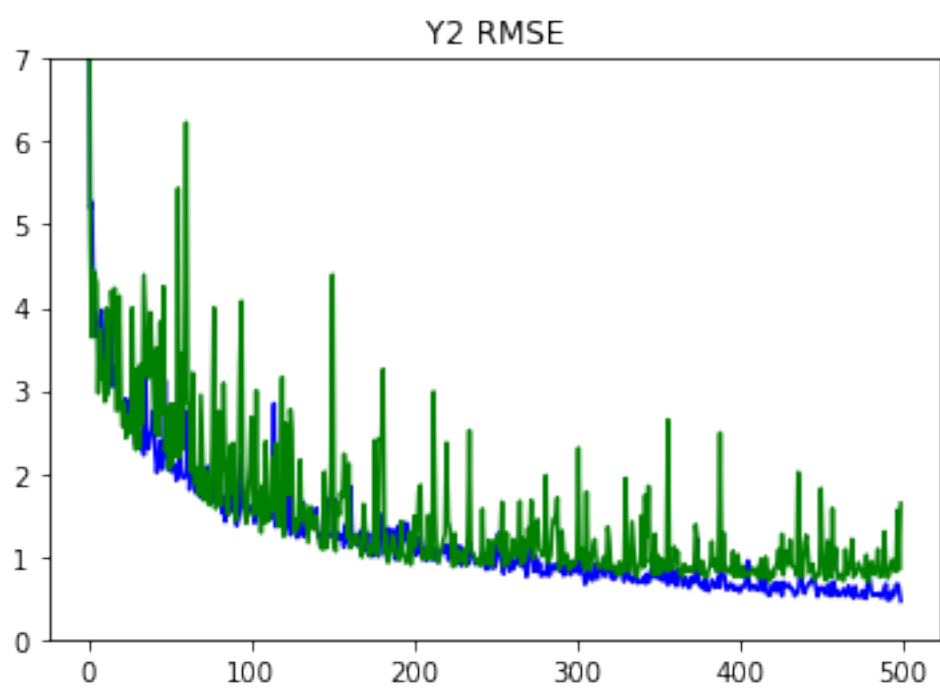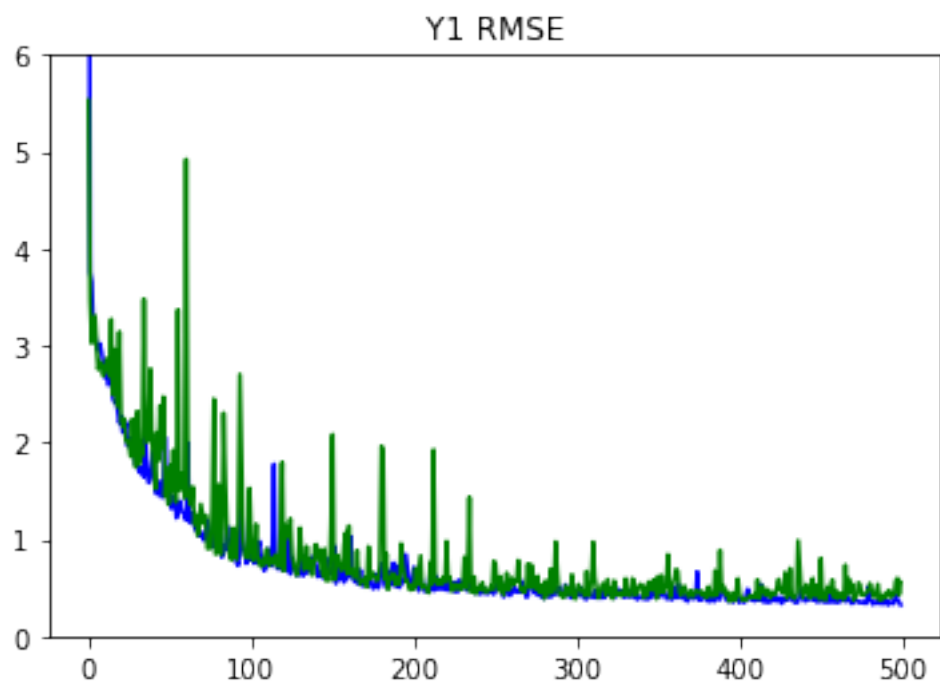## 1.7 Evaluate the Model and Plot Metrics

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

```
154/154 [==============================] - 0s 34us/sample - loss: 2.9975 -
y1_output_loss: 0.3163 - y2_output_loss: 2.7145 -
y1_output_root_mean_squared_error: 0.5577 - y2_output_root_mean_squared_error:
1.6390
Loss = 2.99745841769429, Y1_loss = 0.31627899408340454, Y1_mse =
0.5577295422554016, Y2_loss = 2.7145028114318848, Y2_mse = 1.639022946357727
```

```python
# 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)
```

Y1 RMSE

Y2 RMSE

[ ]: