

```
1 ssh://root@103.254.67.181:10006/usr/bin/  
python -u /home/sunfengzhen/pycharm/  
keras_regress/boston01.py  
2 Using TensorFlow backend.  
3 #####load dataset  
#####  
4 the type of train data is float64  
5 the shape of train data is (404, 13)  
6 the shape of train target is (404,)  
7 the type of train target is float64  
8 train target[:10]: [19.7 23.1 13.5 21.2  
23.1 13.6 22.8 18.2 13.1 23.2]  
9 the shape of test data is (102, 13)  
10 the shape of test target is (102,)  
11 #####data proecess  
#####  
12 the shape of mean is (13,)  
13 the shape of std is (13,)  
14 #####model train  
#####  
15 train_data.shape[1] = 13  
16 model.metrics_names = ['loss', '  
mean_absolute_error']  
17
```

17		
18	Layer (type)	Output
	Shape	Param #
19	=====	
	=====	
20	dense_1 (Dense)	(None, 128
)	1792
21		
22	dropout_1 (Dropout)	(None, 128
)	0
23		
24	dense_2 (Dense)	(None, 128
)	16512
25		
26	dropout_2 (Dropout)	(None, 128
)	0
27		
28	dense_3 (Dense)	(None, 1
)	129
29	=====	

```
29 =====
30 Total params: 18,433
31 Trainable params: 18,433
32 Non-trainable params: 0
33
34 Train on 323 samples, validate on 81
   samples
35 Epoch 1/20000
36 2019-05-30 03:05:42.397538: I tensorflow
   /core/platform/cpu_feature_guard.cc:141
   ] Your CPU supports instructions that
   this TensorFlow binary was not compiled
   to use: AVX2 FMA
37 2019-05-30 03:05:42.624956: I tensorflow
   /core/common_runtime/gpu/gpu_device.cc:
   1432] Found device 0 with properties:
38 name: GeForce GTX 1080 Ti major: 6 minor
   : 1 memoryClockRate(GHz): 1.582
39 pci BusID: 0000:82:00.0
40 totalMemory: 10.92GiB freeMemory: 364.
   50MiB
41 2019-05-30 03:05:42.625011: I tensorflow
   /core/common_runtime/gpu/gpu_device.cc:
```

```
41 1511] Adding visible gpu devices: 0
42 2019-05-30 03:05:43.057772: I tensorflow
/core/common_runtime/gpu/gpu_device.cc:
982] Device interconnect StreamExecutor
with strength 1 edge matrix:
43 2019-05-30 03:05:43.057835: I tensorflow
/core/common_runtime/gpu/gpu_device.cc:
988]      0
44 2019-05-30 03:05:43.057846: I tensorflow
/core/common_runtime/gpu/gpu_device.cc:
1001] 0:    N
45 2019-05-30 03:05:43.058063: I tensorflow
/core/common_runtime/gpu/gpu_device.cc:
1115] Created TensorFlow device (/job:
localhost/replica:0/task:0/device:GPU:0
with 75 MB memory) -> physical GPU (
device: 0, name: GeForce GTX 1080 Ti,
pci bus id: 0000:82:00.0, compute
capability: 6.1)
46 - 1s - loss: 472.1427 -
mean_absolute_error: 19.7587 - val_loss
: 400.3796 - val_mean_absolute_error: 18
.3051
47 Epoch 2/20000
```

```
48 - 0s - loss: 287.8999 -  
mean_absolute_error: 14.8768 - val_loss:  
: 192.3928 - val_mean_absolute_error: 11  
.9643  
49 Epoch 3/20000  
50 - 0s - loss: 131.4740 -  
mean_absolute_error: 9.3908 - val_loss:  
81.0553 - val_mean_absolute_error: 6.  
8378  
51 Epoch 4/20000  
52 - 0s - loss: 69.2562 -  
mean_absolute_error: 6.4052 - val_loss:  
53.9645 - val_mean_absolute_error: 4.  
9816  
53 Epoch 5/20000  
54 - 0s - loss: 52.7122 -  
mean_absolute_error: 5.6535 - val_loss:  
48.3019 - val_mean_absolute_error: 4.  
5294  
55 Epoch 6/20000  
56 - 0s - loss: 42.1389 -  
mean_absolute_error: 4.9215 - val_loss:  
42.3734 - val_mean_absolute_error: 4.  
1200
```

```
57 Epoch 7/20000
58   - 0s - loss: 43.8107 -
    mean_absolute_error: 4.8901 - val_loss:
    38.5929 - val_mean_absolute_error: 3.
    8564
```

```
59 Epoch 8/20000
60   - 0s - loss: 37.2228 -
    mean_absolute_error: 4.6484 - val_loss:
    37.2045 - val_mean_absolute_error: 3.
    7559
```

```
61 Epoch 9/20000
62   - 0s - loss: 31.9039 -
    mean_absolute_error: 4.3431 - val_loss:
    35.3884 - val_mean_absolute_error: 3.
    5951
```

```
63 Epoch 10/20000
64   - 0s - loss: 36.3089 -
    mean_absolute_error: 4.6043 - val_loss:
    37.7841 - val_mean_absolute_error: 3.
    8181
```

```
65
66 Epoch 00010: saving model to ./model/
    model_best.h5
```

```
67 Epoch 11/20000
```

```
68 - 0s - loss: 38.4507 -  
mean_absolute_error: 4.5976 - val_loss:  
31.4657 - val_mean_absolute_error: 3.  
3499  
69 Epoch 12/20000  
70 - 0s - loss: 29.8753 -  
mean_absolute_error: 3.9985 - val_loss:  
30.7914 - val_mean_absolute_error: 3.  
2912  
71 Epoch 13/20000  
72 - 0s - loss: 37.3550 -  
mean_absolute_error: 4.5370 - val_loss:  
31.4182 - val_mean_absolute_error: 3.  
2826  
73 Epoch 14/20000  
74 - 0s - loss: 30.9930 -  
mean_absolute_error: 4.1945 - val_loss:  
31.0992 - val_mean_absolute_error: 3.  
2307  
75 Epoch 15/20000  
76 - 0s - loss: 30.5813 -  
mean_absolute_error: 4.3021 - val_loss:  
30.4526 - val_mean_absolute_error: 3.  
1749
```

```
77 Epoch 16/20000
78   - 0s - loss: 31.9391 -
    mean_absolute_error: 4.3353 - val_loss
    : 33.8185 - val_mean_absolute_error: 3.
    5297
79 Epoch 17/20000
80   - 0s - loss: 29.8940 -
    mean_absolute_error: 4.0783 - val_loss
    : 27.7746 - val_mean_absolute_error: 3.
    0059
81 Epoch 18/20000
82   - 0s - loss: 29.3257 -
    mean_absolute_error: 4.1870 - val_loss
    : 37.1937 - val_mean_absolute_error: 3.
    8448
83 Epoch 19/20000
84   - 0s - loss: 31.7509 -
    mean_absolute_error: 4.2485 - val_loss
    : 28.9370 - val_mean_absolute_error: 3.
    0536
85 Epoch 20/20000
86   - 0s - loss: 30.4463 -
    mean_absolute_error: 4.0941 - val_loss
    : 28.7302 - val_mean_absolute_error: 3.
```


86 0558

87

88 Epoch 00020: saving model to ./model/
model_best.h5

89 Epoch 21/20000

90 - 0s - loss: 28.3277 -
mean_absolute_error: 3.9533 - val_loss
: 29.3167 - val_mean_absolute_error: 3.
1012

91 Epoch 22/20000

92 - 0s - loss: 25.1712 -
mean_absolute_error: 3.7705 - val_loss
: 26.8855 - val_mean_absolute_error: 2.
9022

93 Epoch 23/20000

94 - 0s - loss: 29.7799 -
mean_absolute_error: 4.0869 - val_loss
: 26.7540 - val_mean_absolute_error: 2.
9535

95 Epoch 24/20000

96 - 0s - loss: 28.0857 -
mean_absolute_error: 3.8883 - val_loss
: 28.0272 - val_mean_absolute_error: 2.
9903

```
97 Epoch 25/20000
98   - 0s - loss: 22.4911 -
    mean_absolute_error: 3.5516 - val_loss
    : 25.8558 - val_mean_absolute_error: 2.
    8711
99 Epoch 26/20000
100   - 0s - loss: 27.4444 -
    mean_absolute_error: 4.0004 - val_loss
    : 24.9647 - val_mean_absolute_error: 2.
    8695
101 Epoch 27/20000
102   - 0s - loss: 25.7272 -
    mean_absolute_error: 3.8053 - val_loss
    : 24.3580 - val_mean_absolute_error: 2.
    9656
103 Epoch 28/20000
104   - 0s - loss: 30.7221 -
    mean_absolute_error: 4.1707 - val_loss
    : 26.8207 - val_mean_absolute_error: 3.
    0973
105 Epoch 29/20000
106   - 0s - loss: 28.1079 -
    mean_absolute_error: 4.0856 - val_loss
    : 23.8444 - val_mean_absolute_error: 2.
```

```
106 8722
107 Epoch 30/20000
108 - 0s - loss: 26.9132 -
    mean_absolute_error: 3.8539 - val_loss
    : 29.6736 - val_mean_absolute_error: 3.
    3038
109
110 Epoch 00030: saving model to ./model/
    model_best.h5
111 Epoch 31/20000
112 - 0s - loss: 30.8663 -
    mean_absolute_error: 4.1469 - val_loss
    : 25.3305 - val_mean_absolute_error: 2.
    9172
113 Epoch 32/20000
114 - 0s - loss: 22.8632 -
    mean_absolute_error: 3.6746 - val_loss
    : 28.0418 - val_mean_absolute_error: 2.
    9354
115 Epoch 33/20000
116 - 0s - loss: 24.2444 -
    mean_absolute_error: 3.7633 - val_loss
    : 24.0915 - val_mean_absolute_error: 2.
    7985
```

```
117 Epoch 34/20000
118   - 0s - loss: 24.9685 -
      mean_absolute_error: 3.7485 - val_loss
      : 24.8973 - val_mean_absolute_error: 2.
      7856
119 Epoch 35/20000
120   - 0s - loss: 27.2516 -
      mean_absolute_error: 3.9313 - val_loss
      : 25.8804 - val_mean_absolute_error: 2.
      8696
121 Epoch 36/20000
122   - 0s - loss: 25.0571 -
      mean_absolute_error: 3.8032 - val_loss
      : 25.8311 - val_mean_absolute_error: 2.
      9230
123 Epoch 37/20000
124   - 0s - loss: 27.2825 -
      mean_absolute_error: 3.9130 - val_loss
      : 24.0092 - val_mean_absolute_error: 2.
      8439
125 Epoch 38/20000
126   - 0s - loss: 22.9594 -
      mean_absolute_error: 3.6248 - val_loss
      : 23.8915 - val_mean_absolute_error: 2.
```

```
126 7864
127 Epoch 39/20000
128   - 0s - loss: 26.5541 -
      mean_absolute_error: 3.8255 - val_loss
      : 23.6351 - val_mean_absolute_error: 2.
      7724
129 Epoch 40/20000
130   - 0s - loss: 30.0407 -
      mean_absolute_error: 3.9755 - val_loss
      : 23.9785 - val_mean_absolute_error: 2.
      8109
131
132 Epoch 0040: saving model to ./model/
      model_best.h5
133 Epoch 41/20000
134   - 0s - loss: 23.7338 -
      mean_absolute_error: 3.6986 - val_loss
      : 24.7888 - val_mean_absolute_error: 2.
      8845
135 Epoch 42/20000
136   - 0s - loss: 27.4595 -
      mean_absolute_error: 3.8933 - val_loss
      : 22.1260 - val_mean_absolute_error: 3.
      0047
```

```
137 Epoch 43/20000
138   - 0s - loss: 28.8037 -
      mean_absolute_error: 3.8004 - val_loss
      : 22.9933 - val_mean_absolute_error: 2.
      8162
139 Epoch 44/20000
140   - 0s - loss: 23.6660 -
      mean_absolute_error: 3.7549 - val_loss
      : 24.0923 - val_mean_absolute_error: 2.
      8414
141 Epoch 45/20000
142   - 0s - loss: 23.1724 -
      mean_absolute_error: 3.7033 - val_loss
      : 23.4226 - val_mean_absolute_error: 2.
      8576
143 Epoch 46/20000
144   - 0s - loss: 22.7443 -
      mean_absolute_error: 3.6182 - val_loss
      : 22.8673 - val_mean_absolute_error: 2.
      8649
145 Epoch 47/20000
146   - 0s - loss: 25.5844 -
      mean_absolute_error: 3.6639 - val_loss
      : 23.3977 - val_mean_absolute_error: 2.
```

```
146 7375
147 Epoch 48/20000
148 - 0s - loss: 24.9119 -
    mean_absolute_error: 3.7044 - val_loss
    : 23.9763 - val_mean_absolute_error: 2.
    7585
149 Epoch 49/20000
150 - 0s - loss: 23.0766 -
    mean_absolute_error: 3.5399 - val_loss
    : 24.1389 - val_mean_absolute_error: 2.
    8315
151 Epoch 50/20000
152 - 0s - loss: 27.3904 -
    mean_absolute_error: 3.8939 - val_loss
    : 23.6761 - val_mean_absolute_error: 2.
    7500
153
154 Epoch 00050: saving model to ./model/
    model_best.h5
155 Epoch 51/20000
156 - 0s - loss: 23.3293 -
    mean_absolute_error: 3.5903 - val_loss
    : 23.3488 - val_mean_absolute_error: 2.
    8856
```

```
157 Epoch 52/20000
158   - 0s - loss: 23.8339 -
      mean_absolute_error: 3.7009 - val_loss
      : 23.4970 - val_mean_absolute_error: 2.
      7693
159 Epoch 53/20000
160   - 0s - loss: 27.0363 -
      mean_absolute_error: 3.7698 - val_loss
      : 22.1450 - val_mean_absolute_error: 2.
      7525
161 Epoch 54/20000
162   - 0s - loss: 23.6073 -
      mean_absolute_error: 3.5622 - val_loss
      : 23.6491 - val_mean_absolute_error: 2.
      8584
163 Epoch 55/20000
164   - 0s - loss: 25.0366 -
      mean_absolute_error: 3.6611 - val_loss
      : 21.9576 - val_mean_absolute_error: 2.
      8667
165 Epoch 56/20000
166   - 0s - loss: 22.6918 -
      mean_absolute_error: 3.4959 - val_loss
      : 22.6662 - val_mean_absolute_error: 2.
```



```
166 8115
167 Epoch 57/20000
168 - 0s - loss: 25.8159 -
    mean_absolute_error: 3.7264 - val_loss
    : 23.1867 - val_mean_absolute_error: 2.
    8698
169 Epoch 58/20000
170 - 0s - loss: 21.1755 -
    mean_absolute_error: 3.5278 - val_loss
    : 25.3994 - val_mean_absolute_error: 2.
    8442
171 Epoch 59/20000
172 - 0s - loss: 22.6210 -
    mean_absolute_error: 3.4978 - val_loss
    : 23.6824 - val_mean_absolute_error: 2.
    8432
173 Epoch 60/20000
174 - 0s - loss: 21.2134 -
    mean_absolute_error: 3.5860 - val_loss
    : 25.5956 - val_mean_absolute_error: 2.
    8939
175
176 Epoch 00060: saving model to ./model/
    model_best.h5
```

```
177 Epoch 61/20000
178   - 0s - loss: 24.0104 -
      mean_absolute_error: 3.5525 - val_loss
      : 24.5297 - val_mean_absolute_error: 2.
      8268
179 Epoch 62/20000
180   - 0s - loss: 21.9356 -
      mean_absolute_error: 3.5834 - val_loss
      : 21.9944 - val_mean_absolute_error: 2.
      7772
181 Epoch 63/20000
182   - 0s - loss: 21.9606 -
      mean_absolute_error: 3.4460 - val_loss
      : 24.8184 - val_mean_absolute_error: 2.
      8433
183 Epoch 64/20000
184   - 0s - loss: 25.6707 -
      mean_absolute_error: 3.7777 - val_loss
      : 23.6184 - val_mean_absolute_error: 2.
      8459
185 Epoch 65/20000
186   - 0s - loss: 22.0596 -
      mean_absolute_error: 3.5987 - val_loss
      : 22.8327 - val_mean_absolute_error: 2.
```

```
186 8995
187 Epoch 66/20000
188 - 0s - loss: 24.2179 -
    mean_absolute_error: 3.5209 - val_loss
    : 23.9871 - val_mean_absolute_error: 2.
    8420
189 Epoch 67/20000
190 - 0s - loss: 23.4646 -
    mean_absolute_error: 3.5796 - val_loss
    : 23.3153 - val_mean_absolute_error: 2.
    8260
191 Epoch 68/20000
192 - 0s - loss: 21.4261 -
    mean_absolute_error: 3.4761 - val_loss
    : 23.3789 - val_mean_absolute_error: 2.
    8564
193 Epoch 69/20000
194 - 0s - loss: 23.4880 -
    mean_absolute_error: 3.7193 - val_loss
    : 23.1503 - val_mean_absolute_error: 2.
    8162
195 Epoch 70/20000
196 - 0s - loss: 23.8319 -
    mean_absolute_error: 3.6132 - val_loss
```

```
196 : 23.8777 - val_mean_absolute_error: 2.  
9249
```

```
197
```

```
198 Epoch 00070: saving model to ./model/  
model_best.h5
```

```
199 Epoch 71/20000
```

```
200 - 0s - loss: 24.1428 -  
mean_absolute_error: 3.7083 - val_loss  
: 25.3714 - val_mean_absolute_error: 2.  
8762
```

```
201 Epoch 72/20000
```

```
202 - 0s - loss: 20.3689 -  
mean_absolute_error: 3.5087 - val_loss  
: 23.6258 - val_mean_absolute_error: 2.  
9111
```

```
203 Epoch 73/20000
```

```
204 - 0s - loss: 20.6089 -  
mean_absolute_error: 3.3468 - val_loss  
: 25.3773 - val_mean_absolute_error: 2.  
9156
```

```
205 Epoch 74/20000
```

```
206 - 0s - loss: 20.1102 -  
mean_absolute_error: 3.3342 - val_loss  
: 25.3118 - val_mean_absolute_error: 2.
```

```
206 8951
207 Epoch 75/20000
208 - 0s - loss: 21.6840 -
    mean_absolute_error: 3.3945 - val_loss
    : 22.0033 - val_mean_absolute_error: 2.
    8324
209 Epoch 76/20000
210 - 0s - loss: 23.2433 -
    mean_absolute_error: 3.4453 - val_loss
    : 22.4326 - val_mean_absolute_error: 2.
    8519
211 Epoch 77/20000
212 - 0s - loss: 22.1185 -
    mean_absolute_error: 3.5653 - val_loss
    : 22.5411 - val_mean_absolute_error: 2.
    8040
213 Epoch 78/20000
214 - 0s - loss: 24.0362 -
    mean_absolute_error: 3.5476 - val_loss
    : 20.9770 - val_mean_absolute_error: 2.
    8319
215 Epoch 79/20000
216 - 0s - loss: 19.9538 -
    mean_absolute_error: 3.3172 - val_loss
```

```
216 : 21.4940 - val_mean_absolute_error: 2.
    8260
217 Epoch 80/20000
218 - 0s - loss: 23.7068 -
    mean_absolute_error: 3.4637 - val_loss
    : 21.5367 - val_mean_absolute_error: 2.
    7122
219
220 Epoch 00080: saving model to ./model/
    model_best.h5
221 Epoch 81/20000
222 - 0s - loss: 22.2927 -
    mean_absolute_error: 3.5073 - val_loss
    : 22.1869 - val_mean_absolute_error: 2.
    7637
223 Epoch 82/20000
224 - 0s - loss: 22.4841 -
    mean_absolute_error: 3.5155 - val_loss
    : 20.7436 - val_mean_absolute_error: 2.
    7134
225 Epoch 83/20000
226 - 0s - loss: 21.2681 -
    mean_absolute_error: 3.3712 - val_loss
    : 21.4964 - val_mean_absolute_error: 2.
```

```
226 8197
227 Epoch 84/20000
228 - 0s - loss: 19.3445 -
    mean_absolute_error: 3.3256 - val_loss
    : 22.7680 - val_mean_absolute_error: 2.
    7513
229 Epoch 85/20000
230 - 0s - loss: 20.4829 -
    mean_absolute_error: 3.2867 - val_loss
    : 26.1537 - val_mean_absolute_error: 2.
    8661
231 Epoch 86/20000
232 - 0s - loss: 20.1137 -
    mean_absolute_error: 3.4322 - val_loss
    : 25.2143 - val_mean_absolute_error: 2.
    9346
233 Epoch 87/20000
234 - 0s - loss: 23.8393 -
    mean_absolute_error: 3.7096 - val_loss
    : 21.7652 - val_mean_absolute_error: 2.
    8884
235 Epoch 88/20000
236 - 0s - loss: 23.2720 -
    mean_absolute_error: 3.6268 - val_loss
```

```
236 : 22.2420 - val_mean_absolute_error: 3.
0147
237 Epoch 89/20000
238 - 0s - loss: 24.0785 -
mean_absolute_error: 3.5409 - val_loss
: 22.3548 - val_mean_absolute_error: 2.
7546
239 Epoch 90/20000
240 - 0s - loss: 19.1989 -
mean_absolute_error: 3.2712 - val_loss
: 24.7946 - val_mean_absolute_error: 2.
8062
241
242 Epoch 00090: saving model to ./model/
model_best.h5
243 Epoch 91/20000
244 - 0s - loss: 19.8641 -
mean_absolute_error: 3.3356 - val_loss
: 21.7811 - val_mean_absolute_error: 2.
7557
245 Epoch 92/20000
246 - 0s - loss: 22.5006 -
mean_absolute_error: 3.4182 - val_loss
: 21.8095 - val_mean_absolute_error: 2.
```



```
246 7634
247 Epoch 93/20000
248   - 0s - loss: 21.0803 -
      mean_absolute_error: 3.4057 - val_loss
      : 23.3740 - val_mean_absolute_error: 2.
      8074
249 Epoch 94/20000
250   - 0s - loss: 22.1955 -
      mean_absolute_error: 3.5549 - val_loss
      : 24.3404 - val_mean_absolute_error: 2.
      7447
251 Epoch 95/20000
252   - 0s - loss: 23.3536 -
      mean_absolute_error: 3.3740 - val_loss
      : 23.6091 - val_mean_absolute_error: 2.
      7375
253 Epoch 96/20000
254   - 0s - loss: 21.3838 -
      mean_absolute_error: 3.4219 - val_loss
      : 22.4650 - val_mean_absolute_error: 2.
      9048
255 Epoch 97/20000
256   - 0s - loss: 21.4748 -
      mean_absolute_error: 3.5995 - val_loss
```

```
256 : 21.6112 - val_mean_absolute_error: 2.
7070
257 Epoch 98/20000
258 - 0s - loss: 23.0645 -
mean_absolute_error: 3.4452 - val_loss
: 21.6945 - val_mean_absolute_error: 2.
7323
259 Epoch 99/20000
260 - 0s - loss: 19.7420 -
mean_absolute_error: 3.2889 - val_loss
: 22.1369 - val_mean_absolute_error: 2.
8473
261 Epoch 100/20000
262 - 0s - loss: 24.8248 -
mean_absolute_error: 3.6185 - val_loss
: 22.0884 - val_mean_absolute_error: 2.
8117
263
264 Epoch 00100: saving model to ./model/
model_best.h5
265 Epoch 101/20000
266 - 0s - loss: 21.0698 -
mean_absolute_error: 3.3274 - val_loss
: 21.4449 - val_mean_absolute_error: 2.
```

```
266 8274
267 Epoch 102/20000
268   - 0s - loss: 22.6339 -
      mean_absolute_error: 3.4399 - val_loss
      : 21.0167 - val_mean_absolute_error: 2.
6855
269 Epoch 103/20000
270   - 0s - loss: 22.8249 -
      mean_absolute_error: 3.6046 - val_loss
      : 22.4764 - val_mean_absolute_error: 2.
7567
271 Epoch 104/20000
272   - 0s - loss: 20.9165 -
      mean_absolute_error: 3.3870 - val_loss
      : 21.6747 - val_mean_absolute_error: 2.
7319
273 Epoch 105/20000
274   - 0s - loss: 25.5137 -
      mean_absolute_error: 3.5859 - val_loss
      : 21.6058 - val_mean_absolute_error: 2.
7121
275 Epoch 106/20000
276   - 0s - loss: 23.1955 -
      mean_absolute_error: 3.5586 - val_loss
```

```
276 : 21.6705 - val_mean_absolute_error: 2.
7049
277 Epoch 107/20000
278 - 0s - loss: 22.8055 -
mean_absolute_error: 3.4731 - val_loss
: 20.6307 - val_mean_absolute_error: 2.
8244
279 Epoch 108/20000
280 - 0s - loss: 19.9695 -
mean_absolute_error: 3.2941 - val_loss
: 21.4859 - val_mean_absolute_error: 2.
7346
281 Epoch 109/20000
282 - 0s - loss: 22.8525 -
mean_absolute_error: 3.4221 - val_loss
: 20.8932 - val_mean_absolute_error: 2.
8171
283 Epoch 110/20000
284 - 0s - loss: 17.8199 -
mean_absolute_error: 3.3132 - val_loss
: 21.4065 - val_mean_absolute_error: 2.
8101
285
286 Epoch 00110: saving model to ./model/
```

```
286 model_best.h5
287 Epoch 111/20000
288   - 0s - loss: 22.4130 -
      mean_absolute_error: 3.4867 - val_loss
      : 22.8195 - val_mean_absolute_error: 2.
      7669
289 Epoch 112/20000
290   - 0s - loss: 21.3344 -
      mean_absolute_error: 3.4393 - val_loss
      : 22.1704 - val_mean_absolute_error: 2.
      7750
291 Epoch 113/20000
292   - 0s - loss: 22.0047 -
      mean_absolute_error: 3.4791 - val_loss
      : 21.3783 - val_mean_absolute_error: 2.
      7719
293 Epoch 114/20000
294   - 0s - loss: 17.4607 -
      mean_absolute_error: 3.1040 - val_loss
      : 19.5907 - val_mean_absolute_error: 2.
      7308
295 Epoch 115/20000
296   - 0s - loss: 23.6712 -
      mean_absolute_error: 3.5404 - val_loss
```

```
296 : 20.8677 - val_mean_absolute_error: 2.
6834
297 Epoch 116/20000
298 - 0s - loss: 22.6466 -
mean_absolute_error: 3.4119 - val_loss
: 21.0182 - val_mean_absolute_error: 2.
6934
299 Epoch 117/20000
300 - 0s - loss: 22.3265 -
mean_absolute_error: 3.4087 - val_loss
: 20.8223 - val_mean_absolute_error: 2.
6777
301 Epoch 118/20000
302 - 0s - loss: 20.2954 -
mean_absolute_error: 3.3032 - val_loss
: 20.2242 - val_mean_absolute_error: 2.
9686
303 Epoch 119/20000
304 - 0s - loss: 21.2617 -
mean_absolute_error: 3.4494 - val_loss
: 20.3599 - val_mean_absolute_error: 2.
7851
305 Epoch 120/20000
306 - 0s - loss: 18.4392 -
```

```
306 mean_absolute_error: 3.2944 - val_loss
    : 21.1889 - val_mean_absolute_error: 2.
    6951
```

```
307
```

```
308 Epoch 00120: saving model to ./model/
    model_best.h5
```

```
309 Epoch 121/20000
```

```
310   - 0s - loss: 18.3812 -
    mean_absolute_error: 3.1842 - val_loss
    : 22.6915 - val_mean_absolute_error: 2.
    7102
```

```
311 Epoch 122/20000
```

```
312   - 0s - loss: 20.8556 -
    mean_absolute_error: 3.3151 - val_loss
    : 20.5509 - val_mean_absolute_error: 2.
    7056
```

```
313 Epoch 123/20000
```

```
314   - 0s - loss: 20.0293 -
    mean_absolute_error: 3.3303 - val_loss
    : 21.9892 - val_mean_absolute_error: 2.
    7114
```

```
315 Epoch 124/20000
```

```
316   - 0s - loss: 20.5347 -
    mean_absolute_error: 3.2468 - val_loss
```

```
316 : 22.0288 - val_mean_absolute_error: 2.
7133
317 Epoch 125/20000
318 - 0s - loss: 20.9747 -
mean_absolute_error: 3.4686 - val_loss
: 21.6523 - val_mean_absolute_error: 2.
6964
319 Epoch 126/20000
320 - 0s - loss: 18.6053 -
mean_absolute_error: 3.3538 - val_loss
: 23.1394 - val_mean_absolute_error: 2.
7837
321 Epoch 127/20000
322 - 0s - loss: 19.4174 -
mean_absolute_error: 3.3816 - val_loss
: 20.1330 - val_mean_absolute_error: 2.
6610
323 Epoch 128/20000
324 - 0s - loss: 19.4734 -
mean_absolute_error: 3.3013 - val_loss
: 20.7655 - val_mean_absolute_error: 2.
7070
325 Epoch 129/20000
326 - 0s - loss: 20.2458 -
```



```
326 mean_absolute_error: 3.1946 - val_loss
    : 22.2630 - val_mean_absolute_error: 2.
7726
```

```
327 Epoch 130/20000
```

```
328 - 0s - loss: 18.7001 -
    mean_absolute_error: 3.2262 - val_loss
    : 22.1349 - val_mean_absolute_error: 2.
7336
```

```
329
```

```
330 Epoch 00130: saving model to ./model/
    model_best.h5
```

```
331 Epoch 131/20000
```

```
332 - 0s - loss: 22.4491 -
    mean_absolute_error: 3.3862 - val_loss
    : 21.2209 - val_mean_absolute_error: 2.
6707
```

```
333 Epoch 132/20000
```

```
334 - 0s - loss: 19.8488 -
    mean_absolute_error: 3.2422 - val_loss
    : 22.5624 - val_mean_absolute_error: 2.
7438
```

```
335 Epoch 133/20000
```

```
336 - 0s - loss: 19.3974 -
    mean_absolute_error: 3.1182 - val_loss
```

```
336 : 21.7018 - val_mean_absolute_error: 2.
    7143
337 Epoch 134/20000
338 - 0s - loss: 14.9958 -
    mean_absolute_error: 3.0475 - val_loss
    : 21.3323 - val_mean_absolute_error: 2.
    8905
339 Epoch 135/20000
340 - 0s - loss: 22.3894 -
    mean_absolute_error: 3.5265 - val_loss
    : 22.2910 - val_mean_absolute_error: 2.
    8405
341 Epoch 136/20000
342 - 0s - loss: 24.6543 -
    mean_absolute_error: 3.4781 - val_loss
    : 20.6235 - val_mean_absolute_error: 2.
    8314
343 Epoch 137/20000
344 - 0s - loss: 18.2215 -
    mean_absolute_error: 3.2659 - val_loss
    : 21.4280 - val_mean_absolute_error: 2.
    7412
345 Epoch 138/20000
346 - 0s - loss: 19.6760 -
```

```
346 mean_absolute_error: 3.2839 - val_loss
    : 21.7840 - val_mean_absolute_error: 2.
    7473
```

```
347 Epoch 139/20000
```

```
348 - 0s - loss: 16.5172 -
    mean_absolute_error: 3.1387 - val_loss
    : 20.1846 - val_mean_absolute_error: 2.
    9035
```

```
349 Epoch 140/20000
```

```
350 - 0s - loss: 21.3050 -
    mean_absolute_error: 3.4110 - val_loss
    : 20.5182 - val_mean_absolute_error: 2.
    6577
```

```
351
```

```
352 Epoch 00140: saving model to ./model/
    model_best.h5
```

```
353 Epoch 141/20000
```

```
354 - 0s - loss: 18.9511 -
    mean_absolute_error: 3.3644 - val_loss
    : 20.4164 - val_mean_absolute_error: 2.
    6834
```

```
355 Epoch 142/20000
```

```
356 - 0s - loss: 18.4971 -
    mean_absolute_error: 3.2987 - val_loss
```

```
356 : 22.9097 - val_mean_absolute_error: 2.
7748
357 Epoch 143/20000
358 - 0s - loss: 20.0823 -
mean_absolute_error: 3.2866 - val_loss
: 21.2912 - val_mean_absolute_error: 2.
7680
359 Epoch 144/20000
360 - 0s - loss: 18.1401 -
mean_absolute_error: 3.2106 - val_loss
: 21.7691 - val_mean_absolute_error: 2.
7083
361 Epoch 145/20000
362 - 0s - loss: 17.1237 -
mean_absolute_error: 2.9195 - val_loss
: 23.1710 - val_mean_absolute_error: 2.
8946
363 Epoch 146/20000
364 - 0s - loss: 21.4023 -
mean_absolute_error: 3.5144 - val_loss
: 20.4775 - val_mean_absolute_error: 2.
6889
365 Epoch 147/20000
366 - 0s - loss: 17.2281 -
```

```
366 mean_absolute_error: 3.1493 - val_loss
    : 20.7745 - val_mean_absolute_error: 2.
7937
```

```
367 Epoch 148/20000
```

```
368 - 0s - loss: 19.0895 -
    mean_absolute_error: 3.0256 - val_loss
    : 20.5122 - val_mean_absolute_error: 2.
5935
```

```
369 Epoch 149/20000
```

```
370 - 0s - loss: 21.0541 -
    mean_absolute_error: 3.2971 - val_loss
    : 20.3853 - val_mean_absolute_error: 2.
6519
```

```
371 Epoch 150/20000
```

```
372 - 0s - loss: 15.4506 -
    mean_absolute_error: 2.9545 - val_loss
    : 22.0780 - val_mean_absolute_error: 2.
6651
```

```
373
```

```
374 Epoch 00150: saving model to ./model /
    model_best.h5
```

```
375 Epoch 151/20000
```

```
376 - 0s - loss: 19.5773 -
    mean_absolute_error: 3.2605 - val_loss
```

```
376 : 22.7570 - val_mean_absolute_error: 2.
7368
377 Epoch 152/20000
378 - 0s - loss: 21.8368 -
mean_absolute_error: 3.4168 - val_loss
: 23.0134 - val_mean_absolute_error: 2.
7868
379 Epoch 153/20000
380 - 0s - loss: 19.8298 -
mean_absolute_error: 3.2556 - val_loss
: 20.9597 - val_mean_absolute_error: 2.
6723
381 Epoch 154/20000
382 - 0s - loss: 20.5510 -
mean_absolute_error: 3.3003 - val_loss
: 21.8436 - val_mean_absolute_error: 2.
6743
383 Epoch 155/20000
384 - 0s - loss: 19.2520 -
mean_absolute_error: 3.3358 - val_loss
: 21.6905 - val_mean_absolute_error: 2.
7526
385 Epoch 156/20000
386 - 0s - loss: 21.4642 -
```

```
386 mean_absolute_error: 3.4830 - val_loss
    : 20.9052 - val_mean_absolute_error: 2.
    9379
```

```
387 Epoch 157/20000
```

```
388 - 0s - loss: 19.7403 -
    mean_absolute_error: 3.2713 - val_loss
    : 22.4781 - val_mean_absolute_error: 2.
    6744
```

```
389 Epoch 158/20000
```

```
390 - 0s - loss: 21.3529 -
    mean_absolute_error: 3.4340 - val_loss
    : 19.9376 - val_mean_absolute_error: 2.
    6406
```

```
391 Epoch 159/20000
```

```
392 - 0s - loss: 19.7067 -
    mean_absolute_error: 3.3373 - val_loss
    : 19.9523 - val_mean_absolute_error: 2.
    7109
```

```
393 Epoch 160/20000
```

```
394 - 0s - loss: 19.1979 -
    mean_absolute_error: 3.2104 - val_loss
    : 19.7686 - val_mean_absolute_error: 2.
    8103
```

```
395
```

```
396 Epoch 00160: saving model to ./model/
    model_best.h5
397 Epoch 161/20000
398   - 0s - loss: 14.8499 -
    mean_absolute_error: 2.9124 - val_loss
    : 19.7579 - val_mean_absolute_error: 2.
    6827
399 Epoch 162/20000
400   - 0s - loss: 19.5230 -
    mean_absolute_error: 3.3522 - val_loss
    : 20.0727 - val_mean_absolute_error: 2.
    8504
401 Epoch 163/20000
402   - 0s - loss: 20.3687 -
    mean_absolute_error: 3.3401 - val_loss
    : 21.9695 - val_mean_absolute_error: 2.
    7381
403 Epoch 164/20000
404   - 0s - loss: 19.2310 -
    mean_absolute_error: 3.2076 - val_loss
    : 19.9703 - val_mean_absolute_error: 2.
    6595
405 Epoch 165/20000
406   - 0s - loss: 20.1812 -
```


406 mean_absolute_error: 3.0525 - val_loss
: 22.9222 - val_mean_absolute_error: 2.
7309

407 Epoch 166/20000

408 - 0s - loss: 18.6059 -
mean_absolute_error: 3.1890 - val_loss
: 22.4299 - val_mean_absolute_error: 2.
6994

409 Epoch 167/20000

410 - 0s - loss: 17.4028 -
mean_absolute_error: 3.0932 - val_loss
: 20.4610 - val_mean_absolute_error: 2.
6616

411 Epoch 168/20000

412 - 0s - loss: 20.4769 -
mean_absolute_error: 3.3265 - val_loss
: 19.8273 - val_mean_absolute_error: 2.
5684

413 Epoch 169/20000

414 - 0s - loss: 19.5983 -
mean_absolute_error: 3.3002 - val_loss
: 20.0427 - val_mean_absolute_error: 2.
5779

415 Epoch 170/20000

```
416 - 0s - loss: 17.4060 -  
mean_absolute_error: 3.0345 - val_loss  
: 20.6369 - val_mean_absolute_error: 2.  
6461
```

```
417
```

```
418 Epoch 00170: saving model to ./model/  
model_best.h5
```

```
419 Epoch 171/20000
```

```
420 - 0s - loss: 19.9716 -  
mean_absolute_error: 3.2432 - val_loss  
: 19.2184 - val_mean_absolute_error: 2.  
7642
```

```
421 Epoch 172/20000
```

```
422 - 0s - loss: 20.6859 -  
mean_absolute_error: 3.3873 - val_loss  
: 21.2802 - val_mean_absolute_error: 2.  
6755
```

```
423 Epoch 173/20000
```

```
424 - 0s - loss: 20.2758 -  
mean_absolute_error: 3.3974 - val_loss  
: 20.6273 - val_mean_absolute_error: 2.  
7803
```

```
425 Epoch 174/20000
```

```
426 - 0s - loss: 20.8497 -
```

426 mean_absolute_error: 3.2145 - val_loss
: 20.7933 - val_mean_absolute_error: 2.
8559

427 Epoch 175/20000

428 - 0s - loss: 18.5730 -
mean_absolute_error: 3.1959 - val_loss
: 20.1535 - val_mean_absolute_error: 2.
7141

429 Epoch 176/20000

430 - 0s - loss: 18.2220 -
mean_absolute_error: 3.1773 - val_loss
: 24.0592 - val_mean_absolute_error: 3.
0029

431 Epoch 177/20000

432 - 0s - loss: 16.5213 -
mean_absolute_error: 3.0346 - val_loss
: 18.9942 - val_mean_absolute_error: 2.
6483

433 Epoch 178/20000

434 - 0s - loss: 18.0580 -
mean_absolute_error: 3.0175 - val_loss
: 19.5120 - val_mean_absolute_error: 2.
6367

435 Epoch 179/20000

```
436 - 0s - loss: 16.9497 -  
mean_absolute_error: 3.1882 - val_loss  
: 19.6941 - val_mean_absolute_error: 2.  
6344  
437 Epoch 180/20000  
438 - 0s - loss: 17.3684 -  
mean_absolute_error: 3.1776 - val_loss  
: 20.2540 - val_mean_absolute_error: 2.  
7043  
439  
440 Epoch 00180: saving model to ./model/  
model_best.h5  
441 Epoch 181/20000  
442 - 0s - loss: 15.4660 -  
mean_absolute_error: 3.0419 - val_loss  
: 20.3625 - val_mean_absolute_error: 2.  
7045  
443 Epoch 182/20000  
444 - 0s - loss: 19.6253 -  
mean_absolute_error: 3.1149 - val_loss  
: 20.0106 - val_mean_absolute_error: 2.  
7347  
445 Epoch 183/20000  
446 - 0s - loss: 17.1225 -
```

```
446 mean_absolute_error: 3.0169 - val_loss
    : 21.0412 - val_mean_absolute_error: 2.
6430
447 Epoch 184/20000
448   - 0s - loss: 19.5205 -
    mean_absolute_error: 3.1412 - val_loss
    : 19.9521 - val_mean_absolute_error: 2.
6061
449 Epoch 185/20000
450   - 0s - loss: 19.7085 -
    mean_absolute_error: 3.1778 - val_loss
    : 19.3898 - val_mean_absolute_error: 2.
6704
451 Epoch 186/20000
452   - 0s - loss: 17.6587 -
    mean_absolute_error: 3.0617 - val_loss
    : 20.5339 - val_mean_absolute_error: 2.
6477
453 Epoch 187/20000
454   - 0s - loss: 17.5240 -
    mean_absolute_error: 3.1257 - val_loss
    : 18.8896 - val_mean_absolute_error: 2.
6871
455 Epoch 188/20000
```

```
456   - 0s - loss: 18.3024 -  
    mean_absolute_error: 3.1566 - val_loss  
    : 19.6619 - val_mean_absolute_error: 2.  
    6688  
457 Epoch 189/20000  
458   - 0s - loss: 17.9237 -  
    mean_absolute_error: 3.1855 - val_loss  
    : 19.6006 - val_mean_absolute_error: 2.  
    7879  
459 Epoch 190/20000  
460   - 0s - loss: 16.5934 -  
    mean_absolute_error: 3.0509 - val_loss  
    : 20.2038 - val_mean_absolute_error: 2.  
    6148  
461  
462 Epoch 00190: saving model to ./model/  
    model_best.h5  
463 Epoch 191/20000  
464   - 0s - loss: 18.9273 -  
    mean_absolute_error: 3.2780 - val_loss  
    : 19.1962 - val_mean_absolute_error: 2.  
    7905  
465 Epoch 192/20000  
466   - 0s - loss: 20.9989 -
```

```
466 mean_absolute_error: 3.2853 - val_loss
    : 19.3780 - val_mean_absolute_error: 2.
7781
467 Epoch 193/20000
468   - 0s - loss: 18.6298 -
    mean_absolute_error: 3.0392 - val_loss
    : 20.5238 - val_mean_absolute_error: 2.
6703
469 Epoch 194/20000
470   - 0s - loss: 17.1664 -
    mean_absolute_error: 3.0968 - val_loss
    : 20.6656 - val_mean_absolute_error: 2.
6552
471 Epoch 195/20000
472   - 0s - loss: 19.4565 -
    mean_absolute_error: 3.2165 - val_loss
    : 19.8507 - val_mean_absolute_error: 2.
6306
473 Epoch 196/20000
474   - 0s - loss: 18.6009 -
    mean_absolute_error: 3.1638 - val_loss
    : 19.4972 - val_mean_absolute_error: 2.
7707
475 Epoch 197/20000
```

```
476 - 0s - loss: 20.4362 -  
mean_absolute_error: 3.2307 - val_loss  
: 21.1564 - val_mean_absolute_error: 2.  
7123  
477 Epoch 198/20000  
478 - 0s - loss: 17.4815 -  
mean_absolute_error: 3.2418 - val_loss  
: 21.5630 - val_mean_absolute_error: 2.  
7493  
479 Epoch 199/20000  
480 - 0s - loss: 17.1658 -  
mean_absolute_error: 3.0938 - val_loss  
: 21.7086 - val_mean_absolute_error: 2.  
7456  
481 Epoch 200/20000  
482 - 0s - loss: 20.2599 -  
mean_absolute_error: 3.3396 - val_loss  
: 19.8386 - val_mean_absolute_error: 2.  
6232  
483  
484 Epoch 00200: saving model to ./model/  
model_best.h5  
485 Epoch 201/20000  
486 - 0s - loss: 18.2377 -
```



```
486 mean_absolute_error: 3.1654 - val_loss
    : 19.8406 - val_mean_absolute_error: 2.
6302
487 Epoch 202/20000
488   - 0s - loss: 16.1135 -
    mean_absolute_error: 3.0984 - val_loss
    : 19.6849 - val_mean_absolute_error: 2.
6896
489 Epoch 203/20000
490   - 0s - loss: 18.9491 -
    mean_absolute_error: 3.1484 - val_loss
    : 19.2105 - val_mean_absolute_error: 2.
6052
491 Epoch 204/20000
492   - 0s - loss: 16.7521 -
    mean_absolute_error: 3.0311 - val_loss
    : 18.9845 - val_mean_absolute_error: 2.
6303
493 Epoch 205/20000
494   - 0s - loss: 15.4237 -
    mean_absolute_error: 2.9170 - val_loss
    : 18.7637 - val_mean_absolute_error: 2.
7009
495 Epoch 206/20000
```

```
496 - 0s - loss: 16.8191 -  
mean_absolute_error: 3.0902 - val_loss  
: 18.8491 - val_mean_absolute_error: 2.  
7516  
497 Epoch 207/20000  
498 - 0s - loss: 17.2759 -  
mean_absolute_error: 3.1824 - val_loss  
: 20.8879 - val_mean_absolute_error: 2.  
6945  
499 Epoch 208/20000  
500 - 0s - loss: 18.3932 -  
mean_absolute_error: 3.1178 - val_loss  
: 21.5577 - val_mean_absolute_error: 2.  
7814  
501 Epoch 209/20000  
502 - 0s - loss: 18.5061 -  
mean_absolute_error: 3.1468 - val_loss  
: 20.0852 - val_mean_absolute_error: 2.  
6618  
503 Epoch 210/20000  
504 - 0s - loss: 17.0840 -  
mean_absolute_error: 3.0705 - val_loss  
: 19.3043 - val_mean_absolute_error: 2.  
6526
```

505

506 Epoch 00210: saving model to ./model/
model_best.h5

507 Epoch 211/20000

508 - 0s - loss: 17.3477 -
mean_absolute_error: 3.0815 - val_loss
: 18.2565 - val_mean_absolute_error: 2.
7477

509 Epoch 212/20000

510 - 0s - loss: 16.4818 -
mean_absolute_error: 2.9275 - val_loss
: 18.6905 - val_mean_absolute_error: 2.
7157

511 Epoch 213/20000

512 - 0s - loss: 17.9319 -
mean_absolute_error: 3.0356 - val_loss
: 19.6900 - val_mean_absolute_error: 2.
8211

513 Epoch 214/20000

514 - 0s - loss: 17.8471 -
mean_absolute_error: 3.1104 - val_loss
: 20.1675 - val_mean_absolute_error: 2.
7988

515 Epoch 215/20000

```
516 - 0s - loss: 17.7460 -  
mean_absolute_error: 3.0067 - val_loss  
: 19.7834 - val_mean_absolute_error: 2.  
6366  
517 Epoch 216/20000  
518 - 0s - loss: 20.6808 -  
mean_absolute_error: 3.2662 - val_loss  
: 19.4130 - val_mean_absolute_error: 2.  
6400  
519 Epoch 217/20000  
520 - 0s - loss: 17.7204 -  
mean_absolute_error: 3.1731 - val_loss  
: 19.6153 - val_mean_absolute_error: 2.  
6717  
521 Epoch 218/20000  
522 - 0s - loss: 17.5301 -  
mean_absolute_error: 3.0754 - val_loss  
: 19.3334 - val_mean_absolute_error: 2.  
5888  
523 Epoch 219/20000  
524 - 0s - loss: 18.0066 -  
mean_absolute_error: 3.0897 - val_loss  
: 18.8740 - val_mean_absolute_error: 2.  
6487
```

```
525 Epoch 220/20000
526   - 0s - loss: 16.9186 -
    mean_absolute_error: 2.9872 - val_loss
    : 18.4786 - val_mean_absolute_error: 2.
5558
```

```
527
528 Epoch 00220: saving model to ./model/
    model_best.h5
529 Epoch 221/20000
530   - 0s - loss: 20.0516 -
    mean_absolute_error: 3.2274 - val_loss
    : 18.3444 - val_mean_absolute_error: 2.
6611
```

```
531 Epoch 222/20000
532   - 0s - loss: 16.6823 -
    mean_absolute_error: 2.9616 - val_loss
    : 20.1348 - val_mean_absolute_error: 2.
6284
```

```
533 Epoch 223/20000
534   - 0s - loss: 17.5402 -
    mean_absolute_error: 3.0497 - val_loss
    : 19.9685 - val_mean_absolute_error: 2.
7058
```

```
535 Epoch 224/20000
```

```
536 - 0s - loss: 15.7222 -  
mean_absolute_error: 2.8658 - val_loss  
: 18.9854 - val_mean_absolute_error: 2.  
6380  
537 Epoch 225/20000  
538 - 0s - loss: 15.7622 -  
mean_absolute_error: 3.0401 - val_loss  
: 19.8085 - val_mean_absolute_error: 2.  
6514  
539 Epoch 226/20000  
540 - 0s - loss: 16.9767 -  
mean_absolute_error: 3.0221 - val_loss  
: 19.3338 - val_mean_absolute_error: 2.  
5961  
541 Epoch 227/20000  
542 - 0s - loss: 17.0629 -  
mean_absolute_error: 3.0621 - val_loss  
: 19.7063 - val_mean_absolute_error: 2.  
6400  
543 Epoch 228/20000  
544 - 0s - loss: 18.0748 -  
mean_absolute_error: 3.1568 - val_loss  
: 18.7121 - val_mean_absolute_error: 2.  
6845
```

```
545 Epoch 229/20000
546   - 0s - loss: 17.3223 -
      mean_absolute_error: 3.0767 - val_loss
      : 18.7194 - val_mean_absolute_error: 2.
      6829
547 Epoch 230/20000
548   - 0s - loss: 18.0074 -
      mean_absolute_error: 3.1385 - val_loss
      : 20.3514 - val_mean_absolute_error: 2.
      6920
549
550 Epoch 00230: saving model to ./model/
      model_best.h5
551 Epoch 231/20000
552   - 0s - loss: 18.2868 -
      mean_absolute_error: 3.0488 - val_loss
      : 19.8150 - val_mean_absolute_error: 2.
      6793
553 Epoch 232/20000
554   - 0s - loss: 16.3645 -
      mean_absolute_error: 3.0458 - val_loss
      : 19.7210 - val_mean_absolute_error: 2.
      6393
555 Epoch 233/20000
```

```
556 - 0s - loss: 19.8254 -  
mean_absolute_error: 3.1488 - val_loss  
: 20.4159 - val_mean_absolute_error: 2.  
8369  
557 Epoch 234/20000  
558 - 0s - loss: 18.9816 -  
mean_absolute_error: 3.1178 - val_loss  
: 20.1650 - val_mean_absolute_error: 2.  
6419  
559 Epoch 235/20000  
560 - 0s - loss: 17.3536 -  
mean_absolute_error: 2.9859 - val_loss  
: 19.5177 - val_mean_absolute_error: 2.  
7515  
561 Epoch 236/20000  
562 - 0s - loss: 20.1082 -  
mean_absolute_error: 3.2929 - val_loss  
: 19.4563 - val_mean_absolute_error: 2.  
7337  
563 Epoch 237/20000  
564 - 0s - loss: 18.0877 -  
mean_absolute_error: 3.0991 - val_loss  
: 20.4828 - val_mean_absolute_error: 2.  
6591
```



```
565 Epoch 238/20000
566   - 0s - loss: 17.2972 -
      mean_absolute_error: 2.9942 - val_loss
      : 19.7534 - val_mean_absolute_error: 2.
      6878
567 Epoch 239/20000
568   - 0s - loss: 16.2579 -
      mean_absolute_error: 2.9821 - val_loss
      : 18.7124 - val_mean_absolute_error: 2.
      8273
569 Epoch 240/20000
570   - 0s - loss: 16.5687 -
      mean_absolute_error: 3.0708 - val_loss
      : 18.6107 - val_mean_absolute_error: 2.
      8156
571
572 Epoch 00240: saving model to ./model/
      model_best.h5
573 Epoch 241/20000
574   - 0s - loss: 15.7391 -
      mean_absolute_error: 2.9991 - val_loss
      : 18.6456 - val_mean_absolute_error: 2.
      6004
575 Epoch 242/20000
```

```
576 - 0s - loss: 16.1562 -  
mean_absolute_error: 2.8376 - val_loss  
: 18.3616 - val_mean_absolute_error: 2.  
6542  
577 Epoch 243/20000  
578 - 0s - loss: 13.7959 -  
mean_absolute_error: 2.7819 - val_loss  
: 20.5057 - val_mean_absolute_error: 2.  
7008  
579 Epoch 244/20000  
580 - 0s - loss: 18.3989 -  
mean_absolute_error: 3.1774 - val_loss  
: 21.0307 - val_mean_absolute_error: 2.  
6790  
581 Epoch 245/20000  
582 - 0s - loss: 19.2590 -  
mean_absolute_error: 3.1729 - val_loss  
: 19.4085 - val_mean_absolute_error: 2.  
6225  
583 Epoch 246/20000  
584 - 0s - loss: 19.5630 -  
mean_absolute_error: 3.2186 - val_loss  
: 19.7713 - val_mean_absolute_error: 2.  
6222
```

```
585 Epoch 247/20000
586   - 0s - loss: 16.5907 -
      mean_absolute_error: 3.0436 - val_loss
      : 19.0957 - val_mean_absolute_error: 2.
      6918
587 Epoch 248/20000
588   - 0s - loss: 17.7082 -
      mean_absolute_error: 3.1022 - val_loss
      : 19.7204 - val_mean_absolute_error: 2.
      7037
589 Epoch 249/20000
590   - 0s - loss: 16.0462 -
      mean_absolute_error: 2.9650 - val_loss
      : 18.8110 - val_mean_absolute_error: 2.
      7862
591 Epoch 250/20000
592   - 0s - loss: 18.8301 -
      mean_absolute_error: 3.2015 - val_loss
      : 18.0429 - val_mean_absolute_error: 2.
      6783
593
594 Epoch 00250: saving model to ./model/
      model_best.h5
595 Epoch 251/20000
```

```
596 - 0s - loss: 17.3421 -  
mean_absolute_error: 2.9287 - val_loss  
: 18.4873 - val_mean_absolute_error: 2.  
6459  
597 Epoch 252/20000  
598 - 0s - loss: 14.5467 -  
mean_absolute_error: 2.9438 - val_loss  
: 18.4841 - val_mean_absolute_error: 2.  
5827  
599 Epoch 253/20000  
600 - 0s - loss: 15.2362 -  
mean_absolute_error: 2.7830 - val_loss  
: 19.1641 - val_mean_absolute_error: 2.  
7018  
601 Epoch 254/20000  
602 - 0s - loss: 17.8286 -  
mean_absolute_error: 3.0932 - val_loss  
: 19.4564 - val_mean_absolute_error: 2.  
6321  
603 Epoch 255/20000  
604 - 0s - loss: 21.1751 -  
mean_absolute_error: 3.1803 - val_loss  
: 19.4315 - val_mean_absolute_error: 2.  
6812
```

```
605 Epoch 256/20000
606   - 0s - loss: 16.5523 -
      mean_absolute_error: 3.0229 - val_loss
      : 18.6816 - val_mean_absolute_error: 2.
      5805
607 Epoch 257/20000
608   - 0s - loss: 16.4232 -
      mean_absolute_error: 3.0799 - val_loss
      : 18.5379 - val_mean_absolute_error: 2.
      7073
609 Epoch 258/20000
610   - 0s - loss: 16.0047 -
      mean_absolute_error: 3.0196 - val_loss
      : 18.7321 - val_mean_absolute_error: 2.
      6829
611 Epoch 259/20000
612   - 0s - loss: 19.1699 -
      mean_absolute_error: 3.2799 - val_loss
      : 21.5231 - val_mean_absolute_error: 2.
      7863
613 Epoch 260/20000
614   - 0s - loss: 18.9174 -
      mean_absolute_error: 3.2108 - val_loss
      : 19.1801 - val_mean_absolute_error: 2.
```

614 6526

615

616 Epoch 00260: saving model to ./model/
model_best.h5

617 Epoch 261/20000

618 - 0s - loss: 18.9940 -
mean_absolute_error: 3.1864 - val_loss
: 19.8541 - val_mean_absolute_error: 2.
6832

619 Epoch 262/20000

620 - 0s - loss: 18.7568 -
mean_absolute_error: 3.0539 - val_loss
: 18.1209 - val_mean_absolute_error: 2.
6142

621 Epoch 263/20000

622 - 0s - loss: 14.4835 -
mean_absolute_error: 2.7257 - val_loss
: 17.5441 - val_mean_absolute_error: 2.
5904

623 Epoch 264/20000

624 - 0s - loss: 15.3667 -
mean_absolute_error: 2.8954 - val_loss
: 19.1171 - val_mean_absolute_error: 2.
5538

```
625 Epoch 265/20000
626   - 0s - loss: 17.4090 -
      mean_absolute_error: 2.9183 - val_loss
      : 18.1106 - val_mean_absolute_error: 2.
6731
627 Epoch 266/20000
628   - 0s - loss: 17.3440 -
      mean_absolute_error: 3.1167 - val_loss
      : 19.2978 - val_mean_absolute_error: 2.
6014
629 Epoch 267/20000
630   - 0s - loss: 17.0086 -
      mean_absolute_error: 2.9296 - val_loss
      : 18.1390 - val_mean_absolute_error: 2.
7294
631 Epoch 268/20000
632   - 0s - loss: 15.2930 -
      mean_absolute_error: 2.9848 - val_loss
      : 18.1197 - val_mean_absolute_error: 2.
5818
633 Epoch 269/20000
634   - 0s - loss: 16.4782 -
      mean_absolute_error: 3.0325 - val_loss
      : 18.7114 - val_mean_absolute_error: 2.
```

```
634 6384
635 Epoch 270/20000
636   - 0s - loss: 17.6691 -
      mean_absolute_error: 3.1829 - val_loss
      : 18.5731 - val_mean_absolute_error: 2.
6331
637
638 Epoch 00270: saving model to ./model/
      model_best.h5
639 Epoch 271/20000
640   - 0s - loss: 15.3685 -
      mean_absolute_error: 2.9037 - val_loss
      : 20.6827 - val_mean_absolute_error: 2.
7999
641 Epoch 272/20000
642   - 0s - loss: 14.2338 -
      mean_absolute_error: 2.7129 - val_loss
      : 18.7947 - val_mean_absolute_error: 2.
8551
643 Epoch 273/20000
644   - 0s - loss: 16.8254 -
      mean_absolute_error: 3.0290 - val_loss
      : 19.2943 - val_mean_absolute_error: 2.
6760
```



```
645 Epoch 274/20000
646   - 0s - loss: 15.8853 -
      mean_absolute_error: 2.8709 - val_loss
      : 19.2007 - val_mean_absolute_error: 2.
      8123
647 Epoch 275/20000
648   - 0s - loss: 17.4304 -
      mean_absolute_error: 3.0503 - val_loss
      : 19.2857 - val_mean_absolute_error: 2.
      6467
649 Epoch 276/20000
650   - 0s - loss: 17.8986 -
      mean_absolute_error: 3.0515 - val_loss
      : 19.3216 - val_mean_absolute_error: 2.
      7948
651 Epoch 277/20000
652   - 0s - loss: 16.5509 -
      mean_absolute_error: 2.9364 - val_loss
      : 18.8804 - val_mean_absolute_error: 2.
      6163
653 Epoch 278/20000
654   - 0s - loss: 16.6916 -
      mean_absolute_error: 2.9754 - val_loss
      : 18.9458 - val_mean_absolute_error: 2.
```

```
654 8303
655 Epoch 279/20000
656   - 0s - loss: 15.5738 -
      mean_absolute_error: 2.9984 - val_loss
      : 19.2436 - val_mean_absolute_error: 2.
8550
657 Epoch 280/20000
658   - 0s - loss: 14.8156 -
      mean_absolute_error: 2.8273 - val_loss
      : 18.4548 - val_mean_absolute_error: 2.
6831
659
660 Epoch 00280: saving model to ./model/
      model_best.h5
661 Epoch 281/20000
662   - 0s - loss: 15.0207 -
      mean_absolute_error: 2.9143 - val_loss
      : 19.5601 - val_mean_absolute_error: 2.
7133
663 Epoch 282/20000
664   - 0s - loss: 15.4166 -
      mean_absolute_error: 2.8254 - val_loss
      : 18.6170 - val_mean_absolute_error: 2.
7419
```

```
665 Epoch 283/20000
666   - 0s - loss: 15.4910 -
      mean_absolute_error: 2.9688 - val_loss
      : 17.9598 - val_mean_absolute_error: 2.
      7861
667 Epoch 284/20000
668   - 0s - loss: 17.5251 -
      mean_absolute_error: 2.8990 - val_loss
      : 18.2665 - val_mean_absolute_error: 2.
      6312
669 Epoch 285/20000
670   - 0s - loss: 17.9962 -
      mean_absolute_error: 3.0847 - val_loss
      : 18.1609 - val_mean_absolute_error: 2.
      6541
671 Epoch 286/20000
672   - 0s - loss: 17.2688 -
      mean_absolute_error: 3.1207 - val_loss
      : 17.8977 - val_mean_absolute_error: 2.
      6978
673 Epoch 287/20000
674   - 0s - loss: 16.7489 -
      mean_absolute_error: 2.8913 - val_loss
      : 18.4074 - val_mean_absolute_error: 2.
```

```
674 8383
675 Epoch 288/20000
676   - 0s - loss: 15.2882 -
      mean_absolute_error: 2.9505 - val_loss
      : 18.7784 - val_mean_absolute_error: 2.
6274
677 Epoch 289/20000
678   - 0s - loss: 16.1714 -
      mean_absolute_error: 2.9493 - val_loss
      : 17.6784 - val_mean_absolute_error: 2.
6641
679 Epoch 290/20000
680   - 0s - loss: 19.4529 -
      mean_absolute_error: 3.1295 - val_loss
      : 20.4522 - val_mean_absolute_error: 2.
8177
681
682 Epoch 00290: saving model to ./model/
      model_best.h5
683 Epoch 291/20000
684   - 0s - loss: 14.5921 -
      mean_absolute_error: 2.8174 - val_loss
      : 19.8688 - val_mean_absolute_error: 2.
7208
```

```
685 Epoch 292/20000
686   - 0s - loss: 16.8314 -
      mean_absolute_error: 2.9866 - val_loss
      : 18.6719 - val_mean_absolute_error: 2.
6891
687 Epoch 293/20000
688   - 0s - loss: 18.6651 -
      mean_absolute_error: 3.1277 - val_loss
      : 18.7580 - val_mean_absolute_error: 2.
6188
689 Epoch 294/20000
690   - 0s - loss: 16.6043 -
      mean_absolute_error: 3.0182 - val_loss
      : 18.8572 - val_mean_absolute_error: 2.
6298
691 Epoch 295/20000
692   - 0s - loss: 14.7869 -
      mean_absolute_error: 2.9128 - val_loss
      : 18.5150 - val_mean_absolute_error: 2.
7828
693 Epoch 296/20000
694   - 0s - loss: 15.8424 -
      mean_absolute_error: 3.0057 - val_loss
      : 18.3243 - val_mean_absolute_error: 2.
```

```
694 6514
695 Epoch 297/20000
696   - 0s - loss: 18.1137 -
      mean_absolute_error: 3.0975 - val_loss
      : 18.7100 - val_mean_absolute_error: 2.
6236
697 Epoch 298/20000
698   - 0s - loss: 15.3833 -
      mean_absolute_error: 2.9311 - val_loss
      : 17.7930 - val_mean_absolute_error: 2.
8305
699 Epoch 299/20000
700   - 0s - loss: 16.7962 -
      mean_absolute_error: 3.0271 - val_loss
      : 17.7045 - val_mean_absolute_error: 2.
7263
701 Epoch 300/20000
702   - 0s - loss: 17.0735 -
      mean_absolute_error: 3.0577 - val_loss
      : 18.3371 - val_mean_absolute_error: 2.
6294
703
704 Epoch 00300: saving model to ./model/
      model_best.h5
```

```
705 Epoch 301/20000
706   - 0s - loss: 16.7840 -
      mean_absolute_error: 3.0777 - val_loss
      : 17.5789 - val_mean_absolute_error: 2.
      7344
707 Epoch 302/20000
708   - 0s - loss: 16.3397 -
      mean_absolute_error: 3.0130 - val_loss
      : 18.2736 - val_mean_absolute_error: 2.
      5992
709 Epoch 303/20000
710   - 0s - loss: 15.3182 -
      mean_absolute_error: 2.9097 - val_loss
      : 17.3937 - val_mean_absolute_error: 2.
      7930
711 Epoch 304/20000
712   - 0s - loss: 14.8962 -
      mean_absolute_error: 2.7950 - val_loss
      : 17.5471 - val_mean_absolute_error: 2.
      5832
713 Epoch 305/20000
714   - 0s - loss: 15.0891 -
      mean_absolute_error: 3.0469 - val_loss
      : 17.1955 - val_mean_absolute_error: 2.
```

```
714 5331
715 Epoch 306/20000
716 - 0s - loss: 14.6637 -
    mean_absolute_error: 2.7781 - val_loss
    : 17.6664 - val_mean_absolute_error: 2.
5993
717 Epoch 307/20000
718 - 0s - loss: 16.8290 -
    mean_absolute_error: 2.9712 - val_loss
    : 17.7224 - val_mean_absolute_error: 2.
6399
719 Epoch 308/20000
720 - 0s - loss: 14.1503 -
    mean_absolute_error: 2.8976 - val_loss
    : 17.6817 - val_mean_absolute_error: 2.
6195
721 Epoch 309/20000
722 - 0s - loss: 13.2437 -
    mean_absolute_error: 2.6849 - val_loss
    : 17.5035 - val_mean_absolute_error: 2.
5902
723 Epoch 310/20000
724 - 0s - loss: 15.5142 -
    mean_absolute_error: 2.9558 - val_loss
```



```
724 : 17.3433 - val_mean_absolute_error: 2.  
6642
```

```
725
```

```
726 Epoch 00310: saving model to ./model/  
model_best.h5
```

```
727 Epoch 311/20000
```

```
728 - 0s - loss: 17.3428 -  
mean_absolute_error: 3.0327 - val_loss  
: 16.8698 - val_mean_absolute_error: 2.  
6561
```

```
729 Epoch 312/20000
```

```
730 - 0s - loss: 15.8393 -  
mean_absolute_error: 2.9199 - val_loss  
: 16.9740 - val_mean_absolute_error: 2.  
5731
```

```
731 Epoch 313/20000
```

```
732 - 0s - loss: 16.8871 -  
mean_absolute_error: 3.0370 - val_loss  
: 19.3013 - val_mean_absolute_error: 2.  
6871
```

```
733 Epoch 314/20000
```

```
734 - 0s - loss: 14.4243 -  
mean_absolute_error: 2.8333 - val_loss  
: 17.1381 - val_mean_absolute_error: 2.
```

```
734 5766
735 Epoch 315/20000
736 - 0s - loss: 18.5117 -
    mean_absolute_error: 3.0460 - val_loss
    : 16.8931 - val_mean_absolute_error: 2.
5886
737 Epoch 316/20000
738 - 0s - loss: 16.4765 -
    mean_absolute_error: 2.9367 - val_loss
    : 18.2182 - val_mean_absolute_error: 2.
6404
739 Epoch 317/20000
740 - 0s - loss: 16.6396 -
    mean_absolute_error: 3.0402 - val_loss
    : 18.2954 - val_mean_absolute_error: 2.
5979
741 Epoch 318/20000
742 - 0s - loss: 15.9502 -
    mean_absolute_error: 3.0520 - val_loss
    : 18.4836 - val_mean_absolute_error: 2.
6145
743 Epoch 319/20000
744 - 0s - loss: 16.0133 -
    mean_absolute_error: 2.8727 - val_loss
```

```
744 : 17.4676 - val_mean_absolute_error: 2.
6181
745 Epoch 320/20000
746 - 0s - loss: 18.8766 -
mean_absolute_error: 3.1169 - val_loss
: 17.2238 - val_mean_absolute_error: 2.
6199
747
748 Epoch 00320: saving model to ./model/
model_best.h5
749 Epoch 321/20000
750 - 0s - loss: 13.4843 -
mean_absolute_error: 2.8378 - val_loss
: 17.0534 - val_mean_absolute_error: 2.
6072
751 Epoch 322/20000
752 - 0s - loss: 13.2294 -
mean_absolute_error: 2.8157 - val_loss
: 16.9670 - val_mean_absolute_error: 2.
5525
753 Epoch 323/20000
754 - 0s - loss: 15.8175 -
mean_absolute_error: 2.9615 - val_loss
: 17.2906 - val_mean_absolute_error: 2.
```

```
754 6073
755 Epoch 324/20000
756 - 0s - loss: 15.9347 -
    mean_absolute_error: 2.9056 - val_loss
    : 17.1373 - val_mean_absolute_error: 2.
5921
757 Epoch 325/20000
758 - 0s - loss: 15.2336 -
    mean_absolute_error: 2.9152 - val_loss
    : 17.1885 - val_mean_absolute_error: 2.
8771
759 Epoch 326/20000
760 - 0s - loss: 17.3381 -
    mean_absolute_error: 3.0519 - val_loss
    : 17.2988 - val_mean_absolute_error: 2.
6821
761 Epoch 327/20000
762 - 0s - loss: 15.0492 -
    mean_absolute_error: 2.8642 - val_loss
    : 16.8186 - val_mean_absolute_error: 2.
5711
763 Epoch 328/20000
764 - 0s - loss: 19.1748 -
    mean_absolute_error: 3.0755 - val_loss
```

```
764 : 17.2877 - val_mean_absolute_error: 2.
5781
765 Epoch 329/20000
766 - 0s - loss: 14.0429 -
mean_absolute_error: 2.8270 - val_loss
: 16.6846 - val_mean_absolute_error: 2.
5480
767 Epoch 330/20000
768 - 0s - loss: 18.7466 -
mean_absolute_error: 3.1275 - val_loss
: 16.8457 - val_mean_absolute_error: 2.
5742
769
770 Epoch 00330: saving model to ./model/
model_best.h5
771 Epoch 331/20000
772 - 0s - loss: 15.3323 -
mean_absolute_error: 2.7909 - val_loss
: 16.7786 - val_mean_absolute_error: 2.
5984
773 Epoch 332/20000
774 - 0s - loss: 16.9279 -
mean_absolute_error: 3.1052 - val_loss
: 16.9907 - val_mean_absolute_error: 2.
```

```
774 6098
775 Epoch 333/20000
776 - 0s - loss: 15.5804 -
    mean_absolute_error: 2.9053 - val_loss
    : 18.9237 - val_mean_absolute_error: 2.
7524
777 Epoch 334/20000
778 - 0s - loss: 14.4686 -
    mean_absolute_error: 2.8259 - val_loss
    : 17.6756 - val_mean_absolute_error: 2.
6246
779 Epoch 335/20000
780 - 0s - loss: 15.6057 -
    mean_absolute_error: 2.9346 - val_loss
    : 17.0297 - val_mean_absolute_error: 2.
5594
781 Epoch 336/20000
782 - 0s - loss: 16.0204 -
    mean_absolute_error: 2.9830 - val_loss
    : 16.9789 - val_mean_absolute_error: 2.
6454
783 Epoch 337/20000
784 - 0s - loss: 15.5764 -
    mean_absolute_error: 2.9118 - val_loss
```

```
784 : 17.3234 - val_mean_absolute_error: 2.
7929
785 Epoch 338/20000
786 - 0s - loss: 17.6836 -
mean_absolute_error: 2.9966 - val_loss
: 17.8031 - val_mean_absolute_error: 2.
6853
787 Epoch 339/20000
788 - 0s - loss: 16.2596 -
mean_absolute_error: 2.8677 - val_loss
: 17.5597 - val_mean_absolute_error: 2.
7343
789 Epoch 340/20000
790 - 0s - loss: 15.5230 -
mean_absolute_error: 2.8566 - val_loss
: 17.9275 - val_mean_absolute_error: 2.
7769
791
792 Epoch 00340: saving model to ./model/
model_best.h5
793 Epoch 341/20000
794 - 0s - loss: 12.9474 -
mean_absolute_error: 2.7852 - val_loss
: 18.0008 - val_mean_absolute_error: 2.
```

```
794 7325
795 Epoch 342/20000
796 - 0s - loss: 15.4090 -
    mean_absolute_error: 2.9836 - val_loss
    : 17.6884 - val_mean_absolute_error: 2.
6234
797 Epoch 343/20000
798 - 0s - loss: 13.8378 -
    mean_absolute_error: 2.7620 - val_loss
    : 17.9781 - val_mean_absolute_error: 2.
6048
799 Epoch 344/20000
800 - 0s - loss: 14.9828 -
    mean_absolute_error: 2.8300 - val_loss
    : 20.2988 - val_mean_absolute_error: 2.
7145
801 Epoch 345/20000
802 - 0s - loss: 17.9716 -
    mean_absolute_error: 3.0250 - val_loss
    : 17.4576 - val_mean_absolute_error: 2.
7995
803 Epoch 346/20000
804 - 0s - loss: 13.3470 -
    mean_absolute_error: 2.8367 - val_loss
```



```
804 : 19.1804 - val_mean_absolute_error: 2.
6691
805 Epoch 347/20000
806 - 0s - loss: 15.7937 -
mean_absolute_error: 2.8350 - val_loss
: 18.2272 - val_mean_absolute_error: 2.
6916
807 Epoch 348/20000
808 - 0s - loss: 13.4192 -
mean_absolute_error: 2.7528 - val_loss
: 19.2433 - val_mean_absolute_error: 2.
7335
809 Epoch 349/20000
810 - 0s - loss: 15.3376 -
mean_absolute_error: 2.9408 - val_loss
: 18.0428 - val_mean_absolute_error: 2.
6385
811 Epoch 350/20000
812 - 0s - loss: 15.1040 -
mean_absolute_error: 2.8012 - val_loss
: 17.5332 - val_mean_absolute_error: 2.
6440
813
814 Epoch 00350: saving model to ./model/
```

```
814 model_best.h5
815 Epoch 351/20000
816   - 0s - loss: 14.6682 -
      mean_absolute_error: 2.7927 - val_loss
      : 17.6664 - val_mean_absolute_error: 2.
6170
817 Epoch 352/20000
818   - 0s - loss: 13.6564 -
      mean_absolute_error: 2.8407 - val_loss
      : 17.7609 - val_mean_absolute_error: 2.
6383
819 Epoch 353/20000
820   - 0s - loss: 15.8412 -
      mean_absolute_error: 2.8901 - val_loss
      : 18.1538 - val_mean_absolute_error: 2.
6538
821 Epoch 354/20000
822   - 0s - loss: 13.4674 -
      mean_absolute_error: 2.7803 - val_loss
      : 18.1062 - val_mean_absolute_error: 2.
6419
823 Epoch 355/20000
824   - 0s - loss: 18.5021 -
      mean_absolute_error: 3.0336 - val_loss
```

```
824 : 18.6804 - val_mean_absolute_error: 2.
6864
825 Epoch 356/20000
826 - 0s - loss: 16.2315 -
mean_absolute_error: 3.0339 - val_loss
: 17.5046 - val_mean_absolute_error: 2.
6389
827 Epoch 357/20000
828 - 0s - loss: 14.8194 -
mean_absolute_error: 2.8133 - val_loss
: 18.0098 - val_mean_absolute_error: 2.
6496
829 Epoch 358/20000
830 - 0s - loss: 18.1055 -
mean_absolute_error: 3.2217 - val_loss
: 17.8740 - val_mean_absolute_error: 2.
6540
831 Epoch 359/20000
832 - 0s - loss: 14.9723 -
mean_absolute_error: 2.9467 - val_loss
: 17.5497 - val_mean_absolute_error: 2.
6446
833 Epoch 360/20000
834 - 0s - loss: 16.9937 -
```

```
834 mean_absolute_error: 2.9535 - val_loss
    : 18.7165 - val_mean_absolute_error: 2.
6401
```

```
835
```

```
836 Epoch 00360: saving model to ./model/
model_best.h5
```

```
837 Epoch 361/20000
```

```
838   - 0s - loss: 13.1198 -
mean_absolute_error: 2.8169 - val_loss
    : 18.2070 - val_mean_absolute_error: 2.
7352
```

```
839 Epoch 362/20000
```

```
840   - 0s - loss: 14.2542 -
mean_absolute_error: 2.8199 - val_loss
    : 17.2905 - val_mean_absolute_error: 2.
5993
```

```
841 Epoch 363/20000
```

```
842   - 0s - loss: 12.6945 -
mean_absolute_error: 2.6866 - val_loss
    : 17.5439 - val_mean_absolute_error: 2.
6273
```

```
843 Epoch 364/20000
```

```
844   - 0s - loss: 16.4718 -
mean_absolute_error: 2.9711 - val_loss
```

```
844 : 18.4743 - val_mean_absolute_error: 2.
6266
845 Epoch 365/20000
846 - 0s - loss: 15.6310 -
mean_absolute_error: 2.7690 - val_loss
: 20.0516 - val_mean_absolute_error: 2.
7692
847 Epoch 366/20000
848 - 0s - loss: 15.5561 -
mean_absolute_error: 2.9407 - val_loss
: 17.3058 - val_mean_absolute_error: 2.
6425
849 Epoch 367/20000
850 - 0s - loss: 15.4242 -
mean_absolute_error: 2.8978 - val_loss
: 16.9828 - val_mean_absolute_error: 2.
6155
851 Epoch 368/20000
852 - 0s - loss: 14.6059 -
mean_absolute_error: 2.8364 - val_loss
: 18.5568 - val_mean_absolute_error: 2.
6579
853 Epoch 369/20000
854 - 0s - loss: 16.1497 -
```

```
854 mean_absolute_error: 3.0168 - val_loss
    : 18.1513 - val_mean_absolute_error: 2.
    6133
```

```
855 Epoch 370/20000
```

```
856 - 0s - loss: 14.1873 -
    mean_absolute_error: 2.8148 - val_loss
    : 18.6173 - val_mean_absolute_error: 2.
    7665
```

```
857
```

```
858 Epoch 00370: saving model to ./model/
    model_best.h5
```

```
859 Epoch 371/20000
```

```
860 - 0s - loss: 17.8615 -
    mean_absolute_error: 3.0266 - val_loss
    : 18.4815 - val_mean_absolute_error: 2.
    7152
```

```
861 Epoch 372/20000
```

```
862 - 0s - loss: 15.7374 -
    mean_absolute_error: 2.8913 - val_loss
    : 18.1656 - val_mean_absolute_error: 2.
    9090
```

```
863 Epoch 373/20000
```

```
864 - 0s - loss: 15.5059 -
    mean_absolute_error: 2.8868 - val_loss
```

```
864 : 17.5115 - val_mean_absolute_error: 2.  
6336  
865 Epoch 374/20000  
866 - 0s - loss: 12.5363 -  
mean_absolute_error: 2.6727 - val_loss  
: 17.6982 - val_mean_absolute_error: 2.  
6526  
867 Epoch 375/20000  
868 - 0s - loss: 15.1670 -  
mean_absolute_error: 2.8138 - val_loss  
: 18.7342 - val_mean_absolute_error: 2.  
6730  
869 Epoch 376/20000  
870 - 0s - loss: 17.9911 -  
mean_absolute_error: 3.0673 - val_loss  
: 17.8617 - val_mean_absolute_error: 2.  
6531  
871 Epoch 377/20000  
872 - 0s - loss: 14.4294 -  
mean_absolute_error: 2.8092 - val_loss  
: 18.4860 - val_mean_absolute_error: 2.  
6767  
873 Epoch 378/20000  
874 - 0s - loss: 17.1419 -
```

```
874 mean_absolute_error: 3.0078 - val_loss
    : 18.4416 - val_mean_absolute_error: 2.
    7220
```

```
875 Epoch 379/20000
```

```
876 - 0s - loss: 15.9500 -
    mean_absolute_error: 2.9277 - val_loss
    : 18.1085 - val_mean_absolute_error: 2.
    6816
```

```
877 Epoch 380/20000
```

```
878 - 0s - loss: 15.8139 -
    mean_absolute_error: 2.9280 - val_loss
    : 17.3912 - val_mean_absolute_error: 2.
    6637
```

```
879
```

```
880 Epoch 00380: saving model to ./model/
    model_best.h5
```

```
881 Epoch 381/20000
```

```
882 - 0s - loss: 13.1755 -
    mean_absolute_error: 2.7567 - val_loss
    : 17.8535 - val_mean_absolute_error: 2.
    6625
```

```
883 Epoch 382/20000
```

```
884 - 0s - loss: 14.1129 -
    mean_absolute_error: 2.8165 - val_loss
```



```
884 : 17.0857 - val_mean_absolute_error: 2.
6050
885 Epoch 383/20000
886 - 0s - loss: 12.8434 -
mean_absolute_error: 2.7038 - val_loss
: 18.5088 - val_mean_absolute_error: 2.
6727
887 Epoch 384/20000
888 - 0s - loss: 15.2308 -
mean_absolute_error: 2.8777 - val_loss
: 17.8258 - val_mean_absolute_error: 2.
6401
889 Epoch 385/20000
890 - 0s - loss: 13.1650 -
mean_absolute_error: 2.7195 - val_loss
: 17.5600 - val_mean_absolute_error: 2.
8337
891 Epoch 386/20000
892 - 0s - loss: 13.8807 -
mean_absolute_error: 2.8741 - val_loss
: 16.7423 - val_mean_absolute_error: 2.
6414
893 Epoch 387/20000
894 - 0s - loss: 16.8501 -
```

```
894 mean_absolute_error: 3.0397 - val_loss
    : 17.5921 - val_mean_absolute_error: 2.
5962
895 Epoch 388/20000
896   - 0s - loss: 15.3091 -
    mean_absolute_error: 2.8117 - val_loss
    : 18.1427 - val_mean_absolute_error: 2.
6553
897 Epoch 389/20000
898   - 0s - loss: 15.3148 -
    mean_absolute_error: 2.8803 - val_loss
    : 17.8699 - val_mean_absolute_error: 2.
5923
899 Epoch 390/20000
900   - 0s - loss: 17.1158 -
    mean_absolute_error: 3.0272 - val_loss
    : 17.0791 - val_mean_absolute_error: 2.
5844
901
902 Epoch 00390: saving model to ./model /
    model_best.h5
903 Epoch 391/20000
904   - 0s - loss: 12.9360 -
    mean_absolute_error: 2.6172 - val_loss
```

```
904 : 17.3931 - val_mean_absolute_error: 2.
5770
905 Epoch 392/20000
906 - 0s - loss: 15.2445 -
mean_absolute_error: 2.9126 - val_loss
: 17.2695 - val_mean_absolute_error: 2.
6112
907 Epoch 393/20000
908 - 0s - loss: 17.2913 -
mean_absolute_error: 2.9963 - val_loss
: 17.1773 - val_mean_absolute_error: 2.
6774
909 Epoch 394/20000
910 - 0s - loss: 15.9070 -
mean_absolute_error: 2.9249 - val_loss
: 17.0791 - val_mean_absolute_error: 2.
6383
911 Epoch 395/20000
912 - 0s - loss: 15.0246 -
mean_absolute_error: 2.7689 - val_loss
: 18.7457 - val_mean_absolute_error: 2.
7262
913 Epoch 396/20000
914 - 0s - loss: 16.9875 -
```

```
914 mean_absolute_error: 2.9350 - val_loss
    : 16.7740 - val_mean_absolute_error: 2.
6136
915 Epoch 397/20000
916   - 0s - loss: 13.7328 -
    mean_absolute_error: 2.7431 - val_loss
    : 17.1135 - val_mean_absolute_error: 2.
5945
917 Epoch 398/20000
918   - 0s - loss: 14.3301 -
    mean_absolute_error: 2.8046 - val_loss
    : 16.9098 - val_mean_absolute_error: 2.
6468
919 Epoch 399/20000
920   - 0s - loss: 13.0318 -
    mean_absolute_error: 2.7123 - val_loss
    : 17.2984 - val_mean_absolute_error: 2.
6622
921 Epoch 400/20000
922   - 0s - loss: 13.8545 -
    mean_absolute_error: 2.6871 - val_loss
    : 17.5061 - val_mean_absolute_error: 2.
7860
923
```

```
924 Epoch 00400: saving model to ./model/
    model_best.h5
925 Epoch 401/20000
926   - 0s - loss: 16.3677 -
    mean_absolute_error: 2.9938 - val_loss
    : 17.6166 - val_mean_absolute_error: 2.
    6574
927 Epoch 402/20000
928   - 0s - loss: 16.2290 -
    mean_absolute_error: 2.9170 - val_loss
    : 18.8676 - val_mean_absolute_error: 2.
    6637
929 Epoch 403/20000
930   - 0s - loss: 16.2960 -
    mean_absolute_error: 3.0361 - val_loss
    : 17.8409 - val_mean_absolute_error: 2.
    6951
931 Epoch 404/20000
932   - 0s - loss: 16.6314 -
    mean_absolute_error: 3.0453 - val_loss
    : 18.0223 - val_mean_absolute_error: 2.
    6529
933 Epoch 405/20000
934   - 0s - loss: 14.4591 -
```

```
934 mean_absolute_error: 2.8366 - val_loss
    : 17.9732 - val_mean_absolute_error: 2.
6193
935 Epoch 406/20000
936   - 0s - loss: 16.3683 -
    mean_absolute_error: 2.9942 - val_loss
    : 17.5218 - val_mean_absolute_error: 2.
5731
937 Epoch 407/20000
938   - 0s - loss: 14.0417 -
    mean_absolute_error: 2.8118 - val_loss
    : 19.3022 - val_mean_absolute_error: 2.
7296
939 Epoch 408/20000
940   - 0s - loss: 15.6914 -
    mean_absolute_error: 2.9952 - val_loss
    : 18.2375 - val_mean_absolute_error: 2.
6670
941 Epoch 409/20000
942   - 0s - loss: 13.6609 -
    mean_absolute_error: 2.6817 - val_loss
    : 16.8251 - val_mean_absolute_error: 2.
6234
943 Epoch 410/20000
```

```
944 - 0s - loss: 13.2995 -  
mean_absolute_error: 2.6047 - val_loss  
: 17.3014 - val_mean_absolute_error: 2.  
7118
```

```
945
```

```
946 Epoch 00410: saving model to ./model/  
model_best.h5
```

```
947 Epoch 411/20000
```

```
948 - 0s - loss: 13.8570 -  
mean_absolute_error: 2.8485 - val_loss  
: 17.1193 - val_mean_absolute_error: 2.  
6198
```

```
949 Epoch 412/20000
```

```
950 - 0s - loss: 15.9750 -  
mean_absolute_error: 2.8093 - val_loss  
: 18.5388 - val_mean_absolute_error: 2.  
6619
```

```
951 Epoch 413/20000
```

```
952 - 0s - loss: 14.8456 -  
mean_absolute_error: 2.7604 - val_loss  
: 18.3865 - val_mean_absolute_error: 2.  
6737
```

```
953 Epoch 414/20000
```

```
954 - 0s - loss: 14.4278 -
```

```
954 mean_absolute_error: 2.8515 - val_loss
    : 17.3001 - val_mean_absolute_error: 2.
6569
```

```
955 Epoch 415/20000
```

```
956   - 0s - loss: 13.3129 -
    mean_absolute_error: 2.7800 - val_loss
    : 17.1239 - val_mean_absolute_error: 2.
6207
```

```
957 Epoch 416/20000
```

```
958   - 0s - loss: 18.5762 -
    mean_absolute_error: 3.0759 - val_loss
    : 17.4338 - val_mean_absolute_error: 2.
6217
```

```
959 Epoch 417/20000
```

```
960   - 0s - loss: 19.0493 -
    mean_absolute_error: 3.0540 - val_loss
    : 17.1366 - val_mean_absolute_error: 2.
6497
```

```
961 Epoch 418/20000
```

```
962   - 0s - loss: 13.0274 -
    mean_absolute_error: 2.7210 - val_loss
    : 17.8040 - val_mean_absolute_error: 2.
6462
```

```
963 Epoch 419/20000
```



```
964 - 0s - loss: 15.3984 -  
mean_absolute_error: 2.8985 - val_loss  
: 17.3748 - val_mean_absolute_error: 2.  
6023
```

```
965 Epoch 420/20000
```

```
966 - 0s - loss: 15.4334 -  
mean_absolute_error: 2.8627 - val_loss  
: 16.8025 - val_mean_absolute_error: 2.  
6019
```

```
967
```

```
968 Epoch 00420: saving model to ./model/  
model_best.h5
```

```
969 Epoch 421/20000
```

```
970 - 0s - loss: 16.9972 -  
mean_absolute_error: 2.8646 - val_loss  
: 17.3831 - val_mean_absolute_error: 2.  
5952
```

```
971 Epoch 422/20000
```

```
972 - 0s - loss: 15.0363 -  
mean_absolute_error: 2.8048 - val_loss  
: 17.3544 - val_mean_absolute_error: 2.  
6460
```

```
973 Epoch 423/20000
```

```
974 - 0s - loss: 14.9260 -
```

```
974 mean_absolute_error: 2.8835 - val_loss
    : 16.3686 - val_mean_absolute_error: 2.
5898
975 Epoch 424/20000
976   - 0s - loss: 17.0805 -
    mean_absolute_error: 2.9700 - val_loss
    : 17.3989 - val_mean_absolute_error: 2.
6183
977 Epoch 425/20000
978   - 0s - loss: 13.7107 -
    mean_absolute_error: 2.7561 - val_loss
    : 17.8151 - val_mean_absolute_error: 2.
6424
979 Epoch 426/20000
980   - 0s - loss: 14.2350 -
    mean_absolute_error: 2.7541 - val_loss
    : 18.3832 - val_mean_absolute_error: 2.
6839
981 Epoch 427/20000
982   - 0s - loss: 15.3130 -
    mean_absolute_error: 2.7730 - val_loss
    : 17.3823 - val_mean_absolute_error: 2.
6031
983 Epoch 428/20000
```

```
984 - 0s - loss: 16.2547 -  
mean_absolute_error: 2.9286 - val_loss  
: 17.6555 - val_mean_absolute_error: 2  
.6273  
985 Epoch 429/20000  
986 - 0s - loss: 13.2648 -  
mean_absolute_error: 2.7406 - val_loss  
: 17.9251 - val_mean_absolute_error: 2  
.6177  
987 Epoch 430/20000  
988 - 0s - loss: 13.6677 -  
mean_absolute_error: 2.7807 - val_loss  
: 19.7775 - val_mean_absolute_error: 2  
.7752  
989  
990 Epoch 00430: saving model to ./model/  
model_best.h5  
991 Epoch 431/20000  
992 - 0s - loss: 15.1519 -  
mean_absolute_error: 2.7573 - val_loss  
: 16.8662 - val_mean_absolute_error: 2  
.5998  
993 Epoch 432/20000  
994 - 0s - loss: 13.8669 -
```

```
994 mean_absolute_error: 2.7667 - val_loss
    : 16.1935 - val_mean_absolute_error: 2
    .6551
995 Epoch 433/20000
996   - 0s - loss: 14.1472 -
    mean_absolute_error: 2.8411 - val_loss
    : 16.6543 - val_mean_absolute_error: 2
    .6608
997 Epoch 434/20000
998   - 0s - loss: 19.1050 -
    mean_absolute_error: 3.0678 - val_loss
    : 17.7616 - val_mean_absolute_error: 2
    .6121
999 Epoch 435/20000
1000   - 0s - loss: 12.8055 -
    mean_absolute_error: 2.7361 - val_loss
    : 17.0781 - val_mean_absolute_error: 2
    .5851
1001 Epoch 436/20000
1002   - 0s - loss: 13.8615 -
    mean_absolute_error: 2.7320 - val_loss
    : 17.0394 - val_mean_absolute_error: 2
    .5966
1003 Epoch 437/20000
```

```
1004 - 0s - loss: 13.9084 -  
mean_absolute_error: 2.7637 - val_loss  
: 16.9595 - val_mean_absolute_error: 2  
.6251  
1005 Epoch 438/20000  
1006 - 0s - loss: 15.0736 -  
mean_absolute_error: 2.9796 - val_loss  
: 16.9820 - val_mean_absolute_error: 2  
.6065  
1007 Epoch 439/20000  
1008 - 0s - loss: 15.5259 -  
mean_absolute_error: 2.9207 - val_loss  
: 17.8240 - val_mean_absolute_error: 2  
.6440  
1009 Epoch 440/20000  
1010 - 0s - loss: 16.7808 -  
mean_absolute_error: 3.1345 - val_loss  
: 16.9788 - val_mean_absolute_error: 2  
.6034  
1011  
1012 Epoch 00440: saving model to ./model/  
model_best.h5  
1013 Epoch 441/20000  
1014 - 0s - loss: 15.8061 -
```

```
1014 mean_absolute_error: 2.9082 - val_loss
    : 18.2561 - val_mean_absolute_error: 2
    .6981
1015 Epoch 442/20000
1016   - 0s - loss: 12.2951 -
    mean_absolute_error: 2.5652 - val_loss
    : 16.4796 - val_mean_absolute_error: 2
    .6091
1017 Epoch 443/20000
1018   - 0s - loss: 12.5005 -
    mean_absolute_error: 2.6693 - val_loss
    : 17.6204 - val_mean_absolute_error: 2
    .6127
1019 Epoch 444/20000
1020   - 0s - loss: 11.9845 -
    mean_absolute_error: 2.5429 - val_loss
    : 16.6807 - val_mean_absolute_error: 2
    .5964
1021 Epoch 445/20000
1022   - 0s - loss: 15.7993 -
    mean_absolute_error: 2.8822 - val_loss
    : 16.3623 - val_mean_absolute_error: 2
    .5904
1023 Epoch 446/20000
```

```
1024 - 0s - loss: 13.0295 -  
      mean_absolute_error: 2.6760 - val_loss  
      : 17.1426 - val_mean_absolute_error: 2  
      .6149  
1025 Epoch 447/20000  
1026 - 0s - loss: 13.3896 -  
      mean_absolute_error: 2.6779 - val_loss  
      : 18.7964 - val_mean_absolute_error: 2  
      .7038  
1027 Epoch 448/20000  
1028 - 0s - loss: 13.9227 -  
      mean_absolute_error: 2.7492 - val_loss  
      : 16.8829 - val_mean_absolute_error: 2  
      .6022  
1029 Epoch 449/20000  
1030 - 0s - loss: 14.1210 -  
      mean_absolute_error: 2.6615 - val_loss  
      : 16.7457 - val_mean_absolute_error: 2  
      .7318  
1031 Epoch 450/20000  
1032 - 0s - loss: 11.9354 -  
      mean_absolute_error: 2.5550 - val_loss  
      : 17.5155 - val_mean_absolute_error: 2  
      .6470
```

1033

1034 Epoch 00450: saving model to ./model/
model_best.h5

1035 Epoch 451/20000

1036 - 0s - loss: 15.4817 -
mean_absolute_error: 2.8055 - val_loss
: 17.3152 - val_mean_absolute_error: 2
.6849

1037 Epoch 452/20000

1038 - 0s - loss: 16.4353 -
mean_absolute_error: 2.8643 - val_loss
: 17.8373 - val_mean_absolute_error: 2
.7056

1039 Epoch 453/20000

1040 - 0s - loss: 15.2498 -
mean_absolute_error: 2.8843 - val_loss
: 17.8171 - val_mean_absolute_error: 2
.6508

1041 Epoch 454/20000

1042 - 0s - loss: 14.4941 -
mean_absolute_error: 2.8045 - val_loss
: 16.6537 - val_mean_absolute_error: 2
.5687

1043 Epoch 455/20000


```
1044 - 0s - loss: 14.7338 -  
mean_absolute_error: 2.7896 - val_loss  
: 18.2239 - val_mean_absolute_error: 2  
.6513  
1045 Epoch 456/20000  
1046 - 0s - loss: 17.8781 -  
mean_absolute_error: 3.1460 - val_loss  
: 18.0958 - val_mean_absolute_error: 2  
.6402  
1047 Epoch 457/20000  
1048 - 0s - loss: 11.5809 -  
mean_absolute_error: 2.5501 - val_loss  
: 17.1740 - val_mean_absolute_error: 2  
.6076  
1049 Epoch 458/20000  
1050 - 0s - loss: 12.5941 -  
mean_absolute_error: 2.7953 - val_loss  
: 16.8838 - val_mean_absolute_error: 2  
.6225  
1051 Epoch 459/20000  
1052 - 0s - loss: 17.1100 -  
mean_absolute_error: 2.8517 - val_loss  
: 16.8967 - val_mean_absolute_error: 2  
.5801
```

```
1053 Epoch 460/20000
1054   - 0s - loss: 15.3582 -
      mean_absolute_error: 2.9123 - val_loss
      : 16.5181 - val_mean_absolute_error: 2
      .5597
1055
1056 Epoch 00460: saving model to ./model/
      model_best.h5
1057 Epoch 461/20000
1058   - 0s - loss: 14.2155 -
      mean_absolute_error: 2.7565 - val_loss
      : 16.7176 - val_mean_absolute_error: 2
      .5761
1059 Epoch 462/20000
1060   - 0s - loss: 16.1305 -
      mean_absolute_error: 2.8713 - val_loss
      : 16.7868 - val_mean_absolute_error: 2
      .5809
1061 Epoch 463/20000
1062   - 0s - loss: 13.1758 -
      mean_absolute_error: 2.7281 - val_loss
      : 19.6330 - val_mean_absolute_error: 2
      .8886
1063 Epoch 464/20000
```

```
1064 - 0s - loss: 14.0721 -  
mean_absolute_error: 2.7482 - val_loss  
: 16.2697 - val_mean_absolute_error: 2  
.5019  
1065 Epoch 465/20000  
1066 - 0s - loss: 14.8623 -  
mean_absolute_error: 2.8637 - val_loss  
: 16.5554 - val_mean_absolute_error: 2  
.5314  
1067 Epoch 466/20000  
1068 - 0s - loss: 12.2525 -  
mean_absolute_error: 2.5656 - val_loss  
: 16.4781 - val_mean_absolute_error: 2  
.5360  
1069 Epoch 467/20000  
1070 - 0s - loss: 13.8551 -  
mean_absolute_error: 2.6498 - val_loss  
: 16.2729 - val_mean_absolute_error: 2  
.5626  
1071 Epoch 468/20000  
1072 - 0s - loss: 14.0369 -  
mean_absolute_error: 2.7535 - val_loss  
: 17.4188 - val_mean_absolute_error: 2  
.6336
```

```
1073 Epoch 469/20000
1074   - 0s - loss: 11.6121 -
      mean_absolute_error: 2.5691 - val_loss
      : 16.4051 - val_mean_absolute_error: 2
      .6157
1075 Epoch 470/20000
1076   - 0s - loss: 12.6843 -
      mean_absolute_error: 2.5674 - val_loss
      : 16.3927 - val_mean_absolute_error: 2
      .5646
1077
1078 Epoch 00470: saving model to ./model/
      model_best.h5
1079 Epoch 471/20000
1080   - 0s - loss: 15.4781 -
      mean_absolute_error: 2.9164 - val_loss
      : 16.2481 - val_mean_absolute_error: 2
      .5671
1081 Epoch 472/20000
1082   - 0s - loss: 13.6703 -
      mean_absolute_error: 2.7435 - val_loss
      : 16.4100 - val_mean_absolute_error: 2
      .5709
1083 Epoch 473/20000
```

```
1084 - 0s - loss: 13.4297 -  
      mean_absolute_error: 2.6948 - val_loss  
      : 15.8605 - val_mean_absolute_error: 2  
      .5690  
1085 Epoch 474/20000  
1086 - 0s - loss: 15.1700 -  
      mean_absolute_error: 2.9174 - val_loss  
      : 16.7845 - val_mean_absolute_error: 2  
      .6027  
1087 Epoch 475/20000  
1088 - 0s - loss: 15.0407 -  
      mean_absolute_error: 2.8804 - val_loss  
      : 16.5943 - val_mean_absolute_error: 2  
      .5660  
1089 Epoch 476/20000  
1090 - 0s - loss: 15.9520 -  
      mean_absolute_error: 2.9599 - val_loss  
      : 19.0427 - val_mean_absolute_error: 2  
      .8178  
1091 Epoch 477/20000  
1092 - 0s - loss: 14.2256 -  
      mean_absolute_error: 2.8208 - val_loss  
      : 17.0031 - val_mean_absolute_error: 2  
      .7200
```

```
1093 Epoch 478/20000
1094   - 0s - loss: 12.4042 -
      mean_absolute_error: 2.5990 - val_loss
      : 17.0950 - val_mean_absolute_error: 2
      .6357
1095 Epoch 479/20000
1096   - 0s - loss: 12.5144 -
      mean_absolute_error: 2.7094 - val_loss
      : 17.6709 - val_mean_absolute_error: 2
      .6396
1097 Epoch 480/20000
1098   - 0s - loss: 11.2706 -
      mean_absolute_error: 2.5710 - val_loss
      : 16.6526 - val_mean_absolute_error: 2
      .5739
1099
1100 Epoch 00480: saving model to ./model/
      model_best.h5
1101 Epoch 481/20000
1102   - 0s - loss: 12.1429 -
      mean_absolute_error: 2.5301 - val_loss
      : 16.7714 - val_mean_absolute_error: 2
      .5865
1103 Epoch 482/20000
```

```
1104 - 0s - loss: 12.9176 -  
mean_absolute_error: 2.5701 - val_loss  
: 17.0110 - val_mean_absolute_error: 2  
.5967  
1105 Epoch 483/20000  
1106 - 0s - loss: 15.1237 -  
mean_absolute_error: 2.8850 - val_loss  
: 17.0874 - val_mean_absolute_error: 2  
.6397  
1107 Epoch 484/20000  
1108 - 0s - loss: 13.9354 -  
mean_absolute_error: 2.7524 - val_loss  
: 17.2176 - val_mean_absolute_error: 2  
.6296  
1109 Epoch 485/20000  
1110 - 0s - loss: 12.6153 -  
mean_absolute_error: 2.6481 - val_loss  
: 16.4080 - val_mean_absolute_error: 2  
.6166  
1111 Epoch 486/20000  
1112 - 0s - loss: 14.0933 -  
mean_absolute_error: 2.7262 - val_loss  
: 16.6100 - val_mean_absolute_error: 2  
.6228
```

```
1113 Epoch 487/20000
1114   - 0s - loss: 10.9662 -
      mean_absolute_error: 2.5663 - val_loss
      : 16.7866 - val_mean_absolute_error: 2
      .6255
1115 Epoch 488/20000
1116   - 0s - loss: 12.3649 -
      mean_absolute_error: 2.6451 - val_loss
      : 16.4482 - val_mean_absolute_error: 2
      .6445
1117 Epoch 489/20000
1118   - 0s - loss: 13.3377 -
      mean_absolute_error: 2.7481 - val_loss
      : 17.4307 - val_mean_absolute_error: 2
      .6437
1119 Epoch 490/20000
1120   - 0s - loss: 10.8770 -
      mean_absolute_error: 2.6224 - val_loss
      : 16.3999 - val_mean_absolute_error: 2
      .6058
1121
1122 Epoch 00490: saving model to ./model/
      model_best.h5
1123 Epoch 491/20000
```



```
1124 - 0s - loss: 14.1963 -  
      mean_absolute_error: 2.8422 - val_loss  
      : 17.8514 - val_mean_absolute_error: 2  
      .6883  
1125 Epoch 492/20000  
1126 - 0s - loss: 11.3755 -  
      mean_absolute_error: 2.6301 - val_loss  
      : 16.7424 - val_mean_absolute_error: 2  
      .6194  
1127 Epoch 493/20000  
1128 - 0s - loss: 13.7425 -  
      mean_absolute_error: 2.8533 - val_loss  
      : 17.2986 - val_mean_absolute_error: 2  
      .6136  
1129 Epoch 494/20000  
1130 - 0s - loss: 15.8320 -  
      mean_absolute_error: 2.8748 - val_loss  
      : 16.4559 - val_mean_absolute_error: 2  
      .5785  
1131 Epoch 495/20000  
1132 - 0s - loss: 13.2914 -  
      mean_absolute_error: 2.7607 - val_loss  
      : 15.9606 - val_mean_absolute_error: 2  
      .6355
```

```
1133 Epoch 496/20000
1134   - 0s - loss: 14.3645 -
      mean_absolute_error: 2.7597 - val_loss
      : 16.4954 - val_mean_absolute_error: 2
      .5947
1135 Epoch 497/20000
1136   - 0s - loss: 11.6834 -
      mean_absolute_error: 2.5395 - val_loss
      : 16.6672 - val_mean_absolute_error: 2
      .7380
1137 Epoch 498/20000
1138   - 0s - loss: 15.1029 -
      mean_absolute_error: 2.9051 - val_loss
      : 17.2557 - val_mean_absolute_error: 2
      .6440
1139 Epoch 499/20000
1140   - 0s - loss: 13.6286 -
      mean_absolute_error: 2.7233 - val_loss
      : 17.4188 - val_mean_absolute_error: 2
      .5862
1141 Epoch 500/20000
1142   - 0s - loss: 13.0056 -
      mean_absolute_error: 2.7176 - val_loss
      : 17.2855 - val_mean_absolute_error: 2
```

1142 .5667

1143

1144 Epoch 00500: saving model to ./model/
model_best.h5

1145 Epoch 501/20000

1146 - 0s - loss: 14.7486 -
mean_absolute_error: 2.8107 - val_loss
: 16.2607 - val_mean_absolute_error: 2
.5465

1147 Epoch 502/20000

1148 - 0s - loss: 14.2823 -
mean_absolute_error: 2.8900 - val_loss
: 17.2239 - val_mean_absolute_error: 2
.5894

1149 Epoch 503/20000

1150 - 0s - loss: 11.9794 -
mean_absolute_error: 2.6028 - val_loss
: 17.6635 - val_mean_absolute_error: 2
.6232

1151 Epoch 504/20000

1152 - 0s - loss: 13.9933 -
mean_absolute_error: 2.7422 - val_loss
: 17.6163 - val_mean_absolute_error: 2
.5881

```
1153 Epoch 505/20000
1154   - 0s - loss: 13.9181 -
      mean_absolute_error: 2.7055 - val_loss
      : 17.3546 - val_mean_absolute_error: 2
      .6064
1155 Epoch 506/20000
1156   - 0s - loss: 13.1023 -
      mean_absolute_error: 2.6502 - val_loss
      : 16.7273 - val_mean_absolute_error: 2
      .5619
1157 Epoch 507/20000
1158   - 0s - loss: 14.5926 -
      mean_absolute_error: 2.7041 - val_loss
      : 19.0039 - val_mean_absolute_error: 2
      .7693
1159 Epoch 508/20000
1160   - 0s - loss: 13.9937 -
      mean_absolute_error: 2.7671 - val_loss
      : 16.6010 - val_mean_absolute_error: 2
      .5936
1161 Epoch 509/20000
1162   - 0s - loss: 16.0235 -
      mean_absolute_error: 2.8603 - val_loss
      : 16.4552 - val_mean_absolute_error: 2
```

```
1162 .5431
1163 Epoch 510/20000
1164 - 0s - loss: 14.3190 -
mean_absolute_error: 2.7675 - val_loss
: 16.7747 - val_mean_absolute_error: 2
.5745

1165
1166 Epoch 00510: saving model to ./model/
model_best.h5
1167 Epoch 511/20000
1168 - 0s - loss: 12.9912 -
mean_absolute_error: 2.7222 - val_loss
: 16.4307 - val_mean_absolute_error: 2
.5673

1169 Epoch 512/20000
1170 - 0s - loss: 12.9750 -
mean_absolute_error: 2.6937 - val_loss
: 16.5236 - val_mean_absolute_error: 2
.5682

1171 Epoch 513/20000
1172 - 0s - loss: 12.0839 -
mean_absolute_error: 2.6266 - val_loss
: 16.6156 - val_mean_absolute_error: 2
.5975
```

```
1173 Epoch 514/20000
1174   - 0s - loss: 11.7562 -
      mean_absolute_error: 2.6130 - val_loss
      : 16.5191 - val_mean_absolute_error: 2
      .5478
1175 Epoch 515/20000
1176   - 0s - loss: 13.9925 -
      mean_absolute_error: 2.7478 - val_loss
      : 16.7963 - val_mean_absolute_error: 2
      .5968
1177 Epoch 516/20000
1178   - 0s - loss: 11.3436 -
      mean_absolute_error: 2.5745 - val_loss
      : 17.3848 - val_mean_absolute_error: 2
      .6598
1179 Epoch 517/20000
1180   - 0s - loss: 12.6359 -
      mean_absolute_error: 2.6793 - val_loss
      : 16.7289 - val_mean_absolute_error: 2
      .5718
1181 Epoch 518/20000
1182   - 0s - loss: 16.0727 -
      mean_absolute_error: 2.8483 - val_loss
      : 16.3066 - val_mean_absolute_error: 2
```

```
1182 .5811
1183 Epoch 519/20000
1184 - 0s - loss: 13.4979 -
      mean_absolute_error: 2.7741 - val_loss
      : 17.1208 - val_mean_absolute_error: 2
      .6105
1185 Epoch 520/20000
1186 - 0s - loss: 14.1698 -
      mean_absolute_error: 2.7469 - val_loss
      : 16.5339 - val_mean_absolute_error: 2
      .5693
1187
1188 Epoch 00520: saving model to ./model/
      model_best.h5
1189 Epoch 521/20000
1190 - 0s - loss: 15.7081 -
      mean_absolute_error: 2.8563 - val_loss
      : 18.3733 - val_mean_absolute_error: 2
      .6770
1191 Epoch 522/20000
1192 - 0s - loss: 14.4143 -
      mean_absolute_error: 2.7861 - val_loss
      : 16.8833 - val_mean_absolute_error: 2
      .5824
```

```
1193 Epoch 523/20000
1194   - 0s - loss: 14.8678 -
      mean_absolute_error: 2.6578 - val_loss
      : 16.7217 - val_mean_absolute_error: 2
      .5890
1195 Epoch 524/20000
1196   - 0s - loss: 15.4152 -
      mean_absolute_error: 2.7967 - val_loss
      : 16.3458 - val_mean_absolute_error: 2
      .6062
1197 Epoch 525/20000
1198   - 0s - loss: 11.4133 -
      mean_absolute_error: 2.5217 - val_loss
      : 17.4623 - val_mean_absolute_error: 2
      .6652
1199 Epoch 526/20000
1200   - 0s - loss: 13.6732 -
      mean_absolute_error: 2.7157 - val_loss
      : 15.7701 - val_mean_absolute_error: 2
      .5030
1201 Epoch 527/20000
1202   - 0s - loss: 12.9009 -
      mean_absolute_error: 2.6491 - val_loss
      : 17.4525 - val_mean_absolute_error: 2
```



```
1202 .6382
1203 Epoch 528/20000
1204 - 0s - loss: 13.9711 -
      mean_absolute_error: 2.7915 - val_loss
      : 16.7633 - val_mean_absolute_error: 2
      .5617
1205 Epoch 529/20000
1206 - 0s - loss: 14.5336 -
      mean_absolute_error: 2.7439 - val_loss
      : 16.3467 - val_mean_absolute_error: 2
      .5846
1207 Epoch 530/20000
1208 - 0s - loss: 15.0457 -
      mean_absolute_error: 2.8095 - val_loss
      : 16.3941 - val_mean_absolute_error: 2
      .5768
1209
1210 Epoch 00530: saving model to ./model/
      model_best.h5
1211 Epoch 531/20000
1212 - 0s - loss: 12.3104 -
      mean_absolute_error: 2.6134 - val_loss
      : 17.4631 - val_mean_absolute_error: 2
      .6263
```

```
1213 Epoch 532/20000
1214   - 0s - loss: 13.3407 -
      mean_absolute_error: 2.6811 - val_loss
      : 16.2140 - val_mean_absolute_error: 2
      .5219
1215 Epoch 533/20000
1216   - 0s - loss: 14.3270 -
      mean_absolute_error: 2.7652 - val_loss
      : 16.0764 - val_mean_absolute_error: 2
      .5520
1217 Epoch 534/20000
1218   - 0s - loss: 14.9615 -
      mean_absolute_error: 2.8670 - val_loss
      : 16.0612 - val_mean_absolute_error: 2
      .5421
1219 Epoch 535/20000
1220   - 0s - loss: 12.2775 -
      mean_absolute_error: 2.7147 - val_loss
      : 15.7768 - val_mean_absolute_error: 2
      .5047
1221 Epoch 536/20000
1222   - 0s - loss: 14.1316 -
      mean_absolute_error: 2.8377 - val_loss
      : 16.5072 - val_mean_absolute_error: 2
```

```
1222 .5609
1223 Epoch 537/20000
1224 - 0s - loss: 12.2173 -
      mean_absolute_error: 2.6088 - val_loss
      : 17.4746 - val_mean_absolute_error: 2
      .6703
1225 Epoch 538/20000
1226 - 0s - loss: 14.6833 -
      mean_absolute_error: 2.8301 - val_loss
      : 15.9452 - val_mean_absolute_error: 2
      .4931
1227 Epoch 539/20000
1228 - 0s - loss: 13.3269 -
      mean_absolute_error: 2.7513 - val_loss
      : 16.2964 - val_mean_absolute_error: 2
      .4661
1229 Epoch 540/20000
1230 - 0s - loss: 13.7660 -
      mean_absolute_error: 2.6967 - val_loss
      : 15.7545 - val_mean_absolute_error: 2
      .4822
1231
1232 Epoch 00540: saving model to ./model/
      model_best.h5
```

```
1233 Epoch 541/20000
1234   - 0s - loss: 13.0722 -
      mean_absolute_error: 2.6812 - val_loss
      : 16.8716 - val_mean_absolute_error: 2
      .5120
1235 Epoch 542/20000
1236   - 0s - loss: 14.0324 -
      mean_absolute_error: 2.7209 - val_loss
      : 16.5148 - val_mean_absolute_error: 2
      .5256
1237 Epoch 543/20000
1238   - 0s - loss: 12.9079 -
      mean_absolute_error: 2.7090 - val_loss
      : 16.4896 - val_mean_absolute_error: 2
      .5763
1239 Epoch 544/20000
1240   - 0s - loss: 13.4217 -
      mean_absolute_error: 2.7024 - val_loss
      : 16.5576 - val_mean_absolute_error: 2
      .6116
1241 Epoch 545/20000
1242   - 0s - loss: 13.0715 -
      mean_absolute_error: 2.5792 - val_loss
      : 16.3774 - val_mean_absolute_error: 2
```

```
1242 .5805
1243 Epoch 546/20000
1244 - 0s - loss: 15.5339 -
      mean_absolute_error: 2.7926 - val_loss
      : 17.4717 - val_mean_absolute_error: 2
      .6494
1245 Epoch 547/20000
1246 - 0s - loss: 15.3398 -
      mean_absolute_error: 2.7830 - val_loss
      : 17.1695 - val_mean_absolute_error: 2
      .5920
1247 Epoch 548/20000
1248 - 0s - loss: 13.8162 -
      mean_absolute_error: 2.6246 - val_loss
      : 16.4682 - val_mean_absolute_error: 2
      .5521
1249 Epoch 549/20000
1250 - 0s - loss: 14.5702 -
      mean_absolute_error: 2.5887 - val_loss
      : 17.3271 - val_mean_absolute_error: 2
      .6288
1251 Epoch 550/20000
1252 - 0s - loss: 13.2075 -
      mean_absolute_error: 2.6106 - val_loss
```

1252 : 16.0822 - val_mean_absolute_error: 2
.5721

1253

1254 Epoch 00550: saving model to ./model/
model_best.h5

1255 Epoch 551/20000

1256 - 0s - loss: 14.8556 -
mean_absolute_error: 2.7787 - val_loss
: 16.7015 - val_mean_absolute_error: 2
.5679

1257 Epoch 552/20000

1258 - 0s - loss: 15.7340 -
mean_absolute_error: 2.8323 - val_loss
: 18.1441 - val_mean_absolute_error: 2
.6967

1259 Epoch 553/20000

1260 - 0s - loss: 11.6743 -
mean_absolute_error: 2.4476 - val_loss
: 16.1385 - val_mean_absolute_error: 2
.5297

1261 Epoch 554/20000

1262 - 0s - loss: 14.3679 -
mean_absolute_error: 2.7980 - val_loss
: 15.8665 - val_mean_absolute_error: 2

```
1262 .5948
1263 Epoch 555/20000
1264 - 0s - loss: 11.5542 -
      mean_absolute_error: 2.5832 - val_loss
      : 15.7592 - val_mean_absolute_error: 2
      .5292
1265 Epoch 556/20000
1266 - 0s - loss: 15.2113 -
      mean_absolute_error: 2.7703 - val_loss
      : 16.8177 - val_mean_absolute_error: 2
      .5903
1267 Epoch 557/20000
1268 - 0s - loss: 13.5574 -
      mean_absolute_error: 2.8459 - val_loss
      : 18.1719 - val_mean_absolute_error: 2
      .7448
1269 Epoch 558/20000
1270 - 0s - loss: 12.9226 -
      mean_absolute_error: 2.7156 - val_loss
      : 16.5086 - val_mean_absolute_error: 2
      .6570
1271 Epoch 559/20000
1272 - 0s - loss: 13.3918 -
      mean_absolute_error: 2.5917 - val_loss
```

```
1272 : 18.5568 - val_mean_absolute_error: 2
      .6990
1273 Epoch 560/20000
1274 - 0s - loss: 13.1379 -
      mean_absolute_error: 2.7149 - val_loss
      : 16.9052 - val_mean_absolute_error: 2
      .6030
1275
1276 Epoch 00560: saving model to ./model/
      model_best.h5
1277 Epoch 561/20000
1278 - 0s - loss: 13.1220 -
      mean_absolute_error: 2.7015 - val_loss
      : 18.0791 - val_mean_absolute_error: 2
      .7600
1279 Epoch 562/20000
1280 - 0s - loss: 12.4373 -
      mean_absolute_error: 2.5579 - val_loss
      : 16.6677 - val_mean_absolute_error: 2
      .5552
1281 Epoch 563/20000
1282 - 0s - loss: 14.3090 -
      mean_absolute_error: 2.7471 - val_loss
      : 16.2323 - val_mean_absolute_error: 2
```



```
1282 .5409
1283 Epoch 564/20000
1284 - 0s - loss: 11.1943 -
      mean_absolute_error: 2.6173 - val_loss
      : 16.1305 - val_mean_absolute_error: 2
      .5336
1285 Epoch 565/20000
1286 - 0s - loss: 12.1912 -
      mean_absolute_error: 2.5924 - val_loss
      : 16.7487 - val_mean_absolute_error: 2
      .5588
1287 Epoch 566/20000
1288 - 0s - loss: 11.2824 -
      mean_absolute_error: 2.4851 - val_loss
      : 16.6112 - val_mean_absolute_error: 2
      .5418
1289 Epoch 567/20000
1290 - 0s - loss: 12.0425 -
      mean_absolute_error: 2.5482 - val_loss
      : 16.5570 - val_mean_absolute_error: 2
      .5627
1291 Epoch 568/20000
1292 - 0s - loss: 11.8783 -
      mean_absolute_error: 2.6291 - val_loss
```

```
1292 : 16.5976 - val_mean_absolute_error: 2
      .5672
1293 Epoch 569/20000
1294   - 0s - loss: 15.5175 -
      mean_absolute_error: 2.8709 - val_loss
      : 16.9320 - val_mean_absolute_error: 2
      .6023
1295 Epoch 570/20000
1296   - 0s - loss: 12.9579 -
      mean_absolute_error: 2.5751 - val_loss
      : 15.9244 - val_mean_absolute_error: 2
      .6067
1297
1298 Epoch 00570: saving model to ./model/
      model_best.h5
1299 Epoch 571/20000
1300   - 0s - loss: 14.0858 -
      mean_absolute_error: 2.7856 - val_loss
      : 15.6906 - val_mean_absolute_error: 2
      .5031
1301 Epoch 572/20000
1302   - 0s - loss: 11.0867 -
      mean_absolute_error: 2.5040 - val_loss
      : 16.0800 - val_mean_absolute_error: 2
```

```
1302 .5257
1303 Epoch 573/20000
1304 - 0s - loss: 13.9829 -
mean_absolute_error: 2.7793 - val_loss
: 16.2242 - val_mean_absolute_error: 2
.5665
1305 Epoch 574/20000
1306 - 0s - loss: 13.1489 -
mean_absolute_error: 2.6866 - val_loss
: 17.1003 - val_mean_absolute_error: 2
.5685
1307 Epoch 575/20000
1308 - 0s - loss: 11.4148 -
mean_absolute_error: 2.4506 - val_loss
: 16.2804 - val_mean_absolute_error: 2
.5292
1309 Epoch 576/20000
1310 - 0s - loss: 12.5762 -
mean_absolute_error: 2.5937 - val_loss
: 16.5975 - val_mean_absolute_error: 2
.5246
1311 Epoch 577/20000
1312 - 0s - loss: 13.5085 -
mean_absolute_error: 2.6760 - val_loss
```

```
1312 : 17.0959 - val_mean_absolute_error: 2
      .5774
1313 Epoch 578/20000
1314 - 0s - loss: 12.5834 -
      mean_absolute_error: 2.6591 - val_loss
      : 15.5801 - val_mean_absolute_error: 2
      .4727
1315 Epoch 579/20000
1316 - 0s - loss: 11.7501 -
      mean_absolute_error: 2.5794 - val_loss
      : 16.9165 - val_mean_absolute_error: 2
      .6333
1317 Epoch 580/20000
1318 - 0s - loss: 13.7495 -
      mean_absolute_error: 2.7103 - val_loss
      : 15.2731 - val_mean_absolute_error: 2
      .5042
1319
1320 Epoch 00580: saving model to ./model/
      model_best.h5
1321 Epoch 581/20000
1322 - 0s - loss: 13.5720 -
      mean_absolute_error: 2.8006 - val_loss
      : 15.6878 - val_mean_absolute_error: 2
```

```
1322 .4962
1323 Epoch 582/20000
1324 - 0s - loss: 11.7265 -
      mean_absolute_error: 2.4686 - val_loss
      : 15.6957 - val_mean_absolute_error: 2
      .5442
1325 Epoch 583/20000
1326 - 0s - loss: 13.0981 -
      mean_absolute_error: 2.6608 - val_loss
      : 16.3473 - val_mean_absolute_error: 2
      .5591
1327 Epoch 584/20000
1328 - 0s - loss: 12.9422 -
      mean_absolute_error: 2.5285 - val_loss
      : 16.0798 - val_mean_absolute_error: 2
      .5098
1329 Epoch 585/20000
1330 - 0s - loss: 11.0520 -
      mean_absolute_error: 2.5150 - val_loss
      : 16.5882 - val_mean_absolute_error: 2
      .5442
1331 Epoch 586/20000
1332 - 0s - loss: 13.7671 -
      mean_absolute_error: 2.6074 - val_loss
```

```
1332 : 17.4979 - val_mean_absolute_error: 2
      .6744
1333 Epoch 587/20000
1334 - 0s - loss: 12.7831 -
      mean_absolute_error: 2.5656 - val_loss
      : 16.0575 - val_mean_absolute_error: 2
      .5835
1335 Epoch 588/20000
1336 - 0s - loss: 12.4978 -
      mean_absolute_error: 2.6576 - val_loss
      : 17.7756 - val_mean_absolute_error: 2
      .6209
1337 Epoch 589/20000
1338 - 0s - loss: 15.5376 -
      mean_absolute_error: 2.7223 - val_loss
      : 16.0255 - val_mean_absolute_error: 2
      .5338
1339 Epoch 590/20000
1340 - 0s - loss: 13.4262 -
      mean_absolute_error: 2.7656 - val_loss
      : 15.8431 - val_mean_absolute_error: 2
      .5176
1341
1342 Epoch 00590: saving model to ./model/
```

```
1342 model_best.h5
1343 Epoch 591/20000
1344   - 0s - loss: 12.3689 -
      mean_absolute_error: 2.6338 - val_loss
      : 17.9163 - val_mean_absolute_error: 2
      .7512
1345 Epoch 592/20000
1346   - 0s - loss: 15.1315 -
      mean_absolute_error: 2.8995 - val_loss
      : 16.5489 - val_mean_absolute_error: 2
      .5756
1347 Epoch 593/20000
1348   - 0s - loss: 14.3808 -
      mean_absolute_error: 2.7567 - val_loss
      : 16.0083 - val_mean_absolute_error: 2
      .4852
1349 Epoch 594/20000
1350   - 0s - loss: 13.5393 -
      mean_absolute_error: 2.6827 - val_loss
      : 15.6556 - val_mean_absolute_error: 2
      .4648
1351 Epoch 595/20000
1352   - 0s - loss: 10.8169 -
      mean_absolute_error: 2.4798 - val_loss
```

```
1352 : 15.9449 - val_mean_absolute_error: 2
      .4853
1353 Epoch 596/20000
1354 - 0s - loss: 12.9311 -
      mean_absolute_error: 2.6173 - val_loss
      : 15.3031 - val_mean_absolute_error: 2
      .4926
1355 Epoch 597/20000
1356 - 0s - loss: 12.6677 -
      mean_absolute_error: 2.6221 - val_loss
      : 16.0006 - val_mean_absolute_error: 2
      .4880
1357 Epoch 598/20000
1358 - 0s - loss: 12.6177 -
      mean_absolute_error: 2.7152 - val_loss
      : 15.3729 - val_mean_absolute_error: 2
      .5065
1359 Epoch 599/20000
1360 - 0s - loss: 13.1396 -
      mean_absolute_error: 2.7856 - val_loss
      : 15.6406 - val_mean_absolute_error: 2
      .5218
1361 Epoch 600/20000
1362 - 0s - loss: 9.4876 -
```



```
1362 mean_absolute_error: 2.4190 - val_loss
    : 15.8427 - val_mean_absolute_error: 2
    .5166
```

```
1363
```

```
1364 Epoch 00600: saving model to ./model/
    model_best.h5
```

```
1365 Epoch 601/20000
```

```
1366 - 0s - loss: 12.7888 -
    mean_absolute_error: 2.5429 - val_loss
    : 16.1442 - val_mean_absolute_error: 2
    .5014
```

```
1367 Epoch 602/20000
```

```
1368 - 0s - loss: 10.9281 -
    mean_absolute_error: 2.4801 - val_loss
    : 17.0033 - val_mean_absolute_error: 2
    .5663
```

```
1369 Epoch 603/20000
```

```
1370 - 0s - loss: 13.0092 -
    mean_absolute_error: 2.6807 - val_loss
    : 15.9886 - val_mean_absolute_error: 2
    .4848
```

```
1371 Epoch 604/20000
```

```
1372 - 0s - loss: 12.2431 -
    mean_absolute_error: 2.7730 - val_loss
```

```
1372 : 18.3717 - val_mean_absolute_error: 2
      .6488
1373 Epoch 605/20000
1374 - 0s - loss: 13.1440 -
      mean_absolute_error: 2.6725 - val_loss
      : 15.8816 - val_mean_absolute_error: 2
      .4940
1375 Epoch 606/20000
1376 - 0s - loss: 11.4906 -
      mean_absolute_error: 2.5954 - val_loss
      : 16.0504 - val_mean_absolute_error: 2
      .5157
1377 Epoch 607/20000
1378 - 0s - loss: 12.7472 -
      mean_absolute_error: 2.5944 - val_loss
      : 15.5692 - val_mean_absolute_error: 2
      .4967
1379 Epoch 608/20000
1380 - 0s - loss: 13.7750 -
      mean_absolute_error: 2.6124 - val_loss
      : 15.9253 - val_mean_absolute_error: 2
      .5276
1381 Epoch 609/20000
1382 - 0s - loss: 11.8497 -
```

1382 mean_absolute_error: 2.5556 - val_loss
: 16.4555 - val_mean_absolute_error: 2
.5708

1383 Epoch 610/20000

1384 - 0s - loss: 13.9008 -
mean_absolute_error: 2.8027 - val_loss
: 17.2933 - val_mean_absolute_error: 2
.5776

1385

1386 Epoch 00610: saving model to ./model/
model_best.h5

1387 Epoch 611/20000

1388 - 0s - loss: 12.5928 -
mean_absolute_error: 2.6537 - val_loss
: 16.3336 - val_mean_absolute_error: 2
.5264

1389 Epoch 612/20000

1390 - 0s - loss: 12.7591 -
mean_absolute_error: 2.5696 - val_loss
: 15.7512 - val_mean_absolute_error: 2
.5560

1391 Epoch 613/20000

1392 - 0s - loss: 13.0734 -
mean_absolute_error: 2.6683 - val_loss

```
1392 : 15.7383 - val_mean_absolute_error: 2
      .4891
1393 Epoch 614/20000
1394 - 0s - loss: 12.9966 -
      mean_absolute_error: 2.6678 - val_loss
      : 15.4955 - val_mean_absolute_error: 2
      .5100
1395 Epoch 615/20000
1396 - 0s - loss: 11.3691 -
      mean_absolute_error: 2.4947 - val_loss
      : 15.4598 - val_mean_absolute_error: 2
      .4714
1397 Epoch 616/20000
1398 - 0s - loss: 10.5343 -
      mean_absolute_error: 2.4386 - val_loss
      : 15.7011 - val_mean_absolute_error: 2
      .4772
1399 Epoch 617/20000
1400 - 0s - loss: 13.0894 -
      mean_absolute_error: 2.7279 - val_loss
      : 15.6659 - val_mean_absolute_error: 2
      .4885
1401 Epoch 618/20000
1402 - 0s - loss: 13.0402 -
```

```
1402 mean_absolute_error: 2.6180 - val_loss
    : 15.7807 - val_mean_absolute_error: 2
    .4823
1403 Epoch 619/20000
1404   - 0s - loss: 11.8381 -
    mean_absolute_error: 2.5911 - val_loss
    : 16.0713 - val_mean_absolute_error: 2
    .5116
1405 Epoch 620/20000
1406   - 0s - loss: 12.0216 -
    mean_absolute_error: 2.5719 - val_loss
    : 15.8843 - val_mean_absolute_error: 2
    .5321
1407
1408 Epoch 00620: saving model to ./model/
    model_best.h5
1409 Epoch 621/20000
1410   - 0s - loss: 14.3281 -
    mean_absolute_error: 2.7591 - val_loss
    : 15.0516 - val_mean_absolute_error: 2
    .4411
1411 Epoch 622/20000
1412   - 0s - loss: 16.0945 -
    mean_absolute_error: 2.8780 - val_loss
```

```
1412 : 15.2038 - val_mean_absolute_error: 2
      .4317
1413 Epoch 623/20000
1414 - 0s - loss: 14.0324 -
      mean_absolute_error: 2.6188 - val_loss
      : 15.5055 - val_mean_absolute_error: 2
      .4677
1415 Epoch 624/20000
1416 - 0s - loss: 15.9944 -
      mean_absolute_error: 2.7962 - val_loss
      : 16.0826 - val_mean_absolute_error: 2
      .4676
1417 Epoch 625/20000
1418 - 0s - loss: 11.0585 -
      mean_absolute_error: 2.3969 - val_loss
      : 15.4186 - val_mean_absolute_error: 2
      .5214
1419 Epoch 626/20000
1420 - 0s - loss: 11.9776 -
      mean_absolute_error: 2.5408 - val_loss
      : 14.8894 - val_mean_absolute_error: 2
      .4284
1421 Epoch 627/20000
1422 - 0s - loss: 12.6809 -
```

```
1422 mean_absolute_error: 2.5679 - val_loss
    : 14.7487 - val_mean_absolute_error: 2
    .3854
1423 Epoch 628/20000
1424   - 0s - loss: 15.2102 -
    mean_absolute_error: 2.8170 - val_loss
    : 14.9266 - val_mean_absolute_error: 2
    .4354
1425 Epoch 629/20000
1426   - 0s - loss: 11.7622 -
    mean_absolute_error: 2.5443 - val_loss
    : 14.6746 - val_mean_absolute_error: 2
    .3964
1427 Epoch 630/20000
1428   - 0s - loss: 10.6119 -
    mean_absolute_error: 2.4376 - val_loss
    : 15.0592 - val_mean_absolute_error: 2
    .3775
1429
1430 Epoch 00630: saving model to ./model/
    model_best.h5
1431 Epoch 631/20000
1432   - 0s - loss: 11.2031 -
    mean_absolute_error: 2.5074 - val_loss
```

```
1432 : 14.7051 - val_mean_absolute_error: 2
      .3665
1433 Epoch 632/20000
1434 - 0s - loss: 11.6010 -
      mean_absolute_error: 2.4989 - val_loss
      : 14.6396 - val_mean_absolute_error: 2
      .4129
1435 Epoch 633/20000
1436 - 0s - loss: 12.4410 -
      mean_absolute_error: 2.6996 - val_loss
      : 15.1249 - val_mean_absolute_error: 2
      .4798
1437 Epoch 634/20000
1438 - 0s - loss: 12.6574 -
      mean_absolute_error: 2.6074 - val_loss
      : 16.8256 - val_mean_absolute_error: 2
      .6350
1439 Epoch 635/20000
1440 - 0s - loss: 13.0986 -
      mean_absolute_error: 2.5299 - val_loss
      : 16.0462 - val_mean_absolute_error: 2
      .5096
1441 Epoch 636/20000
1442 - 0s - loss: 14.1804 -
```


1442 mean_absolute_error: 2.6844 - val_loss
: 15.4113 - val_mean_absolute_error: 2
.4357

1443 Epoch 637/20000

1444 - 0s - loss: 11.1723 -
mean_absolute_error: 2.4331 - val_loss
: 15.2769 - val_mean_absolute_error: 2
.5026

1445 Epoch 638/20000

1446 - 0s - loss: 12.4314 -
mean_absolute_error: 2.4922 - val_loss
: 15.6218 - val_mean_absolute_error: 2
.6073

1447 Epoch 639/20000

1448 - 0s - loss: 13.2463 -
mean_absolute_error: 2.7114 - val_loss
: 15.9438 - val_mean_absolute_error: 2
.5081

1449 Epoch 640/20000

1450 - 0s - loss: 9.7621 -
mean_absolute_error: 2.3620 - val_loss
: 15.1344 - val_mean_absolute_error: 2
.4731

1451

```
1452 Epoch 00640: saving model to ./model/
model_best.h5
1453 Epoch 641/20000
1454   - 0s - loss: 12.5397 -
mean_absolute_error: 2.6164 - val_loss
: 15.9436 - val_mean_absolute_error: 2
.4728
1455 Epoch 642/20000
1456   - 0s - loss: 12.3489 -
mean_absolute_error: 2.6310 - val_loss
: 16.3442 - val_mean_absolute_error: 2
.6523
1457 Epoch 643/20000
1458   - 0s - loss: 12.4477 -
mean_absolute_error: 2.6433 - val_loss
: 16.5838 - val_mean_absolute_error: 2
.5605
1459 Epoch 644/20000
1460   - 0s - loss: 12.7615 -
mean_absolute_error: 2.7127 - val_loss
: 15.6360 - val_mean_absolute_error: 2
.5160
1461 Epoch 645/20000
1462   - 0s - loss: 13.8354 -
```

```
1462 mean_absolute_error: 2.6917 - val_loss
    : 15.5733 - val_mean_absolute_error: 2
    .4481
1463 Epoch 646/20000
1464   - 0s - loss: 11.1917 -
    mean_absolute_error: 2.5180 - val_loss
    : 15.2809 - val_mean_absolute_error: 2
    .4383
1465 Epoch 647/20000
1466   - 0s - loss: 10.3852 -
    mean_absolute_error: 2.4015 - val_loss
    : 14.8949 - val_mean_absolute_error: 2
    .4492
1467 Epoch 648/20000
1468   - 0s - loss: 14.6879 -
    mean_absolute_error: 2.6034 - val_loss
    : 15.4952 - val_mean_absolute_error: 2
    .4923
1469 Epoch 649/20000
1470   - 0s - loss: 10.7598 -
    mean_absolute_error: 2.4133 - val_loss
    : 14.9959 - val_mean_absolute_error: 2
    .4213
1471 Epoch 650/20000
```

```
1472 - 0s - loss: 12.9079 -  
mean_absolute_error: 2.5867 - val_loss  
: 15.7389 - val_mean_absolute_error: 2  
.4748
```

1473

```
1474 Epoch 00650: saving model to ./model/  
model_best.h5
```

```
1475 Epoch 651/20000
```

```
1476 - 0s - loss: 12.2098 -  
mean_absolute_error: 2.6327 - val_loss  
: 15.7763 - val_mean_absolute_error: 2  
.5243
```

```
1477 Epoch 652/20000
```

```
1478 - 0s - loss: 12.7174 -  
mean_absolute_error: 2.6427 - val_loss  
: 15.7664 - val_mean_absolute_error: 2  
.4944
```

```
1479 Epoch 653/20000
```

```
1480 - 0s - loss: 12.2630 -  
mean_absolute_error: 2.7123 - val_loss  
: 16.1039 - val_mean_absolute_error: 2  
.5466
```

```
1481 Epoch 654/20000
```

```
1482 - 0s - loss: 13.4511 -
```

```
1482 mean_absolute_error: 2.6314 - val_loss
    : 16.0581 - val_mean_absolute_error: 2
    .6221
1483 Epoch 655/20000
1484   - 0s - loss: 10.4064 -
    mean_absolute_error: 2.4648 - val_loss
    : 16.9335 - val_mean_absolute_error: 2
    .5746
1485 Epoch 656/20000
1486   - 0s - loss: 11.8937 -
    mean_absolute_error: 2.6091 - val_loss
    : 15.7958 - val_mean_absolute_error: 2
    .5484
1487 Epoch 657/20000
1488   - 0s - loss: 13.2168 -
    mean_absolute_error: 2.6122 - val_loss
    : 15.9079 - val_mean_absolute_error: 2
    .5152
1489 Epoch 658/20000
1490   - 0s - loss: 13.1988 -
    mean_absolute_error: 2.6482 - val_loss
    : 16.4523 - val_mean_absolute_error: 2
    .5041
1491 Epoch 659/20000
```

```
1492 - 0s - loss: 12.8775 -  
mean_absolute_error: 2.6169 - val_loss  
: 16.2219 - val_mean_absolute_error: 2  
.4903  
1493 Epoch 660/20000  
1494 - 0s - loss: 14.6514 -  
mean_absolute_error: 2.7598 - val_loss  
: 16.2875 - val_mean_absolute_error: 2  
.4713  
1495  
1496 Epoch 00660: saving model to ./model/  
model_best.h5  
1497 Epoch 661/20000  
1498 - 0s - loss: 11.5178 -  
mean_absolute_error: 2.5337 - val_loss  
: 15.6445 - val_mean_absolute_error: 2  
.4515  
1499 Epoch 662/20000  
1500 - 0s - loss: 11.9799 -  
mean_absolute_error: 2.5838 - val_loss  
: 16.2494 - val_mean_absolute_error: 2  
.5116  
1501 Epoch 663/20000  
1502 - 0s - loss: 10.8932 -
```

```
1502 mean_absolute_error: 2.4237 - val_loss
    : 15.6527 - val_mean_absolute_error: 2
    .4631
1503 Epoch 664/20000
1504   - 0s - loss: 11.9454 -
    mean_absolute_error: 2.6405 - val_loss
    : 15.8899 - val_mean_absolute_error: 2
    .4542
1505 Epoch 665/20000
1506   - 0s - loss: 11.9234 -
    mean_absolute_error: 2.5365 - val_loss
    : 16.5169 - val_mean_absolute_error: 2
    .5253
1507 Epoch 666/20000
1508   - 0s - loss: 10.6997 -
    mean_absolute_error: 2.4904 - val_loss
    : 15.8468 - val_mean_absolute_error: 2
    .4756
1509 Epoch 667/20000
1510   - 0s - loss: 12.9267 -
    mean_absolute_error: 2.6049 - val_loss
    : 15.3420 - val_mean_absolute_error: 2
    .4665
1511 Epoch 668/20000
```

```
1512 - 0s - loss: 12.6043 -  
mean_absolute_error: 2.5748 - val_loss  
: 15.6658 - val_mean_absolute_error: 2  
.4550  
1513 Epoch 669/20000  
1514 - 0s - loss: 11.8419 -  
mean_absolute_error: 2.5662 - val_loss  
: 15.2003 - val_mean_absolute_error: 2  
.4354  
1515 Epoch 670/20000  
1516 - 0s - loss: 11.1708 -  
mean_absolute_error: 2.5151 - val_loss  
: 15.2883 - val_mean_absolute_error: 2  
.3922  
1517  
1518 Epoch 00670: saving model to ./model/  
model_best.h5  
1519 Epoch 671/20000  
1520 - 0s - loss: 12.8960 -  
mean_absolute_error: 2.6246 - val_loss  
: 16.5413 - val_mean_absolute_error: 2  
.4798  
1521 Epoch 672/20000  
1522 - 0s - loss: 14.5644 -
```



```
1522 mean_absolute_error: 2.7392 - val_loss
    : 15.5461 - val_mean_absolute_error: 2
    .4728
1523 Epoch 673/20000
1524 - 0s - loss: 11.3492 -
    mean_absolute_error: 2.5158 - val_loss
    : 15.8115 - val_mean_absolute_error: 2
    .4827
1525 Epoch 674/20000
1526 - 0s - loss: 10.5541 -
    mean_absolute_error: 2.4554 - val_loss
    : 16.2671 - val_mean_absolute_error: 2
    .4883
1527 Epoch 675/20000
1528 - 0s - loss: 12.8502 -
    mean_absolute_error: 2.5623 - val_loss
    : 15.4304 - val_mean_absolute_error: 2
    .4810
1529 Epoch 676/20000
1530 - 0s - loss: 12.4553 -
    mean_absolute_error: 2.5834 - val_loss
    : 15.8109 - val_mean_absolute_error: 2
    .4791
1531 Epoch 677/20000
```

```
1532 - 0s - loss: 12.2913 -  
      mean_absolute_error: 2.5741 - val_loss  
      : 17.9666 - val_mean_absolute_error: 2  
      .6838  
1533 Epoch 678/20000  
1534 - 0s - loss: 12.1071 -  
      mean_absolute_error: 2.6377 - val_loss  
      : 16.1938 - val_mean_absolute_error: 2  
      .4968  
1535 Epoch 679/20000  
1536 - 0s - loss: 12.8850 -  
      mean_absolute_error: 2.5223 - val_loss  
      : 17.2671 - val_mean_absolute_error: 2  
      .5714  
1537 Epoch 680/20000  
1538 - 0s - loss: 13.8672 -  
      mean_absolute_error: 2.6940 - val_loss  
      : 15.8955 - val_mean_absolute_error: 2  
      .4760  
1539  
1540 Epoch 00680: saving model to ./model/  
      model_best.h5  
1541 Epoch 681/20000  
1542 - 0s - loss: 13.3119 -
```

```
1542 mean_absolute_error: 2.6028 - val_loss
    : 15.6344 - val_mean_absolute_error: 2
    .4210
1543 Epoch 682/20000
1544   - 0s - loss: 12.1591 -
    mean_absolute_error: 2.6262 - val_loss
    : 16.1839 - val_mean_absolute_error: 2
    .5888
1545 Epoch 683/20000
1546   - 0s - loss: 12.9804 -
    mean_absolute_error: 2.6566 - val_loss
    : 16.1646 - val_mean_absolute_error: 2
    .5494
1547 Epoch 684/20000
1548   - 0s - loss: 14.8456 -
    mean_absolute_error: 2.7640 - val_loss
    : 17.6617 - val_mean_absolute_error: 2
    .5794
1549 Epoch 685/20000
1550   - 0s - loss: 11.0749 -
    mean_absolute_error: 2.4096 - val_loss
    : 16.2712 - val_mean_absolute_error: 2
    .5028
1551 Epoch 686/20000
```

```
1552 - 0s - loss: 13.5553 -  
      mean_absolute_error: 2.6660 - val_loss  
      : 15.4919 - val_mean_absolute_error: 2  
      .5274  
1553 Epoch 687/20000  
1554 - 0s - loss: 11.4083 -  
      mean_absolute_error: 2.5213 - val_loss  
      : 16.4602 - val_mean_absolute_error: 2  
      .5642  
1555 Epoch 688/20000  
1556 - 0s - loss: 11.3632 -  
      mean_absolute_error: 2.4293 - val_loss  
      : 15.2188 - val_mean_absolute_error: 2  
      .4583  
1557 Epoch 689/20000  
1558 - 0s - loss: 11.8471 -  
      mean_absolute_error: 2.5956 - val_loss  
      : 15.3600 - val_mean_absolute_error: 2  
      .4254  
1559 Epoch 690/20000  
1560 - 0s - loss: 14.2442 -  
      mean_absolute_error: 2.7277 - val_loss  
      : 15.3576 - val_mean_absolute_error: 2  
      .4119
```

1561

1562 Epoch 00690: saving model to ./model/
model_best.h5

1563 Epoch 691/20000

1564 - 0s - loss: 11.8163 -
mean_absolute_error: 2.5892 - val_loss
: 16.6068 - val_mean_absolute_error: 2
.5225

1565 Epoch 692/20000

1566 - 0s - loss: 14.3016 -
mean_absolute_error: 2.6974 - val_loss
: 17.5288 - val_mean_absolute_error: 2
.6172

1567 Epoch 693/20000

1568 - 0s - loss: 13.4949 -
mean_absolute_error: 2.5205 - val_loss
: 16.0536 - val_mean_absolute_error: 2
.4863

1569 Epoch 694/20000

1570 - 0s - loss: 13.2460 -
mean_absolute_error: 2.6324 - val_loss
: 15.7751 - val_mean_absolute_error: 2
.4781

1571 Epoch 695/20000

```
1572 - 0s - loss: 12.7994 -  
mean_absolute_error: 2.6284 - val_loss  
: 15.5643 - val_mean_absolute_error: 2  
.4756  
1573 Epoch 696/20000  
1574 - 0s - loss: 11.6701 -  
mean_absolute_error: 2.5150 - val_loss  
: 16.0879 - val_mean_absolute_error: 2  
.6078  
1575 Epoch 697/20000  
1576 - 0s - loss: 13.3355 -  
mean_absolute_error: 2.6839 - val_loss  
: 15.1998 - val_mean_absolute_error: 2  
.4747  
1577 Epoch 698/20000  
1578 - 0s - loss: 12.3414 -  
mean_absolute_error: 2.5999 - val_loss  
: 15.1234 - val_mean_absolute_error: 2  
.4407  
1579 Epoch 699/20000  
1580 - 0s - loss: 14.5451 -  
mean_absolute_error: 2.6701 - val_loss  
: 14.9477 - val_mean_absolute_error: 2  
.4382
```

```
1581 Epoch 700/20000
1582   - 0s - loss: 12.0896 -
      mean_absolute_error: 2.5605 - val_loss
      : 15.0492 - val_mean_absolute_error: 2
      .4362
1583
1584 Epoch 00700: saving model to ./model/
      model_best.h5
1585 Epoch 701/20000
1586   - 0s - loss: 11.2370 -
      mean_absolute_error: 2.4791 - val_loss
      : 15.1344 - val_mean_absolute_error: 2
      .4771
1587 Epoch 702/20000
1588   - 0s - loss: 13.6657 -
      mean_absolute_error: 2.7256 - val_loss
      : 15.1836 - val_mean_absolute_error: 2
      .4876
1589 Epoch 703/20000
1590   - 0s - loss: 10.9794 -
      mean_absolute_error: 2.4719 - val_loss
      : 14.9531 - val_mean_absolute_error: 2
      .3975
1591 Epoch 704/20000
```

```
1592 - 0s - loss: 13.6866 -  
mean_absolute_error: 2.6484 - val_loss  
: 15.2792 - val_mean_absolute_error: 2  
.4481  
1593 Epoch 705/20000  
1594 - 0s - loss: 13.5194 -  
mean_absolute_error: 2.6938 - val_loss  
: 15.2049 - val_mean_absolute_error: 2  
.4198  
1595 Epoch 706/20000  
1596 - 0s - loss: 11.3947 -  
mean_absolute_error: 2.6157 - val_loss  
: 15.3644 - val_mean_absolute_error: 2  
.4209  
1597 Epoch 707/20000  
1598 - 0s - loss: 10.8096 -  
mean_absolute_error: 2.3995 - val_loss  
: 16.0705 - val_mean_absolute_error: 2  
.5516  
1599 Epoch 708/20000  
1600 - 0s - loss: 12.2928 -  
mean_absolute_error: 2.5916 - val_loss  
: 15.1024 - val_mean_absolute_error: 2  
.4221
```



```
1601 Epoch 709/20000
1602   - 0s - loss: 9.9948 -
      mean_absolute_error: 2.3545 - val_loss
      : 14.6212 - val_mean_absolute_error: 2
      .4139
1603 Epoch 710/20000
1604   - 0s - loss: 10.3031 -
      mean_absolute_error: 2.4587 - val_loss
      : 15.2956 - val_mean_absolute_error: 2
      .4472
1605
1606 Epoch 00710: saving model to ./model/
      model_best.h5
1607 Epoch 711/20000
1608   - 0s - loss: 9.2856 -
      mean_absolute_error: 2.2890 - val_loss
      : 15.4823 - val_mean_absolute_error: 2
      .4544
1609 Epoch 712/20000
1610   - 0s - loss: 11.5149 -
      mean_absolute_error: 2.4423 - val_loss
      : 16.0528 - val_mean_absolute_error: 2
      .5017
1611 Epoch 713/20000
```

```
1612 - 0s - loss: 13.0569 -  
      mean_absolute_error: 2.6413 - val_loss  
      : 15.3806 - val_mean_absolute_error: 2  
      .4333  
1613 Epoch 714/20000  
1614 - 0s - loss: 13.4068 -  
      mean_absolute_error: 2.6653 - val_loss  
      : 16.2901 - val_mean_absolute_error: 2  
      .5251  
1615 Epoch 715/20000  
1616 - 0s - loss: 10.5338 -  
      mean_absolute_error: 2.4571 - val_loss  
      : 14.6300 - val_mean_absolute_error: 2  
      .3652  
1617 Epoch 716/20000  
1618 - 0s - loss: 14.6418 -  
      mean_absolute_error: 2.6492 - val_loss  
      : 15.2426 - val_mean_absolute_error: 2  
      .4336  
1619 Epoch 717/20000  
1620 - 0s - loss: 12.1428 -  
      mean_absolute_error: 2.4872 - val_loss  
      : 14.8630 - val_mean_absolute_error: 2  
      .4054
```

```
1621 Epoch 718/20000
1622   - 0s - loss: 11.4677 -
      mean_absolute_error: 2.4925 - val_loss
      : 15.2005 - val_mean_absolute_error: 2
      .4293
1623 Epoch 719/20000
1624   - 0s - loss: 14.0644 -
      mean_absolute_error: 2.5883 - val_loss
      : 15.4758 - val_mean_absolute_error: 2
      .4247
1625 Epoch 720/20000
1626   - 0s - loss: 11.1747 -
      mean_absolute_error: 2.5586 - val_loss
      : 15.7444 - val_mean_absolute_error: 2
      .4028
1627
1628 Epoch 00720: saving model to ./model/
      model_best.h5
1629 Epoch 721/20000
1630   - 0s - loss: 14.1371 -
      mean_absolute_error: 2.7077 - val_loss
      : 15.6376 - val_mean_absolute_error: 2
      .4344
1631 Epoch 722/20000
```

```
1632 - 0s - loss: 12.5558 -  
      mean_absolute_error: 2.6232 - val_loss  
      : 16.2602 - val_mean_absolute_error: 2  
      .5236  
1633 Epoch 723/20000  
1634 - 0s - loss: 9.1370 -  
      mean_absolute_error: 2.3478 - val_loss  
      : 15.2888 - val_mean_absolute_error: 2  
      .3999  
1635 Epoch 724/20000  
1636 - 0s - loss: 12.1079 -  
      mean_absolute_error: 2.5582 - val_loss  
      : 18.8020 - val_mean_absolute_error: 2  
      .8027  
1637 Epoch 725/20000  
1638 - 0s - loss: 10.6962 -  
      mean_absolute_error: 2.5002 - val_loss  
      : 15.0899 - val_mean_absolute_error: 2  
      .4099  
1639 Epoch 726/20000  
1640 - 0s - loss: 11.9240 -  
      mean_absolute_error: 2.4905 - val_loss  
      : 15.6792 - val_mean_absolute_error: 2  
      .4330
```

```
1641 Epoch 727/20000
1642   - 0s - loss: 11.6188 -
      mean_absolute_error: 2.5257 - val_loss
      : 15.1271 - val_mean_absolute_error: 2
      .4989
1643 Epoch 728/20000
1644   - 0s - loss: 13.5057 -
      mean_absolute_error: 2.7104 - val_loss
      : 17.1163 - val_mean_absolute_error: 2
      .6405
1645 Epoch 729/20000
1646   - 0s - loss: 11.6276 -
      mean_absolute_error: 2.5990 - val_loss
      : 15.5220 - val_mean_absolute_error: 2
      .3785
1647 Epoch 730/20000
1648   - 0s - loss: 11.9532 -
      mean_absolute_error: 2.5715 - val_loss
      : 14.8720 - val_mean_absolute_error: 2
      .3871
1649
1650 Epoch 00730: saving model to ./model/
      model_best.h5
1651 Epoch 731/20000
```

```
1652 - 0s - loss: 10.6072 -  
      mean_absolute_error: 2.3526 - val_loss  
      : 14.9330 - val_mean_absolute_error: 2  
      .4353  
1653 Epoch 732/20000  
1654 - 0s - loss: 11.4882 -  
      mean_absolute_error: 2.5071 - val_loss  
      : 15.1840 - val_mean_absolute_error: 2  
      .3739  
1655 Epoch 733/20000  
1656 - 0s - loss: 13.2579 -  
      mean_absolute_error: 2.6052 - val_loss  
      : 15.4386 - val_mean_absolute_error: 2  
      .3944  
1657 Epoch 734/20000  
1658 - 0s - loss: 9.4484 -  
      mean_absolute_error: 2.3416 - val_loss  
      : 15.8776 - val_mean_absolute_error: 2  
      .4350  
1659 Epoch 735/20000  
1660 - 0s - loss: 11.4590 -  
      mean_absolute_error: 2.4794 - val_loss  
      : 14.5914 - val_mean_absolute_error: 2  
      .3696
```

```
1661 Epoch 736/20000
1662   - 0s - loss: 10.6765 -
      mean_absolute_error: 2.4159 - val_loss
      : 15.5003 - val_mean_absolute_error: 2
      .4615
1663 Epoch 737/20000
1664   - 0s - loss: 12.0326 -
      mean_absolute_error: 2.5723 - val_loss
      : 17.8643 - val_mean_absolute_error: 2
      .6830
1665 Epoch 738/20000
1666   - 0s - loss: 13.6316 -
      mean_absolute_error: 2.5430 - val_loss
      : 15.1710 - val_mean_absolute_error: 2
      .4663
1667 Epoch 739/20000
1668   - 0s - loss: 11.6181 -
      mean_absolute_error: 2.5437 - val_loss
      : 16.0169 - val_mean_absolute_error: 2
      .4505
1669 Epoch 740/20000
1670   - 0s - loss: 12.1640 -
      mean_absolute_error: 2.5983 - val_loss
      : 15.5876 - val_mean_absolute_error: 2
```

1670 .4249

1671

1672 Epoch 00740: saving model to ./model/
model_best.h5

1673 Epoch 741/20000

1674 - 0s - loss: 14.2207 -
mean_absolute_error: 2.7286 - val_loss
: 15.8612 - val_mean_absolute_error: 2
.4759

1675 Epoch 742/20000

1676 - 0s - loss: 11.2406 -
mean_absolute_error: 2.4937 - val_loss
: 15.2431 - val_mean_absolute_error: 2
.4298

1677 Epoch 743/20000

1678 - 0s - loss: 10.2510 -
mean_absolute_error: 2.4679 - val_loss
: 14.9661 - val_mean_absolute_error: 2
.4147

1679 Epoch 744/20000

1680 - 0s - loss: 11.9354 -
mean_absolute_error: 2.4638 - val_loss
: 15.3375 - val_mean_absolute_error: 2
.5160


```
1681 Epoch 745/20000
1682   - 0s - loss: 12.7693 -
      mean_absolute_error: 2.6351 - val_loss
      : 15.3206 - val_mean_absolute_error: 2
      .4007
1683 Epoch 746/20000
1684   - 0s - loss: 12.5373 -
      mean_absolute_error: 2.4457 - val_loss
      : 15.4878 - val_mean_absolute_error: 2
      .4763
1685 Epoch 747/20000
1686   - 0s - loss: 10.4775 -
      mean_absolute_error: 2.4133 - val_loss
      : 15.6740 - val_mean_absolute_error: 2
      .4526
1687 Epoch 748/20000
1688   - 0s - loss: 10.7396 -
      mean_absolute_error: 2.4055 - val_loss
      : 15.2031 - val_mean_absolute_error: 2
      .3951
1689 Epoch 749/20000
1690   - 0s - loss: 11.8285 -
      mean_absolute_error: 2.4465 - val_loss
      : 14.5359 - val_mean_absolute_error: 2
```

```
1690 .3646
1691 Epoch 750/20000
1692 - 0s - loss: 13.0630 -
      mean_absolute_error: 2.6589 - val_loss
      : 15.0402 - val_mean_absolute_error: 2
      .3755
1693
1694 Epoch 00750: saving model to ./model/
      model_best.h5
1695 Epoch 751/20000
1696 - 0s - loss: 11.1946 -
      mean_absolute_error: 2.5116 - val_loss
      : 15.4676 - val_mean_absolute_error: 2
      .4530
1697 Epoch 752/20000
1698 - 0s - loss: 13.4391 -
      mean_absolute_error: 2.6516 - val_loss
      : 15.8074 - val_mean_absolute_error: 2
      .6540
1699 Epoch 753/20000
1700 - 0s - loss: 9.4188 -
      mean_absolute_error: 2.3026 - val_loss
      : 14.9954 - val_mean_absolute_error: 2
      .3743
```

```
1701 Epoch 754/20000
1702   - 0s - loss: 10.5257 -
      mean_absolute_error: 2.4495 - val_loss
      : 14.8582 - val_mean_absolute_error: 2
      .3724
1703 Epoch 755/20000
1704   - 0s - loss: 10.4286 -
      mean_absolute_error: 2.3236 - val_loss
      : 14.8513 - val_mean_absolute_error: 2
      .3963
1705 Epoch 756/20000
1706   - 0s - loss: 11.7586 -
      mean_absolute_error: 2.4866 - val_loss
      : 14.3287 - val_mean_absolute_error: 2
      .3785
1707 Epoch 757/20000
1708   - 0s - loss: 11.0146 -
      mean_absolute_error: 2.4851 - val_loss
      : 14.3096 - val_mean_absolute_error: 2
      .3303
1709 Epoch 758/20000
1710   - 0s - loss: 13.2941 -
      mean_absolute_error: 2.6707 - val_loss
      : 14.3477 - val_mean_absolute_error: 2
```

```
1710 .3270
1711 Epoch 759/20000
1712 - 0s - loss: 12.2934 -
      mean_absolute_error: 2.5670 - val_loss
      : 15.4056 - val_mean_absolute_error: 2
      .4332
1713 Epoch 760/20000
1714 - 0s - loss: 12.0158 -
      mean_absolute_error: 2.5514 - val_loss
      : 14.9012 - val_mean_absolute_error: 2
      .3435
1715
1716 Epoch 00760: saving model to ./model/
      model_best.h5
1717 Epoch 761/20000
1718 - 0s - loss: 11.6125 -
      mean_absolute_error: 2.4768 - val_loss
      : 15.2196 - val_mean_absolute_error: 2
      .3837
1719 Epoch 762/20000
1720 - 0s - loss: 9.9982 -
      mean_absolute_error: 2.3069 - val_loss
      : 15.1429 - val_mean_absolute_error: 2
      .3357
```

```
1721 Epoch 763/20000
1722   - 0s - loss: 14.5109 -
      mean_absolute_error: 2.6513 - val_loss
      : 15.0797 - val_mean_absolute_error: 2
      .3613
1723 Epoch 764/20000
1724   - 0s - loss: 11.1724 -
      mean_absolute_error: 2.5110 - val_loss
      : 14.6165 - val_mean_absolute_error: 2
      .3574
1725 Epoch 765/20000
1726   - 0s - loss: 10.7175 -
      mean_absolute_error: 2.6029 - val_loss
      : 17.3911 - val_mean_absolute_error: 2
      .5328
1727 Epoch 766/20000
1728   - 0s - loss: 11.7492 -
      mean_absolute_error: 2.4779 - val_loss
      : 15.7192 - val_mean_absolute_error: 2
      .4041
1729 Epoch 767/20000
1730   - 0s - loss: 11.9219 -
      mean_absolute_error: 2.5772 - val_loss
      : 16.6884 - val_mean_absolute_error: 2
```

```
1730 .4943
1731 Epoch 768/20000
1732 - 0s - loss: 10.5777 -
      mean_absolute_error: 2.4241 - val_loss
      : 14.9843 - val_mean_absolute_error: 2
      .3371
1733 Epoch 769/20000
1734 - 0s - loss: 10.2048 -
      mean_absolute_error: 2.3807 - val_loss
      : 14.7975 - val_mean_absolute_error: 2
      .3688
1735 Epoch 770/20000
1736 - 0s - loss: 11.7737 -
      mean_absolute_error: 2.5434 - val_loss
      : 14.5735 - val_mean_absolute_error: 2
      .3695
1737
1738 Epoch 00770: saving model to ./model/
      model_best.h5
1739 Epoch 771/20000
1740 - 0s - loss: 12.8063 -
      mean_absolute_error: 2.6437 - val_loss
      : 16.5437 - val_mean_absolute_error: 2
      .5098
```

```
1741 Epoch 772/20000
1742   - 0s - loss: 12.7933 -
      mean_absolute_error: 2.6394 - val_loss
      : 15.1465 - val_mean_absolute_error: 2
      .4096
1743 Epoch 773/20000
1744   - 0s - loss: 11.2491 -
      mean_absolute_error: 2.4339 - val_loss
      : 15.0400 - val_mean_absolute_error: 2
      .3908
1745 Epoch 774/20000
1746   - 0s - loss: 10.9288 -
      mean_absolute_error: 2.4170 - val_loss
      : 15.4129 - val_mean_absolute_error: 2
      .4571
1747 Epoch 775/20000
1748   - 0s - loss: 12.1010 -
      mean_absolute_error: 2.4542 - val_loss
      : 15.1162 - val_mean_absolute_error: 2
      .4107
1749 Epoch 776/20000
1750   - 0s - loss: 11.4148 -
      mean_absolute_error: 2.4938 - val_loss
      : 14.9002 - val_mean_absolute_error: 2
```

```
1750 .4100
1751 Epoch 777/20000
1752 - 0s - loss: 11.9227 -
      mean_absolute_error: 2.4680 - val_loss
      : 14.9267 - val_mean_absolute_error: 2
      .3681
1753 Epoch 778/20000
1754 - 0s - loss: 12.6173 -
      mean_absolute_error: 2.5997 - val_loss
      : 14.8391 - val_mean_absolute_error: 2
      .3638
1755 Epoch 779/20000
1756 - 0s - loss: 11.9908 -
      mean_absolute_error: 2.4581 - val_loss
      : 15.5759 - val_mean_absolute_error: 2
      .4112
1757 Epoch 780/20000
1758 - 0s - loss: 12.1585 -
      mean_absolute_error: 2.5498 - val_loss
      : 16.0617 - val_mean_absolute_error: 2
      .5079
1759
1760 Epoch 00780: saving model to ./model/
      model_best.h5
```



```
1761 Epoch 781/20000
1762   - 0s - loss: 10.3470 -
      mean_absolute_error: 2.5103 - val_loss
      : 15.4449 - val_mean_absolute_error: 2
      .4275
1763 Epoch 782/20000
1764   - 0s - loss: 11.2807 -
      mean_absolute_error: 2.5617 - val_loss
      : 15.3682 - val_mean_absolute_error: 2
      .4096
1765 Epoch 783/20000
1766   - 0s - loss: 10.2976 -
      mean_absolute_error: 2.3214 - val_loss
      : 14.9464 - val_mean_absolute_error: 2
      .4319
1767 Epoch 784/20000
1768   - 0s - loss: 12.3106 -
      mean_absolute_error: 2.5848 - val_loss
      : 15.3113 - val_mean_absolute_error: 2
      .3962
1769 Epoch 785/20000
1770   - 0s - loss: 12.2508 -
      mean_absolute_error: 2.5641 - val_loss
      : 16.3784 - val_mean_absolute_error: 2
```

```
1770 .4969
1771 Epoch 786/20000
1772 - 0s - loss: 9.8795 -
      mean_absolute_error: 2.4180 - val_loss
      : 15.7387 - val_mean_absolute_error: 2
      .4118
1773 Epoch 787/20000
1774 - 0s - loss: 9.7492 -
      mean_absolute_error: 2.2895 - val_loss
      : 15.0539 - val_mean_absolute_error: 2
      .3938
1775 Epoch 788/20000
1776 - 0s - loss: 11.6490 -
      mean_absolute_error: 2.5860 - val_loss
      : 14.7088 - val_mean_absolute_error: 2
      .4807
1777 Epoch 789/20000
1778 - 0s - loss: 12.0302 -
      mean_absolute_error: 2.4946 - val_loss
      : 16.1118 - val_mean_absolute_error: 2
      .5075
1779 Epoch 790/20000
1780 - 0s - loss: 12.6461 -
      mean_absolute_error: 2.5331 - val_loss
```

1780 : 14.6303 - val_mean_absolute_error: 2
.3633

1781

1782 Epoch 00790: saving model to ./model/
model_best.h5

1783 Epoch 791/20000

1784 - 0s - loss: 12.7496 -
mean_absolute_error: 2.6033 - val_loss
: 14.9958 - val_mean_absolute_error: 2
.3917

1785 Epoch 792/20000

1786 - 0s - loss: 11.5892 -
mean_absolute_error: 2.5957 - val_loss
: 14.8995 - val_mean_absolute_error: 2
.3975

1787 Epoch 793/20000

1788 - 0s - loss: 12.0344 -
mean_absolute_error: 2.4697 - val_loss
: 14.3262 - val_mean_absolute_error: 2
.3674

1789 Epoch 794/20000

1790 - 0s - loss: 10.5126 -
mean_absolute_error: 2.4494 - val_loss
: 14.2883 - val_mean_absolute_error: 2

```
1790 .4518
1791 Epoch 795/20000
1792 - 0s - loss: 12.6373 -
      mean_absolute_error: 2.5659 - val_loss
      : 14.4240 - val_mean_absolute_error: 2
      .3210
1793 Epoch 796/20000
1794 - 0s - loss: 13.6972 -
      mean_absolute_error: 2.6325 - val_loss
      : 14.3708 - val_mean_absolute_error: 2
      .3606
1795 Epoch 797/20000
1796 - 0s - loss: 10.8693 -
      mean_absolute_error: 2.4788 - val_loss
      : 14.1878 - val_mean_absolute_error: 2
      .3669
1797 Epoch 798/20000
1798 - 0s - loss: 10.8387 -
      mean_absolute_error: 2.5371 - val_loss
      : 14.8354 - val_mean_absolute_error: 2
      .3936
1799 Epoch 799/20000
1800 - 0s - loss: 10.9338 -
      mean_absolute_error: 2.3814 - val_loss
```

```
1800 : 15.4531 - val_mean_absolute_error: 2
      .4076
1801 Epoch 800/20000
1802 - 0s - loss: 8.6109 -
      mean_absolute_error: 2.2288 - val_loss
      : 15.2807 - val_mean_absolute_error: 2
      .3851
1803
1804 Epoch 00800: saving model to ./model/
      model_best.h5
1805 Epoch 801/20000
1806 - 0s - loss: 10.1112 -
      mean_absolute_error: 2.4049 - val_loss
      : 14.9682 - val_mean_absolute_error: 2
      .4037
1807 Epoch 802/20000
1808 - 0s - loss: 10.5728 -
      mean_absolute_error: 2.4484 - val_loss
      : 15.0822 - val_mean_absolute_error: 2
      .3996
1809 Epoch 803/20000
1810 - 0s - loss: 9.3233 -
      mean_absolute_error: 2.3827 - val_loss
      : 16.0911 - val_mean_absolute_error: 2
```

```
1810 .7213
1811 Epoch 804/20000
1812 - 0s - loss: 15.4644 -
      mean_absolute_error: 2.7235 - val_loss
      : 14.9228 - val_mean_absolute_error: 2
      .3902
1813 Epoch 805/20000
1814 - 0s - loss: 12.1058 -
      mean_absolute_error: 2.4700 - val_loss
      : 13.9493 - val_mean_absolute_error: 2
      .3079
1815 Epoch 806/20000
1816 - 0s - loss: 9.4965 -
      mean_absolute_error: 2.2820 - val_loss
      : 15.1115 - val_mean_absolute_error: 2
      .4288
1817 Epoch 807/20000
1818 - 0s - loss: 10.6598 -
      mean_absolute_error: 2.4552 - val_loss
      : 15.3988 - val_mean_absolute_error: 2
      .5034
1819 Epoch 808/20000
1820 - 0s - loss: 11.0428 -
      mean_absolute_error: 2.5217 - val_loss
```

```
1820 : 15.0358 - val_mean_absolute_error: 2
      .4192
1821 Epoch 809/20000
1822 - 0s - loss: 13.2007 -
      mean_absolute_error: 2.5370 - val_loss
      : 14.5836 - val_mean_absolute_error: 2
      .3349
1823 Epoch 810/20000
1824 - 0s - loss: 11.6981 -
      mean_absolute_error: 2.4339 - val_loss
      : 14.4404 - val_mean_absolute_error: 2
      .3413
1825
1826 Epoch 00810: saving model to ./model/
      model_best.h5
1827 Epoch 811/20000
1828 - 0s - loss: 11.4559 -
      mean_absolute_error: 2.5072 - val_loss
      : 14.7400 - val_mean_absolute_error: 2
      .3287
1829 Epoch 812/20000
1830 - 0s - loss: 11.9739 -
      mean_absolute_error: 2.4585 - val_loss
      : 14.4514 - val_mean_absolute_error: 2
```

```
1830 . 3238
1831 Epoch 813/20000
1832 - 0s - loss: 11.7011 -
      mean_absolute_error: 2.4754 - val_loss
      : 14.6105 - val_mean_absolute_error: 2
      . 3531
1833 Epoch 814/20000
1834 - 0s - loss: 11.3749 -
      mean_absolute_error: 2.4556 - val_loss
      : 15.4549 - val_mean_absolute_error: 2
      . 3637
1835 Epoch 815/20000
1836 - 0s - loss: 10.9104 -
      mean_absolute_error: 2.5074 - val_loss
      : 14.4958 - val_mean_absolute_error: 2
      . 3641
1837 Epoch 816/20000
1838 - 0s - loss: 9.6871 -
      mean_absolute_error: 2.3203 - val_loss
      : 14.9644 - val_mean_absolute_error: 2
      . 3580
1839 Epoch 817/20000
1840 - 0s - loss: 9.9660 -
      mean_absolute_error: 2.3473 - val_loss
```



```
1840 : 14.4642 - val_mean_absolute_error: 2
      .3170
1841 Epoch 818/20000
1842 - 0s - loss: 11.0900 -
      mean_absolute_error: 2.4680 - val_loss
      : 15.5039 - val_mean_absolute_error: 2
      .3982
1843 Epoch 819/20000
1844 - 0s - loss: 13.3247 -
      mean_absolute_error: 2.6209 - val_loss
      : 16.0167 - val_mean_absolute_error: 2
      .4944
1845 Epoch 820/20000
1846 - 0s - loss: 10.8784 -
      mean_absolute_error: 2.5185 - val_loss
      : 14.5070 - val_mean_absolute_error: 2
      .2908
1847
1848 Epoch 00820: saving model to ./model/
      model_best.h5
1849 Epoch 821/20000
1850 - 0s - loss: 9.6624 -
      mean_absolute_error: 2.3172 - val_loss
      : 14.6309 - val_mean_absolute_error: 2
```

```
1850 .3455
1851 Epoch 822/20000
1852 - 0s - loss: 12.0399 -
      mean_absolute_error: 2.4934 - val_loss
      : 15.4643 - val_mean_absolute_error: 2
      .3980
1853 Epoch 823/20000
1854 - 0s - loss: 11.7278 -
      mean_absolute_error: 2.5802 - val_loss
      : 15.7982 - val_mean_absolute_error: 2
      .4085
1855 Epoch 824/20000
1856 - 0s - loss: 10.8831 -
      mean_absolute_error: 2.3418 - val_loss
      : 14.9831 - val_mean_absolute_error: 2
      .3724
1857 Epoch 825/20000
1858 - 0s - loss: 10.4897 -
      mean_absolute_error: 2.3176 - val_loss
      : 14.6842 - val_mean_absolute_error: 2
      .3516
1859 Epoch 826/20000
1860 - 0s - loss: 12.7344 -
      mean_absolute_error: 2.5391 - val_loss
```

```
1860 : 15.8874 - val_mean_absolute_error: 2
      .4648
1861 Epoch 827/20000
1862 - 0s - loss: 12.0086 -
      mean_absolute_error: 2.5422 - val_loss
      : 16.2459 - val_mean_absolute_error: 2
      .4774
1863 Epoch 828/20000
1864 - 0s - loss: 10.4645 -
      mean_absolute_error: 2.4186 - val_loss
      : 16.2596 - val_mean_absolute_error: 2
      .4644
1865 Epoch 829/20000
1866 - 0s - loss: 12.9028 -
      mean_absolute_error: 2.4600 - val_loss
      : 15.0327 - val_mean_absolute_error: 2
      .3899
1867 Epoch 830/20000
1868 - 0s - loss: 10.0940 -
      mean_absolute_error: 2.3402 - val_loss
      : 15.1104 - val_mean_absolute_error: 2
      .3819
1869
1870 Epoch 00830: saving model to ./model/
```

```
1870 model_best.h5
1871 Epoch 831/20000
1872   - 0s - loss: 10.7292 -
      mean_absolute_error: 2.4702 - val_loss
      : 16.4591 - val_mean_absolute_error: 2
      .4938
1873 Epoch 832/20000
1874   - 0s - loss: 11.3737 -
      mean_absolute_error: 2.4742 - val_loss
      : 15.9007 - val_mean_absolute_error: 2
      .4317
1875 Epoch 833/20000
1876   - 0s - loss: 12.0279 -
      mean_absolute_error: 2.5264 - val_loss
      : 15.9389 - val_mean_absolute_error: 2
      .4173
1877 Epoch 834/20000
1878   - 0s - loss: 10.9674 -
      mean_absolute_error: 2.4960 - val_loss
      : 15.5537 - val_mean_absolute_error: 2
      .3853
1879 Epoch 835/20000
1880   - 0s - loss: 11.7043 -
      mean_absolute_error: 2.5571 - val_loss
```

```
1880 : 15.6021 - val_mean_absolute_error: 2
      .3629
1881 Epoch 836/20000
1882 - 0s - loss: 11.1166 -
      mean_absolute_error: 2.4002 - val_loss
      : 15.0680 - val_mean_absolute_error: 2
      .3830
1883 Epoch 837/20000
1884 - 0s - loss: 11.9211 -
      mean_absolute_error: 2.5941 - val_loss
      : 15.2366 - val_mean_absolute_error: 2
      .3296
1885 Epoch 838/20000
1886 - 0s - loss: 12.1619 -
      mean_absolute_error: 2.5816 - val_loss
      : 14.6570 - val_mean_absolute_error: 2
      .3400
1887 Epoch 839/20000
1888 - 0s - loss: 12.4992 -
      mean_absolute_error: 2.5401 - val_loss
      : 14.6738 - val_mean_absolute_error: 2
      .2963
1889 Epoch 840/20000
1890 - 0s - loss: 12.4657 -
```

1890 mean_absolute_error: 2.6104 - val_loss
: 14.9595 - val_mean_absolute_error: 2
.3441

1891

1892 Epoch 00840: saving model to ./model/
model_best.h5

1893 Epoch 841/20000

1894 - 0s - loss: 13.2850 -
mean_absolute_error: 2.5121 - val_loss
: 14.9819 - val_mean_absolute_error: 2
.3840

1895 Epoch 842/20000

1896 - 0s - loss: 11.6901 -
mean_absolute_error: 2.5365 - val_loss
: 14.3508 - val_mean_absolute_error: 2
.3285

1897 Epoch 843/20000

1898 - 0s - loss: 10.6095 -
mean_absolute_error: 2.4551 - val_loss
: 15.5863 - val_mean_absolute_error: 2
.4209

1899 Epoch 844/20000

1900 - 0s - loss: 13.0872 -
mean_absolute_error: 2.4793 - val_loss

```
1900 : 14.9143 - val_mean_absolute_error: 2
      .3472
1901 Epoch 845/20000
1902 - 0s - loss: 11.3953 -
      mean_absolute_error: 2.5173 - val_loss
      : 14.2245 - val_mean_absolute_error: 2
      .3770
1903 Epoch 846/20000
1904 - 0s - loss: 9.5330 -
      mean_absolute_error: 2.2499 - val_loss
      : 15.0678 - val_mean_absolute_error: 2
      .3889
1905 Epoch 847/20000
1906 - 0s - loss: 12.1251 -
      mean_absolute_error: 2.5742 - val_loss
      : 14.7470 - val_mean_absolute_error: 2
      .4129
1907 Epoch 848/20000
1908 - 0s - loss: 11.4939 -
      mean_absolute_error: 2.6067 - val_loss
      : 14.6749 - val_mean_absolute_error: 2
      .3180
1909 Epoch 849/20000
1910 - 0s - loss: 9.7093 -
```

```
1910 mean_absolute_error: 2.2956 - val_loss
    : 14.5464 - val_mean_absolute_error: 2
    .3645
1911 Epoch 850/20000
1912   - 0s - loss: 11.9553 -
    mean_absolute_error: 2.4705 - val_loss
    : 15.2224 - val_mean_absolute_error: 2
    .5101
1913
1914 Epoch 00850: saving model to ./model/
    model_best.h5
1915 Epoch 851/20000
1916   - 0s - loss: 12.1344 -
    mean_absolute_error: 2.5879 - val_loss
    : 15.2681 - val_mean_absolute_error: 2
    .3612
1917 Epoch 852/20000
1918   - 0s - loss: 11.3855 -
    mean_absolute_error: 2.5867 - val_loss
    : 14.6556 - val_mean_absolute_error: 2
    .3241
1919 Epoch 853/20000
1920   - 0s - loss: 9.5440 -
    mean_absolute_error: 2.3171 - val_loss
```



```
1920 : 14.9838 - val_mean_absolute_error: 2
      .3022
1921 Epoch 854/20000
1922 - 0s - loss: 13.8527 -
      mean_absolute_error: 2.6425 - val_loss
      : 14.9860 - val_mean_absolute_error: 2
      .4768
1923 Epoch 855/20000
1924 - 0s - loss: 12.0603 -
      mean_absolute_error: 2.5437 - val_loss
      : 14.6662 - val_mean_absolute_error: 2
      .3053
1925 Epoch 856/20000
1926 - 0s - loss: 11.6471 -
      mean_absolute_error: 2.3356 - val_loss
      : 14.7727 - val_mean_absolute_error: 2
      .2793
1927 Epoch 857/20000
1928 - 0s - loss: 10.4497 -
      mean_absolute_error: 2.3958 - val_loss
      : 14.6715 - val_mean_absolute_error: 2
      .3083
1929 Epoch 858/20000
1930 - 0s - loss: 12.4912 -
```

```
1930 mean_absolute_error: 2.4458 - val_loss
    : 14.2867 - val_mean_absolute_error: 2
    .2958
1931 Epoch 859/20000
1932   - 0s - loss: 9.6244 -
    mean_absolute_error: 2.3583 - val_loss
    : 14.9745 - val_mean_absolute_error: 2
    .3392
1933 Epoch 860/20000
1934   - 0s - loss: 10.9112 -
    mean_absolute_error: 2.4447 - val_loss
    : 15.2792 - val_mean_absolute_error: 2
    .3998
1935
1936 Epoch 00860: saving model to ./model/
    model_best.h5
1937 Epoch 861/20000
1938   - 0s - loss: 12.0343 -
    mean_absolute_error: 2.5191 - val_loss
    : 14.9564 - val_mean_absolute_error: 2
    .4604
1939 Epoch 862/20000
1940   - 0s - loss: 11.2623 -
    mean_absolute_error: 2.5476 - val_loss
```

```
1940 : 14.6149 - val_mean_absolute_error: 2
      .3826
1941 Epoch 863/20000
1942 - 0s - loss: 11.5641 -
      mean_absolute_error: 2.4028 - val_loss
      : 14.6531 - val_mean_absolute_error: 2
      .3739
1943 Epoch 864/20000
1944 - 0s - loss: 10.2309 -
      mean_absolute_error: 2.4119 - val_loss
      : 16.6940 - val_mean_absolute_error: 2
      .6164
1945 Epoch 865/20000
1946 - 0s - loss: 14.1490 -
      mean_absolute_error: 2.4797 - val_loss
      : 15.0894 - val_mean_absolute_error: 2
      .4065
1947 Epoch 866/20000
1948 - 0s - loss: 10.7671 -
      mean_absolute_error: 2.4478 - val_loss
      : 14.9446 - val_mean_absolute_error: 2
      .3805
1949 Epoch 867/20000
1950 - 0s - loss: 9.6216 -
```

```
1950 mean_absolute_error: 2.2984 - val_loss
    : 14.9358 - val_mean_absolute_error: 2
    .3978
1951 Epoch 868/20000
1952   - 0s - loss: 10.4652 -
    mean_absolute_error: 2.3765 - val_loss
    : 14.3778 - val_mean_absolute_error: 2
    .3744
1953 Epoch 869/20000
1954   - 0s - loss: 10.3157 -
    mean_absolute_error: 2.4129 - val_loss
    : 14.2904 - val_mean_absolute_error: 2
    .3494
1955 Epoch 870/20000
1956   - 0s - loss: 12.8444 -
    mean_absolute_error: 2.5642 - val_loss
    : 14.7135 - val_mean_absolute_error: 2
    .3669
1957
1958 Epoch 00870: saving model to ./model/
    model_best.h5
1959 Epoch 871/20000
1960   - 0s - loss: 11.2720 -
    mean_absolute_error: 2.4266 - val_loss
```

```
1960 : 14.5384 - val_mean_absolute_error: 2
      .4036
1961 Epoch 872/20000
1962 - 0s - loss: 11.4653 -
      mean_absolute_error: 2.4862 - val_loss
      : 14.6685 - val_mean_absolute_error: 2
      .4219
1963 Epoch 873/20000
1964 - 0s - loss: 11.4423 -
      mean_absolute_error: 2.5603 - val_loss
      : 15.8389 - val_mean_absolute_error: 2
      .4619
1965 Epoch 874/20000
1966 - 0s - loss: 13.8934 -
      mean_absolute_error: 2.6202 - val_loss
      : 15.2474 - val_mean_absolute_error: 2
      .4414
1967 Epoch 875/20000
1968 - 0s - loss: 10.1118 -
      mean_absolute_error: 2.3456 - val_loss
      : 14.8363 - val_mean_absolute_error: 2
      .4654
1969 Epoch 876/20000
1970 - 0s - loss: 11.6998 -
```

```
1970 mean_absolute_error: 2.5301 - val_loss
    : 14.1394 - val_mean_absolute_error: 2
    .3457
1971 Epoch 877/20000
1972 - 0s - loss: 11.0790 -
    mean_absolute_error: 2.4834 - val_loss
    : 14.5579 - val_mean_absolute_error: 2
    .3689
1973 Epoch 878/20000
1974 - 0s - loss: 11.6621 -
    mean_absolute_error: 2.4845 - val_loss
    : 14.6272 - val_mean_absolute_error: 2
    .3866
1975 Epoch 879/20000
1976 - 0s - loss: 10.5739 -
    mean_absolute_error: 2.3831 - val_loss
    : 14.9689 - val_mean_absolute_error: 2
    .4289
1977 Epoch 880/20000
1978 - 0s - loss: 10.1915 -
    mean_absolute_error: 2.4610 - val_loss
    : 14.3238 - val_mean_absolute_error: 2
    .3624
1979
```

```
1980 Epoch 00880: saving model to ./model/
model_best.h5
1981 Epoch 881/20000
1982   - 0s - loss: 12.6214 -
mean_absolute_error: 2.4890 - val_loss
: 15.6338 - val_mean_absolute_error: 2
.4877
1983 Epoch 882/20000
1984   - 0s - loss: 11.3923 -
mean_absolute_error: 2.4631 - val_loss
: 14.3938 - val_mean_absolute_error: 2
.3551
1985 Epoch 883/20000
1986   - 0s - loss: 8.9534 -
mean_absolute_error: 2.2919 - val_loss
: 14.2312 - val_mean_absolute_error: 2
.3598
1987 Epoch 884/20000
1988   - 0s - loss: 11.4150 -
mean_absolute_error: 2.4858 - val_loss
: 14.9262 - val_mean_absolute_error: 2
.5570
1989 Epoch 885/20000
1990   - 0s - loss: 10.4765 -
```

```
1990 mean_absolute_error: 2.3444 - val_loss
    : 14.4331 - val_mean_absolute_error: 2
    .3612
1991 Epoch 886/20000
1992 - 0s - loss: 11.0529 -
    mean_absolute_error: 2.5046 - val_loss
    : 14.6788 - val_mean_absolute_error: 2
    .3889
1993 Epoch 887/20000
1994 - 0s - loss: 10.9550 -
    mean_absolute_error: 2.3994 - val_loss
    : 14.6912 - val_mean_absolute_error: 2
    .3498
1995 Epoch 888/20000
1996 - 0s - loss: 11.9659 -
    mean_absolute_error: 2.4956 - val_loss
    : 15.4215 - val_mean_absolute_error: 2
    .4488
1997 Epoch 889/20000
1998 - 0s - loss: 11.9450 -
    mean_absolute_error: 2.4232 - val_loss
    : 14.8041 - val_mean_absolute_error: 2
    .4666
1999 Epoch 890/20000
```



```
2000 - 0s - loss: 9.3352 -  
mean_absolute_error: 2.2362 - val_loss  
: 15.2575 - val_mean_absolute_error: 2  
.4107
```

2001

```
2002 Epoch 00890: saving model to ./model/  
model_best.h5
```

```
2003 Epoch 891/20000
```

```
2004 - 0s - loss: 12.2932 -  
mean_absolute_error: 2.5874 - val_loss  
: 14.9073 - val_mean_absolute_error: 2  
.3853
```

```
2005 Epoch 892/20000
```

```
2006 - 0s - loss: 10.5069 -  
mean_absolute_error: 2.3086 - val_loss  
: 14.7727 - val_mean_absolute_error: 2  
.3776
```

```
2007 Epoch 893/20000
```

```
2008 - 0s - loss: 11.8960 -  
mean_absolute_error: 2.4526 - val_loss  
: 15.1275 - val_mean_absolute_error: 2  
.4223
```

```
2009 Epoch 894/20000
```

```
2010 - 0s - loss: 10.8390 -
```

```
2010 mean_absolute_error: 2.4307 - val_loss
    : 15.4218 - val_mean_absolute_error: 2
    .4477
2011 Epoch 895/20000
2012 - 0s - loss: 11.7160 -
    mean_absolute_error: 2.3857 - val_loss
    : 15.1271 - val_mean_absolute_error: 2
    .5304
2013 Epoch 896/20000
2014 - 0s - loss: 11.1409 -
    mean_absolute_error: 2.5413 - val_loss
    : 14.9423 - val_mean_absolute_error: 2
    .3543
2015 Epoch 897/20000
2016 - 0s - loss: 10.8228 -
    mean_absolute_error: 2.3113 - val_loss
    : 14.9983 - val_mean_absolute_error: 2
    .3808
2017 Epoch 898/20000
2018 - 0s - loss: 10.1358 -
    mean_absolute_error: 2.4192 - val_loss
    : 14.4727 - val_mean_absolute_error: 2
    .4230
2019 Epoch 899/20000
```

```
2020 - 0s - loss: 14.2757 -  
mean_absolute_error: 2.5978 - val_loss  
: 14.6516 - val_mean_absolute_error: 2  
.3355  
2021 Epoch 900/20000  
2022 - 0s - loss: 10.2676 -  
mean_absolute_error: 2.3509 - val_loss  
: 14.4309 - val_mean_absolute_error: 2  
.3505  
2023  
2024 Epoch 00900: saving model to ./model/  
model_best.h5  
2025 Epoch 901/20000  
2026 - 0s - loss: 10.1981 -  
mean_absolute_error: 2.2217 - val_loss  
: 14.0894 - val_mean_absolute_error: 2  
.3396  
2027 Epoch 902/20000  
2028 - 0s - loss: 10.0016 -  
mean_absolute_error: 2.4255 - val_loss  
: 14.5019 - val_mean_absolute_error: 2  
.3451  
2029 Epoch 903/20000  
2030 - 0s - loss: 11.6900 -
```

```
2030 mean_absolute_error: 2.4758 - val_loss
    : 15.5433 - val_mean_absolute_error: 2
    .4114
2031 Epoch 904/20000
2032   - 0s - loss: 9.3989 -
    mean_absolute_error: 2.3786 - val_loss
    : 14.7608 - val_mean_absolute_error: 2
    .3054
2033 Epoch 905/20000
2034   - 0s - loss: 12.4894 -
    mean_absolute_error: 2.5588 - val_loss
    : 14.5480 - val_mean_absolute_error: 2
    .2894
2035 Epoch 906/20000
2036   - 0s - loss: 9.2016 -
    mean_absolute_error: 2.2146 - val_loss
    : 15.5368 - val_mean_absolute_error: 2
    .5519
2037 Epoch 907/20000
2038   - 0s - loss: 10.6478 -
    mean_absolute_error: 2.3418 - val_loss
    : 15.0630 - val_mean_absolute_error: 2
    .3277
2039 Epoch 908/20000
```

```
2040 - 0s - loss: 9.7964 -  
mean_absolute_error: 2.3447 - val_loss  
: 15.2685 - val_mean_absolute_error: 2  
.4041  
2041 Epoch 909/20000  
2042 - 0s - loss: 12.3032 -  
mean_absolute_error: 2.4948 - val_loss  
: 14.7364 - val_mean_absolute_error: 2  
.3400  
2043 Epoch 910/20000  
2044 - 0s - loss: 10.3778 -  
mean_absolute_error: 2.3434 - val_loss  
: 15.1968 - val_mean_absolute_error: 2  
.3729  
2045  
2046 Epoch 00910: saving model to ./model/  
model_best.h5  
2047 Epoch 911/20000  
2048 - 0s - loss: 13.0408 -  
mean_absolute_error: 2.5021 - val_loss  
: 14.6737 - val_mean_absolute_error: 2  
.3703  
2049 Epoch 912/20000  
2050 - 0s - loss: 13.4947 -
```

```
2050 mean_absolute_error: 2.6693 - val_loss
    : 14.7083 - val_mean_absolute_error: 2
    .3862
2051 Epoch 913/20000
2052   - 0s - loss: 11.4602 -
    mean_absolute_error: 2.5452 - val_loss
    : 14.4448 - val_mean_absolute_error: 2
    .3168
2053 Epoch 914/20000
2054   - 0s - loss: 10.1284 -
    mean_absolute_error: 2.2172 - val_loss
    : 15.6421 - val_mean_absolute_error: 2
    .4499
2055 Epoch 915/20000
2056   - 0s - loss: 11.3809 -
    mean_absolute_error: 2.4574 - val_loss
    : 14.9680 - val_mean_absolute_error: 2
    .3256
2057 Epoch 916/20000
2058   - 0s - loss: 11.7538 -
    mean_absolute_error: 2.4644 - val_loss
    : 14.5192 - val_mean_absolute_error: 2
    .3285
2059 Epoch 917/20000
```

```
2060 - 0s - loss: 11.2306 -  
mean_absolute_error: 2.4468 - val_loss  
: 14.3538 - val_mean_absolute_error: 2  
.3442  
2061 Epoch 918/20000  
2062 - 0s - loss: 8.5833 -  
mean_absolute_error: 2.1968 - val_loss  
: 15.3499 - val_mean_absolute_error: 2  
.4006  
2063 Epoch 919/20000  
2064 - 0s - loss: 12.4745 -  
mean_absolute_error: 2.6035 - val_loss  
: 16.4964 - val_mean_absolute_error: 2  
.5593  
2065 Epoch 920/20000  
2066 - 0s - loss: 11.6955 -  
mean_absolute_error: 2.4923 - val_loss  
: 14.4077 - val_mean_absolute_error: 2  
.4377  
2067  
2068 Epoch 00920: saving model to ./model/  
model_best.h5  
2069 Epoch 921/20000  
2070 - 0s - loss: 11.4711 -
```

```
2070 mean_absolute_error: 2.4665 - val_loss
    : 14.1220 - val_mean_absolute_error: 2
    .3437
2071 Epoch 922/20000
2072 - 0s - loss: 11.0133 -
    mean_absolute_error: 2.4281 - val_loss
    : 13.8261 - val_mean_absolute_error: 2
    .3323
2073 Epoch 923/20000
2074 - 0s - loss: 11.1426 -
    mean_absolute_error: 2.2709 - val_loss
    : 13.9302 - val_mean_absolute_error: 2
    .3061
2075 Epoch 924/20000
2076 - 0s - loss: 12.8242 -
    mean_absolute_error: 2.6416 - val_loss
    : 14.1753 - val_mean_absolute_error: 2
    .3052
2077 Epoch 925/20000
2078 - 0s - loss: 9.8889 -
    mean_absolute_error: 2.3499 - val_loss
    : 14.8176 - val_mean_absolute_error: 2
    .4009
2079 Epoch 926/20000
```



```
2080 - 0s - loss: 13.2775 -  
mean_absolute_error: 2.6417 - val_loss  
: 14.8742 - val_mean_absolute_error: 2  
.3213  
2081 Epoch 927/20000  
2082 - 0s - loss: 11.4147 -  
mean_absolute_error: 2.5201 - val_loss  
: 14.7984 - val_mean_absolute_error: 2  
.4173  
2083 Epoch 928/20000  
2084 - 0s - loss: 9.0059 -  
mean_absolute_error: 2.2605 - val_loss  
: 14.3549 - val_mean_absolute_error: 2  
.3138  
2085 Epoch 929/20000  
2086 - 0s - loss: 10.7571 -  
mean_absolute_error: 2.4146 - val_loss  
: 14.4434 - val_mean_absolute_error: 2  
.2940  
2087 Epoch 930/20000  
2088 - 0s - loss: 12.3226 -  
mean_absolute_error: 2.4533 - val_loss  
: 14.0745 - val_mean_absolute_error: 2  
.3376
```

2089

2090 Epoch 00930: saving model to ./model/
model_best.h5

2091 Epoch 931/20000

2092 - 0s - loss: 12.6522 -
mean_absolute_error: 2.4861 - val_loss
: 14.5160 - val_mean_absolute_error: 2
.3969

2093 Epoch 932/20000

2094 - 0s - loss: 11.3146 -
mean_absolute_error: 2.5080 - val_loss
: 15.3255 - val_mean_absolute_error: 2
.4094

2095 Epoch 933/20000

2096 - 0s - loss: 10.4370 -
mean_absolute_error: 2.3662 - val_loss
: 14.7014 - val_mean_absolute_error: 2
.3550

2097 Epoch 934/20000

2098 - 0s - loss: 8.5602 -
mean_absolute_error: 2.2637 - val_loss
: 14.7090 - val_mean_absolute_error: 2
.4227

2099 Epoch 935/20000

```
2100 - 0s - loss: 13.0275 -  
mean_absolute_error: 2.6004 - val_loss  
: 14.5057 - val_mean_absolute_error: 2  
.3306  
2101 Epoch 936/20000  
2102 - 0s - loss: 11.2211 -  
mean_absolute_error: 2.4666 - val_loss  
: 14.9625 - val_mean_absolute_error: 2  
.3801  
2103 Epoch 937/20000  
2104 - 0s - loss: 14.0541 -  
mean_absolute_error: 2.6287 - val_loss  
: 14.5482 - val_mean_absolute_error: 2  
.3515  
2105 Epoch 938/20000  
2106 - 0s - loss: 11.1704 -  
mean_absolute_error: 2.4242 - val_loss  
: 14.2360 - val_mean_absolute_error: 2  
.3634  
2107 Epoch 939/20000  
2108 - 0s - loss: 9.2241 -  
mean_absolute_error: 2.2864 - val_loss  
: 14.9061 - val_mean_absolute_error: 2  
.4208
```

```
2109 Epoch 940/20000
2110   - 0s - loss: 9.7871 -
      mean_absolute_error: 2.3744 - val_loss
      : 14.9660 - val_mean_absolute_error: 2
      .4181
2111
2112 Epoch 00940: saving model to ./model/
      model_best.h5
2113 Epoch 941/20000
2114   - 0s - loss: 9.5672 -
      mean_absolute_error: 2.2746 - val_loss
      : 14.4235 - val_mean_absolute_error: 2
      .3522
2115 Epoch 942/20000
2116   - 0s - loss: 13.1290 -
      mean_absolute_error: 2.6487 - val_loss
      : 13.9326 - val_mean_absolute_error: 2
      .3368
2117 Epoch 943/20000
2118   - 0s - loss: 8.6028 -
      mean_absolute_error: 2.2544 - val_loss
      : 14.4294 - val_mean_absolute_error: 2
      .3770
2119 Epoch 944/20000
```

```
2120 - 0s - loss: 9.9987 -  
      mean_absolute_error: 2.3951 - val_loss  
      : 14.7305 - val_mean_absolute_error: 2  
      .4159  
2121 Epoch 945/20000  
2122 - 0s - loss: 11.0118 -  
      mean_absolute_error: 2.5062 - val_loss  
      : 15.2838 - val_mean_absolute_error: 2  
      .4319  
2123 Epoch 946/20000  
2124 - 0s - loss: 11.2289 -  
      mean_absolute_error: 2.4420 - val_loss  
      : 14.8463 - val_mean_absolute_error: 2  
      .3766  
2125 Epoch 947/20000  
2126 - 0s - loss: 11.4194 -  
      mean_absolute_error: 2.3974 - val_loss  
      : 14.9682 - val_mean_absolute_error: 2  
      .5042  
2127 Epoch 948/20000  
2128 - 0s - loss: 10.8524 -  
      mean_absolute_error: 2.4058 - val_loss  
      : 15.1867 - val_mean_absolute_error: 2  
      .3809
```

```
2129 Epoch 949/20000
2130   - 0s - loss: 13.2412 -
      mean_absolute_error: 2.6457 - val_loss
      : 15.7183 - val_mean_absolute_error: 2
      .4209
2131 Epoch 950/20000
2132   - 0s - loss: 10.8315 -
      mean_absolute_error: 2.4483 - val_loss
      : 14.4493 - val_mean_absolute_error: 2
      .3481
2133
2134 Epoch 00950: saving model to ./model/
      model_best.h5
2135 Epoch 951/20000
2136   - 0s - loss: 11.0857 -
      mean_absolute_error: 2.3896 - val_loss
      : 14.3394 - val_mean_absolute_error: 2
      .3403
2137 Epoch 952/20000
2138   - 0s - loss: 11.6677 -
      mean_absolute_error: 2.5400 - val_loss
      : 15.6399 - val_mean_absolute_error: 2
      .4408
2139 Epoch 953/20000
```

```
2140 - 0s - loss: 10.0569 -  
      mean_absolute_error: 2.3282 - val_loss  
      : 14.9614 - val_mean_absolute_error: 2  
      .4081  
2141 Epoch 954/20000  
2142 - 0s - loss: 9.7905 -  
      mean_absolute_error: 2.4259 - val_loss  
      : 15.4174 - val_mean_absolute_error: 2  
      .4227  
2143 Epoch 955/20000  
2144 - 0s - loss: 9.5406 -  
      mean_absolute_error: 2.3203 - val_loss  
      : 15.6655 - val_mean_absolute_error: 2  
      .4220  
2145 Epoch 956/20000  
2146 - 0s - loss: 11.6102 -  
      mean_absolute_error: 2.5237 - val_loss  
      : 15.5921 - val_mean_absolute_error: 2  
      .4416  
2147 Epoch 957/20000  
2148 - 0s - loss: 11.4266 -  
      mean_absolute_error: 2.4617 - val_loss  
      : 15.0595 - val_mean_absolute_error: 2  
      .4242
```

```
2149 Epoch 958/20000
2150   - 0s - loss: 11.6622 -
      mean_absolute_error: 2.4580 - val_loss
      : 15.0623 - val_mean_absolute_error: 2
      .3710
2151 Epoch 959/20000
2152   - 0s - loss: 9.6679 -
      mean_absolute_error: 2.2967 - val_loss
      : 14.8384 - val_mean_absolute_error: 2
      .3954
2153 Epoch 960/20000
2154   - 0s - loss: 8.7699 -
      mean_absolute_error: 2.1803 - val_loss
      : 15.2542 - val_mean_absolute_error: 2
      .4118
2155
2156 Epoch 00960: saving model to ./model/
      model_best.h5
2157 Epoch 961/20000
2158   - 0s - loss: 8.8758 -
      mean_absolute_error: 2.2348 - val_loss
      : 15.1238 - val_mean_absolute_error: 2
      .3911
2159 Epoch 962/20000
```



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2160 - 0s - loss: 8.9656 -  
mean_absolute_error: 2.2582 - val_loss  
: 14.8797 - val_mean_absolute_error: 2  
.3698  
2161 Epoch 963/20000  
2162 - 0s - loss: 10.7645 -  
mean_absolute_error: 2.4392 - val_loss  
: 14.8265 - val_mean_absolute_error: 2  
.3846  
2163 Epoch 964/20000  
2164 - 0s - loss: 10.2232 -  
mean_absolute_error: 2.3001 - val_loss  
: 14.2412 - val_mean_absolute_error: 2  
.4002  
2165 Epoch 965/20000  
2166 - 0s - loss: 9.3774 -  
mean_absolute_error: 2.3567 - val_loss  
: 14.6588 - val_mean_absolute_error: 2  
.3677  
2167 Epoch 966/20000  
2168 - 0s - loss: 9.7914 -  
mean_absolute_error: 2.2918 - val_loss  
: 13.8142 - val_mean_absolute_error: 2  
.3048
```

```
2169 Epoch 967/20000
2170   - 0s - loss: 10.5402 -
      mean_absolute_error: 2.3585 - val_loss
      : 14.0684 - val_mean_absolute_error: 2
      .3205
2171 Epoch 968/20000
2172   - 0s - loss: 11.5849 -
      mean_absolute_error: 2.4924 - val_loss
      : 14.0542 - val_mean_absolute_error: 2
      .3211
2173 Epoch 969/20000
2174   - 0s - loss: 9.9911 -
      mean_absolute_error: 2.3701 - val_loss
      : 14.8286 - val_mean_absolute_error: 2
      .4365
2175 Epoch 970/20000
2176   - 0s - loss: 11.5275 -
      mean_absolute_error: 2.4977 - val_loss
      : 13.8920 - val_mean_absolute_error: 2
      .3361
2177
2178 Epoch 00970: saving model to ./model/
      model_best.h5
2179 Epoch 971/20000
```

```
2180 - 0s - loss: 11.6608 -  
      mean_absolute_error: 2.4554 - val_loss  
      : 14.5132 - val_mean_absolute_error: 2  
      .3788  
2181 Epoch 972/20000  
2182 - 0s - loss: 11.7607 -  
      mean_absolute_error: 2.5262 - val_loss  
      : 14.1604 - val_mean_absolute_error: 2  
      .3369  
2183 Epoch 973/20000  
2184 - 0s - loss: 10.9564 -  
      mean_absolute_error: 2.4372 - val_loss  
      : 15.4444 - val_mean_absolute_error: 2  
      .4456  
2185 Epoch 974/20000  
2186 - 0s - loss: 11.5378 -  
      mean_absolute_error: 2.3144 - val_loss  
      : 13.8800 - val_mean_absolute_error: 2  
      .3528  
2187 Epoch 975/20000  
2188 - 0s - loss: 11.0065 -  
      mean_absolute_error: 2.4386 - val_loss  
      : 14.3771 - val_mean_absolute_error: 2  
      .3361
```

```
2189 Epoch 976/20000
2190   - 0s - loss: 11.0781 -
      mean_absolute_error: 2.5539 - val_loss
      : 13.8920 - val_mean_absolute_error: 2
      .3229
2191 Epoch 977/20000
2192   - 0s - loss: 10.2508 -
      mean_absolute_error: 2.3256 - val_loss
      : 13.5913 - val_mean_absolute_error: 2
      .3143
2193 Epoch 978/20000
2194   - 0s - loss: 9.6820 -
      mean_absolute_error: 2.3326 - val_loss
      : 13.8381 - val_mean_absolute_error: 2
      .3151
2195 Epoch 979/20000
2196   - 0s - loss: 10.1042 -
      mean_absolute_error: 2.3529 - val_loss
      : 14.0209 - val_mean_absolute_error: 2
      .4235
2197 Epoch 980/20000
2198   - 0s - loss: 10.2768 -
      mean_absolute_error: 2.3196 - val_loss
      : 14.3501 - val_mean_absolute_error: 2
```

2198 .3809

2199

2200 Epoch 00980: saving model to ./model/
model_best.h5

2201 Epoch 981/20000

2202 - 0s - loss: 10.7569 -
mean_absolute_error: 2.3368 - val_loss
: 13.7187 - val_mean_absolute_error: 2
.2774

2203 Epoch 982/20000

2204 - 0s - loss: 11.0100 -
mean_absolute_error: 2.4783 - val_loss
: 14.5071 - val_mean_absolute_error: 2
.3621

2205 Epoch 983/20000

2206 - 0s - loss: 9.1664 -
mean_absolute_error: 2.2578 - val_loss
: 15.6147 - val_mean_absolute_error: 2
.4071

2207 Epoch 984/20000

2208 - 0s - loss: 10.8320 -
mean_absolute_error: 2.4050 - val_loss
: 14.5577 - val_mean_absolute_error: 2
.3294

```
2209 Epoch 985/20000
2210   - 0s - loss: 10.2209 -
      mean_absolute_error: 2.3701 - val_loss
      : 14.4682 - val_mean_absolute_error: 2
      .3496
2211 Epoch 986/20000
2212   - 0s - loss: 11.9696 -
      mean_absolute_error: 2.4299 - val_loss
      : 14.4453 - val_mean_absolute_error: 2
      .3896
2213 Epoch 987/20000
2214   - 0s - loss: 9.1459 -
      mean_absolute_error: 2.2748 - val_loss
      : 14.5299 - val_mean_absolute_error: 2
      .3431
2215 Epoch 988/20000
2216   - 0s - loss: 12.9373 -
      mean_absolute_error: 2.5032 - val_loss
      : 14.4379 - val_mean_absolute_error: 2
      .3300
2217 Epoch 989/20000
2218   - 0s - loss: 7.5487 -
      mean_absolute_error: 2.1868 - val_loss
      : 14.8171 - val_mean_absolute_error: 2
```

```
2218 .3589
2219 Epoch 990/20000
2220 - 0s - loss: 8.1094 -
mean_absolute_error: 2.1159 - val_loss
: 14.0516 - val_mean_absolute_error: 2
.3286
2221
2222 Epoch 00990: saving model to ./model/
model_best.h5
2223 Epoch 991/20000
2224 - 0s - loss: 9.4149 -
mean_absolute_error: 2.3348 - val_loss
: 14.2974 - val_mean_absolute_error: 2
.3256
2225 Epoch 992/20000
2226 - 0s - loss: 9.7213 -
mean_absolute_error: 2.2628 - val_loss
: 14.8824 - val_mean_absolute_error: 2
.3898
2227 Epoch 993/20000
2228 - 0s - loss: 9.0467 -
mean_absolute_error: 2.2395 - val_loss
: 14.1477 - val_mean_absolute_error: 2
.3780
```

```
2229 Epoch 994/20000
2230   - 0s - loss: 11.2143 -
      mean_absolute_error: 2.3949 - val_loss
      : 14.0062 - val_mean_absolute_error: 2
      .3235
2231 Epoch 995/20000
2232   - 0s - loss: 10.1861 -
      mean_absolute_error: 2.2885 - val_loss
      : 14.6057 - val_mean_absolute_error: 2
      .3365
2233 Epoch 996/20000
2234   - 0s - loss: 9.0321 -
      mean_absolute_error: 2.2499 - val_loss
      : 14.9306 - val_mean_absolute_error: 2
      .3099
2235 Epoch 997/20000
2236   - 0s - loss: 9.4635 -
      mean_absolute_error: 2.3705 - val_loss
      : 14.7761 - val_mean_absolute_error: 2
      .3665
2237 Epoch 998/20000
2238   - 0s - loss: 9.7984 -
      mean_absolute_error: 2.3974 - val_loss
      : 14.5867 - val_mean_absolute_error: 2
```



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2238 .3578
2239 Epoch 999/20000
2240 - 0s - loss: 9.1084 -
      mean_absolute_error: 2.2536 - val_loss
      : 14.3788 - val_mean_absolute_error: 2
      .3282
2241 Epoch 1000/20000
2242 - 0s - loss: 10.2860 -
      mean_absolute_error: 2.1825 - val_loss
      : 14.5685 - val_mean_absolute_error: 2
      .3646
2243
2244 Epoch 01000: saving model to ./model/
      model_best.h5
2245 Epoch 1001/20000
2246 - 0s - loss: 9.9354 -
      mean_absolute_error: 2.4219 - val_loss
      : 14.0336 - val_mean_absolute_error: 2
      .3454
2247 Epoch 1002/20000
2248 - 0s - loss: 9.5585 -
      mean_absolute_error: 2.3439 - val_loss
      : 14.5605 - val_mean_absolute_error: 2
      .3660
```

```
2249 Epoch 1003/20000
2250   - 0s - loss: 10.2557 -
      mean_absolute_error: 2.3955 - val_loss
      : 14.7794 - val_mean_absolute_error: 2
      .3977
2251 Epoch 1004/20000
2252   - 0s - loss: 8.7537 -
      mean_absolute_error: 2.2833 - val_loss
      : 15.0169 - val_mean_absolute_error: 2
      .4325
2253 Epoch 1005/20000
2254   - 0s - loss: 12.5929 -
      mean_absolute_error: 2.5984 - val_loss
      : 14.1847 - val_mean_absolute_error: 2
      .3610
2255 Epoch 1006/20000
2256   - 0s - loss: 8.6975 -
      mean_absolute_error: 2.2002 - val_loss
      : 14.3814 - val_mean_absolute_error: 2
      .3990
2257 Epoch 1007/20000
2258   - 0s - loss: 10.6326 -
      mean_absolute_error: 2.4224 - val_loss
      : 14.1940 - val_mean_absolute_error: 2
```

```
2258 .3638
2259 Epoch 1008/20000
2260 - 0s - loss: 13.3913 -
mean_absolute_error: 2.5574 - val_loss
: 14.2415 - val_mean_absolute_error: 2
.3624
2261 Epoch 1009/20000
2262 - 0s - loss: 9.7994 -
mean_absolute_error: 2.3633 - val_loss
: 14.7646 - val_mean_absolute_error: 2
.4005
2263 Epoch 1010/20000
2264 - 0s - loss: 8.7924 -
mean_absolute_error: 2.2855 - val_loss
: 14.6726 - val_mean_absolute_error: 2
.3971
2265
2266 Epoch 1010: saving model to ./model/
model_best.h5
2267 Epoch 1011/20000
2268 - 0s - loss: 11.5938 -
mean_absolute_error: 2.4796 - val_loss
: 14.2274 - val_mean_absolute_error: 2
.4049
```

```
2269 Epoch 1012/20000
2270   - 0s - loss: 8.2668 -
      mean_absolute_error: 2.1727 - val_loss
      : 14.2800 - val_mean_absolute_error: 2
      .4036
2271 Epoch 1013/20000
2272   - 0s - loss: 12.0787 -
      mean_absolute_error: 2.4113 - val_loss
      : 14.1780 - val_mean_absolute_error: 2
      .4077
2273 Epoch 1014/20000
2274   - 0s - loss: 11.0174 -
      mean_absolute_error: 2.4028 - val_loss
      : 15.2860 - val_mean_absolute_error: 2
      .4351
2275 Epoch 1015/20000
2276   - 0s - loss: 10.1495 -
      mean_absolute_error: 2.3377 - val_loss
      : 14.7511 - val_mean_absolute_error: 2
      .3613
2277 Epoch 1016/20000
2278   - 0s - loss: 8.7651 -
      mean_absolute_error: 2.1670 - val_loss
      : 14.7967 - val_mean_absolute_error: 2
```

```
2278 .3250
2279 Epoch 1017/20000
2280 - 0s - loss: 9.9576 -
      mean_absolute_error: 2.2667 - val_loss
      : 14.2832 - val_mean_absolute_error: 2
      .3326
2281 Epoch 1018/20000
2282 - 0s - loss: 10.4127 -
      mean_absolute_error: 2.3837 - val_loss
      : 14.1827 - val_mean_absolute_error: 2
      .3317
2283 Epoch 1019/20000
2284 - 0s - loss: 9.7052 -
      mean_absolute_error: 2.3160 - val_loss
      : 14.1404 - val_mean_absolute_error: 2
      .3346
2285 Epoch 1020/20000
2286 - 0s - loss: 11.3859 -
      mean_absolute_error: 2.3995 - val_loss
      : 14.0737 - val_mean_absolute_error: 2
      .3307
2287
2288 Epoch 01020: saving model to ./model/
      model_best.h5
```

```
2289 Epoch 1021/20000
2290   - 0s - loss: 13.2989 -
      mean_absolute_error: 2.5767 - val_loss
      : 13.7237 - val_mean_absolute_error: 2
      .3291
2291 Epoch 1022/20000
2292   - 0s - loss: 10.6590 -
      mean_absolute_error: 2.3209 - val_loss
      : 13.8636 - val_mean_absolute_error: 2
      .3041
2293 Epoch 1023/20000
2294   - 0s - loss: 9.7437 -
      mean_absolute_error: 2.2779 - val_loss
      : 14.2912 - val_mean_absolute_error: 2
      .3042
2295 Epoch 1024/20000
2296   - 0s - loss: 8.7674 -
      mean_absolute_error: 2.2282 - val_loss
      : 13.9084 - val_mean_absolute_error: 2
      .3007
2297 Epoch 1025/20000
2298   - 0s - loss: 9.5880 -
      mean_absolute_error: 2.2408 - val_loss
      : 14.1766 - val_mean_absolute_error: 2
```

```
2298 .3369
2299 Epoch 1026/20000
2300 - 0s - loss: 10.6623 -
      mean_absolute_error: 2.4534 - val_loss
      : 14.2509 - val_mean_absolute_error: 2
      .3741
2301 Epoch 1027/20000
2302 - 0s - loss: 11.8609 -
      mean_absolute_error: 2.5114 - val_loss
      : 15.4112 - val_mean_absolute_error: 2
      .4687
2303 Epoch 1028/20000
2304 - 0s - loss: 10.3980 -
      mean_absolute_error: 2.3424 - val_loss
      : 13.8828 - val_mean_absolute_error: 2
      .2923
2305 Epoch 1029/20000
2306 - 0s - loss: 12.1784 -
      mean_absolute_error: 2.4780 - val_loss
      : 13.8834 - val_mean_absolute_error: 2
      .3367
2307 Epoch 1030/20000
2308 - 0s - loss: 9.1556 -
      mean_absolute_error: 2.3132 - val_loss
```

2308 : 14.0014 - val_mean_absolute_error: 2
.3178

2309

2310 Epoch 01030: saving model to ./model/
model_best.h5

2311 Epoch 1031/20000

2312 - 0s - loss: 8.8878 -
mean_absolute_error: 2.2453 - val_loss
: 14.8386 - val_mean_absolute_error: 2
.4356

2313 Epoch 1032/20000

2314 - 0s - loss: 12.4926 -
mean_absolute_error: 2.4593 - val_loss
: 14.0876 - val_mean_absolute_error: 2
.3180

2315 Epoch 1033/20000

2316 - 0s - loss: 11.0695 -
mean_absolute_error: 2.4775 - val_loss
: 15.0686 - val_mean_absolute_error: 2
.4488

2317 Epoch 1034/20000

2318 - 0s - loss: 10.7593 -
mean_absolute_error: 2.4393 - val_loss
: 14.0869 - val_mean_absolute_error: 2


```
2318 . 3240
2319 Epoch 1035/20000
2320 - 0s - loss: 9.2589 -
      mean_absolute_error: 2.2879 - val_loss
      : 14.4968 - val_mean_absolute_error: 2
      . 3939
2321 Epoch 1036/20000
2322 - 0s - loss: 9.5028 -
      mean_absolute_error: 2.2165 - val_loss
      : 13.7523 - val_mean_absolute_error: 2
      . 2891
2323 Epoch 1037/20000
2324 - 0s - loss: 9.4917 -
      mean_absolute_error: 2.2870 - val_loss
      : 13.9270 - val_mean_absolute_error: 2
      . 3338
2325 Epoch 1038/20000
2326 - 0s - loss: 8.5347 -
      mean_absolute_error: 2.2698 - val_loss
      : 14.0837 - val_mean_absolute_error: 2
      . 3903
2327 Epoch 1039/20000
2328 - 0s - loss: 10.4228 -
      mean_absolute_error: 2.4355 - val_loss
```

2328 : 14.1432 - val_mean_absolute_error: 2
.4562

2329 Epoch 1040/20000

2330 - 0s - loss: 10.6658 -
mean_absolute_error: 2.4247 - val_loss
: 13.8350 - val_mean_absolute_error: 2
.3052

2331

2332 Epoch 01040: saving model to ./model/
model_best.h5

2333 Epoch 1041/20000

2334 - 0s - loss: 11.1291 -
mean_absolute_error: 2.4203 - val_loss
: 14.1211 - val_mean_absolute_error: 2
.3935

2335 Epoch 1042/20000

2336 - 0s - loss: 12.6331 -
mean_absolute_error: 2.4642 - val_loss
: 14.1015 - val_mean_absolute_error: 2
.3315

2337 Epoch 1043/20000

2338 - 0s - loss: 10.2601 -
mean_absolute_error: 2.3981 - val_loss
: 14.2265 - val_mean_absolute_error: 2

```
2338 .3267
2339 Epoch 1044/20000
2340 - 0s - loss: 8.8072 -
      mean_absolute_error: 2.2194 - val_loss
      : 14.0523 - val_mean_absolute_error: 2
      .3361
2341 Epoch 1045/20000
2342 - 0s - loss: 10.0142 -
      mean_absolute_error: 2.3894 - val_loss
      : 14.6477 - val_mean_absolute_error: 2
      .3689
2343 Epoch 1046/20000
2344 - 0s - loss: 10.0211 -
      mean_absolute_error: 2.3194 - val_loss
      : 14.3785 - val_mean_absolute_error: 2
      .3272
2345 Epoch 1047/20000
2346 - 0s - loss: 9.5961 -
      mean_absolute_error: 2.3248 - val_loss
      : 14.8042 - val_mean_absolute_error: 2
      .3505
2347 Epoch 1048/20000
2348 - 0s - loss: 9.2804 -
      mean_absolute_error: 2.2527 - val_loss
```

```
2348 : 14.6660 - val_mean_absolute_error: 2
      .3703
2349 Epoch 1049/20000
2350   - 0s - loss: 9.3526 -
      mean_absolute_error: 2.2440 - val_loss
      : 14.1297 - val_mean_absolute_error: 2
      .3094
2351 Epoch 1050/20000
2352   - 0s - loss: 10.8491 -
      mean_absolute_error: 2.3487 - val_loss
      : 14.0402 - val_mean_absolute_error: 2
      .3196
2353
2354 Epoch 01050: saving model to ./model/
      model_best.h5
2355 Epoch 1051/20000
2356   - 0s - loss: 9.4079 -
      mean_absolute_error: 2.2436 - val_loss
      : 14.3330 - val_mean_absolute_error: 2
      .2947
2357 Epoch 1052/20000
2358   - 0s - loss: 9.9538 -
      mean_absolute_error: 2.2636 - val_loss
      : 14.1395 - val_mean_absolute_error: 2
```

```
2358 .3096
2359 Epoch 1053/20000
2360 - 0s - loss: 10.7083 -
      mean_absolute_error: 2.3145 - val_loss
      : 14.7966 - val_mean_absolute_error: 2
      .3705
2361 Epoch 1054/20000
2362 - 0s - loss: 10.2474 -
      mean_absolute_error: 2.3323 - val_loss
      : 15.5172 - val_mean_absolute_error: 2
      .5341
2363 Epoch 1055/20000
2364 - 0s - loss: 9.5111 -
      mean_absolute_error: 2.2658 - val_loss
      : 14.7961 - val_mean_absolute_error: 2
      .3538
2365 Epoch 1056/20000
2366 - 0s - loss: 12.0755 -
      mean_absolute_error: 2.5219 - val_loss
      : 14.5709 - val_mean_absolute_error: 2
      .3399
2367 Epoch 1057/20000
2368 - 0s - loss: 6.9125 -
      mean_absolute_error: 1.9743 - val_loss
```

```
2368 : 14.3406 - val_mean_absolute_error: 2
      .3142
2369 Epoch 1058/20000
2370 - 0s - loss: 9.6894 -
      mean_absolute_error: 2.2935 - val_loss
      : 14.2299 - val_mean_absolute_error: 2
      .3320
2371 Epoch 1059/20000
2372 - 0s - loss: 10.8278 -
      mean_absolute_error: 2.3176 - val_loss
      : 14.4064 - val_mean_absolute_error: 2
      .3220
2373 Epoch 1060/20000
2374 - 0s - loss: 13.4116 -
      mean_absolute_error: 2.4392 - val_loss
      : 14.2145 - val_mean_absolute_error: 2
      .3089
2375
2376 Epoch 01060: saving model to ./model/
      model_best.h5
2377 Epoch 1061/20000
2378 - 0s - loss: 10.0573 -
      mean_absolute_error: 2.3269 - val_loss
      : 14.3589 - val_mean_absolute_error: 2
```

```
2378 .3887
2379 Epoch 1062/20000
2380 - 0s - loss: 9.6183 -
      mean_absolute_error: 2.1909 - val_loss
      : 14.5235 - val_mean_absolute_error: 2
      .3626
2381 Epoch 1063/20000
2382 - 0s - loss: 10.6279 -
      mean_absolute_error: 2.3739 - val_loss
      : 14.3942 - val_mean_absolute_error: 2
      .3276
2383 Epoch 1064/20000
2384 - 0s - loss: 10.3671 -
      mean_absolute_error: 2.3605 - val_loss
      : 14.2212 - val_mean_absolute_error: 2
      .3055
2385 Epoch 1065/20000
2386 - 0s - loss: 11.0897 -
      mean_absolute_error: 2.4291 - val_loss
      : 14.9108 - val_mean_absolute_error: 2
      .3400
2387 Epoch 1066/20000
2388 - 0s - loss: 10.0128 -
      mean_absolute_error: 2.3333 - val_loss
```

```
2388 : 14.8363 - val_mean_absolute_error: 2
      .3029
2389 Epoch 1067/20000
2390 - 0s - loss: 11.3568 -
      mean_absolute_error: 2.4372 - val_loss
      : 15.0493 - val_mean_absolute_error: 2
      .3490
2391 Epoch 1068/20000
2392 - 0s - loss: 9.8436 -
      mean_absolute_error: 2.4013 - val_loss
      : 14.2112 - val_mean_absolute_error: 2
      .3075
2393 Epoch 1069/20000
2394 - 0s - loss: 10.2801 -
      mean_absolute_error: 2.3465 - val_loss
      : 15.2189 - val_mean_absolute_error: 2
      .4506
2395 Epoch 1070/20000
2396 - 0s - loss: 11.6736 -
      mean_absolute_error: 2.4749 - val_loss
      : 14.0074 - val_mean_absolute_error: 2
      .2811
2397
2398 Epoch 01070: saving model to ./model/
```



```
2398 model_best.h5
2399 Epoch 1071/20000
2400   - 0s - loss: 11.3543 -
      mean_absolute_error: 2.4850 - val_loss
      : 14.0017 - val_mean_absolute_error: 2
      .3184
2401 Epoch 1072/20000
2402   - 0s - loss: 11.1978 -
      mean_absolute_error: 2.4212 - val_loss
      : 15.0036 - val_mean_absolute_error: 2
      .3837
2403 Epoch 1073/20000
2404   - 0s - loss: 11.1261 -
      mean_absolute_error: 2.4380 - val_loss
      : 14.3449 - val_mean_absolute_error: 2
      .3539
2405 Epoch 1074/20000
2406   - 0s - loss: 11.1015 -
      mean_absolute_error: 2.4562 - val_loss
      : 15.3968 - val_mean_absolute_error: 2
      .4146
2407 Epoch 1075/20000
2408   - 0s - loss: 10.5250 -
      mean_absolute_error: 2.3624 - val_loss
```

```
2408 : 14.6205 - val_mean_absolute_error: 2
      .3092
2409 Epoch 1076/20000
2410 - 0s - loss: 8.6226 -
      mean_absolute_error: 2.1956 - val_loss
      : 13.6152 - val_mean_absolute_error: 2
      .2421
2411 Epoch 1077/20000
2412 - 0s - loss: 11.6325 -
      mean_absolute_error: 2.3819 - val_loss
      : 13.6017 - val_mean_absolute_error: 2
      .2513
2413 Epoch 1078/20000
2414 - 0s - loss: 13.0206 -
      mean_absolute_error: 2.4519 - val_loss
      : 14.0106 - val_mean_absolute_error: 2
      .2783
2415 Epoch 1079/20000
2416 - 0s - loss: 9.3767 -
      mean_absolute_error: 2.2053 - val_loss
      : 13.8189 - val_mean_absolute_error: 2
      .2562
2417 Epoch 1080/20000
2418 - 0s - loss: 12.9431 -
```

```
2418 mean_absolute_error: 2.4405 - val_loss
    : 14.4149 - val_mean_absolute_error: 2
    .3046
```

```
2419
```

```
2420 Epoch 01080: saving model to ./model/
    model_best.h5
```

```
2421 Epoch 1081/20000
```

```
2422 - 0s - loss: 9.3414 -
    mean_absolute_error: 2.2273 - val_loss
    : 14.0570 - val_mean_absolute_error: 2
    .3175
```

```
2423 Epoch 1082/20000
```

```
2424 - 0s - loss: 9.6563 -
    mean_absolute_error: 2.3028 - val_loss
    : 13.8297 - val_mean_absolute_error: 2
    .2702
```

```
2425 Epoch 1083/20000
```

```
2426 - 0s - loss: 11.4300 -
    mean_absolute_error: 2.4892 - val_loss
    : 14.2561 - val_mean_absolute_error: 2
    .2955
```

```
2427 Epoch 1084/20000
```

```
2428 - 0s - loss: 12.6319 -
    mean_absolute_error: 2.4950 - val_loss
```

```
2428 : 13.8865 - val_mean_absolute_error: 2
      .2804
2429 Epoch 1085/20000
2430 - 0s - loss: 11.3438 -
      mean_absolute_error: 2.3999 - val_loss
      : 14.3722 - val_mean_absolute_error: 2
      .3505
2431 Epoch 1086/20000
2432 - 0s - loss: 9.5309 -
      mean_absolute_error: 2.2114 - val_loss
      : 14.3505 - val_mean_absolute_error: 2
      .3054
2433 Epoch 1087/20000
2434 - 0s - loss: 9.9830 -
      mean_absolute_error: 2.3584 - val_loss
      : 14.3558 - val_mean_absolute_error: 2
      .3457
2435 Epoch 1088/20000
2436 - 0s - loss: 9.9418 -
      mean_absolute_error: 2.3577 - val_loss
      : 14.6957 - val_mean_absolute_error: 2
      .3411
2437 Epoch 1089/20000
2438 - 0s - loss: 9.9722 -
```

```
2438 mean_absolute_error: 2.2726 - val_loss
: 14.3380 - val_mean_absolute_error: 2
.3340
```

```
2439 Epoch 1090/20000
```

```
2440 - 0s - loss: 10.4810 -
mean_absolute_error: 2.2701 - val_loss
: 14.2656 - val_mean_absolute_error: 2
.3288
```

```
2441
```

```
2442 Epoch 01090: saving model to ./model/
model_best.h5
```

```
2443 Epoch 1091/20000
```

```
2444 - 0s - loss: 10.6144 -
mean_absolute_error: 2.3864 - val_loss
: 14.1139 - val_mean_absolute_error: 2
.3257
```

```
2445 Epoch 1092/20000
```

```
2446 - 0s - loss: 10.6316 -
mean_absolute_error: 2.4218 - val_loss
: 14.4616 - val_mean_absolute_error: 2
.3416
```

```
2447 Epoch 1093/20000
```

```
2448 - 0s - loss: 11.0892 -
mean_absolute_error: 2.4832 - val_loss
```

```
2448 : 14.3546 - val_mean_absolute_error: 2
      .3012
2449 Epoch 1094/20000
2450 - 0s - loss: 9.0431 -
      mean_absolute_error: 2.2942 - val_loss
      : 14.1086 - val_mean_absolute_error: 2
      .3064
2451 Epoch 1095/20000
2452 - 0s - loss: 11.8822 -
      mean_absolute_error: 2.4004 - val_loss
      : 14.3723 - val_mean_absolute_error: 2
      .3373
2453 Epoch 1096/20000
2454 - 0s - loss: 13.4540 -
      mean_absolute_error: 2.4300 - val_loss
      : 14.6141 - val_mean_absolute_error: 2
      .3167
2455 Epoch 1097/20000
2456 - 0s - loss: 8.9528 -
      mean_absolute_error: 2.2022 - val_loss
      : 13.9726 - val_mean_absolute_error: 2
      .2846
2457 Epoch 1098/20000
2458 - 0s - loss: 10.3191 -
```

```
2458 mean_absolute_error: 2.3408 - val_loss
    : 15.5258 - val_mean_absolute_error: 2
    .4875
```

```
2459 Epoch 1099/20000
```

```
2460 - 0s - loss: 9.8993 -
    mean_absolute_error: 2.3057 - val_loss
    : 14.2043 - val_mean_absolute_error: 2
    .2738
```

```
2461 Epoch 1100/20000
```

```
2462 - 0s - loss: 10.5294 -
    mean_absolute_error: 2.3392 - val_loss
    : 14.0051 - val_mean_absolute_error: 2
    .2944
```

```
2463
```

```
2464 Epoch 01100: saving model to ./model/
    model_best.h5
```

```
2465 Epoch 1101/20000
```

```
2466 - 0s - loss: 8.5381 -
    mean_absolute_error: 2.1902 - val_loss
    : 14.1074 - val_mean_absolute_error: 2
    .2998
```

```
2467 Epoch 1102/20000
```

```
2468 - 0s - loss: 9.7370 -
    mean_absolute_error: 2.2714 - val_loss
```

```
2468 : 13.7604 - val_mean_absolute_error: 2
      .3054
2469 Epoch 1103/20000
2470 - 0s - loss: 11.0030 -
      mean_absolute_error: 2.3645 - val_loss
      : 13.9680 - val_mean_absolute_error: 2
      .3165
2471 Epoch 1104/20000
2472 - 0s - loss: 8.8817 -
      mean_absolute_error: 2.1182 - val_loss
      : 13.8721 - val_mean_absolute_error: 2
      .3317
2473 Epoch 1105/20000
2474 - 0s - loss: 8.3831 -
      mean_absolute_error: 2.2274 - val_loss
      : 13.6651 - val_mean_absolute_error: 2
      .2986
2475 Epoch 1106/20000
2476 - 0s - loss: 11.4007 -
      mean_absolute_error: 2.4323 - val_loss
      : 14.6240 - val_mean_absolute_error: 2
      .3252
2477 Epoch 1107/20000
2478 - 0s - loss: 10.0123 -
```


2478 mean_absolute_error: 2.3606 - val_loss
: 13.7200 - val_mean_absolute_error: 2
.2786

2479 Epoch 1108/20000

2480 - 0s - loss: 11.1777 -
mean_absolute_error: 2.3131 - val_loss
: 13.7441 - val_mean_absolute_error: 2
.2949

2481 Epoch 1109/20000

2482 - 0s - loss: 8.8925 -
mean_absolute_error: 2.2296 - val_loss
: 13.8118 - val_mean_absolute_error: 2
.2668

2483 Epoch 1110/20000

2484 - 0s - loss: 9.4543 -
mean_absolute_error: 2.2920 - val_loss
: 14.6322 - val_mean_absolute_error: 2
.4297

2485

2486 Epoch 01110: saving model to ./model/
model_best.h5

2487 Epoch 1111/20000

2488 - 0s - loss: 9.7071 -
mean_absolute_error: 2.2803 - val_loss

```
2488 : 13.6159 - val_mean_absolute_error: 2
      .2304
2489 Epoch 1112/20000
2490 - 0s - loss: 9.3064 -
      mean_absolute_error: 2.2496 - val_loss
      : 13.6792 - val_mean_absolute_error: 2
      .2470
2491 Epoch 1113/20000
2492 - 0s - loss: 9.0485 -
      mean_absolute_error: 2.2456 - val_loss
      : 13.7554 - val_mean_absolute_error: 2
      .3116
2493 Epoch 1114/20000
2494 - 0s - loss: 11.9204 -
      mean_absolute_error: 2.4551 - val_loss
      : 13.6716 - val_mean_absolute_error: 2
      .2453
2495 Epoch 1115/20000
2496 - 0s - loss: 9.6133 -
      mean_absolute_error: 2.2227 - val_loss
      : 13.8733 - val_mean_absolute_error: 2
      .2513
2497 Epoch 1116/20000
2498 - 0s - loss: 9.7597 -
```

2498 mean_absolute_error: 2.3200 - val_loss
: 13.7300 - val_mean_absolute_error: 2
.2468

2499 Epoch 1117/20000

2500 - 0s - loss: 12.1739 -
mean_absolute_error: 2.5304 - val_loss
: 13.3437 - val_mean_absolute_error: 2
.2261

2501 Epoch 1118/20000

2502 - 0s - loss: 8.8572 -
mean_absolute_error: 2.2242 - val_loss
: 14.2689 - val_mean_absolute_error: 2
.3114

2503 Epoch 1119/20000

2504 - 0s - loss: 10.6336 -
mean_absolute_error: 2.3516 - val_loss
: 13.7099 - val_mean_absolute_error: 2
.2538

2505 Epoch 1120/20000

2506 - 0s - loss: 10.0168 -
mean_absolute_error: 2.3313 - val_loss
: 12.9801 - val_mean_absolute_error: 2
.1895

2507

```
2508 Epoch 01120: saving model to ./model/
    model_best.h5
2509 Epoch 1121/20000
2510   - 0s - loss: 9.8394 -
    mean_absolute_error: 2.2835 - val_loss
      : 13.2005 - val_mean_absolute_error: 2
        .2394
2511 Epoch 1122/20000
2512   - 0s - loss: 10.2895 -
    mean_absolute_error: 2.3627 - val_loss
      : 13.9369 - val_mean_absolute_error: 2
        .2692
2513 Epoch 1123/20000
2514   - 0s - loss: 9.1154 -
    mean_absolute_error: 2.2223 - val_loss
      : 13.4369 - val_mean_absolute_error: 2
        .2719
2515 Epoch 1124/20000
2516   - 0s - loss: 9.3120 -
    mean_absolute_error: 2.3339 - val_loss
      : 13.4179 - val_mean_absolute_error: 2
        .2219
2517 Epoch 1125/20000
2518   - 0s - loss: 10.7137 -
```

```
2518 mean_absolute_error: 2.3771 - val_loss
    : 13.2586 - val_mean_absolute_error: 2
    .2437
2519 Epoch 1126/20000
2520 - 0s - loss: 10.2576 -
    mean_absolute_error: 2.2888 - val_loss
    : 16.4349 - val_mean_absolute_error: 2
    .5492
2521 Epoch 1127/20000
2522 - 0s - loss: 11.1588 -
    mean_absolute_error: 2.3073 - val_loss
    : 13.9626 - val_mean_absolute_error: 2
    .3106
2523 Epoch 1128/20000
2524 - 0s - loss: 10.8616 -
    mean_absolute_error: 2.3524 - val_loss
    : 14.0752 - val_mean_absolute_error: 2
    .2803
2525 Epoch 1129/20000
2526 - 0s - loss: 10.4949 -
    mean_absolute_error: 2.3573 - val_loss
    : 13.9944 - val_mean_absolute_error: 2
    .2906
2527 Epoch 1130/20000
```

```
2528 - 0s - loss: 7.4307 -  
mean_absolute_error: 2.0211 - val_loss  
: 14.0036 - val_mean_absolute_error: 2  
.2898
```

```
2529
```

```
2530 Epoch 01130: saving model to ./model/  
model_best.h5
```

```
2531 Epoch 1131/20000
```

```
2532 - 0s - loss: 10.1755 -  
mean_absolute_error: 2.3825 - val_loss  
: 14.7627 - val_mean_absolute_error: 2  
.3798
```

```
2533 Epoch 1132/20000
```

```
2534 - 0s - loss: 10.5563 -  
mean_absolute_error: 2.4020 - val_loss  
: 13.9402 - val_mean_absolute_error: 2  
.2784
```

```
2535 Epoch 1133/20000
```

```
2536 - 0s - loss: 8.8899 -  
mean_absolute_error: 2.1657 - val_loss  
: 14.1564 - val_mean_absolute_error: 2  
.3103
```

```
2537 Epoch 1134/20000
```

```
2538 - 0s - loss: 8.2997 -
```

```
2538 mean_absolute_error: 2.1793 - val_loss
    : 15.0644 - val_mean_absolute_error: 2
    .4130
2539 Epoch 1135/20000
2540   - 0s - loss: 9.2873 -
    mean_absolute_error: 2.2418 - val_loss
    : 13.8152 - val_mean_absolute_error: 2
    .3014
2541 Epoch 1136/20000
2542   - 0s - loss: 10.9881 -
    mean_absolute_error: 2.3971 - val_loss
    : 13.9938 - val_mean_absolute_error: 2
    .3264
2543 Epoch 1137/20000
2544   - 0s - loss: 10.0175 -
    mean_absolute_error: 2.3635 - val_loss
    : 14.8306 - val_mean_absolute_error: 2
    .3927
2545 Epoch 1138/20000
2546   - 0s - loss: 10.6461 -
    mean_absolute_error: 2.3549 - val_loss
    : 13.8610 - val_mean_absolute_error: 2
    .3703
2547 Epoch 1139/20000
```

```
2548 - 0s - loss: 9.8603 -  
      mean_absolute_error: 2.2492 - val_loss  
      : 14.4113 - val_mean_absolute_error: 2  
      .3860  
2549 Epoch 1140/20000  
2550 - 0s - loss: 10.7146 -  
      mean_absolute_error: 2.3345 - val_loss  
      : 14.1315 - val_mean_absolute_error: 2  
      .3122  
2551  
2552 Epoch 01140: saving model to ./model/  
      model_best.h5  
2553 Epoch 1141/20000  
2554 - 0s - loss: 7.9672 -  
      mean_absolute_error: 2.1453 - val_loss  
      : 13.6344 - val_mean_absolute_error: 2  
      .2604  
2555 Epoch 1142/20000  
2556 - 0s - loss: 10.4089 -  
      mean_absolute_error: 2.3770 - val_loss  
      : 13.7665 - val_mean_absolute_error: 2  
      .2590  
2557 Epoch 1143/20000  
2558 - 0s - loss: 8.6922 -
```



```
2558 mean_absolute_error: 2.2687 - val_loss
    : 14.1910 - val_mean_absolute_error: 2
    .2878
2559 Epoch 1144/20000
2560 - 0s - loss: 8.1141 -
    mean_absolute_error: 2.1473 - val_loss
    : 13.7967 - val_mean_absolute_error: 2
    .2780
2561 Epoch 1145/20000
2562 - 0s - loss: 9.2766 -
    mean_absolute_error: 2.2149 - val_loss
    : 14.9765 - val_mean_absolute_error: 2
    .3761
2563 Epoch 1146/20000
2564 - 0s - loss: 8.3788 -
    mean_absolute_error: 2.1318 - val_loss
    : 14.2972 - val_mean_absolute_error: 2
    .3370
2565 Epoch 1147/20000
2566 - 0s - loss: 11.1852 -
    mean_absolute_error: 2.3532 - val_loss
    : 14.1262 - val_mean_absolute_error: 2
    .3328
2567 Epoch 1148/20000
```

```
2568 - 0s - loss: 9.4130 -  
mean_absolute_error: 2.2805 - val_loss  
: 13.9864 - val_mean_absolute_error: 2  
.3187  
2569 Epoch 1149/20000  
2570 - 0s - loss: 8.8087 -  
mean_absolute_error: 2.1854 - val_loss  
: 13.6200 - val_mean_absolute_error: 2  
.2611  
2571 Epoch 1150/20000  
2572 - 0s - loss: 10.3876 -  
mean_absolute_error: 2.3636 - val_loss  
: 13.6408 - val_mean_absolute_error: 2  
.2655  
2573  
2574 Epoch 01150: saving model to ./model/  
model_best.h5  
2575 Epoch 1151/20000  
2576 - 0s - loss: 8.1857 -  
mean_absolute_error: 2.1624 - val_loss  
: 13.4858 - val_mean_absolute_error: 2  
.2384  
2577 Epoch 1152/20000  
2578 - 0s - loss: 10.1601 -
```

```
2578 mean_absolute_error: 2.3355 - val_loss
    : 13.4052 - val_mean_absolute_error: 2
    .2216
2579 Epoch 1153/20000
2580 - 0s - loss: 8.6178 -
    mean_absolute_error: 2.1446 - val_loss
    : 13.5228 - val_mean_absolute_error: 2
    .2715
2581 Epoch 1154/20000
2582 - 0s - loss: 10.5786 -
    mean_absolute_error: 2.3791 - val_loss
    : 13.8516 - val_mean_absolute_error: 2
    .2365
2583 Epoch 1155/20000
2584 - 0s - loss: 11.1956 -
    mean_absolute_error: 2.4535 - val_loss
    : 14.2052 - val_mean_absolute_error: 2
    .2555
2585 Epoch 1156/20000
2586 - 0s - loss: 9.3317 -
    mean_absolute_error: 2.1768 - val_loss
    : 14.2678 - val_mean_absolute_error: 2
    .2972
2587 Epoch 1157/20000
```

```
2588 - 0s - loss: 9.7122 -  
mean_absolute_error: 2.3368 - val_loss  
: 14.0891 - val_mean_absolute_error: 2  
.2933  
2589 Epoch 1158/20000  
2590 - 0s - loss: 10.5153 -  
mean_absolute_error: 2.3204 - val_loss  
: 14.0681 - val_mean_absolute_error: 2  
.3158  
2591 Epoch 1159/20000  
2592 - 0s - loss: 9.1878 -  
mean_absolute_error: 2.2837 - val_loss  
: 15.0474 - val_mean_absolute_error: 2  
.3669  
2593 Epoch 1160/20000  
2594 - 0s - loss: 9.9990 -  
mean_absolute_error: 2.3578 - val_loss  
: 14.5278 - val_mean_absolute_error: 2  
.2963  
2595  
2596 Epoch 01160: saving model to ./model/  
model_best.h5  
2597 Epoch 1161/20000  
2598 - 0s - loss: 10.0270 -
```

```
2598 mean_absolute_error: 2.2913 - val_loss
    : 14.1115 - val_mean_absolute_error: 2
    .2616
2599 Epoch 1162/20000
2600 - 0s - loss: 9.4157 -
    mean_absolute_error: 2.2575 - val_loss
    : 13.8788 - val_mean_absolute_error: 2
    .2421
2601 Epoch 1163/20000
2602 - 0s - loss: 10.1496 -
    mean_absolute_error: 2.4637 - val_loss
    : 13.6656 - val_mean_absolute_error: 2
    .2926
2603 Epoch 1164/20000
2604 - 0s - loss: 8.8359 -
    mean_absolute_error: 2.1753 - val_loss
    : 14.3083 - val_mean_absolute_error: 2
    .3567
2605 Epoch 1165/20000
2606 - 0s - loss: 10.9285 -
    mean_absolute_error: 2.3680 - val_loss
    : 13.9817 - val_mean_absolute_error: 2
    .3035
2607 Epoch 1166/20000
```

```
2608 - 0s - loss: 7.6587 -  
      mean_absolute_error: 2.0330 - val_loss  
      : 14.5936 - val_mean_absolute_error: 2  
      .3944  
2609 Epoch 1167/20000  
2610 - 0s - loss: 8.0577 -  
      mean_absolute_error: 2.1838 - val_loss  
      : 14.7535 - val_mean_absolute_error: 2  
      .3755  
2611 Epoch 1168/20000  
2612 - 0s - loss: 9.2744 -  
      mean_absolute_error: 2.2131 - val_loss  
      : 14.5500 - val_mean_absolute_error: 2  
      .3436  
2613 Epoch 1169/20000  
2614 - 0s - loss: 9.4734 -  
      mean_absolute_error: 2.2643 - val_loss  
      : 13.7960 - val_mean_absolute_error: 2  
      .2955  
2615 Epoch 1170/20000  
2616 - 0s - loss: 10.1701 -  
      mean_absolute_error: 2.3853 - val_loss  
      : 14.1343 - val_mean_absolute_error: 2  
      .2926
```

2617

2618 Epoch 01170: saving model to ./model/
model_best.h5

2619 Epoch 1171/20000

2620 - 0s - loss: 9.3875 -
mean_absolute_error: 2.2650 - val_loss
: 14.7423 - val_mean_absolute_error: 2
.2999

2621 Epoch 1172/20000

2622 - 0s - loss: 9.7891 -
mean_absolute_error: 2.2795 - val_loss
: 14.3951 - val_mean_absolute_error: 2
.3340

2623 Epoch 1173/20000

2624 - 0s - loss: 8.7655 -
mean_absolute_error: 2.2462 - val_loss
: 13.9213 - val_mean_absolute_error: 2
.3384

2625 Epoch 1174/20000

2626 - 0s - loss: 10.1453 -
mean_absolute_error: 2.3897 - val_loss
: 13.8149 - val_mean_absolute_error: 2
.3346

2627 Epoch 1175/20000

```
2628 - 0s - loss: 9.7455 -  
      mean_absolute_error: 2.2544 - val_loss  
      : 13.6224 - val_mean_absolute_error: 2  
      .2949  
2629 Epoch 1176/20000  
2630 - 0s - loss: 8.8828 -  
      mean_absolute_error: 2.2411 - val_loss  
      : 13.5066 - val_mean_absolute_error: 2  
      .2812  
2631 Epoch 1177/20000  
2632 - 0s - loss: 9.6342 -  
      mean_absolute_error: 2.2693 - val_loss  
      : 13.4811 - val_mean_absolute_error: 2  
      .2605  
2633 Epoch 1178/20000  
2634 - 0s - loss: 10.4249 -  
      mean_absolute_error: 2.2757 - val_loss  
      : 13.4251 - val_mean_absolute_error: 2  
      .3355  
2635 Epoch 1179/20000  
2636 - 0s - loss: 9.1480 -  
      mean_absolute_error: 2.1725 - val_loss  
      : 13.5124 - val_mean_absolute_error: 2  
      .2360
```



```
2637 Epoch 1180/20000
2638   - 0s - loss: 9.1493 -
      mean_absolute_error: 2.2460 - val_loss
      : 13.4920 - val_mean_absolute_error: 2
      .2241
```

```
2639
2640 Epoch 01180: saving model to ./model/
      model_best.h5
2641 Epoch 1181/20000
2642   - 0s - loss: 8.1953 -
      mean_absolute_error: 2.2042 - val_loss
      : 15.0977 - val_mean_absolute_error: 2
      .3789
```

```
2643 Epoch 1182/20000
2644   - 0s - loss: 9.8658 -
      mean_absolute_error: 2.2710 - val_loss
      : 13.9310 - val_mean_absolute_error: 2
      .2821
```

```
2645 Epoch 1183/20000
2646   - 0s - loss: 8.8772 -
      mean_absolute_error: 2.2740 - val_loss
      : 13.3431 - val_mean_absolute_error: 2
      .2347
```

```
2647 Epoch 1184/20000
```

```
2648 - 0s - loss: 9.4971 -  
      mean_absolute_error: 2.3470 - val_loss  
      : 14.1417 - val_mean_absolute_error: 2  
      .3230  
2649 Epoch 1185/20000  
2650 - 0s - loss: 9.8219 -  
      mean_absolute_error: 2.3036 - val_loss  
      : 13.5641 - val_mean_absolute_error: 2  
      .2924  
2651 Epoch 1186/20000  
2652 - 0s - loss: 10.2486 -  
      mean_absolute_error: 2.2916 - val_loss  
      : 13.9079 - val_mean_absolute_error: 2  
      .3309  
2653 Epoch 1187/20000  
2654 - 0s - loss: 8.6098 -  
      mean_absolute_error: 2.1544 - val_loss  
      : 14.2793 - val_mean_absolute_error: 2  
      .3273  
2655 Epoch 1188/20000  
2656 - 0s - loss: 9.1041 -  
      mean_absolute_error: 2.2571 - val_loss  
      : 14.7737 - val_mean_absolute_error: 2  
      .3590
```

```
2657 Epoch 1189/20000
2658   - 0s - loss: 9.1429 -
      mean_absolute_error: 2.2604 - val_loss
      : 14.1962 - val_mean_absolute_error: 2
      .3374
2659 Epoch 1190/20000
2660   - 0s - loss: 8.6538 -
      mean_absolute_error: 2.1572 - val_loss
      : 14.1717 - val_mean_absolute_error: 2
      .3308
2661
2662 Epoch 1190: saving model to ./model/
      model_best.h5
2663 Epoch 1191/20000
2664   - 0s - loss: 10.1176 -
      mean_absolute_error: 2.3307 - val_loss
      : 14.5313 - val_mean_absolute_error: 2
      .3812
2665 Epoch 1192/20000
2666   - 0s - loss: 8.6793 -
      mean_absolute_error: 2.1964 - val_loss
      : 13.9427 - val_mean_absolute_error: 2
      .3250
2667 Epoch 1193/20000
```

```
2668 - 0s - loss: 9.7887 -  
mean_absolute_error: 2.2698 - val_loss  
: 15.0629 - val_mean_absolute_error: 2  
.4429  
2669 Epoch 1194/20000  
2670 - 0s - loss: 9.3388 -  
mean_absolute_error: 2.1952 - val_loss  
: 14.7972 - val_mean_absolute_error: 2  
.3774  
2671 Epoch 1195/20000  
2672 - 0s - loss: 8.1194 -  
mean_absolute_error: 2.1195 - val_loss  
: 14.9330 - val_mean_absolute_error: 2  
.4296  
2673 Epoch 1196/20000  
2674 - 0s - loss: 9.2505 -  
mean_absolute_error: 2.3562 - val_loss  
: 13.9129 - val_mean_absolute_error: 2  
.3115  
2675 Epoch 1197/20000  
2676 - 0s - loss: 9.3360 -  
mean_absolute_error: 2.3562 - val_loss  
: 13.8636 - val_mean_absolute_error: 2  
.2685
```

```
2677 Epoch 1198/20000
2678   - 0s - loss: 11.7325 -
      mean_absolute_error: 2.3034 - val_loss
      : 14.0331 - val_mean_absolute_error: 2
      .2885
2679 Epoch 1199/20000
2680   - 0s - loss: 11.4067 -
      mean_absolute_error: 2.4591 - val_loss
      : 14.2332 - val_mean_absolute_error: 2
      .3171
2681 Epoch 1200/20000
2682   - 0s - loss: 8.6744 -
      mean_absolute_error: 2.1947 - val_loss
      : 14.0343 - val_mean_absolute_error: 2
      .2834
2683
2684 Epoch 01200: saving model to ./model/
      model_best.h5
2685 Epoch 1201/20000
2686   - 0s - loss: 10.3682 -
      mean_absolute_error: 2.2314 - val_loss
      : 13.8201 - val_mean_absolute_error: 2
      .2707
2687 Epoch 1202/20000
```

```
2688 - 0s - loss: 9.3361 -  
mean_absolute_error: 2.1700 - val_loss  
: 13.3225 - val_mean_absolute_error: 2  
.2514  
2689 Epoch 1203/20000  
2690 - 0s - loss: 11.6575 -  
mean_absolute_error: 2.4590 - val_loss  
: 13.5291 - val_mean_absolute_error: 2  
.2843  
2691 Epoch 1204/20000  
2692 - 0s - loss: 8.9506 -  
mean_absolute_error: 2.2467 - val_loss  
: 13.6725 - val_mean_absolute_error: 2  
.2993  
2693 Epoch 1205/20000  
2694 - 0s - loss: 9.7495 -  
mean_absolute_error: 2.3229 - val_loss  
: 13.5139 - val_mean_absolute_error: 2  
.2586  
2695 Epoch 1206/20000  
2696 - 0s - loss: 9.8662 -  
mean_absolute_error: 2.3102 - val_loss  
: 13.5479 - val_mean_absolute_error: 2  
.3082
```

```
2697 Epoch 1207/20000
2698   - 0s - loss: 10.1918 -
      mean_absolute_error: 2.3717 - val_loss
      : 13.7834 - val_mean_absolute_error: 2
      .3220
2699 Epoch 1208/20000
2700   - 0s - loss: 9.5781 -
      mean_absolute_error: 2.2652 - val_loss
      : 13.4818 - val_mean_absolute_error: 2
      .2714
2701 Epoch 1209/20000
2702   - 0s - loss: 12.5981 -
      mean_absolute_error: 2.4920 - val_loss
      : 14.4313 - val_mean_absolute_error: 2
      .2752
2703 Epoch 1210/20000
2704   - 0s - loss: 9.9633 -
      mean_absolute_error: 2.2669 - val_loss
      : 13.9692 - val_mean_absolute_error: 2
      .2588
2705
2706 Epoch 01210: saving model to ./model/
      model_best.h5
2707 Epoch 1211/20000
```

```
2708 - 0s - loss: 10.6881 -  
mean_absolute_error: 2.3014 - val_loss  
: 13.3186 - val_mean_absolute_error: 2  
.2241  
2709 Epoch 1212/20000  
2710 - 0s - loss: 9.7357 -  
mean_absolute_error: 2.3467 - val_loss  
: 13.6100 - val_mean_absolute_error: 2  
.2738  
2711 Epoch 1213/20000  
2712 - 0s - loss: 9.5181 -  
mean_absolute_error: 2.2520 - val_loss  
: 13.0916 - val_mean_absolute_error: 2  
.2403  
2713 Epoch 1214/20000  
2714 - 0s - loss: 9.4368 -  
mean_absolute_error: 2.1296 - val_loss  
: 13.1481 - val_mean_absolute_error: 2  
.2610  
2715 Epoch 1215/20000  
2716 - 0s - loss: 10.5538 -  
mean_absolute_error: 2.4110 - val_loss  
: 13.4418 - val_mean_absolute_error: 2  
.2313
```



```
2717 Epoch 1216/20000
2718   - 0s - loss: 12.4049 -
      mean_absolute_error: 2.4046 - val_loss
      : 14.5884 - val_mean_absolute_error: 2
      .3815
2719 Epoch 1217/20000
2720   - 0s - loss: 11.0660 -
      mean_absolute_error: 2.4963 - val_loss
      : 14.3490 - val_mean_absolute_error: 2
      .3900
2721 Epoch 1218/20000
2722   - 0s - loss: 9.8172 -
      mean_absolute_error: 2.3034 - val_loss
      : 13.4005 - val_mean_absolute_error: 2
      .2581
2723 Epoch 1219/20000
2724   - 0s - loss: 9.0856 -
      mean_absolute_error: 2.1615 - val_loss
      : 13.5871 - val_mean_absolute_error: 2
      .3001
2725 Epoch 1220/20000
2726   - 0s - loss: 10.5428 -
      mean_absolute_error: 2.3423 - val_loss
      : 13.9166 - val_mean_absolute_error: 2
```

2726 .2925

2727

2728 Epoch 01220: saving model to ./model/
model_best.h5

2729 Epoch 1221/20000

2730 - 0s - loss: 8.0196 -
mean_absolute_error: 2.1356 - val_loss
: 13.3618 - val_mean_absolute_error: 2
.2564

2731 Epoch 1222/20000

2732 - 0s - loss: 10.1795 -
mean_absolute_error: 2.3861 - val_loss
: 14.1444 - val_mean_absolute_error: 2
.3257

2733 Epoch 1223/20000

2734 - 0s - loss: 11.0984 -
mean_absolute_error: 2.4161 - val_loss
: 14.6469 - val_mean_absolute_error: 2
.3443

2735 Epoch 1224/20000

2736 - 0s - loss: 12.6522 -
mean_absolute_error: 2.3696 - val_loss
: 13.9340 - val_mean_absolute_error: 2
.2681

```
2737 Epoch 1225/20000
2738   - 0s - loss: 9.2498 -
      mean_absolute_error: 2.3013 - val_loss
      : 13.5059 - val_mean_absolute_error: 2
      .2555
2739 Epoch 1226/20000
2740   - 0s - loss: 10.6519 -
      mean_absolute_error: 2.3185 - val_loss
      : 14.6858 - val_mean_absolute_error: 2
      .3601
2741 Epoch 1227/20000
2742   - 0s - loss: 12.3123 -
      mean_absolute_error: 2.4601 - val_loss
      : 13.7123 - val_mean_absolute_error: 2
      .2849
2743 Epoch 1228/20000
2744   - 0s - loss: 8.5400 -
      mean_absolute_error: 2.2150 - val_loss
      : 13.6115 - val_mean_absolute_error: 2
      .2976
2745 Epoch 1229/20000
2746   - 0s - loss: 7.5746 -
      mean_absolute_error: 2.1555 - val_loss
      : 15.1304 - val_mean_absolute_error: 2
```

```
2746 .4240
2747 Epoch 1230/20000
2748 - 0s - loss: 10.1672 -
mean_absolute_error: 2.3013 - val_loss
: 13.5130 - val_mean_absolute_error: 2
.2745
2749
2750 Epoch 01230: saving model to ./model/
model_best.h5
2751 Epoch 1231/20000
2752 - 0s - loss: 9.7350 -
mean_absolute_error: 2.2555 - val_loss
: 13.4668 - val_mean_absolute_error: 2
.2837
2753 Epoch 1232/20000
2754 - 0s - loss: 9.3404 -
mean_absolute_error: 2.2082 - val_loss
: 13.1289 - val_mean_absolute_error: 2
.2329
2755 Epoch 1233/20000
2756 - 0s - loss: 9.0850 -
mean_absolute_error: 2.2630 - val_loss
: 13.2957 - val_mean_absolute_error: 2
.2574
```

```
2757 Epoch 1234/20000
2758   - 0s - loss: 9.0843 -
      mean_absolute_error: 2.2650 - val_loss
      : 13.3341 - val_mean_absolute_error: 2
      .2605
2759 Epoch 1235/20000
2760   - 0s - loss: 9.7762 -
      mean_absolute_error: 2.2861 - val_loss
      : 12.9751 - val_mean_absolute_error: 2
      .1910
2761 Epoch 1236/20000
2762   - 0s - loss: 9.7274 -
      mean_absolute_error: 2.1915 - val_loss
      : 13.0265 - val_mean_absolute_error: 2
      .1891
2763 Epoch 1237/20000
2764   - 0s - loss: 8.7342 -
      mean_absolute_error: 2.2158 - val_loss
      : 12.7506 - val_mean_absolute_error: 2
      .1733
2765 Epoch 1238/20000
2766   - 0s - loss: 10.0209 -
      mean_absolute_error: 2.3337 - val_loss
      : 13.8172 - val_mean_absolute_error: 2
```

```
2766 . 2870
2767 Epoch 1239/20000
2768 - 0s - loss: 11.3689 -
mean_absolute_error: 2.4038 - val_loss
: 12.9933 - val_mean_absolute_error: 2
. 2307
2769 Epoch 1240/20000
2770 - 0s - loss: 9.1909 -
mean_absolute_error: 2.2504 - val_loss
: 14.0389 - val_mean_absolute_error: 2
. 2601
2771
2772 Epoch 01240: saving model to ./model/
model_best.h5
2773 Epoch 1241/20000
2774 - 0s - loss: 11.0631 -
mean_absolute_error: 2.3257 - val_loss
: 13.8524 - val_mean_absolute_error: 2
. 2786
2775 Epoch 1242/20000
2776 - 0s - loss: 7.4399 -
mean_absolute_error: 2.0850 - val_loss
: 14.1698 - val_mean_absolute_error: 2
. 3204
```

```
2777 Epoch 1243/20000
2778   - 0s - loss: 10.9931 - 
      mean_absolute_error: 2.3487 - val_loss
      : 13.2451 - val_mean_absolute_error: 2
      .2803
2779 Epoch 1244/20000
2780   - 0s - loss: 8.9218 - 
      mean_absolute_error: 2.1800 - val_loss
      : 15.0069 - val_mean_absolute_error: 2
      .4524
2781 Epoch 1245/20000
2782   - 0s - loss: 9.5135 - 
      mean_absolute_error: 2.2624 - val_loss
      : 13.3070 - val_mean_absolute_error: 2
      .2440
2783 Epoch 1246/20000
2784   - 0s - loss: 9.1604 - 
      mean_absolute_error: 2.1438 - val_loss
      : 13.5744 - val_mean_absolute_error: 2
      .2269
2785 Epoch 1247/20000
2786   - 0s - loss: 8.8963 - 
      mean_absolute_error: 2.1857 - val_loss
      : 13.0715 - val_mean_absolute_error: 2
```

```
2786 .2536
2787 Epoch 1248/20000
2788 - 0s - loss: 10.7305 -
mean_absolute_error: 2.3561 - val_loss
: 13.2375 - val_mean_absolute_error: 2
.2366
2789 Epoch 1249/20000
2790 - 0s - loss: 9.2090 -
mean_absolute_error: 2.1066 - val_loss
: 13.1948 - val_mean_absolute_error: 2
.2254
2791 Epoch 1250/20000
2792 - 0s - loss: 10.0023 -
mean_absolute_error: 2.3195 - val_loss
: 13.7790 - val_mean_absolute_error: 2
.3982
2793
2794 Epoch 01250: saving model to ./model/
model_best.h5
2795 Epoch 1251/20000
2796 - 0s - loss: 8.0945 -
mean_absolute_error: 2.0621 - val_loss
: 13.2144 - val_mean_absolute_error: 2
.2434
```



```
2797 Epoch 1252/20000
2798   - 0s - loss: 8.1787 -
      mean_absolute_error: 2.1829 - val_loss
      : 13.0328 - val_mean_absolute_error: 2
      .2275
2799 Epoch 1253/20000
2800   - 0s - loss: 8.5975 -
      mean_absolute_error: 2.1941 - val_loss
      : 12.9172 - val_mean_absolute_error: 2
      .1977
2801 Epoch 1254/20000
2802   - 0s - loss: 10.7048 -
      mean_absolute_error: 2.3067 - val_loss
      : 13.0748 - val_mean_absolute_error: 2
      .2246
2803 Epoch 1255/20000
2804   - 0s - loss: 11.5374 -
      mean_absolute_error: 2.4371 - val_loss
      : 14.2174 - val_mean_absolute_error: 2
      .3197
2805 Epoch 1256/20000
2806   - 0s - loss: 9.2493 -
      mean_absolute_error: 2.3022 - val_loss
      : 13.9895 - val_mean_absolute_error: 2
```

```
2806 . 2408
2807 Epoch 1257/20000
2808 - 0s - loss: 11.7935 -
      mean_absolute_error: 2.3533 - val_loss
      : 12.8364 - val_mean_absolute_error: 2
      . 2037
2809 Epoch 1258/20000
2810 - 0s - loss: 10.3588 -
      mean_absolute_error: 2.3575 - val_loss
      : 13.1869 - val_mean_absolute_error: 2
      . 2326
2811 Epoch 1259/20000
2812 - 0s - loss: 8.5277 -
      mean_absolute_error: 2.1115 - val_loss
      : 13.8955 - val_mean_absolute_error: 2
      . 2694
2813 Epoch 1260/20000
2814 - 0s - loss: 8.3896 -
      mean_absolute_error: 2.1704 - val_loss
      : 14.5525 - val_mean_absolute_error: 2
      . 3209
2815
2816 Epoch 01260: saving model to ./model/
      model_best.h5
```

```
2817 Epoch 1261/20000
2818   - 0s - loss: 11.0160 -
      mean_absolute_error: 2.2001 - val_loss
      : 13.3532 - val_mean_absolute_error: 2
      .2227
2819 Epoch 1262/20000
2820   - 0s - loss: 9.1537 -
      mean_absolute_error: 2.2722 - val_loss
      : 13.4548 - val_mean_absolute_error: 2
      .2266
2821 Epoch 1263/20000
2822   - 0s - loss: 8.3449 -
      mean_absolute_error: 2.1278 - val_loss
      : 13.7829 - val_mean_absolute_error: 2
      .2414
2823 Epoch 1264/20000
2824   - 0s - loss: 8.2923 -
      mean_absolute_error: 2.0857 - val_loss
      : 13.2890 - val_mean_absolute_error: 2
      .2169
2825 Epoch 1265/20000
2826   - 0s - loss: 9.2672 -
      mean_absolute_error: 2.2330 - val_loss
      : 13.1211 - val_mean_absolute_error: 2
```

```
2826 . 1818
2827 Epoch 1266/20000
2828 - 0s - loss: 7.4482 -
      mean_absolute_error: 2.1663 - val_loss
      : 14.0818 - val_mean_absolute_error: 2
      . 3350
2829 Epoch 1267/20000
2830 - 0s - loss: 10.6217 -
      mean_absolute_error: 2.3628 - val_loss
      : 12.9083 - val_mean_absolute_error: 2
      . 1983
2831 Epoch 1268/20000
2832 - 0s - loss: 9.5538 -
      mean_absolute_error: 2.3081 - val_loss
      : 13.5295 - val_mean_absolute_error: 2
      . 2068
2833 Epoch 1269/20000
2834 - 0s - loss: 9.0048 -
      mean_absolute_error: 2.1370 - val_loss
      : 13.0856 - val_mean_absolute_error: 2
      . 2556
2835 Epoch 1270/20000
2836 - 0s - loss: 8.9486 -
      mean_absolute_error: 2.1482 - val_loss
```

```
2836 : 12.8373 - val_mean_absolute_error: 2
      .1947
```

```
2837
```

```
2838 Epoch 01270: saving model to ./model/
      model_best.h5
```

```
2839 Epoch 1271/20000
```

```
2840 - 0s - loss: 8.7503 -
      mean_absolute_error: 2.2676 - val_loss
      : 12.9014 - val_mean_absolute_error: 2
      .2082
```

```
2841 Epoch 1272/20000
```

```
2842 - 0s - loss: 7.9324 -
      mean_absolute_error: 2.1068 - val_loss
      : 13.2850 - val_mean_absolute_error: 2
      .2555
```

```
2843 Epoch 1273/20000
```

```
2844 - 0s - loss: 9.0288 -
      mean_absolute_error: 2.2202 - val_loss
      : 13.3676 - val_mean_absolute_error: 2
      .1868
```

```
2845 Epoch 1274/20000
```

```
2846 - 0s - loss: 8.4893 -
      mean_absolute_error: 2.1598 - val_loss
      : 13.1714 - val_mean_absolute_error: 2
```

```
2846 .1886
2847 Epoch 1275/20000
2848 - 0s - loss: 9.1124 -
mean_absolute_error: 2.1191 - val_loss
: 13.0391 - val_mean_absolute_error: 2
.2759
2849 Epoch 1276/20000
2850 - 0s - loss: 8.3967 -
mean_absolute_error: 2.1089 - val_loss
: 13.1440 - val_mean_absolute_error: 2
.2416
2851 Epoch 1277/20000
2852 - 0s - loss: 11.0611 -
mean_absolute_error: 2.4102 - val_loss
: 15.4633 - val_mean_absolute_error: 2
.4511
2853 Epoch 1278/20000
2854 - 0s - loss: 8.0630 -
mean_absolute_error: 2.0766 - val_loss
: 14.0068 - val_mean_absolute_error: 2
.3007
2855 Epoch 1279/20000
2856 - 0s - loss: 10.6473 -
mean_absolute_error: 2.3377 - val_loss
```

```
2856 : 14.6441 - val_mean_absolute_error: 2
      .3461
```

```
2857 Epoch 1280/20000
```

```
2858 - 0s - loss: 8.5483 -
      mean_absolute_error: 2.2545 - val_loss
      : 13.3631 - val_mean_absolute_error: 2
      .2048
```

```
2859
```

```
2860 Epoch 01280: saving model to ./model/
      model_best.h5
```

```
2861 Epoch 1281/20000
```

```
2862 - 0s - loss: 8.8924 -
      mean_absolute_error: 2.1453 - val_loss
      : 13.3241 - val_mean_absolute_error: 2
      .2836
```

```
2863 Epoch 1282/20000
```

```
2864 - 0s - loss: 10.4549 -
      mean_absolute_error: 2.2586 - val_loss
      : 13.6904 - val_mean_absolute_error: 2
      .3970
```

```
2865 Epoch 1283/20000
```

```
2866 - 0s - loss: 9.0322 -
      mean_absolute_error: 2.1546 - val_loss
      : 13.1909 - val_mean_absolute_error: 2
```

```
2866 . 2218
2867 Epoch 1284/20000
2868 - 0s - loss: 8.1756 -
mean_absolute_error: 2.1149 - val_loss
: 13.3472 - val_mean_absolute_error: 2
. 2206
2869 Epoch 1285/20000
2870 - 0s - loss: 8.0955 -
mean_absolute_error: 2.2340 - val_loss
: 13.1302 - val_mean_absolute_error: 2
. 2234
2871 Epoch 1286/20000
2872 - 0s - loss: 8.6067 -
mean_absolute_error: 2.1636 - val_loss
: 13.2692 - val_mean_absolute_error: 2
. 3355
2873 Epoch 1287/20000
2874 - 0s - loss: 7.9313 -
mean_absolute_error: 2.0276 - val_loss
: 13.3607 - val_mean_absolute_error: 2
. 3387
2875 Epoch 1288/20000
2876 - 0s - loss: 9.5196 -
mean_absolute_error: 2.2835 - val_loss
```



```
2876 : 13.7740 - val_mean_absolute_error: 2
      .3365
2877 Epoch 1289/20000
2878   - 0s - loss: 12.1879 -
      mean_absolute_error: 2.4379 - val_loss
      : 13.4794 - val_mean_absolute_error: 2
      .2714
2879 Epoch 1290/20000
2880   - 0s - loss: 11.0136 -
      mean_absolute_error: 2.2716 - val_loss
      : 13.2406 - val_mean_absolute_error: 2
      .2742
2881
2882 Epoch 01290: saving model to ./model/
      model_best.h5
2883 Epoch 1291/20000
2884   - 0s - loss: 7.7816 -
      mean_absolute_error: 2.1360 - val_loss
      : 13.5476 - val_mean_absolute_error: 2
      .2243
2885 Epoch 1292/20000
2886   - 0s - loss: 11.2601 -
      mean_absolute_error: 2.4358 - val_loss
      : 13.7815 - val_mean_absolute_error: 2
```

```
2886 . 2194
2887 Epoch 1293/20000
2888 - 0s - loss: 11.1321 -
      mean_absolute_error: 2.3698 - val_loss
      : 14.3604 - val_mean_absolute_error: 2
      . 3497
2889 Epoch 1294/20000
2890 - 0s - loss: 8.7172 -
      mean_absolute_error: 2.1513 - val_loss
      : 13.2424 - val_mean_absolute_error: 2
      . 2574
2891 Epoch 1295/20000
2892 - 0s - loss: 7.8989 -
      mean_absolute_error: 2.0846 - val_loss
      : 13.1000 - val_mean_absolute_error: 2
      . 2293
2893 Epoch 1296/20000
2894 - 0s - loss: 11.7336 -
      mean_absolute_error: 2.4356 - val_loss
      : 13.2913 - val_mean_absolute_error: 2
      . 2437
2895 Epoch 1297/20000
2896 - 0s - loss: 8.4551 -
      mean_absolute_error: 2.1416 - val_loss
```

```
2896 : 13.7213 - val_mean_absolute_error: 2
      .3422
2897 Epoch 1298/20000
2898   - 0s - loss: 10.0201 -
      mean_absolute_error: 2.1987 - val_loss
      : 13.1112 - val_mean_absolute_error: 2
      .2302
2899 Epoch 1299/20000
2900   - 0s - loss: 10.3365 -
      mean_absolute_error: 2.3319 - val_loss
      : 13.1665 - val_mean_absolute_error: 2
      .2064
2901 Epoch 1300/20000
2902   - 0s - loss: 9.1730 -
      mean_absolute_error: 2.2750 - val_loss
      : 13.2445 - val_mean_absolute_error: 2
      .2746
2903
2904 Epoch 01300: saving model to ./model/
      model_best.h5
2905 Epoch 1301/20000
2906   - 0s - loss: 9.5678 -
      mean_absolute_error: 2.2122 - val_loss
      : 13.1399 - val_mean_absolute_error: 2
```

```
2906 . 2181
2907 Epoch 1302/20000
2908 - 0s - loss: 10.3591 -
      mean_absolute_error: 2.3758 - val_loss
      : 13.0855 - val_mean_absolute_error: 2
      . 2431
2909 Epoch 1303/20000
2910 - 0s - loss: 9.3503 -
      mean_absolute_error: 2.2355 - val_loss
      : 12.9864 - val_mean_absolute_error: 2
      . 2170
2911 Epoch 1304/20000
2912 - 0s - loss: 9.8743 -
      mean_absolute_error: 2.2110 - val_loss
      : 13.0236 - val_mean_absolute_error: 2
      . 2330
2913 Epoch 1305/20000
2914 - 0s - loss: 7.5947 -
      mean_absolute_error: 2.0646 - val_loss
      : 13.4148 - val_mean_absolute_error: 2
      . 2524
2915 Epoch 1306/20000
2916 - 0s - loss: 10.1770 -
      mean_absolute_error: 2.3093 - val_loss
```

```
2916 : 13.3240 - val_mean_absolute_error: 2
      .2048
2917 Epoch 1307/20000
2918 - 0s - loss: 8.3656 -
      mean_absolute_error: 2.1128 - val_loss
      : 13.8251 - val_mean_absolute_error: 2
      .2303
2919 Epoch 1308/20000
2920 - 0s - loss: 10.6747 -
      mean_absolute_error: 2.2600 - val_loss
      : 14.0468 - val_mean_absolute_error: 2
      .2795
2921 Epoch 1309/20000
2922 - 0s - loss: 9.9862 -
      mean_absolute_error: 2.2777 - val_loss
      : 14.2455 - val_mean_absolute_error: 2
      .2888
2923 Epoch 1310/20000
2924 - 0s - loss: 10.4003 -
      mean_absolute_error: 2.2346 - val_loss
      : 13.4448 - val_mean_absolute_error: 2
      .2548
2925
2926 Epoch 01310: saving model to ./model/
```

```
2926 model_best.h5
2927 Epoch 1311/20000
2928   - 0s - loss: 9.0306 -
      mean_absolute_error: 2.2790 - val_loss
      : 14.0564 - val_mean_absolute_error: 2
      .2876
2929 Epoch 1312/20000
2930   - 0s - loss: 8.5262 -
      mean_absolute_error: 2.1926 - val_loss
      : 13.9573 - val_mean_absolute_error: 2
      .2742
2931 Epoch 1313/20000
2932   - 0s - loss: 12.0664 -
      mean_absolute_error: 2.4199 - val_loss
      : 13.5634 - val_mean_absolute_error: 2
      .2737
2933 Epoch 1314/20000
2934   - 0s - loss: 9.6764 -
      mean_absolute_error: 2.2007 - val_loss
      : 14.2084 - val_mean_absolute_error: 2
      .2977
2935 Epoch 1315/20000
2936   - 0s - loss: 9.5643 -
      mean_absolute_error: 2.1926 - val_loss
```

```
2936 : 13.7930 - val_mean_absolute_error: 2
      .2797
2937 Epoch 1316/20000
2938 - 0s - loss: 8.5510 -
      mean_absolute_error: 2.2264 - val_loss
      : 13.7659 - val_mean_absolute_error: 2
      .3228
2939 Epoch 1317/20000
2940 - 0s - loss: 8.2515 -
      mean_absolute_error: 2.1395 - val_loss
      : 14.1303 - val_mean_absolute_error: 2
      .3017
2941 Epoch 1318/20000
2942 - 0s - loss: 8.3573 -
      mean_absolute_error: 2.1605 - val_loss
      : 15.1913 - val_mean_absolute_error: 2
      .3988
2943 Epoch 1319/20000
2944 - 0s - loss: 9.4139 -
      mean_absolute_error: 2.2092 - val_loss
      : 14.1250 - val_mean_absolute_error: 2
      .3088
2945 Epoch 1320/20000
2946 - 0s - loss: 9.9433 -
```

```
2946 mean_absolute_error: 2.3753 - val_loss
    : 13.4346 - val_mean_absolute_error: 2
    .2587
```

```
2947
```

```
2948 Epoch 01320: saving model to ./model/
    model_best.h5
```

```
2949 Epoch 1321/20000
```

```
2950 - 0s - loss: 10.9727 -
    mean_absolute_error: 2.3416 - val_loss
    : 13.3239 - val_mean_absolute_error: 2
    .2638
```

```
2951 Epoch 1322/20000
```

```
2952 - 0s - loss: 9.9495 -
    mean_absolute_error: 2.3173 - val_loss
    : 13.1410 - val_mean_absolute_error: 2
    .2165
```

```
2953 Epoch 1323/20000
```

```
2954 - 0s - loss: 10.2837 -
    mean_absolute_error: 2.2412 - val_loss
    : 13.3233 - val_mean_absolute_error: 2
    .2209
```

```
2955 Epoch 1324/20000
```

```
2956 - 0s - loss: 8.6963 -
    mean_absolute_error: 2.1306 - val_loss
```



```
2956 : 13.3105 - val_mean_absolute_error: 2
      .2356
2957 Epoch 1325/20000
2958   - 0s - loss: 8.4412 -
      mean_absolute_error: 2.1772 - val_loss
      : 13.4070 - val_mean_absolute_error: 2
      .2373
2959 Epoch 1326/20000
2960   - 0s - loss: 8.7059 -
      mean_absolute_error: 2.2014 - val_loss
      : 13.7250 - val_mean_absolute_error: 2
      .2683
2961 Epoch 1327/20000
2962   - 0s - loss: 8.2323 -
      mean_absolute_error: 2.1291 - val_loss
      : 13.4066 - val_mean_absolute_error: 2
      .2192
2963 Epoch 1328/20000
2964   - 0s - loss: 9.6596 -
      mean_absolute_error: 2.2386 - val_loss
      : 13.5163 - val_mean_absolute_error: 2
      .2655
2965 Epoch 1329/20000
2966   - 0s - loss: 8.8467 -
```

2966 mean_absolute_error: 2.1311 - val_loss
: 14.4154 - val_mean_absolute_error: 2
.3454

2967 Epoch 1330/20000

2968 - 0s - loss: 9.2787 -
mean_absolute_error: 2.2834 - val_loss
: 13.5480 - val_mean_absolute_error: 2
.2688

2969

2970 Epoch 01330: saving model to ./model/
model_best.h5

2971 Epoch 1331/20000

2972 - 0s - loss: 7.5755 -
mean_absolute_error: 2.0434 - val_loss
: 13.2786 - val_mean_absolute_error: 2
.2392

2973 Epoch 1332/20000

2974 - 0s - loss: 9.5027 -
mean_absolute_error: 2.1951 - val_loss
: 13.2192 - val_mean_absolute_error: 2
.2473

2975 Epoch 1333/20000

2976 - 0s - loss: 8.3473 -
mean_absolute_error: 2.0753 - val_loss

```
2976 : 13.4286 - val_mean_absolute_error: 2
      .2543
2977 Epoch 1334/20000
2978 - 0s - loss: 10.6325 -
      mean_absolute_error: 2.4041 - val_loss
      : 13.4664 - val_mean_absolute_error: 2
      .2370
2979 Epoch 1335/20000
2980 - 0s - loss: 10.7901 -
      mean_absolute_error: 2.4083 - val_loss
      : 13.2435 - val_mean_absolute_error: 2
      .2612
2981 Epoch 1336/20000
2982 - 0s - loss: 7.9968 -
      mean_absolute_error: 2.0810 - val_loss
      : 13.0609 - val_mean_absolute_error: 2
      .2005
2983 Epoch 1337/20000
2984 - 0s - loss: 9.3251 -
      mean_absolute_error: 2.1602 - val_loss
      : 13.0906 - val_mean_absolute_error: 2
      .2032
2985 Epoch 1338/20000
2986 - 0s - loss: 7.1490 -
```

2986 mean_absolute_error: 1.9996 - val_loss
: 13.2521 - val_mean_absolute_error: 2
.1904

2987 Epoch 1339/20000

2988 - 0s - loss: 9.3889 -
mean_absolute_error: 2.1665 - val_loss
: 13.3620 - val_mean_absolute_error: 2
.2557

2989 Epoch 1340/20000

2990 - 0s - loss: 8.2607 -
mean_absolute_error: 2.0407 - val_loss
: 13.6407 - val_mean_absolute_error: 2
.3391

2991

2992 Epoch 01340: saving model to ./model/
model_best.h5

2993 Epoch 1341/20000

2994 - 0s - loss: 9.6794 -
mean_absolute_error: 2.2291 - val_loss
: 13.3180 - val_mean_absolute_error: 2
.2381

2995 Epoch 1342/20000

2996 - 0s - loss: 10.5276 -
mean_absolute_error: 2.3460 - val_loss

```
2996 : 13.4732 - val_mean_absolute_error: 2
      .2370
2997 Epoch 1343/20000
2998 - 0s - loss: 8.0572 -
      mean_absolute_error: 2.1114 - val_loss
      : 13.6429 - val_mean_absolute_error: 2
      .2170
2999 Epoch 1344/20000
3000 - 0s - loss: 7.8381 -
      mean_absolute_error: 2.1127 - val_loss
      : 13.2894 - val_mean_absolute_error: 2
      .2514
3001 Epoch 1345/20000
3002 - 0s - loss: 10.1248 -
      mean_absolute_error: 2.3203 - val_loss
      : 13.2596 - val_mean_absolute_error: 2
      .1630
3003 Epoch 1346/20000
3004 - 0s - loss: 10.4509 -
      mean_absolute_error: 2.4326 - val_loss
      : 13.9286 - val_mean_absolute_error: 2
      .3704
3005 Epoch 1347/20000
3006 - 0s - loss: 8.7695 -
```

```
3006 mean_absolute_error: 2.1511 - val_loss
    : 13.9158 - val_mean_absolute_error: 2
    .1905
3007 Epoch 1348/20000
3008 - 0s - loss: 10.5621 -
    mean_absolute_error: 2.3182 - val_loss
    : 13.6917 - val_mean_absolute_error: 2
    .2097
3009 Epoch 1349/20000
3010 - 0s - loss: 9.7933 -
    mean_absolute_error: 2.2034 - val_loss
    : 13.5563 - val_mean_absolute_error: 2
    .2364
3011 Epoch 1350/20000
3012 - 0s - loss: 7.2799 -
    mean_absolute_error: 1.9759 - val_loss
    : 13.5800 - val_mean_absolute_error: 2
    .2252
3013
3014 Epoch 01350: saving model to ./model/
    model_best.h5
3015 Epoch 1351/20000
3016 - 0s - loss: 9.2427 -
    mean_absolute_error: 2.2839 - val_loss
```

```
3016 : 13.4482 - val_mean_absolute_error: 2
      .1958
3017 Epoch 1352/20000
3018 - 0s - loss: 8.7355 -
      mean_absolute_error: 2.2322 - val_loss
      : 13.2656 - val_mean_absolute_error: 2
      .2052
3019 Epoch 1353/20000
3020 - 0s - loss: 8.5478 -
      mean_absolute_error: 2.0926 - val_loss
      : 12.8712 - val_mean_absolute_error: 2
      .2246
3021 Epoch 1354/20000
3022 - 0s - loss: 9.0629 -
      mean_absolute_error: 2.1958 - val_loss
      : 12.7161 - val_mean_absolute_error: 2
      .1964
3023 Epoch 1355/20000
3024 - 0s - loss: 8.4620 -
      mean_absolute_error: 2.0864 - val_loss
      : 13.1625 - val_mean_absolute_error: 2
      .2588
3025 Epoch 1356/20000
3026 - 0s - loss: 8.9332 -
```

3026 mean_absolute_error: 2.1230 - val_loss
: 13.0671 - val_mean_absolute_error: 2
.1945

3027 Epoch 1357/20000

3028 - 0s - loss: 9.1898 -
mean_absolute_error: 2.2531 - val_loss
: 13.2476 - val_mean_absolute_error: 2
.2330

3029 Epoch 1358/20000

3030 - 0s - loss: 8.2863 -
mean_absolute_error: 2.1618 - val_loss
: 12.9648 - val_mean_absolute_error: 2
.2240

3031 Epoch 1359/20000

3032 - 0s - loss: 9.3023 -
mean_absolute_error: 2.2146 - val_loss
: 13.3815 - val_mean_absolute_error: 2
.1982

3033 Epoch 1360/20000

3034 - 0s - loss: 8.4309 -
mean_absolute_error: 2.1113 - val_loss
: 13.5382 - val_mean_absolute_error: 2
.1813

3035


```
3036 Epoch 01360: saving model to ./model/
model_best.h5
3037 Epoch 1361/20000
3038   - 0s - loss: 8.0124 -
mean_absolute_error: 2.1241 - val_loss
: 12.9680 - val_mean_absolute_error: 2
.1936
3039 Epoch 1362/20000
3040   - 0s - loss: 9.2255 -
mean_absolute_error: 2.2206 - val_loss
: 12.7960 - val_mean_absolute_error: 2
.1533
3041 Epoch 1363/20000
3042   - 0s - loss: 7.7619 -
mean_absolute_error: 2.1379 - val_loss
: 12.8542 - val_mean_absolute_error: 2
.1767
3043 Epoch 1364/20000
3044   - 0s - loss: 8.4622 -
mean_absolute_error: 2.1764 - val_loss
: 12.7527 - val_mean_absolute_error: 2
.1974
3045 Epoch 1365/20000
3046   - 0s - loss: 8.2192 -
```

```
3046 mean_absolute_error: 2.1335 - val_loss
    : 12.9570 - val_mean_absolute_error: 2
    .1815
3047 Epoch 1366/20000
3048   - 0s - loss: 10.0518 -
    mean_absolute_error: 2.1964 - val_loss
    : 13.1272 - val_mean_absolute_error: 2
    .2336
3049 Epoch 1367/20000
3050   - 0s - loss: 8.1473 -
    mean_absolute_error: 2.0706 - val_loss
    : 12.6327 - val_mean_absolute_error: 2
    .2223
3051 Epoch 1368/20000
3052   - 0s - loss: 7.4579 -
    mean_absolute_error: 2.0316 - val_loss
    : 12.7492 - val_mean_absolute_error: 2
    .1829
3053 Epoch 1369/20000
3054   - 0s - loss: 10.0237 -
    mean_absolute_error: 2.3078 - val_loss
    : 14.2104 - val_mean_absolute_error: 2
    .3875
3055 Epoch 1370/20000
```

```
3056 - 0s - loss: 7.4562 -  
mean_absolute_error: 2.0285 - val_loss  
: 12.4636 - val_mean_absolute_error: 2  
.1526
```

```
3057
```

```
3058 Epoch 01370: saving model to ./model/  
model_best.h5
```

```
3059 Epoch 1371/20000
```

```
3060 - 0s - loss: 8.3716 -  
mean_absolute_error: 2.1285 - val_loss  
: 12.7288 - val_mean_absolute_error: 2  
.2357
```

```
3061 Epoch 1372/20000
```

```
3062 - 0s - loss: 7.4228 -  
mean_absolute_error: 2.0417 - val_loss  
: 12.4550 - val_mean_absolute_error: 2  
.2205
```

```
3063 Epoch 1373/20000
```

```
3064 - 0s - loss: 9.5515 -  
mean_absolute_error: 2.2390 - val_loss  
: 13.0593 - val_mean_absolute_error: 2  
.2732
```

```
3065 Epoch 1374/20000
```

```
3066 - 0s - loss: 8.8360 -
```

```
3066 mean_absolute_error: 2.1141 - val_loss
    : 13.3087 - val_mean_absolute_error: 2
    .2889
3067 Epoch 1375/20000
3068   - 0s - loss: 10.5487 -
    mean_absolute_error: 2.3743 - val_loss
    : 12.9423 - val_mean_absolute_error: 2
    .2145
3069 Epoch 1376/20000
3070   - 0s - loss: 8.2846 -
    mean_absolute_error: 2.1468 - val_loss
    : 13.8416 - val_mean_absolute_error: 2
    .2684
3071 Epoch 1377/20000
3072   - 0s - loss: 8.7865 -
    mean_absolute_error: 2.1804 - val_loss
    : 13.3168 - val_mean_absolute_error: 2
    .1993
3073 Epoch 1378/20000
3074   - 0s - loss: 8.8396 -
    mean_absolute_error: 2.1711 - val_loss
    : 14.2179 - val_mean_absolute_error: 2
    .3759
3075 Epoch 1379/20000
```

```
3076 - 0s - loss: 8.7204 -  
mean_absolute_error: 2.2224 - val_loss  
: 13.6210 - val_mean_absolute_error: 2  
.2094  
3077 Epoch 1380/20000  
3078 - 0s - loss: 9.5616 -  
mean_absolute_error: 2.1673 - val_loss  
: 12.9692 - val_mean_absolute_error: 2  
.2123  
3079  
3080 Epoch 01380: saving model to ./model/  
model_best.h5  
3081 Epoch 1381/20000  
3082 - 0s - loss: 9.2349 -  
mean_absolute_error: 2.3092 - val_loss  
: 13.5458 - val_mean_absolute_error: 2  
.2792  
3083 Epoch 1382/20000  
3084 - 0s - loss: 10.0388 -  
mean_absolute_error: 2.2323 - val_loss  
: 13.3751 - val_mean_absolute_error: 2  
.2220  
3085 Epoch 1383/20000  
3086 - 0s - loss: 9.0047 -
```

```
3086 mean_absolute_error: 2.3170 - val_loss
    : 13.4512 - val_mean_absolute_error: 2
    .2695
3087 Epoch 1384/20000
3088   - 0s - loss: 9.7477 -
    mean_absolute_error: 2.2286 - val_loss
    : 13.3429 - val_mean_absolute_error: 2
    .2426
3089 Epoch 1385/20000
3090   - 0s - loss: 8.1683 -
    mean_absolute_error: 2.1521 - val_loss
    : 13.1092 - val_mean_absolute_error: 2
    .2203
3091 Epoch 1386/20000
3092   - 0s - loss: 7.7197 -
    mean_absolute_error: 2.1091 - val_loss
    : 12.9658 - val_mean_absolute_error: 2
    .2151
3093 Epoch 1387/20000
3094   - 0s - loss: 10.3451 -
    mean_absolute_error: 2.3503 - val_loss
    : 13.7829 - val_mean_absolute_error: 2
    .2965
3095 Epoch 1388/20000
```

```
3096 - 0s - loss: 8.1710 -  
mean_absolute_error: 2.2008 - val_loss  
: 12.9555 - val_mean_absolute_error: 2  
.2246  
3097 Epoch 1389/20000  
3098 - 0s - loss: 9.6360 -  
mean_absolute_error: 2.2232 - val_loss  
: 12.9084 - val_mean_absolute_error: 2  
.2092  
3099 Epoch 1390/20000  
3100 - 0s - loss: 9.0193 -  
mean_absolute_error: 2.0833 - val_loss  
: 13.1794 - val_mean_absolute_error: 2  
.2290  
3101  
3102 Epoch 01390: saving model to ./model/  
model_best.h5  
3103 Epoch 1391/20000  
3104 - 0s - loss: 8.4790 -  
mean_absolute_error: 2.2604 - val_loss  
: 13.4746 - val_mean_absolute_error: 2  
.2415  
3105 Epoch 1392/20000  
3106 - 0s - loss: 10.2582 -
```

```
3106 mean_absolute_error: 2.2447 - val_loss
    : 13.5395 - val_mean_absolute_error: 2
    .2542
3107 Epoch 1393/20000
3108 - 0s - loss: 10.4409 -
    mean_absolute_error: 2.2882 - val_loss
    : 13.6995 - val_mean_absolute_error: 2
    .2659
3109 Epoch 1394/20000
3110 - 0s - loss: 8.4597 -
    mean_absolute_error: 2.1482 - val_loss
    : 13.5742 - val_mean_absolute_error: 2
    .2558
3111 Epoch 1395/20000
3112 - 0s - loss: 8.5628 -
    mean_absolute_error: 2.1064 - val_loss
    : 12.9252 - val_mean_absolute_error: 2
    .1960
3113 Epoch 1396/20000
3114 - 0s - loss: 9.0826 -
    mean_absolute_error: 2.2536 - val_loss
    : 13.4197 - val_mean_absolute_error: 2
    .2355
3115 Epoch 1397/20000
```



```
3116 - 0s - loss: 7.8894 -  
mean_absolute_error: 2.0547 - val_loss  
: 14.5719 - val_mean_absolute_error: 2  
.4460  
3117 Epoch 1398/20000  
3118 - 0s - loss: 7.4852 -  
mean_absolute_error: 2.0746 - val_loss  
: 14.0750 - val_mean_absolute_error: 2  
.3638  
3119 Epoch 1399/20000  
3120 - 0s - loss: 8.3326 -  
mean_absolute_error: 2.1234 - val_loss  
: 12.8711 - val_mean_absolute_error: 2  
.2228  
3121 Epoch 1400/20000  
3122 - 0s - loss: 8.4898 -  
mean_absolute_error: 2.0143 - val_loss  
: 13.4797 - val_mean_absolute_error: 2  
.2985  
3123  
3124 Epoch 1400: saving model to ./model/  
model_best.h5  
3125 Epoch 1401/20000  
3126 - 0s - loss: 7.8906 -
```

```
3126 mean_absolute_error: 2.0450 - val_loss
      : 13.0559 - val_mean_absolute_error: 2
      .2088
3127 Epoch 1402/20000
3128   - 0s - loss: 7.6248 -
      mean_absolute_error: 2.0564 - val_loss
      : 12.7357 - val_mean_absolute_error: 2
      .1802
3129 Epoch 1403/20000
3130   - 0s - loss: 8.8095 -
      mean_absolute_error: 2.1454 - val_loss
      : 12.8594 - val_mean_absolute_error: 2
      .2187
3131 Epoch 1404/20000
3132   - 0s - loss: 9.5650 -
      mean_absolute_error: 2.2365 - val_loss
      : 13.1420 - val_mean_absolute_error: 2
      .2112
3133 Epoch 1405/20000
3134   - 0s - loss: 9.2749 -
      mean_absolute_error: 2.1961 - val_loss
      : 13.1813 - val_mean_absolute_error: 2
      .1987
3135 Epoch 1406/20000
```

```
3136 - 0s - loss: 9.7999 -  
      mean_absolute_error: 2.2230 - val_loss  
      : 13.9449 - val_mean_absolute_error: 2  
      .3402  
3137 Epoch 1407/20000  
3138 - 0s - loss: 8.8154 -  
      mean_absolute_error: 2.1878 - val_loss  
      : 12.7093 - val_mean_absolute_error: 2  
      .1496  
3139 Epoch 1408/20000  
3140 - 0s - loss: 10.1656 -  
      mean_absolute_error: 2.3227 - val_loss  
      : 12.8447 - val_mean_absolute_error: 2  
      .1677  
3141 Epoch 1409/20000  
3142 - 0s - loss: 8.2024 -  
      mean_absolute_error: 2.0935 - val_loss  
      : 12.9239 - val_mean_absolute_error: 2  
      .1772  
3143 Epoch 1410/20000  
3144 - 0s - loss: 8.3424 -  
      mean_absolute_error: 2.1171 - val_loss  
      : 13.3151 - val_mean_absolute_error: 2  
      .1806
```

3145

3146 Epoch 01410: saving model to ./model/
model_best.h5

3147 Epoch 1411/20000

3148 - 0s - loss: 10.9124 -
mean_absolute_error: 2.3645 - val_loss
: 13.3448 - val_mean_absolute_error: 2
.1851

3149 Epoch 1412/20000

3150 - 0s - loss: 9.5342 -
mean_absolute_error: 2.2461 - val_loss
: 12.9424 - val_mean_absolute_error: 2
.1733

3151 Epoch 1413/20000

3152 - 0s - loss: 9.2420 -
mean_absolute_error: 2.0941 - val_loss
: 13.1965 - val_mean_absolute_error: 2
.2392

3153 Epoch 1414/20000

3154 - 0s - loss: 8.9237 -
mean_absolute_error: 2.1556 - val_loss
: 12.7134 - val_mean_absolute_error: 2
.2169

3155 Epoch 1415/20000

```
3156 - 0s - loss: 8.4849 -  
mean_absolute_error: 2.0886 - val_loss  
: 12.6217 - val_mean_absolute_error: 2  
.2221  
3157 Epoch 1416/20000  
3158 - 0s - loss: 10.2226 -  
mean_absolute_error: 2.1710 - val_loss  
: 12.9332 - val_mean_absolute_error: 2  
.2247  
3159 Epoch 1417/20000  
3160 - 0s - loss: 9.5901 -  
mean_absolute_error: 2.1807 - val_loss  
: 13.2091 - val_mean_absolute_error: 2  
.2322  
3161 Epoch 1418/20000  
3162 - 0s - loss: 9.3632 -  
mean_absolute_error: 2.1944 - val_loss  
: 12.7513 - val_mean_absolute_error: 2  
.2068  
3163 Epoch 1419/20000  
3164 - 0s - loss: 8.8912 -  
mean_absolute_error: 2.2533 - val_loss  
: 13.3116 - val_mean_absolute_error: 2  
.2339
```

```
3165 Epoch 1420/20000
3166   - 0s - loss: 9.4345 -
      mean_absolute_error: 2.1984 - val_loss
      : 13.1440 - val_mean_absolute_error: 2
      .2570
3167
3168 Epoch 01420: saving model to ./model/
      model_best.h5
3169 Epoch 1421/20000
3170   - 0s - loss: 9.3919 -
      mean_absolute_error: 2.2797 - val_loss
      : 13.0617 - val_mean_absolute_error: 2
      .2489
3171 Epoch 1422/20000
3172   - 0s - loss: 9.1370 -
      mean_absolute_error: 2.2034 - val_loss
      : 14.0003 - val_mean_absolute_error: 2
      .3036
3173 Epoch 1423/20000
3174   - 0s - loss: 10.1144 -
      mean_absolute_error: 2.2839 - val_loss
      : 12.8527 - val_mean_absolute_error: 2
      .2245
3175 Epoch 1424/20000
```

```
3176 - 0s - loss: 9.1386 -  
mean_absolute_error: 2.2462 - val_loss  
: 13.7432 - val_mean_absolute_error: 2  
.3104  
3177 Epoch 1425/20000  
3178 - 0s - loss: 8.6085 -  
mean_absolute_error: 2.1264 - val_loss  
: 12.8303 - val_mean_absolute_error: 2  
.2524  
3179 Epoch 1426/20000  
3180 - 0s - loss: 7.9123 -  
mean_absolute_error: 2.0773 - val_loss  
: 13.6249 - val_mean_absolute_error: 2  
.2572  
3181 Epoch 1427/20000  
3182 - 0s - loss: 10.3493 -  
mean_absolute_error: 2.3154 - val_loss  
: 13.3502 - val_mean_absolute_error: 2  
.2350  
3183 Epoch 1428/20000  
3184 - 0s - loss: 8.0532 -  
mean_absolute_error: 2.0931 - val_loss  
: 12.9689 - val_mean_absolute_error: 2  
.2043
```

```
3185 Epoch 1429/20000
3186   - 0s - loss: 8.6250 -
      mean_absolute_error: 2.1252 - val_loss
      : 12.7885 - val_mean_absolute_error: 2
      .2085
3187 Epoch 1430/20000
3188   - 0s - loss: 8.3613 -
      mean_absolute_error: 2.1023 - val_loss
      : 12.7542 - val_mean_absolute_error: 2
      .2108
3189
3190 Epoch 01430: saving model to ./model/
      model_best.h5
3191 Epoch 1431/20000
3192   - 0s - loss: 9.2128 -
      mean_absolute_error: 2.2522 - val_loss
      : 12.9686 - val_mean_absolute_error: 2
      .2255
3193 Epoch 1432/20000
3194   - 0s - loss: 7.7671 -
      mean_absolute_error: 2.0684 - val_loss
      : 13.1690 - val_mean_absolute_error: 2
      .2662
3195 Epoch 1433/20000
```



```
3196 - 0s - loss: 6.3182 -  
mean_absolute_error: 1.9562 - val_loss  
: 12.9819 - val_mean_absolute_error: 2  
.1856  
3197 Epoch 1434/20000  
3198 - 0s - loss: 10.2511 -  
mean_absolute_error: 2.3449 - val_loss  
: 13.0343 - val_mean_absolute_error: 2  
.2065  
3199 Epoch 1435/20000  
3200 - 0s - loss: 9.6083 -  
mean_absolute_error: 2.1111 - val_loss  
: 13.7523 - val_mean_absolute_error: 2  
.2616  
3201 Epoch 1436/20000  
3202 - 0s - loss: 7.6666 -  
mean_absolute_error: 2.0921 - val_loss  
: 13.5764 - val_mean_absolute_error: 2  
.2257  
3203 Epoch 1437/20000  
3204 - 0s - loss: 8.8862 -  
mean_absolute_error: 2.1808 - val_loss  
: 12.7168 - val_mean_absolute_error: 2  
.1935
```

```
3205 Epoch 1438/20000
3206   - 0s - loss: 9.0839 -
      mean_absolute_error: 2.2045 - val_loss
      : 12.5800 - val_mean_absolute_error: 2
      .2199
3207 Epoch 1439/20000
3208   - 0s - loss: 9.8948 -
      mean_absolute_error: 2.3080 - val_loss
      : 13.1624 - val_mean_absolute_error: 2
      .2236
3209 Epoch 1440/20000
3210   - 0s - loss: 8.3734 -
      mean_absolute_error: 2.1469 - val_loss
      : 13.2634 - val_mean_absolute_error: 2
      .2128
3211
3212 Epoch 01440: saving model to ./model/
      model_best.h5
3213 Epoch 1441/20000
3214   - 0s - loss: 10.0002 -
      mean_absolute_error: 2.2168 - val_loss
      : 13.6987 - val_mean_absolute_error: 2
      .2453
3215 Epoch 1442/20000
```

```
3216 - 0s - loss: 7.5278 -  
      mean_absolute_error: 2.1272 - val_loss  
      : 13.3786 - val_mean_absolute_error: 2  
      .2043  
3217 Epoch 1443/20000  
3218 - 0s - loss: 10.6457 -  
      mean_absolute_error: 2.2410 - val_loss  
      : 13.2448 - val_mean_absolute_error: 2  
      .1918  
3219 Epoch 1444/20000  
3220 - 0s - loss: 8.3430 -  
      mean_absolute_error: 2.0768 - val_loss  
      : 13.4582 - val_mean_absolute_error: 2  
      .2134  
3221 Epoch 1445/20000  
3222 - 0s - loss: 10.0526 -  
      mean_absolute_error: 2.2545 - val_loss  
      : 13.6075 - val_mean_absolute_error: 2  
      .2257  
3223 Epoch 1446/20000  
3224 - 0s - loss: 7.7471 -  
      mean_absolute_error: 2.0622 - val_loss  
      : 13.7165 - val_mean_absolute_error: 2  
      .2338
```

```
3225 Epoch 1447/20000
3226   - 0s - loss: 10.0718 -
      mean_absolute_error: 2.3676 - val_loss
      : 13.2826 - val_mean_absolute_error: 2
      .2426
3227 Epoch 1448/20000
3228   - 0s - loss: 7.8346 -
      mean_absolute_error: 2.0696 - val_loss
      : 13.9143 - val_mean_absolute_error: 2
      .2778
3229 Epoch 1449/20000
3230   - 0s - loss: 8.5052 -
      mean_absolute_error: 2.1346 - val_loss
      : 12.9520 - val_mean_absolute_error: 2
      .2499
3231 Epoch 1450/20000
3232   - 0s - loss: 8.4516 -
      mean_absolute_error: 2.0961 - val_loss
      : 13.4803 - val_mean_absolute_error: 2
      .2249
3233
3234 Epoch 01450: saving model to ./model/
      model_best.h5
3235 Epoch 1451/20000
```

```
3236 - 0s - loss: 9.1809 -  
      mean_absolute_error: 2.1672 - val_loss  
      : 14.5144 - val_mean_absolute_error: 2  
      .3344  
3237 Epoch 1452/20000  
3238 - 0s - loss: 8.4739 -  
      mean_absolute_error: 2.1026 - val_loss  
      : 13.2741 - val_mean_absolute_error: 2  
      .2263  
3239 Epoch 1453/20000  
3240 - 0s - loss: 10.0944 -  
      mean_absolute_error: 2.1934 - val_loss  
      : 12.5784 - val_mean_absolute_error: 2  
      .2037  
3241 Epoch 1454/20000  
3242 - 0s - loss: 9.1369 -  
      mean_absolute_error: 2.2693 - val_loss  
      : 12.5935 - val_mean_absolute_error: 2  
      .1787  
3243 Epoch 1455/20000  
3244 - 0s - loss: 8.8404 -  
      mean_absolute_error: 2.1021 - val_loss  
      : 13.4173 - val_mean_absolute_error: 2  
      .2862
```

```
3245 Epoch 1456/20000
3246   - 0s - loss: 8.4883 -
      mean_absolute_error: 2.1250 - val_loss
      : 12.6384 - val_mean_absolute_error: 2
      .1937
3247 Epoch 1457/20000
3248   - 0s - loss: 9.6815 -
      mean_absolute_error: 2.1913 - val_loss
      : 13.0540 - val_mean_absolute_error: 2
      .2914
3249 Epoch 1458/20000
3250   - 0s - loss: 9.2921 -
      mean_absolute_error: 2.2380 - val_loss
      : 12.1221 - val_mean_absolute_error: 2
      .1622
3251 Epoch 1459/20000
3252   - 0s - loss: 9.3128 -
      mean_absolute_error: 2.2521 - val_loss
      : 12.7673 - val_mean_absolute_error: 2
      .2380
3253 Epoch 1460/20000
3254   - 0s - loss: 7.2037 -
      mean_absolute_error: 1.9601 - val_loss
      : 13.5752 - val_mean_absolute_error: 2
```

3254 .2878

3255

3256 Epoch 01460: saving model to ./model/
model_best.h5

3257 Epoch 1461/20000

3258 - 0s - loss: 7.7120 -
mean_absolute_error: 2.1422 - val_loss
: 12.4926 - val_mean_absolute_error: 2
.1739

3259 Epoch 1462/20000

3260 - 0s - loss: 8.7741 -
mean_absolute_error: 2.2197 - val_loss
: 12.9304 - val_mean_absolute_error: 2
.1921

3261 Epoch 1463/20000

3262 - 0s - loss: 10.2907 -
mean_absolute_error: 2.3693 - val_loss
: 12.9009 - val_mean_absolute_error: 2
.1763

3263 Epoch 1464/20000

3264 - 0s - loss: 8.6726 -
mean_absolute_error: 2.0506 - val_loss
: 12.7768 - val_mean_absolute_error: 2
.1699

```
3265 Epoch 1465/20000
3266   - 0s - loss: 9.5876 -
      mean_absolute_error: 2.2396 - val_loss
      : 12.4371 - val_mean_absolute_error: 2
      .1255
3267 Epoch 1466/20000
3268   - 0s - loss: 8.1198 -
      mean_absolute_error: 2.1316 - val_loss
      : 13.5778 - val_mean_absolute_error: 2
      .2105
3269 Epoch 1467/20000
3270   - 0s - loss: 9.6668 -
      mean_absolute_error: 2.1588 - val_loss
      : 14.7318 - val_mean_absolute_error: 2
      .3754
3271 Epoch 1468/20000
3272   - 0s - loss: 10.0693 -
      mean_absolute_error: 2.2237 - val_loss
      : 13.0696 - val_mean_absolute_error: 2
      .1883
3273 Epoch 1469/20000
3274   - 0s - loss: 8.9457 -
      mean_absolute_error: 2.1642 - val_loss
      : 13.0520 - val_mean_absolute_error: 2
```



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3274 . 2006
3275 Epoch 1470/20000
3276 - 0s - loss: 8.5953 -
      mean_absolute_error: 2.1174 - val_loss
      : 12.8736 - val_mean_absolute_error: 2
      .2379
3277
3278 Epoch 01470: saving model to ./model/
      model_best.h5
3279 Epoch 1471/20000
3280 - 0s - loss: 8.8246 -
      mean_absolute_error: 2.1525 - val_loss
      : 12.8314 - val_mean_absolute_error: 2
      .1692
3281 Epoch 1472/20000
3282 - 0s - loss: 10.4276 -
      mean_absolute_error: 2.2976 - val_loss
      : 12.9970 - val_mean_absolute_error: 2
      .2048
3283 Epoch 1473/20000
3284 - 0s - loss: 8.6824 -
      mean_absolute_error: 2.1304 - val_loss
      : 13.7680 - val_mean_absolute_error: 2
      .3257
```

```
3285 Epoch 1474/20000
3286   - 0s - loss: 8.2996 -
      mean_absolute_error: 2.1848 - val_loss
      : 12.8328 - val_mean_absolute_error: 2
      .2190
3287 Epoch 1475/20000
3288   - 0s - loss: 8.2356 -
      mean_absolute_error: 2.0778 - val_loss
      : 12.7450 - val_mean_absolute_error: 2
      .1969
3289 Epoch 1476/20000
3290   - 0s - loss: 8.6206 -
      mean_absolute_error: 2.0564 - val_loss
      : 12.9777 - val_mean_absolute_error: 2
      .1868
3291 Epoch 1477/20000
3292   - 0s - loss: 9.4707 -
      mean_absolute_error: 2.2220 - val_loss
      : 13.3553 - val_mean_absolute_error: 2
      .2714
3293 Epoch 1478/20000
3294   - 0s - loss: 7.4961 -
      mean_absolute_error: 2.0868 - val_loss
      : 12.8868 - val_mean_absolute_error: 2
```

```
3294 .2170
3295 Epoch 1479/20000
3296 - 0s - loss: 8.7921 -
      mean_absolute_error: 2.1638 - val_loss
      : 13.6880 - val_mean_absolute_error: 2
      .3125
3297 Epoch 1480/20000
3298 - 0s - loss: 7.6584 -
      mean_absolute_error: 1.9943 - val_loss
      : 12.9678 - val_mean_absolute_error: 2
      .2447
3299
3300 Epoch 01480: saving model to ./model/
      model_best.h5
3301 Epoch 1481/20000
3302 - 0s - loss: 8.4322 -
      mean_absolute_error: 2.2323 - val_loss
      : 13.3675 - val_mean_absolute_error: 2
      .2107
3303 Epoch 1482/20000
3304 - 0s - loss: 6.6812 -
      mean_absolute_error: 1.9612 - val_loss
      : 13.3461 - val_mean_absolute_error: 2
      .3101
```

```
3305 Epoch 1483/20000
3306   - 0s - loss: 9.0511 -
      mean_absolute_error: 2.1641 - val_loss
      : 13.0848 - val_mean_absolute_error: 2
      .2429
3307 Epoch 1484/20000
3308   - 0s - loss: 9.2535 -
      mean_absolute_error: 2.2165 - val_loss
      : 15.0330 - val_mean_absolute_error: 2
      .3622
3309 Epoch 1485/20000
3310   - 0s - loss: 10.0216 -
      mean_absolute_error: 2.3319 - val_loss
      : 13.4060 - val_mean_absolute_error: 2
      .2503
3311 Epoch 1486/20000
3312   - 0s - loss: 9.2686 -
      mean_absolute_error: 2.2108 - val_loss
      : 14.0107 - val_mean_absolute_error: 2
      .2625
3313 Epoch 1487/20000
3314   - 0s - loss: 8.2536 -
      mean_absolute_error: 2.0587 - val_loss
      : 13.8489 - val_mean_absolute_error: 2
```

```
3314 .2731
3315 Epoch 1488/20000
3316 - 0s - loss: 10.1286 -
mean_absolute_error: 2.2813 - val_loss
: 13.3824 - val_mean_absolute_error: 2
.2450
3317 Epoch 1489/20000
3318 - 0s - loss: 8.6673 -
mean_absolute_error: 2.1554 - val_loss
: 13.5261 - val_mean_absolute_error: 2
.2350
3319 Epoch 1490/20000
3320 - 0s - loss: 8.3876 -
mean_absolute_error: 2.0812 - val_loss
: 13.2504 - val_mean_absolute_error: 2
.2374
3321
3322 Epoch 01490: saving model to ./model/
model_best.h5
3323 Epoch 1491/20000
3324 - 0s - loss: 7.8988 -
mean_absolute_error: 2.0552 - val_loss
: 13.8799 - val_mean_absolute_error: 2
.2399
```

```
3325 Epoch 1492/20000
3326   - 0s - loss: 10.7345 -
      mean_absolute_error: 2.2656 - val_loss
      : 13.7293 - val_mean_absolute_error: 2
      .2947
3327 Epoch 1493/20000
3328   - 0s - loss: 10.9182 -
      mean_absolute_error: 2.3676 - val_loss
      : 13.2554 - val_mean_absolute_error: 2
      .2590
3329 Epoch 1494/20000
3330   - 0s - loss: 10.4757 -
      mean_absolute_error: 2.3127 - val_loss
      : 13.3956 - val_mean_absolute_error: 2
      .2474
3331 Epoch 1495/20000
3332   - 0s - loss: 8.6000 -
      mean_absolute_error: 2.1769 - val_loss
      : 13.4162 - val_mean_absolute_error: 2
      .2029
3333 Epoch 1496/20000
3334   - 0s - loss: 7.3682 -
      mean_absolute_error: 2.0585 - val_loss
      : 13.5074 - val_mean_absolute_error: 2
```

```
3334 . 2352
3335 Epoch 1497/20000
3336 - 0s - loss: 8.0250 -
      mean_absolute_error: 2.0826 - val_loss
      : 14.0976 - val_mean_absolute_error: 2
      . 3099
3337 Epoch 1498/20000
3338 - 0s - loss: 7.4649 -
      mean_absolute_error: 2.0161 - val_loss
      : 13.2604 - val_mean_absolute_error: 2
      . 2411
3339 Epoch 1499/20000
3340 - 0s - loss: 10.1691 -
      mean_absolute_error: 2.2557 - val_loss
      : 13.5726 - val_mean_absolute_error: 2
      . 2710
3341 Epoch 1500/20000
3342 - 0s - loss: 8.0390 -
      mean_absolute_error: 2.1322 - val_loss
      : 13.3218 - val_mean_absolute_error: 2
      . 2577
3343
3344 Epoch 01500: saving model to ./model/
      model_best.h5
```

```
3345 Epoch 1501/20000
3346   - 0s - loss: 9.5715 -
      mean_absolute_error: 2.1997 - val_loss
      : 13.4402 - val_mean_absolute_error: 2
      .2892
3347 Epoch 1502/20000
3348   - 0s - loss: 9.5875 -
      mean_absolute_error: 2.2032 - val_loss
      : 13.3206 - val_mean_absolute_error: 2
      .2509
3349 Epoch 1503/20000
3350   - 0s - loss: 11.2113 -
      mean_absolute_error: 2.3175 - val_loss
      : 14.1567 - val_mean_absolute_error: 2
      .3082
3351 Epoch 1504/20000
3352   - 0s - loss: 7.4619 -
      mean_absolute_error: 2.1146 - val_loss
      : 13.4342 - val_mean_absolute_error: 2
      .2511
3353 Epoch 1505/20000
3354   - 0s - loss: 8.3525 -
      mean_absolute_error: 2.1022 - val_loss
      : 13.2640 - val_mean_absolute_error: 2
```



```
3354 . 2303
3355 Epoch 1506/20000
3356 - 0s - loss: 9.1671 -
      mean_absolute_error: 2.1649 - val_loss
      : 14.0330 - val_mean_absolute_error: 2
      . 3054
3357 Epoch 1507/20000
3358 - 0s - loss: 9.8923 -
      mean_absolute_error: 2.1780 - val_loss
      : 13.2102 - val_mean_absolute_error: 2
      . 2427
3359 Epoch 1508/20000
3360 - 0s - loss: 7.4458 -
      mean_absolute_error: 1.9669 - val_loss
      : 13.2775 - val_mean_absolute_error: 2
      . 2549
3361 Epoch 1509/20000
3362 - 0s - loss: 9.5810 -
      mean_absolute_error: 2.2640 - val_loss
      : 13.5819 - val_mean_absolute_error: 2
      . 2448
3363 Epoch 1510/20000
3364 - 0s - loss: 8.2276 -
      mean_absolute_error: 2.1277 - val_loss
```

3364 : 13.7616 - val_mean_absolute_error: 2
.2294

3365

3366 Epoch 01510: saving model to ./model/
model_best.h5

3367 Epoch 1511/20000

3368 - 0s - loss: 8.7226 -
mean_absolute_error: 2.1428 - val_loss
: 13.9282 - val_mean_absolute_error: 2
.2772

3369 Epoch 1512/20000

3370 - 0s - loss: 7.3597 -
mean_absolute_error: 1.9940 - val_loss
: 13.9344 - val_mean_absolute_error: 2
.2923

3371 Epoch 1513/20000

3372 - 0s - loss: 8.3931 -
mean_absolute_error: 2.1623 - val_loss
: 14.3970 - val_mean_absolute_error: 2
.3084

3373 Epoch 1514/20000

3374 - 0s - loss: 8.9905 -
mean_absolute_error: 2.2173 - val_loss
: 15.4705 - val_mean_absolute_error: 2

```
3374 .4133
3375 Epoch 1515/20000
3376 - 0s - loss: 8.4777 -
mean_absolute_error: 2.0144 - val_loss
: 13.4242 - val_mean_absolute_error: 2
.2691
3377 Epoch 1516/20000
3378 - 0s - loss: 7.4894 -
mean_absolute_error: 2.0381 - val_loss
: 13.8334 - val_mean_absolute_error: 2
.2898
3379 Epoch 1517/20000
3380 - 0s - loss: 9.6381 -
mean_absolute_error: 2.1898 - val_loss
: 13.4038 - val_mean_absolute_error: 2
.2578
3381 Epoch 1518/20000
3382 - 0s - loss: 8.7564 -
mean_absolute_error: 2.2097 - val_loss
: 13.6877 - val_mean_absolute_error: 2
.2651
3383 Epoch 1519/20000
3384 - 0s - loss: 8.5386 -
mean_absolute_error: 2.0944 - val_loss
```

```
3384 : 13.5425 - val_mean_absolute_error: 2
      .2538
3385 Epoch 1520/20000
3386 - 0s - loss: 9.5525 -
      mean_absolute_error: 2.2349 - val_loss
      : 13.3849 - val_mean_absolute_error: 2
      .2767
3387
3388 Epoch 01520: saving model to ./model/
      model_best.h5
3389 Epoch 1521/20000
3390 - 0s - loss: 9.6936 -
      mean_absolute_error: 2.2348 - val_loss
      : 13.1192 - val_mean_absolute_error: 2
      .2592
3391 Epoch 1522/20000
3392 - 0s - loss: 9.7010 -
      mean_absolute_error: 2.1422 - val_loss
      : 13.1037 - val_mean_absolute_error: 2
      .2866
3393 Epoch 1523/20000
3394 - 0s - loss: 10.3204 -
      mean_absolute_error: 2.0820 - val_loss
      : 12.9063 - val_mean_absolute_error: 2
```

```
3394 . 2324
3395 Epoch 1524/20000
3396 - 0s - loss: 8.3901 -
      mean_absolute_error: 2.0599 - val_loss
      : 13.6916 - val_mean_absolute_error: 2
      . 2438
3397 Epoch 1525/20000
3398 - 0s - loss: 7.7474 -
      mean_absolute_error: 2.1086 - val_loss
      : 13.3688 - val_mean_absolute_error: 2
      . 2327
3399 Epoch 1526/20000
3400 - 0s - loss: 7.7029 -
      mean_absolute_error: 2.1046 - val_loss
      : 13.5523 - val_mean_absolute_error: 2
      . 2574
3401 Epoch 1527/20000
3402 - 0s - loss: 9.2937 -
      mean_absolute_error: 2.1528 - val_loss
      : 13.2796 - val_mean_absolute_error: 2
      . 2208
3403 Epoch 1528/20000
3404 - 0s - loss: 10.1330 -
      mean_absolute_error: 2.2620 - val_loss
```

```
3404 : 13.2002 - val_mean_absolute_error: 2  
.1733
```

```
3405 Epoch 1529/20000
```

```
3406 - 0s - loss: 7.3474 -  
mean_absolute_error: 1.9898 - val_loss  
: 13.1245 - val_mean_absolute_error: 2  
.1908
```

```
3407 Epoch 1530/20000
```

```
3408 - 0s - loss: 8.0423 -  
mean_absolute_error: 2.1250 - val_loss  
: 13.8968 - val_mean_absolute_error: 2  
.3047
```

```
3409
```

```
3410 Epoch 01530: saving model to ./model/  
model_best.h5
```

```
3411 Epoch 1531/20000
```

```
3412 - 0s - loss: 11.6294 -  
mean_absolute_error: 2.2640 - val_loss  
: 13.7067 - val_mean_absolute_error: 2  
.2664
```

```
3413 Epoch 1532/20000
```

```
3414 - 0s - loss: 8.7247 -  
mean_absolute_error: 2.1601 - val_loss  
: 13.1528 - val_mean_absolute_error: 2
```

```
3414 . 2632
3415 Epoch 1533/20000
3416 - 0s - loss: 8.4563 -
      mean_absolute_error: 2.1605 - val_loss
      : 13.1310 - val_mean_absolute_error: 2
      . 1953
3417 Epoch 1534/20000
3418 - 0s - loss: 7.5961 -
      mean_absolute_error: 2.0846 - val_loss
      : 13.1128 - val_mean_absolute_error: 2
      . 2117
3419 Epoch 1535/20000
3420 - 0s - loss: 8.5139 -
      mean_absolute_error: 2.0084 - val_loss
      : 12.9706 - val_mean_absolute_error: 2
      . 2477
3421 Epoch 1536/20000
3422 - 0s - loss: 7.2910 -
      mean_absolute_error: 2.0629 - val_loss
      : 13.1482 - val_mean_absolute_error: 2
      . 2206
3423 Epoch 1537/20000
3424 - 0s - loss: 8.8478 -
      mean_absolute_error: 2.1109 - val_loss
```

```
3424 : 14.4234 - val_mean_absolute_error: 2
      .3234
3425 Epoch 1538/20000
3426 - 0s - loss: 9.3446 -
      mean_absolute_error: 2.1682 - val_loss
      : 13.4414 - val_mean_absolute_error: 2
      .2110
3427 Epoch 1539/20000
3428 - 0s - loss: 8.9559 -
      mean_absolute_error: 2.1282 - val_loss
      : 13.1673 - val_mean_absolute_error: 2
      .2331
3429 Epoch 1540/20000
3430 - 0s - loss: 7.7822 -
      mean_absolute_error: 2.0583 - val_loss
      : 13.3276 - val_mean_absolute_error: 2
      .2367
3431
3432 Epoch 01540: saving model to ./model /
      model_best.h5
3433 Epoch 1541/20000
3434 - 0s - loss: 8.4358 -
      mean_absolute_error: 2.0633 - val_loss
      : 12.4313 - val_mean_absolute_error: 2
```



```
3434 .1759
3435 Epoch 1542/20000
3436 - 0s - loss: 8.9987 -
      mean_absolute_error: 2.1537 - val_loss
      : 12.3867 - val_mean_absolute_error: 2
      .1833
3437 Epoch 1543/20000
3438 - 0s - loss: 8.0996 -
      mean_absolute_error: 2.1098 - val_loss
      : 12.3465 - val_mean_absolute_error: 2
      .1714
3439 Epoch 1544/20000
3440 - 0s - loss: 8.0739 -
      mean_absolute_error: 2.0364 - val_loss
      : 12.9388 - val_mean_absolute_error: 2
      .2081
3441 Epoch 1545/20000
3442 - 0s - loss: 7.6905 -
      mean_absolute_error: 2.0228 - val_loss
      : 12.5030 - val_mean_absolute_error: 2
      .1594
3443 Epoch 1546/20000
3444 - 0s - loss: 7.9642 -
      mean_absolute_error: 2.0983 - val_loss
```

```
3444 : 12.7027 - val_mean_absolute_error: 2
      .1635
3445 Epoch 1547/20000
3446 - 0s - loss: 8.6227 -
      mean_absolute_error: 2.1663 - val_loss
      : 12.5982 - val_mean_absolute_error: 2
      .1627
3447 Epoch 1548/20000
3448 - 0s - loss: 10.0418 -
      mean_absolute_error: 2.1627 - val_loss
      : 12.7179 - val_mean_absolute_error: 2
      .1993
3449 Epoch 1549/20000
3450 - 0s - loss: 6.9592 -
      mean_absolute_error: 2.0874 - val_loss
      : 13.1492 - val_mean_absolute_error: 2
      .2047
3451 Epoch 1550/20000
3452 - 0s - loss: 8.7636 -
      mean_absolute_error: 2.1476 - val_loss
      : 13.1781 - val_mean_absolute_error: 2
      .2542
3453
3454 Epoch 01550: saving model to ./model/
```

```
3454 model_best.h5
3455 Epoch 1551/20000
3456   - 0s - loss: 9.5563 -
      mean_absolute_error: 2.1613 - val_loss
      : 13.4794 - val_mean_absolute_error: 2
      .2778
3457 Epoch 1552/20000
3458   - 0s - loss: 8.1499 -
      mean_absolute_error: 2.0998 - val_loss
      : 12.8776 - val_mean_absolute_error: 2
      .1945
3459 Epoch 1553/20000
3460   - 0s - loss: 7.6109 -
      mean_absolute_error: 1.9658 - val_loss
      : 12.9031 - val_mean_absolute_error: 2
      .1959
3461 Epoch 1554/20000
3462   - 0s - loss: 9.5996 -
      mean_absolute_error: 2.2192 - val_loss
      : 13.6519 - val_mean_absolute_error: 2
      .3820
3463 Epoch 1555/20000
3464   - 0s - loss: 8.1409 -
      mean_absolute_error: 2.1199 - val_loss
```

```
3464 : 13.3514 - val_mean_absolute_error: 2
      .1947
3465 Epoch 1556/20000
3466 - 0s - loss: 7.8939 -
      mean_absolute_error: 2.0433 - val_loss
      : 13.1962 - val_mean_absolute_error: 2
      .2039
3467 Epoch 1557/20000
3468 - 0s - loss: 8.0549 -
      mean_absolute_error: 2.1016 - val_loss
      : 12.7484 - val_mean_absolute_error: 2
      .1906
3469 Epoch 1558/20000
3470 - 0s - loss: 8.3984 -
      mean_absolute_error: 2.0947 - val_loss
      : 12.8065 - val_mean_absolute_error: 2
      .1973
3471 Epoch 1559/20000
3472 - 0s - loss: 6.8420 -
      mean_absolute_error: 1.9339 - val_loss
      : 13.0383 - val_mean_absolute_error: 2
      .2106
3473 Epoch 1560/20000
3474 - 0s - loss: 7.9642 -
```

```
3474 mean_absolute_error: 2.1533 - val_loss
    : 13.0766 - val_mean_absolute_error: 2
    .2224
```

```
3475
```

```
3476 Epoch 01560: saving model to ./model/
    model_best.h5
```

```
3477 Epoch 1561/20000
```

```
3478 - 0s - loss: 9.0720 -
    mean_absolute_error: 2.2205 - val_loss
    : 13.1377 - val_mean_absolute_error: 2
    .2412
```

```
3479 Epoch 1562/20000
```

```
3480 - 0s - loss: 9.1988 -
    mean_absolute_error: 2.1594 - val_loss
    : 13.2616 - val_mean_absolute_error: 2
    .2449
```

```
3481 Epoch 1563/20000
```

```
3482 - 0s - loss: 7.5976 -
    mean_absolute_error: 2.1337 - val_loss
    : 13.1343 - val_mean_absolute_error: 2
    .2177
```

```
3483 Epoch 1564/20000
```

```
3484 - 0s - loss: 9.9933 -
    mean_absolute_error: 2.1348 - val_loss
```

```
3484 : 13.7052 - val_mean_absolute_error: 2
      .2980
3485 Epoch 1565/20000
3486 - 0s - loss: 7.9997 -
      mean_absolute_error: 2.0715 - val_loss
      : 12.5783 - val_mean_absolute_error: 2
      .1716
3487 Epoch 1566/20000
3488 - 0s - loss: 7.3984 -
      mean_absolute_error: 2.0127 - val_loss
      : 12.5361 - val_mean_absolute_error: 2
      .1797
3489 Epoch 1567/20000
3490 - 0s - loss: 7.5826 -
      mean_absolute_error: 1.9916 - val_loss
      : 12.5661 - val_mean_absolute_error: 2
      .1702
3491 Epoch 1568/20000
3492 - 0s - loss: 6.5240 -
      mean_absolute_error: 1.9175 - val_loss
      : 12.4279 - val_mean_absolute_error: 2
      .1484
3493 Epoch 1569/20000
3494 - 0s - loss: 8.6757 -
```

3494 mean_absolute_error: 2.2220 - val_loss
: 13.2330 - val_mean_absolute_error: 2
.2457

3495 Epoch 1570/20000

3496 - 0s - loss: 9.6862 -
mean_absolute_error: 2.2023 - val_loss
: 12.6969 - val_mean_absolute_error: 2
.1764

3497

3498 Epoch 01570: saving model to ./model/
model_best.h5

3499 Epoch 1571/20000

3500 - 0s - loss: 8.7026 -
mean_absolute_error: 2.1119 - val_loss
: 13.5196 - val_mean_absolute_error: 2
.2434

3501 Epoch 1572/20000

3502 - 0s - loss: 10.6442 -
mean_absolute_error: 2.1715 - val_loss
: 12.7365 - val_mean_absolute_error: 2
.1861

3503 Epoch 1573/20000

3504 - 0s - loss: 9.9278 -
mean_absolute_error: 2.1934 - val_loss

```
3504 : 12.7355 - val_mean_absolute_error: 2
      .1458
3505 Epoch 1574/20000
3506 - 0s - loss: 8.6417 -
      mean_absolute_error: 2.1013 - val_loss
      : 13.4017 - val_mean_absolute_error: 2
      .2005
3507 Epoch 1575/20000
3508 - 0s - loss: 8.1213 -
      mean_absolute_error: 2.1484 - val_loss
      : 12.9368 - val_mean_absolute_error: 2
      .1903
3509 Epoch 1576/20000
3510 - 0s - loss: 9.4824 -
      mean_absolute_error: 2.1000 - val_loss
      : 12.7030 - val_mean_absolute_error: 2
      .2053
3511 Epoch 1577/20000
3512 - 0s - loss: 8.8125 -
      mean_absolute_error: 2.1632 - val_loss
      : 12.9716 - val_mean_absolute_error: 2
      .1658
3513 Epoch 1578/20000
3514 - 0s - loss: 7.4772 -
```



```
3514 mean_absolute_error: 2.0848 - val_loss
      : 13.7145 - val_mean_absolute_error: 2
      .2535
```

```
3515 Epoch 1579/20000
```

```
3516 - 0s - loss: 7.8179 -
      mean_absolute_error: 2.0348 - val_loss
      : 12.8807 - val_mean_absolute_error: 2
      .1762
```

```
3517 Epoch 1580/20000
```

```
3518 - 0s - loss: 9.1293 -
      mean_absolute_error: 2.2294 - val_loss
      : 13.3851 - val_mean_absolute_error: 2
      .2182
```

```
3519
```

```
3520 Epoch 01580: saving model to ./model/
      model_best.h5
```

```
3521 Epoch 1581/20000
```

```
3522 - 0s - loss: 9.4708 -
      mean_absolute_error: 2.1610 - val_loss
      : 13.8498 - val_mean_absolute_error: 2
      .2774
```

```
3523 Epoch 1582/20000
```

```
3524 - 0s - loss: 6.8411 -
      mean_absolute_error: 1.9844 - val_loss
```

```
3524 : 13.1010 - val_mean_absolute_error: 2
      .1842
3525 Epoch 1583/20000
3526 - 0s - loss: 10.7816 -
      mean_absolute_error: 2.1445 - val_loss
      : 13.2538 - val_mean_absolute_error: 2
      .1978
3527 Epoch 1584/20000
3528 - 0s - loss: 8.1595 -
      mean_absolute_error: 2.0904 - val_loss
      : 13.2174 - val_mean_absolute_error: 2
      .2057
3529 Epoch 1585/20000
3530 - 0s - loss: 6.9573 -
      mean_absolute_error: 1.9525 - val_loss
      : 13.0616 - val_mean_absolute_error: 2
      .2600
3531 Epoch 1586/20000
3532 - 0s - loss: 7.1279 -
      mean_absolute_error: 1.9839 - val_loss
      : 12.8391 - val_mean_absolute_error: 2
      .1763
3533 Epoch 1587/20000
3534 - 0s - loss: 11.2432 -
```

3534 mean_absolute_error: 2.2492 - val_loss
: 12.6245 - val_mean_absolute_error: 2
.1499

3535 Epoch 1588/20000

3536 - 0s - loss: 8.3650 -
mean_absolute_error: 2.1111 - val_loss
: 12.5184 - val_mean_absolute_error: 2
.1397

3537 Epoch 1589/20000

3538 - 0s - loss: 8.5403 -
mean_absolute_error: 2.1251 - val_loss
: 13.7206 - val_mean_absolute_error: 2
.2910

3539 Epoch 1590/20000

3540 - 0s - loss: 8.3143 -
mean_absolute_error: 2.1285 - val_loss
: 13.0556 - val_mean_absolute_error: 2
.1785

3541

3542 Epoch 01590: saving model to ./model/
model_best.h5

3543 Epoch 1591/20000

3544 - 0s - loss: 8.0871 -
mean_absolute_error: 2.0489 - val_loss

```
3544 : 13.0069 - val_mean_absolute_error: 2
      .1701
3545 Epoch 1592/20000
3546 - 0s - loss: 7.2715 -
      mean_absolute_error: 2.0079 - val_loss
      : 12.5472 - val_mean_absolute_error: 2
      .1893
3547 Epoch 1593/20000
3548 - 0s - loss: 8.0125 -
      mean_absolute_error: 2.0603 - val_loss
      : 12.8945 - val_mean_absolute_error: 2
      .1338
3549 Epoch 1594/20000
3550 - 0s - loss: 8.4476 -
      mean_absolute_error: 2.1614 - val_loss
      : 12.6967 - val_mean_absolute_error: 2
      .1551
3551 Epoch 1595/20000
3552 - 0s - loss: 9.9489 -
      mean_absolute_error: 2.2343 - val_loss
      : 12.6183 - val_mean_absolute_error: 2
      .1508
3553 Epoch 1596/20000
3554 - 0s - loss: 7.5863 -
```

3554 mean_absolute_error: 1.9813 - val_loss
: 12.8212 - val_mean_absolute_error: 2
.1671

3555 Epoch 1597/20000

3556 - 0s - loss: 7.6981 -
mean_absolute_error: 2.0987 - val_loss
: 13.0628 - val_mean_absolute_error: 2
.2391

3557 Epoch 1598/20000

3558 - 0s - loss: 9.3389 -
mean_absolute_error: 2.2461 - val_loss
: 13.5812 - val_mean_absolute_error: 2
.2207

3559 Epoch 1599/20000

3560 - 0s - loss: 10.4964 -
mean_absolute_error: 2.1999 - val_loss
: 12.8851 - val_mean_absolute_error: 2
.1704

3561 Epoch 1600/20000

3562 - 0s - loss: 10.2559 -
mean_absolute_error: 2.1847 - val_loss
: 13.5677 - val_mean_absolute_error: 2
.2501

3563

```
3564 Epoch 01600: saving model to ./model/  
model_best.h5  
3565 Epoch 1601/20000  
3566   - 0s - loss: 10.0372 -  
mean_absolute_error: 2.2003 - val_loss  
: 12.6334 - val_mean_absolute_error: 2  
.1671  
3567 Epoch 1602/20000  
3568   - 0s - loss: 9.2613 -  
mean_absolute_error: 2.2112 - val_loss  
: 13.8822 - val_mean_absolute_error: 2  
.3236  
3569 Epoch 1603/20000  
3570   - 0s - loss: 7.7221 -  
mean_absolute_error: 2.1301 - val_loss  
: 12.8524 - val_mean_absolute_error: 2  
.1886  
3571 Epoch 1604/20000  
3572   - 0s - loss: 7.8145 -  
mean_absolute_error: 2.0327 - val_loss  
: 12.5649 - val_mean_absolute_error: 2  
.1486  
3573 Epoch 1605/20000  
3574   - 0s - loss: 9.6382 -
```

3574 mean_absolute_error: 2.2181 - val_loss
: 12.4557 - val_mean_absolute_error: 2
.1917

3575 Epoch 1606/20000

3576 - 0s - loss: 6.5373 -
mean_absolute_error: 1.9221 - val_loss
: 12.5172 - val_mean_absolute_error: 2
.1756

3577 Epoch 1607/20000

3578 - 0s - loss: 9.6845 -
mean_absolute_error: 2.3073 - val_loss
: 13.2124 - val_mean_absolute_error: 2
.2228

3579 Epoch 1608/20000

3580 - 0s - loss: 9.1009 -
mean_absolute_error: 2.1158 - val_loss
: 12.8200 - val_mean_absolute_error: 2
.2396

3581 Epoch 1609/20000

3582 - 0s - loss: 8.4082 -
mean_absolute_error: 2.1429 - val_loss
: 13.1998 - val_mean_absolute_error: 2
.2020

3583 Epoch 1610/20000

```
3584 - 0s - loss: 9.5220 -  
mean_absolute_error: 2.2011 - val_loss  
: 12.8317 - val_mean_absolute_error: 2  
.1910
```

3585

```
3586 Epoch 01610: saving model to ./model/  
model_best.h5
```

```
3587 Epoch 1611/20000
```

```
3588 - 0s - loss: 7.9100 -  
mean_absolute_error: 2.0983 - val_loss  
: 12.5418 - val_mean_absolute_error: 2  
.1807
```

```
3589 Epoch 1612/20000
```

```
3590 - 0s - loss: 7.8764 -  
mean_absolute_error: 2.1079 - val_loss  
: 12.6129 - val_mean_absolute_error: 2  
.1676
```

```
3591 Epoch 1613/20000
```

```
3592 - 0s - loss: 8.6245 -  
mean_absolute_error: 2.0955 - val_loss  
: 12.3716 - val_mean_absolute_error: 2  
.1655
```

```
3593 Epoch 1614/20000
```

```
3594 - 0s - loss: 9.3070 -
```



```
3594 mean_absolute_error: 2.1674 - val_loss
    : 12.2674 - val_mean_absolute_error: 2
    .1890
3595 Epoch 1615/20000
3596 - 0s - loss: 8.5905 -
    mean_absolute_error: 2.1026 - val_loss
    : 13.0704 - val_mean_absolute_error: 2
    .2740
3597 Epoch 1616/20000
3598 - 0s - loss: 9.3386 -
    mean_absolute_error: 2.2242 - val_loss
    : 12.5184 - val_mean_absolute_error: 2
    .2460
3599 Epoch 1617/20000
3600 - 0s - loss: 9.5899 -
    mean_absolute_error: 2.2141 - val_loss
    : 12.7965 - val_mean_absolute_error: 2
    .2305
3601 Epoch 1618/20000
3602 - 0s - loss: 8.0538 -
    mean_absolute_error: 2.0891 - val_loss
    : 12.5512 - val_mean_absolute_error: 2
    .2056
3603 Epoch 1619/20000
```

```
3604 - 0s - loss: 9.5059 -  
mean_absolute_error: 2.2215 - val_loss  
: 13.5028 - val_mean_absolute_error: 2  
.2282  
3605 Epoch 1620/20000  
3606 - 0s - loss: 8.0836 -  
mean_absolute_error: 2.1173 - val_loss  
: 12.8517 - val_mean_absolute_error: 2  
.1842  
3607  
3608 Epoch 01620: saving model to ./model/  
model_best.h5  
3609 Epoch 1621/20000  
3610 - 0s - loss: 9.8674 -  
mean_absolute_error: 2.2426 - val_loss  
: 13.6008 - val_mean_absolute_error: 2  
.3026  
3611 Epoch 1622/20000  
3612 - 0s - loss: 8.1370 -  
mean_absolute_error: 2.0473 - val_loss  
: 12.6737 - val_mean_absolute_error: 2  
.2075  
3613 Epoch 1623/20000  
3614 - 0s - loss: 9.1808 -
```

```
3614 mean_absolute_error: 2.1857 - val_loss
    : 13.1562 - val_mean_absolute_error: 2
    .2236
3615 Epoch 1624/20000
3616 - 0s - loss: 7.0661 -
    mean_absolute_error: 1.9628 - val_loss
    : 12.6910 - val_mean_absolute_error: 2
    .1995
3617 Epoch 1625/20000
3618 - 0s - loss: 7.5753 -
    mean_absolute_error: 2.0654 - val_loss
    : 13.1149 - val_mean_absolute_error: 2
    .2194
3619 Epoch 1626/20000
3620 - 0s - loss: 8.5222 -
    mean_absolute_error: 2.1258 - val_loss
    : 12.9169 - val_mean_absolute_error: 2
    .2547
3621 Epoch 1627/20000
3622 - 0s - loss: 7.9192 -
    mean_absolute_error: 1.9823 - val_loss
    : 12.7900 - val_mean_absolute_error: 2
    .1998
3623 Epoch 1628/20000
```

```
3624 - 0s - loss: 8.2742 -  
      mean_absolute_error: 2.0443 - val_loss  
      : 13.2048 - val_mean_absolute_error: 2  
      .2044  
3625 Epoch 1629/20000  
3626 - 0s - loss: 8.6825 -  
      mean_absolute_error: 2.0714 - val_loss  
      : 12.7641 - val_mean_absolute_error: 2  
      .1558  
3627 Epoch 1630/20000  
3628 - 0s - loss: 9.0027 -  
      mean_absolute_error: 2.0817 - val_loss  
      : 13.7065 - val_mean_absolute_error: 2  
      .2771  
3629  
3630 Epoch 01630: saving model to ./model/  
      model_best.h5  
3631 Epoch 1631/20000  
3632 - 0s - loss: 7.0496 -  
      mean_absolute_error: 1.8785 - val_loss  
      : 12.6090 - val_mean_absolute_error: 2  
      .2090  
3633 Epoch 1632/20000  
3634 - 0s - loss: 9.2367 -
```

```
3634 mean_absolute_error: 2.0566 - val_loss
    : 12.9106 - val_mean_absolute_error: 2
    .2425
3635 Epoch 1633/20000
3636 - 0s - loss: 9.0509 -
    mean_absolute_error: 2.1877 - val_loss
    : 12.4599 - val_mean_absolute_error: 2
    .1475
3637 Epoch 1634/20000
3638 - 0s - loss: 10.2476 -
    mean_absolute_error: 2.2109 - val_loss
    : 12.5498 - val_mean_absolute_error: 2
    .1471
3639 Epoch 1635/20000
3640 - 0s - loss: 7.9914 -
    mean_absolute_error: 2.1541 - val_loss
    : 12.4111 - val_mean_absolute_error: 2
    .1413
3641 Epoch 1636/20000
3642 - 0s - loss: 9.0043 -
    mean_absolute_error: 2.0785 - val_loss
    : 12.2646 - val_mean_absolute_error: 2
    .1269
3643 Epoch 1637/20000
```

```
3644 - 0s - loss: 9.3513 -  
      mean_absolute_error: 2.1342 - val_loss  
      : 12.5488 - val_mean_absolute_error: 2  
      .1457  
3645 Epoch 1638/20000  
3646 - 0s - loss: 8.4888 -  
      mean_absolute_error: 2.0697 - val_loss  
      : 12.9681 - val_mean_absolute_error: 2  
      .1840  
3647 Epoch 1639/20000  
3648 - 0s - loss: 7.2299 -  
      mean_absolute_error: 1.9736 - val_loss  
      : 12.5621 - val_mean_absolute_error: 2  
      .1630  
3649 Epoch 1640/20000  
3650 - 0s - loss: 9.7580 -  
      mean_absolute_error: 2.1762 - val_loss  
      : 13.4799 - val_mean_absolute_error: 2  
      .1826  
3651  
3652 Epoch 01640: saving model to ./model/  
      model_best.h5  
3653 Epoch 1641/20000  
3654 - 0s - loss: 10.1857 -
```

```
3654 mean_absolute_error: 2.2912 - val_loss
    : 13.4682 - val_mean_absolute_error: 2
    .2526
3655 Epoch 1642/20000
3656   - 0s - loss: 8.1368 -
    mean_absolute_error: 2.1118 - val_loss
    : 13.1160 - val_mean_absolute_error: 2
    .1788
3657 Epoch 1643/20000
3658   - 0s - loss: 9.6624 -
    mean_absolute_error: 2.2228 - val_loss
    : 12.8322 - val_mean_absolute_error: 2
    .1632
3659 Epoch 1644/20000
3660   - 0s - loss: 8.5057 -
    mean_absolute_error: 2.1510 - val_loss
    : 12.7248 - val_mean_absolute_error: 2
    .1622
3661 Epoch 1645/20000
3662   - 0s - loss: 7.5572 -
    mean_absolute_error: 2.0466 - val_loss
    : 13.4695 - val_mean_absolute_error: 2
    .2595
3663 Epoch 1646/20000
```

```
3664 - 0s - loss: 10.5598 -  
      mean_absolute_error: 2.2676 - val_loss  
      : 12.9310 - val_mean_absolute_error: 2  
      .1745  
3665 Epoch 1647/20000  
3666 - 0s - loss: 7.7483 -  
      mean_absolute_error: 1.9886 - val_loss  
      : 12.4133 - val_mean_absolute_error: 2  
      .1304  
3667 Epoch 1648/20000  
3668 - 0s - loss: 8.9748 -  
      mean_absolute_error: 2.0495 - val_loss  
      : 12.4335 - val_mean_absolute_error: 2  
      .1282  
3669 Epoch 1649/20000  
3670 - 0s - loss: 8.7875 -  
      mean_absolute_error: 2.0878 - val_loss  
      : 13.2308 - val_mean_absolute_error: 2  
      .2721  
3671 Epoch 1650/20000  
3672 - 0s - loss: 6.5102 -  
      mean_absolute_error: 1.8853 - val_loss  
      : 12.5445 - val_mean_absolute_error: 2  
      .1862
```


3673

3674 Epoch 01650: saving model to ./model/
model_best.h5

3675 Epoch 1651/20000

3676 - 0s - loss: 10.8969 -
mean_absolute_error: 2.3171 - val_loss
: 12.6311 - val_mean_absolute_error: 2
.1707

3677 Epoch 1652/20000

3678 - 0s - loss: 9.8039 -
mean_absolute_error: 2.2023 - val_loss
: 12.9540 - val_mean_absolute_error: 2
.2491

3679 Epoch 1653/20000

3680 - 0s - loss: 7.7820 -
mean_absolute_error: 2.0022 - val_loss
: 12.6441 - val_mean_absolute_error: 2
.1645

3681 Epoch 1654/20000

3682 - 0s - loss: 8.1618 -
mean_absolute_error: 2.0779 - val_loss
: 12.5439 - val_mean_absolute_error: 2
.1438

3683 Epoch 1655/20000

```
3684 - 0s - loss: 8.9353 -  
      mean_absolute_error: 2.1426 - val_loss  
      : 12.8731 - val_mean_absolute_error: 2  
      .2119  
3685 Epoch 1656/20000  
3686 - 0s - loss: 7.8294 -  
      mean_absolute_error: 2.0719 - val_loss  
      : 12.8855 - val_mean_absolute_error: 2  
      .2154  
3687 Epoch 1657/20000  
3688 - 0s - loss: 7.2113 -  
      mean_absolute_error: 1.9257 - val_loss  
      : 12.5718 - val_mean_absolute_error: 2  
      .1612  
3689 Epoch 1658/20000  
3690 - 0s - loss: 7.7419 -  
      mean_absolute_error: 2.0707 - val_loss  
      : 13.4470 - val_mean_absolute_error: 2  
      .2829  
3691 Epoch 1659/20000  
3692 - 0s - loss: 9.5439 -  
      mean_absolute_error: 2.1557 - val_loss  
      : 14.0250 - val_mean_absolute_error: 2  
      .3280
```

```
3693 Epoch 1660/20000
3694   - 0s - loss: 8.4005 -
      mean_absolute_error: 2.0717 - val_loss
      : 12.7306 - val_mean_absolute_error: 2
      .1849
3695
3696 Epoch 01660: saving model to ./model/
      model_best.h5
3697 Epoch 1661/20000
3698   - 0s - loss: 8.4644 -
      mean_absolute_error: 2.1006 - val_loss
      : 12.9968 - val_mean_absolute_error: 2
      .1827
3699 Epoch 1662/20000
3700   - 0s - loss: 6.5837 -
      mean_absolute_error: 1.9744 - val_loss
      : 13.3032 - val_mean_absolute_error: 2
      .3719
3701 Epoch 1663/20000
3702   - 0s - loss: 8.3401 -
      mean_absolute_error: 2.1504 - val_loss
      : 13.1182 - val_mean_absolute_error: 2
      .2400
3703 Epoch 1664/20000
```

```
3704 - 0s - loss: 7.7154 -  
      mean_absolute_error: 2.0263 - val_loss  
      : 13.3567 - val_mean_absolute_error: 2  
      .2641  
3705 Epoch 1665/20000  
3706 - 0s - loss: 9.3085 -  
      mean_absolute_error: 2.2238 - val_loss  
      : 12.8925 - val_mean_absolute_error: 2  
      .2237  
3707  
3708 Epoch 01665: ReduceLR0nPlateau  
      reducing learning rate to 0.  
      000100000000475.  
3709 Epoch 1666/20000  
3710 - 0s - loss: 7.3806 -  
      mean_absolute_error: 2.0368 - val_loss  
      : 12.8171 - val_mean_absolute_error: 2  
      .2195  
3711 Epoch 1667/20000  
3712 - 0s - loss: 9.3069 -  
      mean_absolute_error: 2.1456 - val_loss  
      : 12.8333 - val_mean_absolute_error: 2  
      .2176  
3713 Epoch 1668/20000
```

```
3714 - 0s - loss: 7.6360 -  
mean_absolute_error: 2.0116 - val_loss  
: 12.8398 - val_mean_absolute_error: 2  
.2183  
3715 Epoch 1669/20000  
3716 - 0s - loss: 9.1413 -  
mean_absolute_error: 2.1355 - val_loss  
: 12.9081 - val_mean_absolute_error: 2  
.2194  
3717 Epoch 1670/20000  
3718 - 0s - loss: 7.7738 -  
mean_absolute_error: 2.0277 - val_loss  
: 12.8455 - val_mean_absolute_error: 2  
.2127  
3719  
3720 Epoch 01670: saving model to ./model/  
model_best.h5  
3721 Epoch 1671/20000  
3722 - 0s - loss: 7.3700 -  
mean_absolute_error: 1.9619 - val_loss  
: 12.8146 - val_mean_absolute_error: 2  
.2086  
3723 Epoch 1672/20000  
3724 - 0s - loss: 7.7056 -
```

```
3724 mean_absolute_error: 2.0521 - val_loss
    : 12.8186 - val_mean_absolute_error: 2
    .2074
3725 Epoch 1673/20000
3726 - 0s - loss: 7.6936 -
    mean_absolute_error: 2.1090 - val_loss
    : 12.8021 - val_mean_absolute_error: 2
    .2061
3727 Epoch 1674/20000
3728 - 0s - loss: 10.0213 -
    mean_absolute_error: 2.1972 - val_loss
    : 12.8656 - val_mean_absolute_error: 2
    .2118
3729 Epoch 1675/20000
3730 - 0s - loss: 7.9064 -
    mean_absolute_error: 2.0872 - val_loss
    : 12.7787 - val_mean_absolute_error: 2
    .2041
3731 Epoch 1676/20000
3732 - 0s - loss: 7.7412 -
    mean_absolute_error: 2.0527 - val_loss
    : 12.7296 - val_mean_absolute_error: 2
    .2049
3733 Epoch 1677/20000
```

```
3734 - 0s - loss: 7.8014 -  
mean_absolute_error: 2.0308 - val_loss  
: 12.8048 - val_mean_absolute_error: 2  
.2125  
3735 Epoch 1678/20000  
3736 - 0s - loss: 7.1427 -  
mean_absolute_error: 1.9467 - val_loss  
: 12.6940 - val_mean_absolute_error: 2  
.2012  
3737 Epoch 1679/20000  
3738 - 0s - loss: 8.7694 -  
mean_absolute_error: 2.1386 - val_loss  
: 12.6958 - val_mean_absolute_error: 2  
.2074  
3739 Epoch 1680/20000  
3740 - 0s - loss: 9.3628 -  
mean_absolute_error: 2.2001 - val_loss  
: 12.7074 - val_mean_absolute_error: 2  
.2043  
3741  
3742 Epoch 01680: saving model to ./model/  
model_best.h5  
3743 Epoch 1681/20000  
3744 - 0s - loss: 8.8703 -
```

```
3744 mean_absolute_error: 2.1596 - val_loss
    : 12.7032 - val_mean_absolute_error: 2
    .2005
3745 Epoch 1682/20000
3746 - 0s - loss: 7.5295 -
    mean_absolute_error: 1.9879 - val_loss
    : 12.7147 - val_mean_absolute_error: 2
    .2014
3747 Epoch 1683/20000
3748 - 0s - loss: 6.3630 -
    mean_absolute_error: 1.9492 - val_loss
    : 12.7054 - val_mean_absolute_error: 2
    .2014
3749 Epoch 1684/20000
3750 - 0s - loss: 7.6583 -
    mean_absolute_error: 2.1398 - val_loss
    : 12.7183 - val_mean_absolute_error: 2
    .1998
3751 Epoch 1685/20000
3752 - 0s - loss: 8.8529 -
    mean_absolute_error: 2.1583 - val_loss
    : 12.7915 - val_mean_absolute_error: 2
    .2041
3753 Epoch 1686/20000
```



```
3754 - 0s - loss: 10.1803 -  
      mean_absolute_error: 2.2042 - val_loss  
      : 12.8212 - val_mean_absolute_error: 2  
      .2092  
3755 Epoch 1687/20000  
3756 - 0s - loss: 8.4189 -  
      mean_absolute_error: 1.9776 - val_loss  
      : 12.8271 - val_mean_absolute_error: 2  
      .2061  
3757 Epoch 1688/20000  
3758 - 0s - loss: 8.4263 -  
      mean_absolute_error: 2.0781 - val_loss  
      : 12.7796 - val_mean_absolute_error: 2  
      .2019  
3759 Epoch 1689/20000  
3760 - 0s - loss: 8.0743 -  
      mean_absolute_error: 2.0943 - val_loss  
      : 12.7687 - val_mean_absolute_error: 2  
      .2027  
3761 Epoch 1690/20000  
3762 - 0s - loss: 6.7511 -  
      mean_absolute_error: 1.9923 - val_loss  
      : 12.8458 - val_mean_absolute_error: 2  
      .2076
```

3763

3764 Epoch 01690: saving model to ./model/
model_best.h5

3765 Epoch 1691/20000

3766 - 0s - loss: 7.6263 -
mean_absolute_error: 2.0108 - val_loss
: 12.7793 - val_mean_absolute_error: 2
.2046

3767 Epoch 1692/20000

3768 - 0s - loss: 8.4459 -
mean_absolute_error: 2.1170 - val_loss
: 12.8156 - val_mean_absolute_error: 2
.2050

3769 Epoch 1693/20000

3770 - 0s - loss: 8.2792 -
mean_absolute_error: 1.9308 - val_loss
: 12.7816 - val_mean_absolute_error: 2
.2013

3771 Epoch 1694/20000

3772 - 0s - loss: 7.8735 -
mean_absolute_error: 2.0031 - val_loss
: 12.8025 - val_mean_absolute_error: 2
.2051

3773 Epoch 1695/20000

```
3774 - 0s - loss: 8.5884 -  
mean_absolute_error: 2.0976 - val_loss  
: 12.7108 - val_mean_absolute_error: 2  
.1991  
3775 Epoch 1696/20000  
3776 - 0s - loss: 7.0366 -  
mean_absolute_error: 1.9218 - val_loss  
: 12.6717 - val_mean_absolute_error: 2  
.1958  
3777 Epoch 1697/20000  
3778 - 0s - loss: 7.5462 -  
mean_absolute_error: 2.0644 - val_loss  
: 12.7263 - val_mean_absolute_error: 2  
.1949  
3779 Epoch 1698/20000  
3780 - 0s - loss: 8.2374 -  
mean_absolute_error: 2.1087 - val_loss  
: 12.7363 - val_mean_absolute_error: 2  
.1963  
3781 Epoch 1699/20000  
3782 - 0s - loss: 7.4287 -  
mean_absolute_error: 2.0230 - val_loss  
: 12.7644 - val_mean_absolute_error: 2  
.2017
```

```
3783 Epoch 1700/20000
3784   - 0s - loss: 8.5520 -
      mean_absolute_error: 2.1569 - val_loss
      : 12.7770 - val_mean_absolute_error: 2
      .1983
3785
3786 Epoch 01700: saving model to ./model/
      model_best.h5
3787 Epoch 1701/20000
3788   - 0s - loss: 7.1622 -
      mean_absolute_error: 1.9655 - val_loss
      : 12.8082 - val_mean_absolute_error: 2
      .2028
3789 Epoch 1702/20000
3790   - 0s - loss: 7.9708 -
      mean_absolute_error: 2.0261 - val_loss
      : 12.8127 - val_mean_absolute_error: 2
      .1972
3791 Epoch 1703/20000
3792   - 0s - loss: 8.6241 -
      mean_absolute_error: 2.0568 - val_loss
      : 12.7516 - val_mean_absolute_error: 2
      .1909
3793 Epoch 1704/20000
```

```
3794 - 0s - loss: 9.0014 -  
mean_absolute_error: 2.1352 - val_loss  
: 12.6738 - val_mean_absolute_error: 2  
.1851  
3795 Epoch 1705/20000  
3796 - 0s - loss: 8.5626 -  
mean_absolute_error: 2.0422 - val_loss  
: 12.6635 - val_mean_absolute_error: 2  
.1826  
3797 Epoch 1706/20000  
3798 - 0s - loss: 8.5027 -  
mean_absolute_error: 2.2264 - val_loss  
: 12.6794 - val_mean_absolute_error: 2  
.1846  
3799 Epoch 1707/20000  
3800 - 0s - loss: 8.6623 -  
mean_absolute_error: 2.1414 - val_loss  
: 12.6918 - val_mean_absolute_error: 2  
.1837  
3801 Epoch 1708/20000  
3802 - 0s - loss: 7.6870 -  
mean_absolute_error: 2.0277 - val_loss  
: 12.6389 - val_mean_absolute_error: 2  
.1801
```

```
3803 Epoch 1709/20000
3804   - 0s - loss: 6.5448 -
      mean_absolute_error: 1.8944 - val_loss
      : 12.7003 - val_mean_absolute_error: 2
      .1852
3805 Epoch 1710/20000
3806   - 0s - loss: 7.4702 -
      mean_absolute_error: 1.9403 - val_loss
      : 12.6817 - val_mean_absolute_error: 2
      .1836
3807
3808 Epoch 01710: saving model to ./model/
      model_best.h5
3809 Epoch 1711/20000
3810   - 0s - loss: 7.8153 -
      mean_absolute_error: 2.0859 - val_loss
      : 12.7421 - val_mean_absolute_error: 2
      .1888
3811 Epoch 1712/20000
3812   - 0s - loss: 7.7596 -
      mean_absolute_error: 2.0666 - val_loss
      : 12.7095 - val_mean_absolute_error: 2
      .1824
3813 Epoch 1713/20000
```

```
3814 - 0s - loss: 8.6937 -  
      mean_absolute_error: 2.1725 - val_loss  
      : 12.7104 - val_mean_absolute_error: 2  
      .1804  
3815 Epoch 1714/20000  
3816 - 0s - loss: 8.3450 -  
      mean_absolute_error: 2.1032 - val_loss  
      : 12.8568 - val_mean_absolute_error: 2  
      .1967  
3817 Epoch 1715/20000  
3818 - 0s - loss: 7.5046 -  
      mean_absolute_error: 1.9795 - val_loss  
      : 12.8646 - val_mean_absolute_error: 2  
      .1984  
3819 Epoch 1716/20000  
3820 - 0s - loss: 7.7264 -  
      mean_absolute_error: 2.0392 - val_loss  
      : 12.7764 - val_mean_absolute_error: 2  
      .1909  
3821 Epoch 1717/20000  
3822 - 0s - loss: 7.0721 -  
      mean_absolute_error: 1.9911 - val_loss  
      : 12.7213 - val_mean_absolute_error: 2  
      .1853
```

```
3823 Epoch 1718/20000
3824   - 0s - loss: 8.4186 -
      mean_absolute_error: 2.1850 - val_loss
      : 12.7232 - val_mean_absolute_error: 2
      .1860
3825 Epoch 1719/20000
3826   - 0s - loss: 6.5755 -
      mean_absolute_error: 1.9280 - val_loss
      : 12.7344 - val_mean_absolute_error: 2
      .1870
3827 Epoch 1720/20000
3828   - 0s - loss: 7.6896 -
      mean_absolute_error: 2.0935 - val_loss
      : 12.6092 - val_mean_absolute_error: 2
      .1718
3829
3830 Epoch 01720: saving model to ./model/
      model_best.h5
3831 Epoch 1721/20000
3832   - 0s - loss: 8.4056 -
      mean_absolute_error: 2.0627 - val_loss
      : 12.6787 - val_mean_absolute_error: 2
      .1814
3833 Epoch 1722/20000
```



```
3834 - 0s - loss: 6.2763 -  
mean_absolute_error: 1.8594 - val_loss  
: 12.7704 - val_mean_absolute_error: 2  
.1863  
3835 Epoch 1723/20000  
3836 - 0s - loss: 7.7992 -  
mean_absolute_error: 2.1252 - val_loss  
: 12.6927 - val_mean_absolute_error: 2  
.1791  
3837 Epoch 1724/20000  
3838 - 0s - loss: 8.9795 -  
mean_absolute_error: 2.1526 - val_loss  
: 12.6556 - val_mean_absolute_error: 2  
.1770  
3839 Epoch 1725/20000  
3840 - 0s - loss: 7.4691 -  
mean_absolute_error: 2.0597 - val_loss  
: 12.7511 - val_mean_absolute_error: 2  
.1847  
3841 Epoch 1726/20000  
3842 - 0s - loss: 7.9785 -  
mean_absolute_error: 1.9319 - val_loss  
: 12.6927 - val_mean_absolute_error: 2  
.1810
```

```
3843 Epoch 1727/20000
3844   - 0s - loss: 7.2142 -
      mean_absolute_error: 1.9197 - val_loss
      : 12.6016 - val_mean_absolute_error: 2
      .1741
3845 Epoch 1728/20000
3846   - 0s - loss: 7.7923 -
      mean_absolute_error: 2.0562 - val_loss
      : 12.5935 - val_mean_absolute_error: 2
      .1718
3847 Epoch 1729/20000
3848   - 0s - loss: 7.2798 -
      mean_absolute_error: 1.9314 - val_loss
      : 12.5322 - val_mean_absolute_error: 2
      .1642
3849 Epoch 1730/20000
3850   - 0s - loss: 8.1585 -
      mean_absolute_error: 2.0700 - val_loss
      : 12.4988 - val_mean_absolute_error: 2
      .1691
3851
3852 Epoch 01730: saving model to ./model/
      model_best.h5
3853 Epoch 1731/20000
```

```
3854 - 0s - loss: 7.2686 -  
mean_absolute_error: 2.0219 - val_loss  
: 12.5201 - val_mean_absolute_error: 2  
.1625  
3855 Epoch 1732/20000  
3856 - 0s - loss: 7.0101 -  
mean_absolute_error: 2.0227 - val_loss  
: 12.5214 - val_mean_absolute_error: 2  
.1612  
3857 Epoch 1733/20000  
3858 - 0s - loss: 7.7780 -  
mean_absolute_error: 2.0493 - val_loss  
: 12.5509 - val_mean_absolute_error: 2  
.1596  
3859 Epoch 1734/20000  
3860 - 0s - loss: 7.6192 -  
mean_absolute_error: 1.9804 - val_loss  
: 12.5551 - val_mean_absolute_error: 2  
.1626  
3861 Epoch 1735/20000  
3862 - 0s - loss: 5.8101 -  
mean_absolute_error: 1.8301 - val_loss  
: 12.5453 - val_mean_absolute_error: 2  
.1612
```

```
3863 Epoch 1736/20000
3864   - 0s - loss: 6.4582 -
      mean_absolute_error: 1.9238 - val_loss
      : 12.5499 - val_mean_absolute_error: 2
      .1644
3865 Epoch 1737/20000
3866   - 0s - loss: 8.2058 -
      mean_absolute_error: 2.1100 - val_loss
      : 12.5298 - val_mean_absolute_error: 2
      .1651
3867 Epoch 1738/20000
3868   - 0s - loss: 8.4041 -
      mean_absolute_error: 1.9770 - val_loss
      : 12.6431 - val_mean_absolute_error: 2
      .1645
3869 Epoch 1739/20000
3870   - 0s - loss: 6.7788 -
      mean_absolute_error: 1.9321 - val_loss
      : 12.6501 - val_mean_absolute_error: 2
      .1679
3871 Epoch 1740/20000
3872   - 0s - loss: 7.1267 -
      mean_absolute_error: 1.9722 - val_loss
      : 12.6648 - val_mean_absolute_error: 2
```

3872 .1696

3873

3874 Epoch 01740: saving model to ./model/
model_best.h5

3875 Epoch 1741/20000

3876 - 0s - loss: 7.2244 -
mean_absolute_error: 2.0389 - val_loss
: 12.6681 - val_mean_absolute_error: 2
.1730

3877 Epoch 1742/20000

3878 - 0s - loss: 7.7662 -
mean_absolute_error: 2.0749 - val_loss
: 12.5726 - val_mean_absolute_error: 2
.1700

3879 Epoch 1743/20000

3880 - 0s - loss: 8.2398 -
mean_absolute_error: 2.0422 - val_loss
: 12.6176 - val_mean_absolute_error: 2
.1670

3881 Epoch 1744/20000

3882 - 0s - loss: 7.6842 -
mean_absolute_error: 2.0553 - val_loss
: 12.5892 - val_mean_absolute_error: 2
.1648

```
3883 Epoch 1745/20000
3884   - 0s - loss: 8.4744 -
      mean_absolute_error: 2.0325 - val_loss
      : 12.5523 - val_mean_absolute_error: 2
      .1697
3885 Epoch 1746/20000
3886   - 0s - loss: 8.5278 -
      mean_absolute_error: 2.0476 - val_loss
      : 12.6017 - val_mean_absolute_error: 2
      .1720
3887 Epoch 1747/20000
3888   - 0s - loss: 7.0186 -
      mean_absolute_error: 1.9347 - val_loss
      : 12.6011 - val_mean_absolute_error: 2
      .1728
3889 Epoch 1748/20000
3890   - 0s - loss: 7.7058 -
      mean_absolute_error: 1.8850 - val_loss
      : 12.6034 - val_mean_absolute_error: 2
      .1695
3891 Epoch 1749/20000
3892   - 0s - loss: 8.0151 -
      mean_absolute_error: 2.0371 - val_loss
      : 12.5965 - val_mean_absolute_error: 2
```

```
3892 .1669
3893 Epoch 1750/20000
3894 - 0s - loss: 7.2962 -
mean_absolute_error: 2.0320 - val_loss
: 12.5913 - val_mean_absolute_error: 2
.1749

3895
3896 Epoch 01750: saving model to ./model/
model_best.h5
3897 Epoch 1751/20000
3898 - 0s - loss: 8.2970 -
mean_absolute_error: 2.0375 - val_loss
: 12.6604 - val_mean_absolute_error: 2
.1754

3899 Epoch 1752/20000
3900 - 0s - loss: 8.5416 -
mean_absolute_error: 2.1207 - val_loss
: 12.7723 - val_mean_absolute_error: 2
.1880

3901 Epoch 1753/20000
3902 - 0s - loss: 8.5057 -
mean_absolute_error: 2.0553 - val_loss
: 12.6353 - val_mean_absolute_error: 2
.1809
```

```
3903 Epoch 1754/20000
3904   - 0s - loss: 8.7901 -
      mean_absolute_error: 2.1922 - val_loss
      : 12.6736 - val_mean_absolute_error: 2
      .1848
3905 Epoch 1755/20000
3906   - 0s - loss: 8.8819 -
      mean_absolute_error: 2.0274 - val_loss
      : 12.6952 - val_mean_absolute_error: 2
      .1888
3907 Epoch 1756/20000
3908   - 0s - loss: 10.3505 -
      mean_absolute_error: 2.2236 - val_loss
      : 12.6947 - val_mean_absolute_error: 2
      .1892
3909 Epoch 1757/20000
3910   - 0s - loss: 6.7050 -
      mean_absolute_error: 1.9621 - val_loss
      : 12.6675 - val_mean_absolute_error: 2
      .1830
3911 Epoch 1758/20000
3912   - 0s - loss: 8.4588 -
      mean_absolute_error: 2.0798 - val_loss
      : 12.6798 - val_mean_absolute_error: 2
```



```
3912 .1840
3913 Epoch 1759/20000
3914 - 0s - loss: 7.4194 -
mean_absolute_error: 1.9910 - val_loss
: 12.6514 - val_mean_absolute_error: 2
.1868
3915 Epoch 1760/20000
3916 - 0s - loss: 6.7449 -
mean_absolute_error: 1.9359 - val_loss
: 12.5771 - val_mean_absolute_error: 2
.1808
3917
3918 Epoch 01760: saving model to ./model/
model_best.h5
3919 Epoch 1761/20000
3920 - 0s - loss: 6.9938 -
mean_absolute_error: 1.9660 - val_loss
: 12.5411 - val_mean_absolute_error: 2
.1834
3921 Epoch 1762/20000
3922 - 0s - loss: 7.2141 -
mean_absolute_error: 2.0051 - val_loss
: 12.5571 - val_mean_absolute_error: 2
.1766
```

```
3923 Epoch 1763/20000
3924   - 0s - loss: 7.6979 -
      mean_absolute_error: 2.0310 - val_loss
      : 12.5830 - val_mean_absolute_error: 2
      .1752
3925 Epoch 1764/20000
3926   - 0s - loss: 6.7572 -
      mean_absolute_error: 1.9101 - val_loss
      : 12.6428 - val_mean_absolute_error: 2
      .1746
3927 Epoch 1765/20000
3928   - 0s - loss: 7.2197 -
      mean_absolute_error: 1.9542 - val_loss
      : 12.5861 - val_mean_absolute_error: 2
      .1736
3929 Epoch 1766/20000
3930   - 0s - loss: 7.6033 -
      mean_absolute_error: 2.0183 - val_loss
      : 12.5715 - val_mean_absolute_error: 2
      .1708
3931 Epoch 1767/20000
3932   - 0s - loss: 10.0096 -
      mean_absolute_error: 2.2622 - val_loss
      : 12.6457 - val_mean_absolute_error: 2
```

```
3932 . 1703
3933 Epoch 1768/20000
3934 - 0s - loss: 7.7257 -
      mean_absolute_error: 2.0278 - val_loss
      : 12.7336 - val_mean_absolute_error: 2
      . 1741
3935 Epoch 1769/20000
3936 - 0s - loss: 7.0616 -
      mean_absolute_error: 2.0172 - val_loss
      : 12.6738 - val_mean_absolute_error: 2
      . 1730
3937 Epoch 1770/20000
3938 - 0s - loss: 8.0690 -
      mean_absolute_error: 2.0232 - val_loss
      : 12.7355 - val_mean_absolute_error: 2
      . 1786
3939
3940 Epoch 01770: saving model to ./model/
      model_best.h5
3941 Epoch 1771/20000
3942 - 0s - loss: 7.3822 -
      mean_absolute_error: 2.0057 - val_loss
      : 12.7388 - val_mean_absolute_error: 2
      . 1810
```

```
3943 Epoch 1772/20000
3944   - 0s - loss: 7.9591 -
      mean_absolute_error: 2.0556 - val_loss
      : 12.7643 - val_mean_absolute_error: 2
      .1862
3945 Epoch 1773/20000
3946   - 0s - loss: 7.0779 -
      mean_absolute_error: 1.9614 - val_loss
      : 12.7153 - val_mean_absolute_error: 2
      .1878
3947 Epoch 1774/20000
3948   - 0s - loss: 7.6402 -
      mean_absolute_error: 2.0988 - val_loss
      : 12.6428 - val_mean_absolute_error: 2
      .1833
3949 Epoch 1775/20000
3950   - 0s - loss: 8.3895 -
      mean_absolute_error: 2.0808 - val_loss
      : 12.6746 - val_mean_absolute_error: 2
      .1832
3951 Epoch 1776/20000
3952   - 0s - loss: 8.3621 -
      mean_absolute_error: 2.0912 - val_loss
      : 12.5298 - val_mean_absolute_error: 2
```

```
3952 .1796
3953 Epoch 1777/20000
3954 - 0s - loss: 7.9000 -
      mean_absolute_error: 2.0312 - val_loss
      : 12.5512 - val_mean_absolute_error: 2
      .1800
3955 Epoch 1778/20000
3956 - 0s - loss: 7.3244 -
      mean_absolute_error: 2.0093 - val_loss
      : 12.6898 - val_mean_absolute_error: 2
      .1801
3957 Epoch 1779/20000
3958 - 0s - loss: 8.1805 -
      mean_absolute_error: 1.9929 - val_loss
      : 12.7640 - val_mean_absolute_error: 2
      .1865
3959 Epoch 1780/20000
3960 - 0s - loss: 8.5376 -
      mean_absolute_error: 2.0691 - val_loss
      : 12.7695 - val_mean_absolute_error: 2
      .1891
3961
3962 Epoch 01780: saving model to ./model/
      model_best.h5
```

```
3963 Epoch 1781/20000
3964   - 0s - loss: 7.1456 -
      mean_absolute_error: 2.0298 - val_loss
      : 12.7774 - val_mean_absolute_error: 2
      .1928
3965 Epoch 1782/20000
3966   - 0s - loss: 7.7344 -
      mean_absolute_error: 1.9912 - val_loss
      : 12.6596 - val_mean_absolute_error: 2
      .1893
3967 Epoch 1783/20000
3968   - 0s - loss: 8.1131 -
      mean_absolute_error: 2.0275 - val_loss
      : 12.6231 - val_mean_absolute_error: 2
      .1875
3969 Epoch 1784/20000
3970   - 0s - loss: 6.4411 -
      mean_absolute_error: 1.9000 - val_loss
      : 12.5979 - val_mean_absolute_error: 2
      .1834
3971 Epoch 1785/20000
3972   - 0s - loss: 6.6633 -
      mean_absolute_error: 1.9383 - val_loss
      : 12.5811 - val_mean_absolute_error: 2
```

```
3972 . 1872
3973 Epoch 1786/20000
3974 - 0s - loss: 9.4324 -
      mean_absolute_error: 2.1500 - val_loss
      : 12.5041 - val_mean_absolute_error: 2
      . 1865
3975 Epoch 1787/20000
3976 - 0s - loss: 6.9334 -
      mean_absolute_error: 1.8669 - val_loss
      : 12.5226 - val_mean_absolute_error: 2
      . 1791
3977 Epoch 1788/20000
3978 - 0s - loss: 7.7672 -
      mean_absolute_error: 2.0254 - val_loss
      : 12.5450 - val_mean_absolute_error: 2
      . 1798
3979 Epoch 1789/20000
3980 - 0s - loss: 6.6775 -
      mean_absolute_error: 1.9923 - val_loss
      : 12.5426 - val_mean_absolute_error: 2
      . 1812
3981 Epoch 1790/20000
3982 - 0s - loss: 8.0903 -
      mean_absolute_error: 2.0838 - val_loss
```

3982 : 12.5217 - val_mean_absolute_error: 2
.1789

3983

3984 Epoch 01790: saving model to ./model/
model_best.h5

3985 Epoch 1791/20000

3986 - 0s - loss: 7.8529 -
mean_absolute_error: 2.0640 - val_loss
: 12.5203 - val_mean_absolute_error: 2
.1746

3987 Epoch 1792/20000

3988 - 0s - loss: 9.5943 -
mean_absolute_error: 2.1544 - val_loss
: 12.5586 - val_mean_absolute_error: 2
.1743

3989 Epoch 1793/20000

3990 - 0s - loss: 7.4802 -
mean_absolute_error: 1.9298 - val_loss
: 12.6040 - val_mean_absolute_error: 2
.1760

3991 Epoch 1794/20000

3992 - 0s - loss: 7.1942 -
mean_absolute_error: 1.9664 - val_loss
: 12.6377 - val_mean_absolute_error: 2


```
3992 . 1799
3993 Epoch 1795/20000
3994 - 0s - loss: 7.7154 -
      mean_absolute_error: 2.0808 - val_loss
      : 12.6136 - val_mean_absolute_error: 2
      . 1816
3995 Epoch 1796/20000
3996 - 0s - loss: 7.0878 -
      mean_absolute_error: 1.9436 - val_loss
      : 12.6355 - val_mean_absolute_error: 2
      . 1809
3997 Epoch 1797/20000
3998 - 0s - loss: 8.7978 -
      mean_absolute_error: 2.0636 - val_loss
      : 12.6564 - val_mean_absolute_error: 2
      . 1805
3999 Epoch 1798/20000
4000 - 0s - loss: 8.1772 -
      mean_absolute_error: 2.1427 - val_loss
      : 12.6027 - val_mean_absolute_error: 2
      . 1763
4001 Epoch 1799/20000
4002 - 0s - loss: 7.6008 -
      mean_absolute_error: 2.0547 - val_loss
```

```
4002 : 12.6776 - val_mean_absolute_error: 2
      .1817
4003 Epoch 1800/20000
4004   - 0s - loss: 8.3410 -
      mean_absolute_error: 2.1368 - val_loss
      : 12.6025 - val_mean_absolute_error: 2
      .1781
4005
4006 Epoch 01800: saving model to ./model/
      model_best.h5
4007 Epoch 1801/20000
4008   - 0s - loss: 6.0452 -
      mean_absolute_error: 1.8214 - val_loss
      : 12.5879 - val_mean_absolute_error: 2
      .1783
4009 Epoch 1802/20000
4010   - 0s - loss: 6.6825 -
      mean_absolute_error: 1.9300 - val_loss
      : 12.6221 - val_mean_absolute_error: 2
      .1801
4011 Epoch 1803/20000
4012   - 0s - loss: 8.8605 -
      mean_absolute_error: 2.0750 - val_loss
      : 12.5598 - val_mean_absolute_error: 2
```

```
4012 . 1810
4013 Epoch 1804/20000
4014 - 0s - loss: 7.5249 -
mean_absolute_error: 2.0040 - val_loss
: 12.5839 - val_mean_absolute_error: 2
. 1782
4015 Epoch 1805/20000
4016 - 0s - loss: 7.8001 -
mean_absolute_error: 2.0040 - val_loss
: 12.6024 - val_mean_absolute_error: 2
. 1789
4017 Epoch 1806/20000
4018 - 0s - loss: 7.4086 -
mean_absolute_error: 1.9626 - val_loss
: 12.5886 - val_mean_absolute_error: 2
. 1749
4019 Epoch 1807/20000
4020 - 0s - loss: 8.0736 -
mean_absolute_error: 2.0346 - val_loss
: 12.6000 - val_mean_absolute_error: 2
. 1746
4021 Epoch 1808/20000
4022 - 0s - loss: 6.4644 -
mean_absolute_error: 1.8787 - val_loss
```

```
4022 : 12.5787 - val_mean_absolute_error: 2  
.1769
```

```
4023 Epoch 1809/20000
```

```
4024 - 0s - loss: 6.4402 -  
mean_absolute_error: 1.9553 - val_loss  
: 12.6107 - val_mean_absolute_error: 2  
.1748
```

```
4025 Epoch 1810/20000
```

```
4026 - 0s - loss: 6.5641 -  
mean_absolute_error: 1.9057 - val_loss  
: 12.5952 - val_mean_absolute_error: 2  
.1766
```

```
4027
```

```
4028 Epoch 01810: saving model to ./model/  
model_best.h5
```

```
4029 Epoch 1811/20000
```

```
4030 - 0s - loss: 7.8227 -  
mean_absolute_error: 2.0387 - val_loss  
: 12.6464 - val_mean_absolute_error: 2  
.1730
```

```
4031 Epoch 1812/20000
```

```
4032 - 0s - loss: 8.0358 -  
mean_absolute_error: 1.9868 - val_loss  
: 12.6623 - val_mean_absolute_error: 2
```

```
4032 . 1748
4033 Epoch 1813/20000
4034 - 0s - loss: 7.5605 -
mean_absolute_error: 2.0420 - val_loss
: 12.6066 - val_mean_absolute_error: 2
. 1633
4035 Epoch 1814/20000
4036 - 0s - loss: 6.2784 -
mean_absolute_error: 1.8771 - val_loss
: 12.5664 - val_mean_absolute_error: 2
. 1626
4037 Epoch 1815/20000
4038 - 0s - loss: 8.2025 -
mean_absolute_error: 2.0079 - val_loss
: 12.5573 - val_mean_absolute_error: 2
. 1789
4039 Epoch 1816/20000
4040 - 0s - loss: 6.3316 -
mean_absolute_error: 1.8505 - val_loss
: 12.6553 - val_mean_absolute_error: 2
. 1639
4041 Epoch 1817/20000
4042 - 0s - loss: 8.2550 -
mean_absolute_error: 1.9636 - val_loss
```

```
4042 : 12.7507 - val_mean_absolute_error: 2
      .1728
4043 Epoch 1818/20000
4044 - 0s - loss: 6.9361 -
      mean_absolute_error: 1.9961 - val_loss
      : 12.6977 - val_mean_absolute_error: 2
      .1708
4045 Epoch 1819/20000
4046 - 0s - loss: 7.0214 -
      mean_absolute_error: 1.9508 - val_loss
      : 12.6983 - val_mean_absolute_error: 2
      .1716
4047 Epoch 1820/20000
4048 - 0s - loss: 6.8995 -
      mean_absolute_error: 1.9017 - val_loss
      : 12.6904 - val_mean_absolute_error: 2
      .1711
4049
4050 Epoch 01820: saving model to ./model /
      model_best.h5
4051 Epoch 1821/20000
4052 - 0s - loss: 6.8515 -
      mean_absolute_error: 1.9233 - val_loss
      : 12.5944 - val_mean_absolute_error: 2
```

```
4052 . 1607
4053 Epoch 1822/20000
4054 - 0s - loss: 7.1178 -
mean_absolute_error: 1.9479 - val_loss
: 12.5836 - val_mean_absolute_error: 2
. 1650
4055 Epoch 1823/20000
4056 - 0s - loss: 8.2181 -
mean_absolute_error: 1.9703 - val_loss
: 12.6620 - val_mean_absolute_error: 2
. 1634
4057 Epoch 1824/20000
4058 - 0s - loss: 7.7036 -
mean_absolute_error: 2.0302 - val_loss
: 12.7054 - val_mean_absolute_error: 2
. 1654
4059 Epoch 1825/20000
4060 - 0s - loss: 6.6839 -
mean_absolute_error: 1.8917 - val_loss
: 12.7153 - val_mean_absolute_error: 2
. 1650
4061 Epoch 1826/20000
4062 - 0s - loss: 7.6682 -
mean_absolute_error: 2.0612 - val_loss
```

```
4062 : 12.7432 - val_mean_absolute_error: 2
      .1689
4063 Epoch 1827/20000
4064   - 0s - loss: 9.4442 -
      mean_absolute_error: 2.1368 - val_loss
      : 12.7531 - val_mean_absolute_error: 2
      .1694
4065 Epoch 1828/20000
4066   - 0s - loss: 7.8889 -
      mean_absolute_error: 1.9988 - val_loss
      : 12.7744 - val_mean_absolute_error: 2
      .1748
4067 Epoch 1829/20000
4068   - 0s - loss: 6.4321 -
      mean_absolute_error: 1.9644 - val_loss
      : 12.7992 - val_mean_absolute_error: 2
      .1698
4069 Epoch 1830/20000
4070   - 0s - loss: 7.1859 -
      mean_absolute_error: 1.9467 - val_loss
      : 12.7702 - val_mean_absolute_error: 2
      .1689
4071
4072 Epoch 01830: saving model to ./model/
```



```
4072 model_best.h5
4073 Epoch 1831/20000
4074   - 0s - loss: 9.7113 -
      mean_absolute_error: 2.0702 - val_loss
      : 12.6781 - val_mean_absolute_error: 2
      .1666
4075 Epoch 1832/20000
4076   - 0s - loss: 7.7498 -
      mean_absolute_error: 1.9957 - val_loss
      : 12.6171 - val_mean_absolute_error: 2
      .1613
4077 Epoch 1833/20000
4078   - 0s - loss: 7.4934 -
      mean_absolute_error: 2.0020 - val_loss
      : 12.6805 - val_mean_absolute_error: 2
      .1673
4079 Epoch 1834/20000
4080   - 0s - loss: 8.8484 -
      mean_absolute_error: 2.1363 - val_loss
      : 12.6742 - val_mean_absolute_error: 2
      .1667
4081 Epoch 1835/20000
4082   - 0s - loss: 7.5488 -
      mean_absolute_error: 2.0720 - val_loss
```

```
4082 : 12.6440 - val_mean_absolute_error: 2
      .1657
4083 Epoch 1836/20000
4084 - 0s - loss: 7.0253 -
      mean_absolute_error: 1.9486 - val_loss
      : 12.6427 - val_mean_absolute_error: 2
      .1641
4085 Epoch 1837/20000
4086 - 0s - loss: 6.7564 -
      mean_absolute_error: 1.9213 - val_loss
      : 12.6386 - val_mean_absolute_error: 2
      .1616
4087 Epoch 1838/20000
4088 - 0s - loss: 7.4520 -
      mean_absolute_error: 1.8945 - val_loss
      : 12.6800 - val_mean_absolute_error: 2
      .1645
4089 Epoch 1839/20000
4090 - 0s - loss: 6.9969 -
      mean_absolute_error: 1.8336 - val_loss
      : 12.6245 - val_mean_absolute_error: 2
      .1646
4091 Epoch 1840/20000
4092 - 0s - loss: 6.9868 -
```

4092 mean_absolute_error: 1.9789 - val_loss
: 12.6496 - val_mean_absolute_error: 2
.1671

4093

4094 Epoch 01840: saving model to ./model/
model_best.h5

4095 Epoch 1841/20000

4096 - 0s - loss: 8.1957 -
mean_absolute_error: 2.0752 - val_loss
: 12.7406 - val_mean_absolute_error: 2
.1765

4097 Epoch 1842/20000

4098 - 0s - loss: 6.8769 -
mean_absolute_error: 1.8904 - val_loss
: 12.6970 - val_mean_absolute_error: 2
.1723

4099 Epoch 1843/20000

4100 - 0s - loss: 6.3403 -
mean_absolute_error: 1.9306 - val_loss
: 12.6673 - val_mean_absolute_error: 2
.1705

4101 Epoch 1844/20000

4102 - 0s - loss: 7.6794 -
mean_absolute_error: 1.9812 - val_loss

```
4102 : 12.7903 - val_mean_absolute_error: 2
      .1775
4103 Epoch 1845/20000
4104 - 0s - loss: 7.7155 -
      mean_absolute_error: 1.9976 - val_loss
      : 12.8088 - val_mean_absolute_error: 2
      .1793
4105 Epoch 1846/20000
4106 - 0s - loss: 7.0630 -
      mean_absolute_error: 1.9292 - val_loss
      : 12.8989 - val_mean_absolute_error: 2
      .1836
4107 Epoch 1847/20000
4108 - 0s - loss: 6.9447 -
      mean_absolute_error: 1.8973 - val_loss
      : 12.8104 - val_mean_absolute_error: 2
      .1795
4109 Epoch 1848/20000
4110 - 0s - loss: 7.2029 -
      mean_absolute_error: 2.0284 - val_loss
      : 12.7994 - val_mean_absolute_error: 2
      .1809
4111 Epoch 1849/20000
4112 - 0s - loss: 6.7500 -
```

```
4112 mean_absolute_error: 1.8917 - val_loss
    : 12.7309 - val_mean_absolute_error: 2
    .1778
```

```
4113 Epoch 1850/20000
```

```
4114 - 0s - loss: 7.5984 -
    mean_absolute_error: 2.0053 - val_loss
    : 12.8085 - val_mean_absolute_error: 2
    .1851
```

```
4115
```

```
4116 Epoch 01850: saving model to ./model/
    model_best.h5
```

```
4117 Epoch 1851/20000
```

```
4118 - 0s - loss: 8.2722 -
    mean_absolute_error: 2.0671 - val_loss
    : 12.8143 - val_mean_absolute_error: 2
    .1791
```

```
4119 Epoch 1852/20000
```

```
4120 - 0s - loss: 8.9075 -
    mean_absolute_error: 2.0352 - val_loss
    : 12.7487 - val_mean_absolute_error: 2
    .1729
```

```
4121 Epoch 1853/20000
```

```
4122 - 0s - loss: 8.1617 -
    mean_absolute_error: 2.0741 - val_loss
```

```
4122 : 12.6355 - val_mean_absolute_error: 2
      .1699
4123 Epoch 1854/20000
4124 - 0s - loss: 7.4343 -
      mean_absolute_error: 1.9040 - val_loss
      : 12.6282 - val_mean_absolute_error: 2
      .1705
4125 Epoch 1855/20000
4126 - 0s - loss: 6.4852 -
      mean_absolute_error: 1.9044 - val_loss
      : 12.6118 - val_mean_absolute_error: 2
      .1672
4127 Epoch 1856/20000
4128 - 0s - loss: 7.6376 -
      mean_absolute_error: 1.9652 - val_loss
      : 12.6272 - val_mean_absolute_error: 2
      .1675
4129 Epoch 1857/20000
4130 - 0s - loss: 7.2946 -
      mean_absolute_error: 2.0611 - val_loss
      : 12.5813 - val_mean_absolute_error: 2
      .1686
4131 Epoch 1858/20000
4132 - 0s - loss: 5.8787 -
```

```
4132 mean_absolute_error: 1.8256 - val_loss  
      : 12.6380 - val_mean_absolute_error: 2  
      .1695
```

```
4133 Epoch 1859/20000
```

```
4134   - 0s - loss: 7.1252 -  
      mean_absolute_error: 2.0435 - val_loss  
      : 12.7088 - val_mean_absolute_error: 2  
      .1712
```

```
4135 Epoch 1860/20000
```

```
4136   - 0s - loss: 7.9560 -  
      mean_absolute_error: 2.0415 - val_loss  
      : 12.6614 - val_mean_absolute_error: 2  
      .1713
```

```
4137
```

```
4138 Epoch 01860: saving model to ./model/  
      model_best.h5
```

```
4139 Epoch 1861/20000
```

```
4140   - 0s - loss: 7.8026 -  
      mean_absolute_error: 2.1211 - val_loss  
      : 12.7004 - val_mean_absolute_error: 2  
      .1705
```

```
4141 Epoch 1862/20000
```

```
4142   - 0s - loss: 7.4048 -  
      mean_absolute_error: 1.9914 - val_loss
```

```
4142 : 12.6994 - val_mean_absolute_error: 2
      .1739
4143 Epoch 1863/20000
4144 - 0s - loss: 8.6230 -
      mean_absolute_error: 2.0682 - val_loss
      : 12.7918 - val_mean_absolute_error: 2
      .1771
4145 Epoch 1864/20000
4146 - 0s - loss: 7.4903 -
      mean_absolute_error: 2.0773 - val_loss
      : 12.7328 - val_mean_absolute_error: 2
      .1691
4147 Epoch 1865/20000
4148 - 0s - loss: 6.9572 -
      mean_absolute_error: 1.9015 - val_loss
      : 12.8756 - val_mean_absolute_error: 2
      .1765
4149
4150 Epoch 01865: ReduceLR0nPlateau
      reducing learning rate to 1.
      00000000475e-05.
4151 Epoch 1866/20000
4152 - 0s - loss: 7.5297 -
      mean_absolute_error: 2.0739 - val_loss
```



```
4152 : 12.8541 - val_mean_absolute_error: 2
      .1740
4153 Epoch 1867/20000
4154 - 0s - loss: 8.1241 -
      mean_absolute_error: 2.0524 - val_loss
      : 12.8486 - val_mean_absolute_error: 2
      .1737
4155 Epoch 1868/20000
4156 - 0s - loss: 7.6137 -
      mean_absolute_error: 1.9756 - val_loss
      : 12.8412 - val_mean_absolute_error: 2
      .1730
4157 Epoch 1869/20000
4158 - 0s - loss: 7.4145 -
      mean_absolute_error: 2.0512 - val_loss
      : 12.8311 - val_mean_absolute_error: 2
      .1722
4159 Epoch 1870/20000
4160 - 0s - loss: 7.1321 -
      mean_absolute_error: 2.0487 - val_loss
      : 12.8323 - val_mean_absolute_error: 2
      .1725
4161
4162 Epoch 01870: saving model to ./model/
```

```
4162 model_best.h5
4163 Epoch 1871/20000
4164   - 0s - loss: 6.7681 -
      mean_absolute_error: 1.9117 - val_loss
      : 12.8344 - val_mean_absolute_error: 2
      .1730
4165 Epoch 1872/20000
4166   - 0s - loss: 7.8430 -
      mean_absolute_error: 2.0705 - val_loss
      : 12.8158 - val_mean_absolute_error: 2
      .1715
4167 Epoch 1873/20000
4168   - 0s - loss: 7.2624 -
      mean_absolute_error: 1.9402 - val_loss
      : 12.8032 - val_mean_absolute_error: 2
      .1705
4169 Epoch 1874/20000
4170   - 0s - loss: 5.6318 -
      mean_absolute_error: 1.8409 - val_loss
      : 12.8003 - val_mean_absolute_error: 2
      .1704
4171 Epoch 1875/20000
4172   - 0s - loss: 6.9553 -
      mean_absolute_error: 1.9097 - val_loss
```

```
4172 : 12.8028 - val_mean_absolute_error: 2
      .1708
4173 Epoch 1876/20000
4174 - 0s - loss: 7.9417 -
      mean_absolute_error: 2.0866 - val_loss
      : 12.7923 - val_mean_absolute_error: 2
      .1701
4175 Epoch 1877/20000
4176 - 0s - loss: 6.8397 -
      mean_absolute_error: 1.8956 - val_loss
      : 12.7985 - val_mean_absolute_error: 2
      .1704
4177 Epoch 1878/20000
4178 - 0s - loss: 6.6374 -
      mean_absolute_error: 1.9501 - val_loss
      : 12.7923 - val_mean_absolute_error: 2
      .1702
4179 Epoch 1879/20000
4180 - 0s - loss: 8.3235 -
      mean_absolute_error: 2.0660 - val_loss
      : 12.7947 - val_mean_absolute_error: 2
      .1706
4181 Epoch 1880/20000
4182 - 0s - loss: 6.0649 -
```

```
4182 mean_absolute_error: 1.8702 - val_loss
    : 12.7834 - val_mean_absolute_error: 2
    .1696
```

```
4183
```

```
4184 Epoch 01880: saving model to ./model/
    model_best.h5
```

```
4185 Epoch 1881/20000
```

```
4186 - 0s - loss: 8.0849 -
    mean_absolute_error: 2.0768 - val_loss
    : 12.7695 - val_mean_absolute_error: 2
    .1690
```

```
4187 Epoch 1882/20000
```

```
4188 - 0s - loss: 7.9758 -
    mean_absolute_error: 2.0774 - val_loss
    : 12.7669 - val_mean_absolute_error: 2
    .1684
```

```
4189 Epoch 1883/20000
```

```
4190 - 0s - loss: 6.6525 -
    mean_absolute_error: 1.8777 - val_loss
    : 12.7707 - val_mean_absolute_error: 2
    .1689
```

```
4191 Epoch 1884/20000
```

```
4192 - 0s - loss: 6.9665 -
    mean_absolute_error: 1.8494 - val_loss
```

```
4192 : 12.7724 - val_mean_absolute_error: 2
      .1692
4193 Epoch 1885/20000
4194 - 0s - loss: 7.4709 -
      mean_absolute_error: 1.9750 - val_loss
      : 12.7829 - val_mean_absolute_error: 2
      .1697
4195 Epoch 1886/20000
4196 - 0s - loss: 7.0783 -
      mean_absolute_error: 1.8834 - val_loss
      : 12.7892 - val_mean_absolute_error: 2
      .1699
4197 Epoch 1887/20000
4198 - 0s - loss: 8.7899 -
      mean_absolute_error: 2.0666 - val_loss
      : 12.7758 - val_mean_absolute_error: 2
      .1691
4199 Epoch 1888/20000
4200 - 0s - loss: 6.7959 -
      mean_absolute_error: 1.8254 - val_loss
      : 12.7839 - val_mean_absolute_error: 2
      .1699
4201 Epoch 1889/20000
4202 - 0s - loss: 7.8491 -
```

4202 mean_absolute_error: 2.0129 - val_loss
: 12.7833 - val_mean_absolute_error: 2
.1703

4203 Epoch 1890/20000

4204 - 0s - loss: 7.0863 -
mean_absolute_error: 2.0231 - val_loss
: 12.7760 - val_mean_absolute_error: 2
.1696

4205

4206 Epoch 01890: saving model to ./model/
model_best.h5

4207 Epoch 1891/20000

4208 - 0s - loss: 7.1430 -
mean_absolute_error: 2.0325 - val_loss
: 12.7671 - val_mean_absolute_error: 2
.1687

4209 Epoch 1892/20000

4210 - 0s - loss: 6.6251 -
mean_absolute_error: 1.9091 - val_loss
: 12.7676 - val_mean_absolute_error: 2
.1685

4211 Epoch 1893/20000

4212 - 0s - loss: 9.4071 -
mean_absolute_error: 2.1442 - val_loss

```
4212 : 12.7701 - val_mean_absolute_error: 2
      .1690
4213 Epoch 1894/20000
4214 - 0s - loss: 5.6872 -
      mean_absolute_error: 1.7904 - val_loss
      : 12.7652 - val_mean_absolute_error: 2
      .1688
4215 Epoch 1895/20000
4216 - 0s - loss: 8.0486 -
      mean_absolute_error: 2.0302 - val_loss
      : 12.7682 - val_mean_absolute_error: 2
      .1686
4217 Epoch 1896/20000
4218 - 0s - loss: 7.4990 -
      mean_absolute_error: 1.9296 - val_loss
      : 12.7654 - val_mean_absolute_error: 2
      .1682
4219 Epoch 1897/20000
4220 - 0s - loss: 7.2181 -
      mean_absolute_error: 1.9256 - val_loss
      : 12.7558 - val_mean_absolute_error: 2
      .1677
4221 Epoch 1898/20000
4222 - 0s - loss: 7.1673 -
```

```
4222 mean_absolute_error: 1.9592 - val_loss
    : 12.7462 - val_mean_absolute_error: 2
    .1672
```

```
4223 Epoch 1899/20000
```

```
4224 - 0s - loss: 8.3613 -
    mean_absolute_error: 2.0216 - val_loss
    : 12.7391 - val_mean_absolute_error: 2
    .1664
```

```
4225 Epoch 1900/20000
```

```
4226 - 0s - loss: 6.8373 -
    mean_absolute_error: 1.9318 - val_loss
    : 12.7255 - val_mean_absolute_error: 2
    .1652
```

```
4227
```

```
4228 Epoch 01900: saving model to ./model/
    model_best.h5
```

```
4229 Epoch 1901/20000
```

```
4230 - 0s - loss: 8.0969 -
    mean_absolute_error: 2.0489 - val_loss
    : 12.7208 - val_mean_absolute_error: 2
    .1650
```

```
4231 Epoch 1902/20000
```

```
4232 - 0s - loss: 6.9694 -
    mean_absolute_error: 1.9412 - val_loss
```



```
4232 : 12.7220 - val_mean_absolute_error: 2
      .1655
4233 Epoch 1903/20000
4234 - 0s - loss: 7.8803 -
      mean_absolute_error: 2.0016 - val_loss
      : 12.7207 - val_mean_absolute_error: 2
      .1658
4235 Epoch 1904/20000
4236 - 0s - loss: 8.2167 -
      mean_absolute_error: 2.0560 - val_loss
      : 12.7160 - val_mean_absolute_error: 2
      .1656
4237 Epoch 1905/20000
4238 - 0s - loss: 8.0969 -
      mean_absolute_error: 2.0399 - val_loss
      : 12.7155 - val_mean_absolute_error: 2
      .1662
4239 Epoch 1906/20000
4240 - 0s - loss: 7.1993 -
      mean_absolute_error: 1.9659 - val_loss
      : 12.6952 - val_mean_absolute_error: 2
      .1645
4241 Epoch 1907/20000
4242 - 0s - loss: 7.4035 -
```

```
4242 mean_absolute_error: 1.8870 - val_loss
: 12.6970 - val_mean_absolute_error: 2
.1646
```

```
4243 Epoch 1908/20000
```

```
4244 - 0s - loss: 7.8669 -
mean_absolute_error: 2.0091 - val_loss
: 12.7084 - val_mean_absolute_error: 2
.1656
```

```
4245 Epoch 1909/20000
```

```
4246 - 0s - loss: 6.3182 -
mean_absolute_error: 1.8633 - val_loss
: 12.7132 - val_mean_absolute_error: 2
.1653
```

```
4247 Epoch 1910/20000
```

```
4248 - 0s - loss: 7.1758 -
mean_absolute_error: 1.9283 - val_loss
: 12.7149 - val_mean_absolute_error: 2
.1656
```

```
4249
```

```
4250 Epoch 01910: saving model to ./model/
model_best.h5
```

```
4251 Epoch 1911/20000
```

```
4252 - 0s - loss: 7.6158 -
mean_absolute_error: 1.9646 - val_loss
```

```
4252 : 12.7063 - val_mean_absolute_error: 2
      .1653
4253 Epoch 1912/20000
4254 - 0s - loss: 8.2008 -
      mean_absolute_error: 2.1126 - val_loss
      : 12.7140 - val_mean_absolute_error: 2
      .1656
4255 Epoch 1913/20000
4256 - 0s - loss: 7.6636 -
      mean_absolute_error: 1.9968 - val_loss
      : 12.7129 - val_mean_absolute_error: 2
      .1657
4257 Epoch 1914/20000
4258 - 0s - loss: 9.0361 -
      mean_absolute_error: 2.1806 - val_loss
      : 12.7134 - val_mean_absolute_error: 2
      .1657
4259 Epoch 1915/20000
4260 - 0s - loss: 6.3055 -
      mean_absolute_error: 1.7664 - val_loss
      : 12.7156 - val_mean_absolute_error: 2
      .1664
4261 Epoch 1916/20000
4262 - 0s - loss: 9.9226 -
```

4262 mean_absolute_error: 2.1924 - val_loss
: 12.7243 - val_mean_absolute_error: 2
.1668

4263 Epoch 1917/20000

4264 - 0s - loss: 8.5778 -
mean_absolute_error: 2.0914 - val_loss
: 12.7295 - val_mean_absolute_error: 2
.1677

4265 Epoch 1918/20000

4266 - 0s - loss: 7.8392 -
mean_absolute_error: 2.0017 - val_loss
: 12.7246 - val_mean_absolute_error: 2
.1675

4267 Epoch 1919/20000

4268 - 0s - loss: 8.0122 -
mean_absolute_error: 1.9796 - val_loss
: 12.7312 - val_mean_absolute_error: 2
.1682

4269 Epoch 1920/20000

4270 - 0s - loss: 7.6196 -
mean_absolute_error: 2.0299 - val_loss
: 12.7311 - val_mean_absolute_error: 2
.1683

4271

```
4272 Epoch 01920: saving model to ./model/
model_best.h5
4273 Epoch 1921/20000
4274   - 0s - loss: 7.8253 -
mean_absolute_error: 2.0190 - val_loss
: 12.7358 - val_mean_absolute_error: 2
.1684
4275 Epoch 1922/20000
4276   - 0s - loss: 8.6958 -
mean_absolute_error: 2.1294 - val_loss
: 12.7266 - val_mean_absolute_error: 2
.1679
4277 Epoch 1923/20000
4278   - 0s - loss: 7.1430 -
mean_absolute_error: 2.0028 - val_loss
: 12.7079 - val_mean_absolute_error: 2
.1666
4279 Epoch 1924/20000
4280   - 0s - loss: 8.4251 -
mean_absolute_error: 2.1422 - val_loss
: 12.7019 - val_mean_absolute_error: 2
.1665
4281 Epoch 1925/20000
4282   - 0s - loss: 7.4790 -
```

```
4282 mean_absolute_error: 1.9731 - val_loss
    : 12.7005 - val_mean_absolute_error: 2
    .1663
4283 Epoch 1926/20000
4284 - 0s - loss: 7.9546 -
    mean_absolute_error: 2.0917 - val_loss
    : 12.7119 - val_mean_absolute_error: 2
    .1669
4285 Epoch 1927/20000
4286 - 0s - loss: 7.4582 -
    mean_absolute_error: 2.0126 - val_loss
    : 12.7052 - val_mean_absolute_error: 2
    .1666
4287 Epoch 1928/20000
4288 - 0s - loss: 6.4178 -
    mean_absolute_error: 1.8852 - val_loss
    : 12.7003 - val_mean_absolute_error: 2
    .1669
4289 Epoch 1929/20000
4290 - 0s - loss: 5.5384 -
    mean_absolute_error: 1.8210 - val_loss
    : 12.7091 - val_mean_absolute_error: 2
    .1680
4291 Epoch 1930/20000
```

```
4292 - 0s - loss: 8.9558 -  
mean_absolute_error: 2.1356 - val_loss  
: 12.7160 - val_mean_absolute_error: 2  
.1683
```

```
4293
```

```
4294 Epoch 01930: saving model to ./model/  
model_best.h5
```

```
4295 Epoch 1931/20000
```

```
4296 - 0s - loss: 7.6873 -  
mean_absolute_error: 2.0000 - val_loss  
: 12.7140 - val_mean_absolute_error: 2  
.1684
```

```
4297 Epoch 1932/20000
```

```
4298 - 0s - loss: 6.3126 -  
mean_absolute_error: 1.8176 - val_loss  
: 12.7110 - val_mean_absolute_error: 2  
.1677
```

```
4299 Epoch 1933/20000
```

```
4300 - 0s - loss: 7.2181 -  
mean_absolute_error: 1.9136 - val_loss  
: 12.7044 - val_mean_absolute_error: 2  
.1670
```

```
4301 Epoch 1934/20000
```

```
4302 - 0s - loss: 7.4119 -
```

4302 mean_absolute_error: 1.9788 - val_loss
: 12.7019 - val_mean_absolute_error: 2
.1669

4303 Epoch 1935/20000

4304 - 0s - loss: 7.3453 -
mean_absolute_error: 1.8456 - val_loss
: 12.6992 - val_mean_absolute_error: 2
.1669

4305 Epoch 1936/20000

4306 - 0s - loss: 8.1919 -
mean_absolute_error: 1.9962 - val_loss
: 12.6971 - val_mean_absolute_error: 2
.1668

4307 Epoch 1937/20000

4308 - 0s - loss: 8.3210 -
mean_absolute_error: 2.0565 - val_loss
: 12.6949 - val_mean_absolute_error: 2
.1668

4309 Epoch 1938/20000

4310 - 0s - loss: 7.6107 -
mean_absolute_error: 2.0633 - val_loss
: 12.7142 - val_mean_absolute_error: 2
.1677

4311 Epoch 1939/20000


```
4312 - 0s - loss: 7.6584 -  
      mean_absolute_error: 1.9909 - val_loss  
      : 12.7197 - val_mean_absolute_error: 2  
      .1680  
4313 Epoch 1940/20000  
4314 - 0s - loss: 7.4337 -  
      mean_absolute_error: 1.9728 - val_loss  
      : 12.7131 - val_mean_absolute_error: 2  
      .1673  
4315  
4316 Epoch 01940: saving model to ./model/  
      model_best.h5  
4317 Epoch 1941/20000  
4318 - 0s - loss: 6.7973 -  
      mean_absolute_error: 1.9716 - val_loss  
      : 12.7120 - val_mean_absolute_error: 2  
      .1673  
4319 Epoch 1942/20000  
4320 - 0s - loss: 7.6882 -  
      mean_absolute_error: 1.9834 - val_loss  
      : 12.7022 - val_mean_absolute_error: 2  
      .1670  
4321 Epoch 1943/20000  
4322 - 0s - loss: 7.9428 -
```

```
4322 mean_absolute_error: 2.0238 - val_loss
    : 12.6955 - val_mean_absolute_error: 2
    .1668
4323 Epoch 1944/20000
4324   - 0s - loss: 7.4792 -
    mean_absolute_error: 1.9717 - val_loss
    : 12.7047 - val_mean_absolute_error: 2
    .1679
4325 Epoch 1945/20000
4326   - 0s - loss: 8.9589 -
    mean_absolute_error: 2.0915 - val_loss
    : 12.7091 - val_mean_absolute_error: 2
    .1683
4327 Epoch 1946/20000
4328   - 0s - loss: 7.9002 -
    mean_absolute_error: 2.1069 - val_loss
    : 12.6962 - val_mean_absolute_error: 2
    .1671
4329 Epoch 1947/20000
4330   - 0s - loss: 7.2995 -
    mean_absolute_error: 1.9926 - val_loss
    : 12.7036 - val_mean_absolute_error: 2
    .1676
4331 Epoch 1948/20000
```

```
4332 - 0s - loss: 8.1770 -  
mean_absolute_error: 2.0960 - val_loss  
: 12.6969 - val_mean_absolute_error: 2  
.1676  
4333 Epoch 1949/20000  
4334 - 0s - loss: 7.8441 -  
mean_absolute_error: 1.9662 - val_loss  
: 12.6895 - val_mean_absolute_error: 2  
.1670  
4335 Epoch 1950/20000  
4336 - 0s - loss: 7.3948 -  
mean_absolute_error: 1.9656 - val_loss  
: 12.6948 - val_mean_absolute_error: 2  
.1674  
4337  
4338 Epoch 01950: saving model to ./model/  
model_best.h5  
4339 Epoch 1951/20000  
4340 - 0s - loss: 7.5526 -  
mean_absolute_error: 2.0577 - val_loss  
: 12.7087 - val_mean_absolute_error: 2  
.1684  
4341 Epoch 1952/20000  
4342 - 0s - loss: 6.1229 -
```

```
4342 mean_absolute_error: 1.8598 - val_loss
    : 12.7084 - val_mean_absolute_error: 2
    .1681
4343 Epoch 1953/20000
4344   - 0s - loss: 7.2902 -
    mean_absolute_error: 1.9589 - val_loss
    : 12.6990 - val_mean_absolute_error: 2
    .1675
4345 Epoch 1954/20000
4346   - 0s - loss: 8.8721 -
    mean_absolute_error: 2.1428 - val_loss
    : 12.7011 - val_mean_absolute_error: 2
    .1674
4347 Epoch 1955/20000
4348   - 0s - loss: 8.0195 -
    mean_absolute_error: 2.0447 - val_loss
    : 12.7013 - val_mean_absolute_error: 2
    .1677
4349 Epoch 1956/20000
4350   - 0s - loss: 8.6559 -
    mean_absolute_error: 2.1396 - val_loss
    : 12.6846 - val_mean_absolute_error: 2
    .1666
4351 Epoch 1957/20000
```

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4352 - 0s - loss: 8.2253 -  
      mean_absolute_error: 2.0451 - val_loss  
      : 12.6800 - val_mean_absolute_error: 2  
      .1662  
4353 Epoch 1958/20000  
4354 - 0s - loss: 6.4225 -  
      mean_absolute_error: 1.9293 - val_loss  
      : 12.6856 - val_mean_absolute_error: 2  
      .1666  
4355 Epoch 1959/20000  
4356 - 0s - loss: 8.5543 -  
      mean_absolute_error: 2.0949 - val_loss  
      : 12.6822 - val_mean_absolute_error: 2  
      .1667  
4357 Epoch 1960/20000  
4358 - 0s - loss: 7.1385 -  
      mean_absolute_error: 1.9415 - val_loss  
      : 12.6809 - val_mean_absolute_error: 2  
      .1667  
4359  
4360 Epoch 01960: saving model to ./model/  
      model_best.h5  
4361 Epoch 1961/20000  
4362 - 0s - loss: 7.7764 -
```

```
4362 mean_absolute_error: 1.9307 - val_loss
    : 12.6800 - val_mean_absolute_error: 2
    .1668
4363 Epoch 1962/20000
4364   - 0s - loss: 9.0678 -
    mean_absolute_error: 2.1058 - val_loss
    : 12.6858 - val_mean_absolute_error: 2
    .1670
4365 Epoch 1963/20000
4366   - 0s - loss: 6.2598 -
    mean_absolute_error: 1.8877 - val_loss
    : 12.6827 - val_mean_absolute_error: 2
    .1672
4367 Epoch 1964/20000
4368   - 0s - loss: 8.5507 -
    mean_absolute_error: 2.0860 - val_loss
    : 12.6809 - val_mean_absolute_error: 2
    .1673
4369 Epoch 1965/20000
4370   - 0s - loss: 7.0668 -
    mean_absolute_error: 1.9343 - val_loss
    : 12.6898 - val_mean_absolute_error: 2
    .1678
4371 Epoch 1966/20000
```

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4372 - 0s - loss: 8.4215 -  
mean_absolute_error: 2.1084 - val_loss  
: 12.6941 - val_mean_absolute_error: 2  
.1680  
4373 Epoch 1967/20000  
4374 - 0s - loss: 6.9431 -  
mean_absolute_error: 1.9988 - val_loss  
: 12.6950 - val_mean_absolute_error: 2  
.1682  
4375 Epoch 1968/20000  
4376 - 0s - loss: 8.3454 -  
mean_absolute_error: 2.0323 - val_loss  
: 12.6955 - val_mean_absolute_error: 2  
.1683  
4377 Epoch 1969/20000  
4378 - 0s - loss: 7.8539 -  
mean_absolute_error: 2.1004 - val_loss  
: 12.6933 - val_mean_absolute_error: 2  
.1682  
4379 Epoch 1970/20000  
4380 - 0s - loss: 8.3333 -  
mean_absolute_error: 2.0145 - val_loss  
: 12.6876 - val_mean_absolute_error: 2  
.1675
```

4381

4382 Epoch 01970: saving model to ./model/
model_best.h5

4383 Epoch 1971/20000

4384 - 0s - loss: 7.9508 -
mean_absolute_error: 1.9800 - val_loss
: 12.6774 - val_mean_absolute_error: 2
.1671

4385 Epoch 1972/20000

4386 - 0s - loss: 8.9574 -
mean_absolute_error: 2.0499 - val_loss
: 12.6754 - val_mean_absolute_error: 2
.1668

4387 Epoch 1973/20000

4388 - 0s - loss: 7.7259 -
mean_absolute_error: 1.9792 - val_loss
: 12.6787 - val_mean_absolute_error: 2
.1665

4389 Epoch 1974/20000

4390 - 0s - loss: 7.2438 -
mean_absolute_error: 1.9347 - val_loss
: 12.6748 - val_mean_absolute_error: 2
.1662

4391 Epoch 1975/20000


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4392 - 0s - loss: 7.3497 -  
mean_absolute_error: 2.0342 - val_loss  
: 12.6759 - val_mean_absolute_error: 2  
.1660  
4393 Epoch 1976/20000  
4394 - 0s - loss: 8.3003 -  
mean_absolute_error: 2.0711 - val_loss  
: 12.6753 - val_mean_absolute_error: 2  
.1661  
4395 Epoch 1977/20000  
4396 - 0s - loss: 10.2061 -  
mean_absolute_error: 2.1640 - val_loss  
: 12.6752 - val_mean_absolute_error: 2  
.1659  
4397 Epoch 1978/20000  
4398 - 0s - loss: 8.7204 -  
mean_absolute_error: 2.0818 - val_loss  
: 12.6757 - val_mean_absolute_error: 2  
.1660  
4399 Epoch 1979/20000  
4400 - 0s - loss: 8.2985 -  
mean_absolute_error: 2.0455 - val_loss  
: 12.6707 - val_mean_absolute_error: 2  
.1661
```

```
4401 Epoch 1980/20000
4402   - 0s - loss: 6.6678 -
      mean_absolute_error: 1.8508 - val_loss
      : 12.6808 - val_mean_absolute_error: 2
      .1668
4403
4404 Epoch 01980: saving model to ./model/
      model_best.h5
4405 Epoch 1981/20000
4406   - 0s - loss: 7.1439 -
      mean_absolute_error: 1.9901 - val_loss
      : 12.6709 - val_mean_absolute_error: 2
      .1666
4407 Epoch 1982/20000
4408   - 0s - loss: 6.9311 -
      mean_absolute_error: 1.8966 - val_loss
      : 12.6786 - val_mean_absolute_error: 2
      .1677
4409 Epoch 1983/20000
4410   - 0s - loss: 8.4113 -
      mean_absolute_error: 1.9431 - val_loss
      : 12.6853 - val_mean_absolute_error: 2
      .1683
4411 Epoch 1984/20000
```

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4412 - 0s - loss: 6.6104 -  
      mean_absolute_error: 1.8767 - val_loss  
      : 12.6831 - val_mean_absolute_error: 2  
      .1678  
4413 Epoch 1985/20000  
4414 - 0s - loss: 8.4333 -  
      mean_absolute_error: 2.0565 - val_loss  
      : 12.6731 - val_mean_absolute_error: 2  
      .1675  
4415 Epoch 1986/20000  
4416 - 0s - loss: 9.3081 -  
      mean_absolute_error: 2.1392 - val_loss  
      : 12.6632 - val_mean_absolute_error: 2  
      .1674  
4417 Epoch 1987/20000  
4418 - 0s - loss: 7.5894 -  
      mean_absolute_error: 1.9514 - val_loss  
      : 12.6691 - val_mean_absolute_error: 2  
      .1671  
4419 Epoch 1988/20000  
4420 - 0s - loss: 7.8329 -  
      mean_absolute_error: 1.9694 - val_loss  
      : 12.6710 - val_mean_absolute_error: 2  
      .1673
```

```
4421 Epoch 1989/20000
4422   - 0s - loss: 8.5085 -
      mean_absolute_error: 2.0722 - val_loss
      : 12.6763 - val_mean_absolute_error: 2
      .1674
4423 Epoch 1990/20000
4424   - 0s - loss: 7.7768 -
      mean_absolute_error: 1.9777 - val_loss
      : 12.6695 - val_mean_absolute_error: 2
      .1673
4425
4426 Epoch 01990: saving model to ./model/
      model_best.h5
4427 Epoch 1991/20000
4428   - 0s - loss: 8.3563 -
      mean_absolute_error: 2.1134 - val_loss
      : 12.6745 - val_mean_absolute_error: 2
      .1677
4429 Epoch 1992/20000
4430   - 0s - loss: 6.6026 -
      mean_absolute_error: 1.9013 - val_loss
      : 12.6706 - val_mean_absolute_error: 2
      .1677
4431 Epoch 1993/20000
```

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4432 - 0s - loss: 8.2798 -  
mean_absolute_error: 2.0207 - val_loss  
: 12.6708 - val_mean_absolute_error: 2  
.1677  
4433 Epoch 1994/20000  
4434 - 0s - loss: 7.4558 -  
mean_absolute_error: 2.0469 - val_loss  
: 12.6714 - val_mean_absolute_error: 2  
.1677  
4435 Epoch 1995/20000  
4436 - 0s - loss: 8.0796 -  
mean_absolute_error: 2.0337 - val_loss  
: 12.6730 - val_mean_absolute_error: 2  
.1680  
4437 Epoch 1996/20000  
4438 - 0s - loss: 8.6068 -  
mean_absolute_error: 2.0905 - val_loss  
: 12.6781 - val_mean_absolute_error: 2  
.1678  
4439 Epoch 1997/20000  
4440 - 0s - loss: 6.0875 -  
mean_absolute_error: 1.8371 - val_loss  
: 12.6702 - val_mean_absolute_error: 2  
.1673
```

```
4441 Epoch 1998/20000
4442   - 0s - loss: 9.0279 -
      mean_absolute_error: 2.0147 - val_loss
      : 12.6589 - val_mean_absolute_error: 2
      .1669
4443 Epoch 1999/20000
4444   - 0s - loss: 7.5613 -
      mean_absolute_error: 1.9528 - val_loss
      : 12.6574 - val_mean_absolute_error: 2
      .1672
4445 Epoch 2000/20000
4446   - 0s - loss: 6.8534 -
      mean_absolute_error: 1.9478 - val_loss
      : 12.6684 - val_mean_absolute_error: 2
      .1677
4447
4448 Epoch 02000: saving model to ./model/
      model_best.h5
4449 Epoch 2001/20000
4450   - 0s - loss: 7.2158 -
      mean_absolute_error: 2.0146 - val_loss
      : 12.6709 - val_mean_absolute_error: 2
      .1685
4451 Epoch 2002/20000
```

```
4452 - 0s - loss: 9.0179 -  
mean_absolute_error: 2.1086 - val_loss  
: 12.6700 - val_mean_absolute_error: 2  
.1685  
4453 Epoch 2003/20000  
4454 - 0s - loss: 6.9484 -  
mean_absolute_error: 1.9308 - val_loss  
: 12.6688 - val_mean_absolute_error: 2  
.1683  
4455 Epoch 2004/20000  
4456 - 0s - loss: 8.7341 -  
mean_absolute_error: 2.1003 - val_loss  
: 12.6627 - val_mean_absolute_error: 2  
.1682  
4457 Epoch 2005/20000  
4458 - 0s - loss: 8.1667 -  
mean_absolute_error: 2.1156 - val_loss  
: 12.6641 - val_mean_absolute_error: 2  
.1681  
4459 Epoch 2006/20000  
4460 - 0s - loss: 7.6928 -  
mean_absolute_error: 1.9581 - val_loss  
: 12.6668 - val_mean_absolute_error: 2  
.1683
```

```
4461 Epoch 2007/20000
4462   - 0s - loss: 8.4271 -
      mean_absolute_error: 2.1639 - val_loss
      : 12.6597 - val_mean_absolute_error: 2
      .1680
4463 Epoch 2008/20000
4464   - 0s - loss: 8.1508 -
      mean_absolute_error: 2.0316 - val_loss
      : 12.6610 - val_mean_absolute_error: 2
      .1680
4465 Epoch 2009/20000
4466   - 0s - loss: 8.3174 -
      mean_absolute_error: 2.0561 - val_loss
      : 12.6677 - val_mean_absolute_error: 2
      .1684
4467 Epoch 2010/20000
4468   - 0s - loss: 7.4890 -
      mean_absolute_error: 2.0261 - val_loss
      : 12.6699 - val_mean_absolute_error: 2
      .1686
4469
4470 Epoch 02010: saving model to ./model/
      model_best.h5
4471 Epoch 2011/20000
```



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4472 - 0s - loss: 8.9609 -  
mean_absolute_error: 2.0838 - val_loss  
: 12.6703 - val_mean_absolute_error: 2  
.1688  
4473 Epoch 2012/20000  
4474 - 0s - loss: 7.3979 -  
mean_absolute_error: 1.9978 - val_loss  
: 12.6645 - val_mean_absolute_error: 2  
.1689  
4475 Epoch 2013/20000  
4476 - 0s - loss: 8.1751 -  
mean_absolute_error: 2.0155 - val_loss  
: 12.6593 - val_mean_absolute_error: 2  
.1687  
4477 Epoch 2014/20000  
4478 - 0s - loss: 9.3388 -  
mean_absolute_error: 2.0250 - val_loss  
: 12.6589 - val_mean_absolute_error: 2  
.1685  
4479 Epoch 2015/20000  
4480 - 0s - loss: 7.5487 -  
mean_absolute_error: 1.9876 - val_loss  
: 12.6506 - val_mean_absolute_error: 2  
.1686
```

```
4481 Epoch 2016/20000
4482   - 0s - loss: 7.0463 -
      mean_absolute_error: 1.9311 - val_loss
      : 12.6463 - val_mean_absolute_error: 2
      .1687
4483 Epoch 2017/20000
4484   - 0s - loss: 6.7977 -
      mean_absolute_error: 1.9127 - val_loss
      : 12.6493 - val_mean_absolute_error: 2
      .1687
4485 Epoch 2018/20000
4486   - 0s - loss: 7.7377 -
      mean_absolute_error: 1.9997 - val_loss
      : 12.6581 - val_mean_absolute_error: 2
      .1691
4487 Epoch 2019/20000
4488   - 0s - loss: 9.4381 -
      mean_absolute_error: 2.1517 - val_loss
      : 12.6529 - val_mean_absolute_error: 2
      .1689
4489 Epoch 2020/20000
4490   - 0s - loss: 6.7501 -
      mean_absolute_error: 1.8428 - val_loss
      : 12.6562 - val_mean_absolute_error: 2
```

4490 .1696

4491

4492 Epoch 02020: saving model to ./model/
model_best.h5

4493 Epoch 2021/20000

4494 - 0s - loss: 6.3095 -
mean_absolute_error: 1.8594 - val_loss
: 12.6530 - val_mean_absolute_error: 2
.1696

4495 Epoch 2022/20000

4496 - 0s - loss: 7.5978 -
mean_absolute_error: 1.9919 - val_loss
: 12.6537 - val_mean_absolute_error: 2
.1696

4497 Epoch 2023/20000

4498 - 0s - loss: 7.7771 -
mean_absolute_error: 2.0280 - val_loss
: 12.6591 - val_mean_absolute_error: 2
.1701

4499 Epoch 2024/20000

4500 - 0s - loss: 8.0584 -
mean_absolute_error: 1.9608 - val_loss
: 12.6616 - val_mean_absolute_error: 2
.1697

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4501 Epoch 2025/20000
4502   - 0s - loss: 6.1175 -
      mean_absolute_error: 1.8504 - val_loss
      : 12.6516 - val_mean_absolute_error: 2
      .1697
4503 Epoch 2026/20000
4504   - 0s - loss: 7.1467 -
      mean_absolute_error: 1.9732 - val_loss
      : 12.6546 - val_mean_absolute_error: 2
      .1691
4505 Epoch 2027/20000
4506   - 0s - loss: 8.6167 -
      mean_absolute_error: 2.1378 - val_loss
      : 12.6572 - val_mean_absolute_error: 2
      .1688
4507 Epoch 2028/20000
4508   - 0s - loss: 7.4305 -
      mean_absolute_error: 2.0086 - val_loss
      : 12.6575 - val_mean_absolute_error: 2
      .1688
4509 Epoch 2029/20000
4510   - 0s - loss: 8.6146 -
      mean_absolute_error: 2.1754 - val_loss
      : 12.6722 - val_mean_absolute_error: 2
```

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4510 .1696
4511 Epoch 2030/20000
4512 - 0s - loss: 7.4792 -
mean_absolute_error: 2.0038 - val_loss
: 12.6801 - val_mean_absolute_error: 2
.1707
4513
4514 Epoch 02030: saving model to ./model/
model_best.h5
4515 Epoch 2031/20000
4516 - 0s - loss: 7.7943 -
mean_absolute_error: 1.9874 - val_loss
: 12.6811 - val_mean_absolute_error: 2
.1706
4517 Epoch 2032/20000
4518 - 0s - loss: 6.8100 -
mean_absolute_error: 1.8831 - val_loss
: 12.6813 - val_mean_absolute_error: 2
.1706
4519 Epoch 2033/20000
4520 - 0s - loss: 8.1562 -
mean_absolute_error: 2.1097 - val_loss
: 12.6823 - val_mean_absolute_error: 2
.1709
```

```
4521 Epoch 2034/20000
4522   - 0s - loss: 8.1167 -
      mean_absolute_error: 2.0799 - val_loss
      : 12.6784 - val_mean_absolute_error: 2
      .1707
4523 Epoch 2035/20000
4524   - 0s - loss: 6.8440 -
      mean_absolute_error: 1.9321 - val_loss
      : 12.6816 - val_mean_absolute_error: 2
      .1709
4525 Epoch 2036/20000
4526   - 0s - loss: 9.8714 -
      mean_absolute_error: 2.1478 - val_loss
      : 12.6781 - val_mean_absolute_error: 2
      .1704
4527 Epoch 2037/20000
4528   - 0s - loss: 7.4142 -
      mean_absolute_error: 1.9392 - val_loss
      : 12.6834 - val_mean_absolute_error: 2
      .1708
4529 Epoch 2038/20000
4530   - 0s - loss: 7.9813 -
      mean_absolute_error: 2.0888 - val_loss
      : 12.7019 - val_mean_absolute_error: 2
```

```
4530 .1721
4531 Epoch 2039/20000
4532 - 0s - loss: 6.6066 -
      mean_absolute_error: 1.8489 - val_loss
      : 12.7044 - val_mean_absolute_error: 2
      .1724
4533 Epoch 2040/20000
4534 - 0s - loss: 7.4770 -
      mean_absolute_error: 2.0068 - val_loss
      : 12.7168 - val_mean_absolute_error: 2
      .1737
4535
4536 Epoch 2040: saving model to ./model/
      model_best.h5
4537 Epoch 2041/20000
4538 - 0s - loss: 6.9801 -
      mean_absolute_error: 1.8559 - val_loss
      : 12.7164 - val_mean_absolute_error: 2
      .1735
4539 Epoch 2042/20000
4540 - 0s - loss: 6.5358 -
      mean_absolute_error: 1.8792 - val_loss
      : 12.7134 - val_mean_absolute_error: 2
      .1729
```

```
4541 Epoch 2043/20000
4542   - 0s - loss: 6.6924 -
      mean_absolute_error: 1.8050 - val_loss
      : 12.7063 - val_mean_absolute_error: 2
      .1729
4543 Epoch 2044/20000
4544   - 0s - loss: 8.5125 -
      mean_absolute_error: 2.0393 - val_loss
      : 12.7092 - val_mean_absolute_error: 2
      .1732
4545 Epoch 2045/20000
4546   - 0s - loss: 7.1208 -
      mean_absolute_error: 2.0402 - val_loss
      : 12.7036 - val_mean_absolute_error: 2
      .1728
4547 Epoch 2046/20000
4548   - 0s - loss: 8.6302 -
      mean_absolute_error: 2.0738 - val_loss
      : 12.6953 - val_mean_absolute_error: 2
      .1718
4549 Epoch 2047/20000
4550   - 0s - loss: 6.7843 -
      mean_absolute_error: 1.9153 - val_loss
      : 12.6979 - val_mean_absolute_error: 2
```



```
4550 . 1719
4551 Epoch 2048/20000
4552 - 0s - loss: 7.1556 -
      mean_absolute_error: 1.8497 - val_loss
      : 12.7042 - val_mean_absolute_error: 2
      . 1725
4553 Epoch 2049/20000
4554 - 0s - loss: 7.7456 -
      mean_absolute_error: 2.0369 - val_loss
      : 12.7070 - val_mean_absolute_error: 2
      . 1730
4555 Epoch 2050/20000
4556 - 0s - loss: 7.9015 -
      mean_absolute_error: 1.9640 - val_loss
      : 12.7114 - val_mean_absolute_error: 2
      . 1734
4557
4558 Epoch 2050: saving model to ./model/
      model_best.h5
4559 Epoch 2051/20000
4560 - 0s - loss: 8.5508 -
      mean_absolute_error: 2.0983 - val_loss
      : 12.7087 - val_mean_absolute_error: 2
      . 1733
```

```
4561 Epoch 2052/20000
4562   - 0s - loss: 6.5888 -
      mean_absolute_error: 1.9176 - val_loss
      : 12.7111 - val_mean_absolute_error: 2
      .1733
4563 Epoch 2053/20000
4564   - 0s - loss: 6.3899 -
      mean_absolute_error: 1.8915 - val_loss
      : 12.7128 - val_mean_absolute_error: 2
      .1733
4565 Epoch 2054/20000
4566   - 0s - loss: 8.5704 -
      mean_absolute_error: 2.0101 - val_loss
      : 12.6941 - val_mean_absolute_error: 2
      .1720
4567 Epoch 2055/20000
4568   - 0s - loss: 6.1749 -
      mean_absolute_error: 1.8931 - val_loss
      : 12.6956 - val_mean_absolute_error: 2
      .1721
4569 Epoch 2056/20000
4570   - 0s - loss: 6.8881 -
      mean_absolute_error: 1.9197 - val_loss
      : 12.6880 - val_mean_absolute_error: 2
```

```
4570 . 1718
4571 Epoch 2057/20000
4572 - 0s - loss: 10.3711 -
      mean_absolute_error: 2.2573 - val_loss
      : 12.6878 - val_mean_absolute_error: 2
      . 1720
4573 Epoch 2058/20000
4574 - 0s - loss: 7.7462 -
      mean_absolute_error: 2.0163 - val_loss
      : 12.6891 - val_mean_absolute_error: 2
      . 1719
4575 Epoch 2059/20000
4576 - 0s - loss: 6.5299 -
      mean_absolute_error: 1.8874 - val_loss
      : 12.6885 - val_mean_absolute_error: 2
      . 1717
4577 Epoch 2060/20000
4578 - 0s - loss: 7.6133 -
      mean_absolute_error: 1.9745 - val_loss
      : 12.6829 - val_mean_absolute_error: 2
      . 1712
4579
4580 Epoch 02060: saving model to ./model/
      model_best.h5
```

```
4581 Epoch 2061/20000
4582   - 0s - loss: 7.6231 -
      mean_absolute_error: 1.9908 - val_loss
      : 12.6828 - val_mean_absolute_error: 2
      .1714
4583 Epoch 2062/20000
4584   - 0s - loss: 7.3788 -
      mean_absolute_error: 2.0321 - val_loss
      : 12.6902 - val_mean_absolute_error: 2
      .1719
4585 Epoch 2063/20000
4586   - 0s - loss: 7.4083 -
      mean_absolute_error: 1.9233 - val_loss
      : 12.7006 - val_mean_absolute_error: 2
      .1725
4587 Epoch 2064/20000
4588   - 0s - loss: 7.2401 -
      mean_absolute_error: 2.0305 - val_loss
      : 12.6983 - val_mean_absolute_error: 2
      .1723
4589 Epoch 2065/20000
4590   - 0s - loss: 7.3237 -
      mean_absolute_error: 1.9285 - val_loss
      : 12.7019 - val_mean_absolute_error: 2
```

4590 .1725

4591

4592 Epoch 02065: ReduceLR0nPlateau

reducing learning rate to 1.

00000006569e-06.

4593 Epoch 2066/20000

4594 - 0s - loss: 9.9429 -

mean_absolute_error: 2.1879 - val_loss

: 12.7025 - val_mean_absolute_error: 2

.1726

4595 Epoch 2067/20000

4596 - 0s - loss: 7.2592 -

mean_absolute_error: 1.8886 - val_loss

: 12.7025 - val_mean_absolute_error: 2

.1726

4597 Epoch 2068/20000

4598 - 0s - loss: 8.5913 -

mean_absolute_error: 2.0420 - val_loss

: 12.7021 - val_mean_absolute_error: 2

.1726

4599 Epoch 2069/20000

4600 - 0s - loss: 8.2152 -

mean_absolute_error: 2.0812 - val_loss

: 12.7021 - val_mean_absolute_error: 2

```
4600 .1726
4601 Epoch 2070/20000
4602 - 0s - loss: 7.9698 -
mean_absolute_error: 1.9550 - val_loss
: 12.7018 - val_mean_absolute_error: 2
.1726
4603
4604 Epoch 02070: saving model to ./model/
model_best.h5
4605 Epoch 2071/20000
4606 - 0s - loss: 6.3541 -
mean_absolute_error: 1.8447 - val_loss
: 12.7028 - val_mean_absolute_error: 2
.1726
4607 Epoch 2072/20000
4608 - 0s - loss: 8.6912 -
mean_absolute_error: 2.1737 - val_loss
: 12.7021 - val_mean_absolute_error: 2
.1725
4609 Epoch 2073/20000
4610 - 0s - loss: 10.3983 -
mean_absolute_error: 2.2384 - val_loss
: 12.7014 - val_mean_absolute_error: 2
.1725
```

```
4611 Epoch 2074/20000
4612   - 0s - loss: 9.4090 -
      mean_absolute_error: 2.1728 - val_loss
      : 12.7014 - val_mean_absolute_error: 2
      .1725
4613 Epoch 2075/20000
4614   - 0s - loss: 7.7260 -
      mean_absolute_error: 2.0119 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1724
4615 Epoch 2076/20000
4616   - 0s - loss: 8.2326 -
      mean_absolute_error: 1.9824 - val_loss
      : 12.7006 - val_mean_absolute_error: 2
      .1724
4617 Epoch 2077/20000
4618   - 0s - loss: 7.5887 -
      mean_absolute_error: 2.0241 - val_loss
      : 12.7011 - val_mean_absolute_error: 2
      .1725
4619 Epoch 2078/20000
4620   - 0s - loss: 6.8250 -
      mean_absolute_error: 1.8583 - val_loss
      : 12.7014 - val_mean_absolute_error: 2
```

```
4620 .1725
4621 Epoch 2079/20000
4622 - 0s - loss: 7.0517 -
mean_absolute_error: 2.0170 - val_loss
: 12.7012 - val_mean_absolute_error: 2
.1724
4623 Epoch 2080/20000
4624 - 0s - loss: 7.6497 -
mean_absolute_error: 2.0020 - val_loss
: 12.7015 - val_mean_absolute_error: 2
.1725
4625
4626 Epoch 2080: saving model to ./model/
model_best.h5
4627 Epoch 2081/20000
4628 - 0s - loss: 6.1481 -
mean_absolute_error: 1.8067 - val_loss
: 12.7020 - val_mean_absolute_error: 2
.1726
4629 Epoch 2082/20000
4630 - 0s - loss: 7.2782 -
mean_absolute_error: 1.9834 - val_loss
: 12.7014 - val_mean_absolute_error: 2
.1725
```



```
4631 Epoch 2083/20000
4632   - 0s - loss: 9.2152 -
      mean_absolute_error: 2.1642 - val_loss
      : 12.7027 - val_mean_absolute_error: 2
      .1726
4633 Epoch 2084/20000
4634   - 0s - loss: 8.2480 -
      mean_absolute_error: 2.0035 - val_loss
      : 12.7030 - val_mean_absolute_error: 2
      .1726
4635 Epoch 2085/20000
4636   - 0s - loss: 7.4375 -
      mean_absolute_error: 1.9589 - val_loss
      : 12.7042 - val_mean_absolute_error: 2
      .1727
4637 Epoch 2086/20000
4638   - 0s - loss: 6.2852 -
      mean_absolute_error: 1.8508 - val_loss
      : 12.7044 - val_mean_absolute_error: 2
      .1727
4639 Epoch 2087/20000
4640   - 0s - loss: 7.4533 -
      mean_absolute_error: 1.9237 - val_loss
      : 12.7050 - val_mean_absolute_error: 2
```

```
4640 .1728
4641 Epoch 2088/20000
4642 - 0s - loss: 6.6287 -
mean_absolute_error: 1.9367 - val_loss
: 12.7052 - val_mean_absolute_error: 2
.1728
4643 Epoch 2089/20000
4644 - 0s - loss: 6.8734 -
mean_absolute_error: 1.9472 - val_loss
: 12.7056 - val_mean_absolute_error: 2
.1728
4645 Epoch 2090/20000
4646 - 0s - loss: 7.7686 -
mean_absolute_error: 1.9929 - val_loss
: 12.7057 - val_mean_absolute_error: 2
.1728
4647
4648 Epoch 2090: saving model to ./model/
model_best.h5
4649 Epoch 2091/20000
4650 - 0s - loss: 6.7560 -
mean_absolute_error: 1.9379 - val_loss
: 12.7061 - val_mean_absolute_error: 2
.1729
```

```
4651 Epoch 2092/20000
4652   - 0s - loss: 8.9143 -
      mean_absolute_error: 2.1088 - val_loss
      : 12.7073 - val_mean_absolute_error: 2
      .1730
4653 Epoch 2093/20000
4654   - 0s - loss: 8.3926 -
      mean_absolute_error: 2.0087 - val_loss
      : 12.7074 - val_mean_absolute_error: 2
      .1729
4655 Epoch 2094/20000
4656   - 0s - loss: 7.8618 -
      mean_absolute_error: 1.9942 - val_loss
      : 12.7076 - val_mean_absolute_error: 2
      .1730
4657 Epoch 2095/20000
4658   - 0s - loss: 7.8706 -
      mean_absolute_error: 2.0167 - val_loss
      : 12.7081 - val_mean_absolute_error: 2
      .1731
4659 Epoch 2096/20000
4660   - 0s - loss: 7.6377 -
      mean_absolute_error: 2.0237 - val_loss
      : 12.7076 - val_mean_absolute_error: 2
```

```
4660 .1730
4661 Epoch 2097/20000
4662 - 0s - loss: 8.9603 -
      mean_absolute_error: 2.0967 - val_loss
      : 12.7076 - val_mean_absolute_error: 2
      .1731
4663 Epoch 2098/20000
4664 - 0s - loss: 7.6452 -
      mean_absolute_error: 1.9550 - val_loss
      : 12.7076 - val_mean_absolute_error: 2
      .1731
4665 Epoch 2099/20000
4666 - 0s - loss: 8.2795 -
      mean_absolute_error: 1.9248 - val_loss
      : 12.7080 - val_mean_absolute_error: 2
      .1731
4667 Epoch 2100/20000
4668 - 0s - loss: 7.3408 -
      mean_absolute_error: 1.9565 - val_loss
      : 12.7082 - val_mean_absolute_error: 2
      .1731
4669
4670 Epoch 02100: saving model to ./model/
      model_best.h5
```

```
4671 Epoch 2101/20000
4672   - 0s - loss: 8.8925 -
      mean_absolute_error: 2.0341 - val_loss
      : 12.7085 - val_mean_absolute_error: 2
      .1731
4673 Epoch 2102/20000
4674   - 0s - loss: 9.0237 -
      mean_absolute_error: 2.0728 - val_loss
      : 12.7086 - val_mean_absolute_error: 2
      .1731
4675 Epoch 2103/20000
4676   - 0s - loss: 6.5314 -
      mean_absolute_error: 1.8554 - val_loss
      : 12.7088 - val_mean_absolute_error: 2
      .1731
4677 Epoch 2104/20000
4678   - 0s - loss: 6.6437 -
      mean_absolute_error: 1.9269 - val_loss
      : 12.7084 - val_mean_absolute_error: 2
      .1731
4679 Epoch 2105/20000
4680   - 0s - loss: 7.6434 -
      mean_absolute_error: 2.0451 - val_loss
      : 12.7081 - val_mean_absolute_error: 2
```

```
4680 .1731
4681 Epoch 2106/20000
4682 - 0s - loss: 7.8266 -
      mean_absolute_error: 1.9162 - val_loss
      : 12.7081 - val_mean_absolute_error: 2
      .1732
4683 Epoch 2107/20000
4684 - 0s - loss: 7.4664 -
      mean_absolute_error: 1.9432 - val_loss
      : 12.7090 - val_mean_absolute_error: 2
      .1732
4685 Epoch 2108/20000
4686 - 0s - loss: 7.7385 -
      mean_absolute_error: 2.1272 - val_loss
      : 12.7100 - val_mean_absolute_error: 2
      .1732
4687 Epoch 2109/20000
4688 - 0s - loss: 7.2869 -
      mean_absolute_error: 1.9635 - val_loss
      : 12.7106 - val_mean_absolute_error: 2
      .1733
4689 Epoch 2110/20000
4690 - 0s - loss: 7.7838 -
      mean_absolute_error: 1.9580 - val_loss
```

4690 : 12.7097 - val_mean_absolute_error: 2
.1732

4691

4692 Epoch 02110: saving model to ./model/
model_best.h5

4693 Epoch 2111/20000

4694 - 0s - loss: 6.6014 -
mean_absolute_error: 1.8506 - val_loss
: 12.7087 - val_mean_absolute_error: 2
.1732

4695 Epoch 2112/20000

4696 - 0s - loss: 7.1414 -
mean_absolute_error: 1.9457 - val_loss
: 12.7088 - val_mean_absolute_error: 2
.1732

4697 Epoch 2113/20000

4698 - 0s - loss: 6.5761 -
mean_absolute_error: 1.9135 - val_loss
: 12.7083 - val_mean_absolute_error: 2
.1732

4699 Epoch 2114/20000

4700 - 0s - loss: 7.5542 -
mean_absolute_error: 1.9285 - val_loss
: 12.7077 - val_mean_absolute_error: 2

```
4700 . 1732
4701 Epoch 2115/20000
4702 - 0s - loss: 7.5063 -
      mean_absolute_error: 1.9645 - val_loss
      : 12.7081 - val_mean_absolute_error: 2
      . 1732
4703 Epoch 2116/20000
4704 - 0s - loss: 7.9587 -
      mean_absolute_error: 2.0307 - val_loss
      : 12.7093 - val_mean_absolute_error: 2
      . 1733
4705 Epoch 2117/20000
4706 - 0s - loss: 7.5953 -
      mean_absolute_error: 1.9834 - val_loss
      : 12.7093 - val_mean_absolute_error: 2
      . 1733
4707 Epoch 2118/20000
4708 - 0s - loss: 6.6424 -
      mean_absolute_error: 1.8804 - val_loss
      : 12.7087 - val_mean_absolute_error: 2
      . 1733
4709 Epoch 2119/20000
4710 - 0s - loss: 6.7648 -
      mean_absolute_error: 1.8958 - val_loss
```


4710 : 12.7081 - val_mean_absolute_error: 2
.1733

4711 Epoch 2120/20000

4712 - 0s - loss: 8.2088 -
mean_absolute_error: 2.0815 - val_loss
: 12.7071 - val_mean_absolute_error: 2
.1732

4713

4714 Epoch 02120: saving model to ./model/
model_best.h5

4715 Epoch 2121/20000

4716 - 0s - loss: 6.2917 -
mean_absolute_error: 1.9176 - val_loss
: 12.7071 - val_mean_absolute_error: 2
.1732

4717 Epoch 2122/20000

4718 - 0s - loss: 8.4328 -
mean_absolute_error: 2.1057 - val_loss
: 12.7064 - val_mean_absolute_error: 2
.1731

4719 Epoch 2123/20000

4720 - 0s - loss: 7.4546 -
mean_absolute_error: 1.9638 - val_loss
: 12.7070 - val_mean_absolute_error: 2

```
4720 . 1732
4721 Epoch 2124/20000
4722 - 0s - loss: 9.0287 -
mean_absolute_error: 2.1264 - val_loss
: 12.7069 - val_mean_absolute_error: 2
. 1732
4723 Epoch 2125/20000
4724 - 0s - loss: 6.7780 -
mean_absolute_error: 1.8910 - val_loss
: 12.7078 - val_mean_absolute_error: 2
. 1732
4725 Epoch 2126/20000
4726 - 0s - loss: 8.0189 -
mean_absolute_error: 2.0276 - val_loss
: 12.7082 - val_mean_absolute_error: 2
. 1733
4727 Epoch 2127/20000
4728 - 0s - loss: 7.9901 -
mean_absolute_error: 2.1187 - val_loss
: 12.7084 - val_mean_absolute_error: 2
. 1733
4729 Epoch 2128/20000
4730 - 0s - loss: 7.8224 -
mean_absolute_error: 1.9703 - val_loss
```

```
4730 : 12.7083 - val_mean_absolute_error: 2
      .1732
4731 Epoch 2129/20000
4732 - 0s - loss: 8.0737 -
      mean_absolute_error: 2.0325 - val_loss
      : 12.7087 - val_mean_absolute_error: 2
      .1733
4733 Epoch 2130/20000
4734 - 0s - loss: 8.4718 -
      mean_absolute_error: 2.1532 - val_loss
      : 12.7097 - val_mean_absolute_error: 2
      .1733
4735
4736 Epoch 02130: saving model to ./model/
      model_best.h5
4737 Epoch 2131/20000
4738 - 0s - loss: 5.7262 -
      mean_absolute_error: 1.8077 - val_loss
      : 12.7096 - val_mean_absolute_error: 2
      .1733
4739 Epoch 2132/20000
4740 - 0s - loss: 6.3588 -
      mean_absolute_error: 1.8880 - val_loss
      : 12.7101 - val_mean_absolute_error: 2
```

```
4740 .1734
4741 Epoch 2133/20000
4742 - 0s - loss: 9.3138 -
      mean_absolute_error: 2.0226 - val_loss
      : 12.7107 - val_mean_absolute_error: 2
      .1734
4743 Epoch 2134/20000
4744 - 0s - loss: 7.1573 -
      mean_absolute_error: 1.8947 - val_loss
      : 12.7102 - val_mean_absolute_error: 2
      .1733
4745 Epoch 2135/20000
4746 - 0s - loss: 6.5805 -
      mean_absolute_error: 1.9146 - val_loss
      : 12.7101 - val_mean_absolute_error: 2
      .1733
4747 Epoch 2136/20000
4748 - 0s - loss: 7.8244 -
      mean_absolute_error: 2.0024 - val_loss
      : 12.7107 - val_mean_absolute_error: 2
      .1734
4749 Epoch 2137/20000
4750 - 0s - loss: 7.3080 -
      mean_absolute_error: 1.9314 - val_loss
```

```
4750 : 12.7106 - val_mean_absolute_error: 2
      .1733
4751 Epoch 2138/20000
4752   - 0s - loss: 7.4969 -
      mean_absolute_error: 1.9637 - val_loss
      : 12.7103 - val_mean_absolute_error: 2
      .1733
4753 Epoch 2139/20000
4754   - 0s - loss: 6.0272 -
      mean_absolute_error: 1.8979 - val_loss
      : 12.7096 - val_mean_absolute_error: 2
      .1733
4755 Epoch 2140/20000
4756   - 0s - loss: 8.5422 -
      mean_absolute_error: 2.0881 - val_loss
      : 12.7099 - val_mean_absolute_error: 2
      .1732
4757
4758 Epoch 02140: saving model to ./model /
      model_best.h5
4759 Epoch 2141/20000
4760   - 0s - loss: 7.2015 -
      mean_absolute_error: 1.9339 - val_loss
      : 12.7096 - val_mean_absolute_error: 2
```

```
4760 . 1733
4761 Epoch 2142/20000
4762 - 0s - loss: 7.5973 -
      mean_absolute_error: 1.9523 - val_loss
      : 12.7094 - val_mean_absolute_error: 2
      . 1733
4763 Epoch 2143/20000
4764 - 0s - loss: 9.1306 -
      mean_absolute_error: 2.1696 - val_loss
      : 12.7081 - val_mean_absolute_error: 2
      . 1731
4765 Epoch 2144/20000
4766 - 0s - loss: 7.2013 -
      mean_absolute_error: 1.9561 - val_loss
      : 12.7084 - val_mean_absolute_error: 2
      . 1731
4767 Epoch 2145/20000
4768 - 0s - loss: 7.3842 -
      mean_absolute_error: 1.9241 - val_loss
      : 12.7088 - val_mean_absolute_error: 2
      . 1732
4769 Epoch 2146/20000
4770 - 0s - loss: 5.9125 -
      mean_absolute_error: 1.8382 - val_loss
```

```
4770 : 12.7086 - val_mean_absolute_error: 2
      .1731
4771 Epoch 2147/20000
4772 - 0s - loss: 6.6567 -
      mean_absolute_error: 1.9315 - val_loss
      : 12.7078 - val_mean_absolute_error: 2
      .1731
4773 Epoch 2148/20000
4774 - 0s - loss: 7.0496 -
      mean_absolute_error: 1.9692 - val_loss
      : 12.7089 - val_mean_absolute_error: 2
      .1731
4775 Epoch 2149/20000
4776 - 0s - loss: 7.3743 -
      mean_absolute_error: 2.0045 - val_loss
      : 12.7088 - val_mean_absolute_error: 2
      .1731
4777 Epoch 2150/20000
4778 - 0s - loss: 6.8809 -
      mean_absolute_error: 1.8996 - val_loss
      : 12.7087 - val_mean_absolute_error: 2
      .1730
4779
4780 Epoch 02150: saving model to ./model/
```

```
4780 model_best.h5
4781 Epoch 2151/20000
4782   - 0s - loss: 7.4912 -
      mean_absolute_error: 2.0008 - val_loss
      : 12.7097 - val_mean_absolute_error: 2
      .1731
4783 Epoch 2152/20000
4784   - 0s - loss: 8.4171 -
      mean_absolute_error: 2.0679 - val_loss
      : 12.7100 - val_mean_absolute_error: 2
      .1731
4785 Epoch 2153/20000
4786   - 0s - loss: 7.8708 -
      mean_absolute_error: 2.0171 - val_loss
      : 12.7102 - val_mean_absolute_error: 2
      .1732
4787 Epoch 2154/20000
4788   - 0s - loss: 10.1596 -
      mean_absolute_error: 2.1562 - val_loss
      : 12.7102 - val_mean_absolute_error: 2
      .1732
4789 Epoch 2155/20000
4790   - 0s - loss: 7.6478 -
      mean_absolute_error: 1.9985 - val_loss
```



```
4790 : 12.7100 - val_mean_absolute_error: 2
      .1732
4791 Epoch 2156/20000
4792 - 0s - loss: 7.2736 -
      mean_absolute_error: 1.9970 - val_loss
      : 12.7109 - val_mean_absolute_error: 2
      .1733
4793 Epoch 2157/20000
4794 - 0s - loss: 6.9487 -
      mean_absolute_error: 1.9279 - val_loss
      : 12.7115 - val_mean_absolute_error: 2
      .1733
4795 Epoch 2158/20000
4796 - 0s - loss: 7.9594 -
      mean_absolute_error: 2.0165 - val_loss
      : 12.7106 - val_mean_absolute_error: 2
      .1733
4797 Epoch 2159/20000
4798 - 0s - loss: 8.4415 -
      mean_absolute_error: 2.1493 - val_loss
      : 12.7117 - val_mean_absolute_error: 2
      .1734
4799 Epoch 2160/20000
4800 - 0s - loss: 8.3752 -
```

4800 mean_absolute_error: 2.0940 - val_loss
: 12.7105 - val_mean_absolute_error: 2
.1733

4801

4802 Epoch 02160: saving model to ./model/
model_best.h5

4803 Epoch 2161/20000

4804 - 0s - loss: 7.8427 -

mean_absolute_error: 2.0112 - val_loss
: 12.7110 - val_mean_absolute_error: 2
.1733

4805 Epoch 2162/20000

4806 - 0s - loss: 6.3597 -

mean_absolute_error: 1.9288 - val_loss
: 12.7114 - val_mean_absolute_error: 2
.1734

4807 Epoch 2163/20000

4808 - 0s - loss: 8.9409 -

mean_absolute_error: 2.2332 - val_loss
: 12.7105 - val_mean_absolute_error: 2
.1733

4809 Epoch 2164/20000

4810 - 0s - loss: 9.2122 -

mean_absolute_error: 2.0499 - val_loss

```
4810 : 12.7107 - val_mean_absolute_error: 2
      .1733
4811 Epoch 2165/20000
4812 - 0s - loss: 7.7982 -
      mean_absolute_error: 1.9682 - val_loss
      : 12.7116 - val_mean_absolute_error: 2
      .1734
4813 Epoch 2166/20000
4814 - 0s - loss: 7.8724 -
      mean_absolute_error: 2.0581 - val_loss
      : 12.7119 - val_mean_absolute_error: 2
      .1734
4815 Epoch 2167/20000
4816 - 0s - loss: 7.3188 -
      mean_absolute_error: 1.9945 - val_loss
      : 12.7115 - val_mean_absolute_error: 2
      .1734
4817 Epoch 2168/20000
4818 - 0s - loss: 8.0903 -
      mean_absolute_error: 2.1042 - val_loss
      : 12.7117 - val_mean_absolute_error: 2
      .1734
4819 Epoch 2169/20000
4820 - 0s - loss: 8.2307 -
```

4820 mean_absolute_error: 2.0710 - val_loss
: 12.7115 - val_mean_absolute_error: 2
.1734

4821 Epoch 2170/20000

4822 - 0s - loss: 7.7863 -
mean_absolute_error: 2.0876 - val_loss
: 12.7126 - val_mean_absolute_error: 2
.1735

4823

4824 Epoch 02170: saving model to ./model/
model_best.h5

4825 Epoch 2171/20000

4826 - 0s - loss: 8.1817 -
mean_absolute_error: 1.9448 - val_loss
: 12.7125 - val_mean_absolute_error: 2
.1735

4827 Epoch 2172/20000

4828 - 0s - loss: 8.4195 -
mean_absolute_error: 2.0782 - val_loss
: 12.7136 - val_mean_absolute_error: 2
.1736

4829 Epoch 2173/20000

4830 - 0s - loss: 7.5348 -
mean_absolute_error: 1.9549 - val_loss

```
4830 : 12.7142 - val_mean_absolute_error: 2
      .1736
4831 Epoch 2174/20000
4832 - 0s - loss: 6.4882 -
      mean_absolute_error: 1.8830 - val_loss
      : 12.7149 - val_mean_absolute_error: 2
      .1737
4833 Epoch 2175/20000
4834 - 0s - loss: 6.8568 -
      mean_absolute_error: 1.8497 - val_loss
      : 12.7148 - val_mean_absolute_error: 2
      .1736
4835 Epoch 2176/20000
4836 - 0s - loss: 6.7292 -
      mean_absolute_error: 1.8720 - val_loss
      : 12.7163 - val_mean_absolute_error: 2
      .1737
4837 Epoch 2177/20000
4838 - 0s - loss: 6.6093 -
      mean_absolute_error: 1.9053 - val_loss
      : 12.7171 - val_mean_absolute_error: 2
      .1738
4839 Epoch 2178/20000
4840 - 0s - loss: 7.5473 -
```

```
4840 mean_absolute_error: 1.9099 - val_loss
      : 12.7168 - val_mean_absolute_error: 2
      .1737
```

```
4841 Epoch 2179/20000
```

```
4842   - 0s - loss: 6.1154 -
      mean_absolute_error: 1.8533 - val_loss
      : 12.7169 - val_mean_absolute_error: 2
      .1738
```

```
4843 Epoch 2180/20000
```

```
4844   - 0s - loss: 7.3337 -
      mean_absolute_error: 2.0392 - val_loss
      : 12.7164 - val_mean_absolute_error: 2
      .1738
```

```
4845
```

```
4846 Epoch 02180: saving model to ./model/
      model_best.h5
```

```
4847 Epoch 2181/20000
```

```
4848   - 0s - loss: 8.0926 -
      mean_absolute_error: 2.0300 - val_loss
      : 12.7161 - val_mean_absolute_error: 2
      .1738
```

```
4849 Epoch 2182/20000
```

```
4850   - 0s - loss: 6.6699 -
      mean_absolute_error: 1.8959 - val_loss
```

```
4850 : 12.7166 - val_mean_absolute_error: 2
      .1738
4851 Epoch 2183/20000
4852 - 0s - loss: 7.6901 -
      mean_absolute_error: 1.9298 - val_loss
      : 12.7154 - val_mean_absolute_error: 2
      .1737
4853 Epoch 2184/20000
4854 - 0s - loss: 6.3510 -
      mean_absolute_error: 1.9321 - val_loss
      : 12.7162 - val_mean_absolute_error: 2
      .1738
4855 Epoch 2185/20000
4856 - 0s - loss: 7.9005 -
      mean_absolute_error: 2.0487 - val_loss
      : 12.7163 - val_mean_absolute_error: 2
      .1738
4857 Epoch 2186/20000
4858 - 0s - loss: 10.0467 -
      mean_absolute_error: 2.2189 - val_loss
      : 12.7162 - val_mean_absolute_error: 2
      .1739
4859 Epoch 2187/20000
4860 - 0s - loss: 7.3156 -
```

```
4860 mean_absolute_error: 1.9975 - val_loss
      : 12.7164 - val_mean_absolute_error: 2
      .1738
```

```
4861 Epoch 2188/20000
```

```
4862   - 0s - loss: 6.4388 -
      mean_absolute_error: 1.8285 - val_loss
      : 12.7155 - val_mean_absolute_error: 2
      .1738
```

```
4863 Epoch 2189/20000
```

```
4864   - 0s - loss: 7.7670 -
      mean_absolute_error: 2.0002 - val_loss
      : 12.7153 - val_mean_absolute_error: 2
      .1738
```

```
4865 Epoch 2190/20000
```

```
4866   - 0s - loss: 8.7055 -
      mean_absolute_error: 2.1143 - val_loss
      : 12.7151 - val_mean_absolute_error: 2
      .1738
```

```
4867
```

```
4868 Epoch 02190: saving model to ./model/
      model_best.h5
```

```
4869 Epoch 2191/20000
```

```
4870   - 0s - loss: 7.9004 -
      mean_absolute_error: 2.0074 - val_loss
```



```
4870 : 12.7160 - val_mean_absolute_error: 2
      .1739
4871 Epoch 2192/20000
4872 - 0s - loss: 7.5491 -
      mean_absolute_error: 2.0648 - val_loss
      : 12.7166 - val_mean_absolute_error: 2
      .1739
4873 Epoch 2193/20000
4874 - 0s - loss: 8.7789 -
      mean_absolute_error: 2.1671 - val_loss
      : 12.7174 - val_mean_absolute_error: 2
      .1739
4875 Epoch 2194/20000
4876 - 0s - loss: 8.8577 -
      mean_absolute_error: 2.1835 - val_loss
      : 12.7173 - val_mean_absolute_error: 2
      .1739
4877 Epoch 2195/20000
4878 - 0s - loss: 6.3377 -
      mean_absolute_error: 1.8313 - val_loss
      : 12.7161 - val_mean_absolute_error: 2
      .1739
4879 Epoch 2196/20000
4880 - 0s - loss: 6.5471 -
```

4880 mean_absolute_error: 1.8649 - val_loss
: 12.7152 - val_mean_absolute_error: 2
.1738

4881 Epoch 2197/20000

4882 - 0s - loss: 6.2774 -
mean_absolute_error: 1.8790 - val_loss
: 12.7148 - val_mean_absolute_error: 2
.1738

4883 Epoch 2198/20000

4884 - 0s - loss: 8.4299 -
mean_absolute_error: 2.1228 - val_loss
: 12.7145 - val_mean_absolute_error: 2
.1737

4885 Epoch 2199/20000

4886 - 0s - loss: 7.1117 -
mean_absolute_error: 1.9385 - val_loss
: 12.7147 - val_mean_absolute_error: 2
.1738

4887 Epoch 2200/20000

4888 - 0s - loss: 9.4187 -
mean_absolute_error: 2.2283 - val_loss
: 12.7152 - val_mean_absolute_error: 2
.1738

4889

```
4890 Epoch 02200: saving model to ./model/
model_best.h5
4891 Epoch 2201/20000
4892   - 0s - loss: 7.3042 -
mean_absolute_error: 1.9595 - val_loss
: 12.7156 - val_mean_absolute_error: 2
.1738
4893 Epoch 2202/20000
4894   - 0s - loss: 7.1194 -
mean_absolute_error: 1.8737 - val_loss
: 12.7147 - val_mean_absolute_error: 2
.1738
4895 Epoch 2203/20000
4896   - 0s - loss: 8.7977 -
mean_absolute_error: 2.1109 - val_loss
: 12.7149 - val_mean_absolute_error: 2
.1738
4897 Epoch 2204/20000
4898   - 0s - loss: 9.3174 -
mean_absolute_error: 2.1303 - val_loss
: 12.7142 - val_mean_absolute_error: 2
.1737
4899 Epoch 2205/20000
4900   - 0s - loss: 7.0846 -
```

```
4900 mean_absolute_error: 1.9840 - val_loss
    : 12.7132 - val_mean_absolute_error: 2
    .1736
4901 Epoch 2206/20000
4902 - 0s - loss: 7.9643 -
    mean_absolute_error: 1.9767 - val_loss
    : 12.7127 - val_mean_absolute_error: 2
    .1736
4903 Epoch 2207/20000
4904 - 0s - loss: 7.8572 -
    mean_absolute_error: 2.0452 - val_loss
    : 12.7134 - val_mean_absolute_error: 2
    .1737
4905 Epoch 2208/20000
4906 - 0s - loss: 8.0132 -
    mean_absolute_error: 1.9665 - val_loss
    : 12.7145 - val_mean_absolute_error: 2
    .1738
4907 Epoch 2209/20000
4908 - 0s - loss: 7.6147 -
    mean_absolute_error: 2.0202 - val_loss
    : 12.7132 - val_mean_absolute_error: 2
    .1737
4909 Epoch 2210/20000
```

```
4910 - 0s - loss: 8.6025 -  
mean_absolute_error: 2.0623 - val_loss  
: 12.7127 - val_mean_absolute_error: 2  
.1737
```

```
4911
```

```
4912 Epoch 02210: saving model to ./model/  
model_best.h5
```

```
4913 Epoch 2211/20000
```

```
4914 - 0s - loss: 7.2454 -  
mean_absolute_error: 1.9253 - val_loss  
: 12.7125 - val_mean_absolute_error: 2  
.1736
```

```
4915 Epoch 2212/20000
```

```
4916 - 0s - loss: 8.9948 -  
mean_absolute_error: 2.1938 - val_loss  
: 12.7125 - val_mean_absolute_error: 2  
.1736
```

```
4917 Epoch 2213/20000
```

```
4918 - 0s - loss: 5.7030 -  
mean_absolute_error: 1.7530 - val_loss  
: 12.7130 - val_mean_absolute_error: 2  
.1736
```

```
4919 Epoch 2214/20000
```

```
4920 - 0s - loss: 9.3837 -
```

```
4920 mean_absolute_error: 2.1758 - val_loss
      : 12.7133 - val_mean_absolute_error: 2
      .1737
4921 Epoch 2215/20000
4922   - 0s - loss: 7.4927 -
      mean_absolute_error: 1.9717 - val_loss
      : 12.7132 - val_mean_absolute_error: 2
      .1737
4923 Epoch 2216/20000
4924   - 0s - loss: 7.2575 -
      mean_absolute_error: 1.9373 - val_loss
      : 12.7145 - val_mean_absolute_error: 2
      .1738
4925 Epoch 2217/20000
4926   - 0s - loss: 7.2621 -
      mean_absolute_error: 1.8650 - val_loss
      : 12.7139 - val_mean_absolute_error: 2
      .1738
4927 Epoch 2218/20000
4928   - 0s - loss: 8.7641 -
      mean_absolute_error: 2.1378 - val_loss
      : 12.7147 - val_mean_absolute_error: 2
      .1739
4929 Epoch 2219/20000
```

```
4930 - 0s - loss: 7.5532 -  
mean_absolute_error: 1.9306 - val_loss  
: 12.7149 - val_mean_absolute_error: 2  
.1739
```

```
4931 Epoch 2220/20000
```

```
4932 - 0s - loss: 8.9622 -  
mean_absolute_error: 2.0897 - val_loss  
: 12.7153 - val_mean_absolute_error: 2  
.1740
```

```
4933
```

```
4934 Epoch 02220: saving model to ./model/  
model_best.h5
```

```
4935 Epoch 2221/20000
```

```
4936 - 0s - loss: 7.1302 -  
mean_absolute_error: 1.9480 - val_loss  
: 12.7156 - val_mean_absolute_error: 2  
.1740
```

```
4937 Epoch 2222/20000
```

```
4938 - 0s - loss: 6.9655 -  
mean_absolute_error: 1.9364 - val_loss  
: 12.7159 - val_mean_absolute_error: 2  
.1740
```

```
4939 Epoch 2223/20000
```

```
4940 - 0s - loss: 6.3706 -
```

```
4940 mean_absolute_error: 1.9100 - val_loss
    : 12.7163 - val_mean_absolute_error: 2
    .1741
4941 Epoch 2224/20000
4942   - 0s - loss: 8.0385 -
    mean_absolute_error: 2.1150 - val_loss
    : 12.7165 - val_mean_absolute_error: 2
    .1740
4943 Epoch 2225/20000
4944   - 0s - loss: 8.4004 -
    mean_absolute_error: 2.1234 - val_loss
    : 12.7168 - val_mean_absolute_error: 2
    .1740
4945 Epoch 2226/20000
4946   - 0s - loss: 7.8985 -
    mean_absolute_error: 1.9718 - val_loss
    : 12.7169 - val_mean_absolute_error: 2
    .1740
4947 Epoch 2227/20000
4948   - 0s - loss: 7.4544 -
    mean_absolute_error: 1.9618 - val_loss
    : 12.7173 - val_mean_absolute_error: 2
    .1740
4949 Epoch 2228/20000
```



```
4950 - 0s - loss: 8.8430 -  
      mean_absolute_error: 2.1101 - val_loss  
      : 12.7172 - val_mean_absolute_error: 2  
      .1740  
4951 Epoch 2229/20000  
4952 - 0s - loss: 8.6047 -  
      mean_absolute_error: 2.1039 - val_loss  
      : 12.7168 - val_mean_absolute_error: 2  
      .1740  
4953 Epoch 2230/20000  
4954 - 0s - loss: 7.0592 -  
      mean_absolute_error: 1.9980 - val_loss  
      : 12.7164 - val_mean_absolute_error: 2  
      .1739  
4955  
4956 Epoch 02230: saving model to ./model/  
      model_best.h5  
4957 Epoch 2231/20000  
4958 - 0s - loss: 7.4827 -  
      mean_absolute_error: 1.9612 - val_loss  
      : 12.7165 - val_mean_absolute_error: 2  
      .1740  
4959 Epoch 2232/20000  
4960 - 0s - loss: 6.4961 -
```

```
4960 mean_absolute_error: 1.9051 - val_loss
    : 12.7164 - val_mean_absolute_error: 2
    .1739
4961 Epoch 2233/20000
4962   - 0s - loss: 6.5204 -
    mean_absolute_error: 1.9442 - val_loss
    : 12.7156 - val_mean_absolute_error: 2
    .1739
4963 Epoch 2234/20000
4964   - 0s - loss: 7.3072 -
    mean_absolute_error: 2.0218 - val_loss
    : 12.7159 - val_mean_absolute_error: 2
    .1739
4965 Epoch 2235/20000
4966   - 0s - loss: 8.6079 -
    mean_absolute_error: 2.0438 - val_loss
    : 12.7158 - val_mean_absolute_error: 2
    .1740
4967 Epoch 2236/20000
4968   - 0s - loss: 7.3155 -
    mean_absolute_error: 1.9306 - val_loss
    : 12.7162 - val_mean_absolute_error: 2
    .1740
4969 Epoch 2237/20000
```

```
4970 - 0s - loss: 8.4484 -  
mean_absolute_error: 2.1769 - val_loss  
: 12.7169 - val_mean_absolute_error: 2  
.1740  
4971 Epoch 2238/20000  
4972 - 0s - loss: 8.3995 -  
mean_absolute_error: 1.9797 - val_loss  
: 12.7178 - val_mean_absolute_error: 2  
.1741  
4973 Epoch 2239/20000  
4974 - 0s - loss: 9.0258 -  
mean_absolute_error: 2.1126 - val_loss  
: 12.7176 - val_mean_absolute_error: 2  
.1741  
4975 Epoch 2240/20000  
4976 - 0s - loss: 7.8336 -  
mean_absolute_error: 1.9744 - val_loss  
: 12.7177 - val_mean_absolute_error: 2  
.1741  
4977  
4978 Epoch 02240: saving model to ./model/  
model_best.h5  
4979 Epoch 2241/20000  
4980 - 0s - loss: 7.5137 -
```

```
4980 mean_absolute_error: 2.0651 - val_loss
    : 12.7189 - val_mean_absolute_error: 2
    .1742
4981 Epoch 2242/20000
4982   - 0s - loss: 6.6335 -
    mean_absolute_error: 1.8982 - val_loss
    : 12.7192 - val_mean_absolute_error: 2
    .1742
4983 Epoch 2243/20000
4984   - 0s - loss: 7.3030 -
    mean_absolute_error: 1.9844 - val_loss
    : 12.7185 - val_mean_absolute_error: 2
    .1742
4985 Epoch 2244/20000
4986   - 0s - loss: 7.0105 -
    mean_absolute_error: 1.9825 - val_loss
    : 12.7177 - val_mean_absolute_error: 2
    .1741
4987 Epoch 2245/20000
4988   - 0s - loss: 6.1485 -
    mean_absolute_error: 1.7988 - val_loss
    : 12.7180 - val_mean_absolute_error: 2
    .1742
4989 Epoch 2246/20000
```

```
4990 - 0s - loss: 6.6955 -  
mean_absolute_error: 1.8850 - val_loss  
: 12.7185 - val_mean_absolute_error: 2  
.1742  
4991 Epoch 2247/20000  
4992 - 0s - loss: 7.5506 -  
mean_absolute_error: 1.8937 - val_loss  
: 12.7186 - val_mean_absolute_error: 2  
.1742  
4993 Epoch 2248/20000  
4994 - 0s - loss: 7.2150 -  
mean_absolute_error: 1.9380 - val_loss  
: 12.7187 - val_mean_absolute_error: 2  
.1742  
4995 Epoch 2249/20000  
4996 - 0s - loss: 8.5923 -  
mean_absolute_error: 2.1706 - val_loss  
: 12.7185 - val_mean_absolute_error: 2  
.1742  
4997 Epoch 2250/20000  
4998 - 0s - loss: 7.0600 -  
mean_absolute_error: 1.9926 - val_loss  
: 12.7177 - val_mean_absolute_error: 2  
.1741
```

4999

5000 Epoch 02250: saving model to ./model/
model_best.h5

5001 Epoch 2251/20000

5002 - 0s - loss: 7.6021 -
mean_absolute_error: 2.0700 - val_loss
: 12.7173 - val_mean_absolute_error: 2
.1741

5003 Epoch 2252/20000

5004 - 0s - loss: 7.4755 -
mean_absolute_error: 1.9508 - val_loss
: 12.7167 - val_mean_absolute_error: 2
.1741

5005 Epoch 2253/20000

5006 - 0s - loss: 7.7002 -
mean_absolute_error: 2.0257 - val_loss
: 12.7164 - val_mean_absolute_error: 2
.1741

5007 Epoch 2254/20000

5008 - 0s - loss: 8.4591 -
mean_absolute_error: 1.9937 - val_loss
: 12.7156 - val_mean_absolute_error: 2
.1740

5009 Epoch 2255/20000

```
5010 - 0s - loss: 6.2404 -  
mean_absolute_error: 1.7936 - val_loss  
: 12.7152 - val_mean_absolute_error: 2  
.1739  
5011 Epoch 2256/20000  
5012 - 0s - loss: 8.4334 -  
mean_absolute_error: 2.0620 - val_loss  
: 12.7162 - val_mean_absolute_error: 2  
.1740  
5013 Epoch 2257/20000  
5014 - 0s - loss: 8.6824 -  
mean_absolute_error: 2.0349 - val_loss  
: 12.7155 - val_mean_absolute_error: 2  
.1740  
5015 Epoch 2258/20000  
5016 - 0s - loss: 6.0379 -  
mean_absolute_error: 1.8574 - val_loss  
: 12.7160 - val_mean_absolute_error: 2  
.1740  
5017 Epoch 2259/20000  
5018 - 0s - loss: 8.4877 -  
mean_absolute_error: 2.1178 - val_loss  
: 12.7153 - val_mean_absolute_error: 2  
.1739
```

```
5019 Epoch 2260/20000
5020   - 0s - loss: 8.1294 -
      mean_absolute_error: 2.0296 - val_loss
      : 12.7151 - val_mean_absolute_error: 2
      .1739
5021
5022 Epoch 02260: saving model to ./model/
      model_best.h5
5023 Epoch 2261/20000
5024   - 0s - loss: 7.4700 -
      mean_absolute_error: 1.8998 - val_loss
      : 12.7159 - val_mean_absolute_error: 2
      .1740
5025 Epoch 2262/20000
5026   - 0s - loss: 7.8826 -
      mean_absolute_error: 1.9844 - val_loss
      : 12.7154 - val_mean_absolute_error: 2
      .1740
5027 Epoch 2263/20000
5028   - 0s - loss: 7.6025 -
      mean_absolute_error: 2.0271 - val_loss
      : 12.7153 - val_mean_absolute_error: 2
      .1739
5029 Epoch 2264/20000
```



```
5030 - 0s - loss: 8.7154 -  
mean_absolute_error: 2.1159 - val_loss  
: 12.7155 - val_mean_absolute_error: 2  
.1739  
5031 Epoch 2265/20000  
5032 - 0s - loss: 9.5384 -  
mean_absolute_error: 2.1172 - val_loss  
: 12.7162 - val_mean_absolute_error: 2  
.1739  
5033  
5034 Epoch 02265: ReduceLR0nPlateau  
reducing learning rate to 1e-06.  
5035 Epoch 2266/20000  
5036 - 0s - loss: 7.1610 -  
mean_absolute_error: 1.9518 - val_loss  
: 12.7158 - val_mean_absolute_error: 2  
.1739  
5037 Epoch 2267/20000  
5038 - 0s - loss: 7.6657 -  
mean_absolute_error: 1.9410 - val_loss  
: 12.7156 - val_mean_absolute_error: 2  
.1739  
5039 Epoch 2268/20000  
5040 - 0s - loss: 5.9872 -
```

```
5040 mean_absolute_error: 1.8343 - val_loss
      : 12.7149 - val_mean_absolute_error: 2
      .1738
```

```
5041 Epoch 2269/20000
```

```
5042   - 0s - loss: 6.6845 -
      mean_absolute_error: 1.9299 - val_loss
      : 12.7153 - val_mean_absolute_error: 2
      .1739
```

```
5043 Epoch 2270/20000
```

```
5044   - 0s - loss: 8.3357 -
      mean_absolute_error: 2.0738 - val_loss
      : 12.7145 - val_mean_absolute_error: 2
      .1738
```

```
5045
```

```
5046 Epoch 02270: saving model to ./model/
      model_best.h5
```

```
5047 Epoch 2271/20000
```

```
5048   - 0s - loss: 8.4984 -
      mean_absolute_error: 2.0461 - val_loss
      : 12.7139 - val_mean_absolute_error: 2
      .1738
```

```
5049 Epoch 2272/20000
```

```
5050   - 0s - loss: 9.0996 -
      mean_absolute_error: 2.1220 - val_loss
```

```
5050 : 12.7140 - val_mean_absolute_error: 2
      .1738
5051 Epoch 2273/20000
5052   - 0s - loss: 7.2022 -
      mean_absolute_error: 1.9488 - val_loss
      : 12.7140 - val_mean_absolute_error: 2
      .1738
5053 Epoch 2274/20000
5054   - 0s - loss: 7.8877 -
      mean_absolute_error: 2.0143 - val_loss
      : 12.7128 - val_mean_absolute_error: 2
      .1738
5055 Epoch 2275/20000
5056   - 0s - loss: 6.8287 -
      mean_absolute_error: 1.9551 - val_loss
      : 12.7132 - val_mean_absolute_error: 2
      .1738
5057 Epoch 2276/20000
5058   - 0s - loss: 6.8723 -
      mean_absolute_error: 1.8702 - val_loss
      : 12.7139 - val_mean_absolute_error: 2
      .1738
5059 Epoch 2277/20000
5060   - 0s - loss: 6.4537 -
```

```
5060 mean_absolute_error: 1.9039 - val_loss
      : 12.7137 - val_mean_absolute_error: 2
      .1738
```

```
5061 Epoch 2278/20000
```

```
5062 - 0s - loss: 6.9294 -
      mean_absolute_error: 1.7933 - val_loss
      : 12.7136 - val_mean_absolute_error: 2
      .1738
```

```
5063 Epoch 2279/20000
```

```
5064 - 0s - loss: 6.6433 -
      mean_absolute_error: 1.9038 - val_loss
      : 12.7130 - val_mean_absolute_error: 2
      .1738
```

```
5065 Epoch 2280/20000
```

```
5066 - 0s - loss: 7.9481 -
      mean_absolute_error: 2.0634 - val_loss
      : 12.7134 - val_mean_absolute_error: 2
      .1738
```

```
5067
```

```
5068 Epoch 02280: saving model to ./model/
      model_best.h5
```

```
5069 Epoch 2281/20000
```

```
5070 - 0s - loss: 6.4876 -
      mean_absolute_error: 1.9439 - val_loss
```

```
5070 : 12.7134 - val_mean_absolute_error: 2
      .1737
5071 Epoch 2282/20000
5072 - 0s - loss: 7.2640 -
      mean_absolute_error: 1.9501 - val_loss
      : 12.7130 - val_mean_absolute_error: 2
      .1737
5073 Epoch 2283/20000
5074 - 0s - loss: 6.0635 -
      mean_absolute_error: 1.8267 - val_loss
      : 12.7142 - val_mean_absolute_error: 2
      .1738
5075 Epoch 2284/20000
5076 - 0s - loss: 6.7685 -
      mean_absolute_error: 1.9441 - val_loss
      : 12.7142 - val_mean_absolute_error: 2
      .1738
5077 Epoch 2285/20000
5078 - 0s - loss: 7.2111 -
      mean_absolute_error: 1.9342 - val_loss
      : 12.7153 - val_mean_absolute_error: 2
      .1738
5079 Epoch 2286/20000
5080 - 0s - loss: 8.7790 -
```

5080 mean_absolute_error: 2.0124 - val_loss
: 12.7155 - val_mean_absolute_error: 2
.1739

5081 Epoch 2287/20000

5082 - 0s - loss: 7.6614 -
mean_absolute_error: 2.0389 - val_loss
: 12.7159 - val_mean_absolute_error: 2
.1739

5083 Epoch 2288/20000

5084 - 0s - loss: 7.8481 -
mean_absolute_error: 1.9961 - val_loss
: 12.7152 - val_mean_absolute_error: 2
.1738

5085 Epoch 2289/20000

5086 - 0s - loss: 6.2372 -
mean_absolute_error: 1.8937 - val_loss
: 12.7153 - val_mean_absolute_error: 2
.1738

5087 Epoch 2290/20000

5088 - 0s - loss: 7.5420 -
mean_absolute_error: 2.0163 - val_loss
: 12.7140 - val_mean_absolute_error: 2
.1737

5089

```
5090 Epoch 02290: saving model to ./model/
model_best.h5
5091 Epoch 2291/20000
5092   - 0s - loss: 6.7488 -
mean_absolute_error: 1.9238 - val_loss
: 12.7137 - val_mean_absolute_error: 2
.1738
5093 Epoch 2292/20000
5094   - 0s - loss: 6.8721 -
mean_absolute_error: 1.8480 - val_loss
: 12.7137 - val_mean_absolute_error: 2
.1738
5095 Epoch 2293/20000
5096   - 0s - loss: 6.5903 -
mean_absolute_error: 1.8183 - val_loss
: 12.7135 - val_mean_absolute_error: 2
.1738
5097 Epoch 2294/20000
5098   - 0s - loss: 7.9494 -
mean_absolute_error: 2.0447 - val_loss
: 12.7137 - val_mean_absolute_error: 2
.1738
5099 Epoch 2295/20000
5100   - 0s - loss: 7.9387 -
```

```
5100 mean_absolute_error: 2.0895 - val_loss
    : 12.7137 - val_mean_absolute_error: 2
    .1738
5101 Epoch 2296/20000
5102   - 0s - loss: 7.2532 -
    mean_absolute_error: 2.0586 - val_loss
    : 12.7135 - val_mean_absolute_error: 2
    .1738
5103 Epoch 2297/20000
5104   - 0s - loss: 8.7631 -
    mean_absolute_error: 2.0517 - val_loss
    : 12.7129 - val_mean_absolute_error: 2
    .1738
5105 Epoch 2298/20000
5106   - 0s - loss: 9.1838 -
    mean_absolute_error: 2.2259 - val_loss
    : 12.7135 - val_mean_absolute_error: 2
    .1738
5107 Epoch 2299/20000
5108   - 0s - loss: 7.7468 -
    mean_absolute_error: 1.9444 - val_loss
    : 12.7135 - val_mean_absolute_error: 2
    .1738
5109 Epoch 2300/20000
```



```
5110 - 0s - loss: 7.9466 -  
mean_absolute_error: 2.0295 - val_loss  
: 12.7127 - val_mean_absolute_error: 2  
.1738
```

```
5111
```

```
5112 Epoch 02300: saving model to ./model/  
model_best.h5
```

```
5113 Epoch 2301/20000
```

```
5114 - 0s - loss: 7.3666 -  
mean_absolute_error: 1.9319 - val_loss  
: 12.7135 - val_mean_absolute_error: 2  
.1739
```

```
5115 Epoch 2302/20000
```

```
5116 - 0s - loss: 8.6230 -  
mean_absolute_error: 2.0571 - val_loss  
: 12.7127 - val_mean_absolute_error: 2  
.1738
```

```
5117 Epoch 2303/20000
```

```
5118 - 0s - loss: 6.6726 -  
mean_absolute_error: 1.8027 - val_loss  
: 12.7125 - val_mean_absolute_error: 2  
.1738
```

```
5119 Epoch 2304/20000
```

```
5120 - 0s - loss: 7.5290 -
```

5120 mean_absolute_error: 1.9423 - val_loss
: 12.7125 - val_mean_absolute_error: 2
.1738

5121 Epoch 2305/20000

5122 - 0s - loss: 7.4391 -
mean_absolute_error: 1.9468 - val_loss
: 12.7133 - val_mean_absolute_error: 2
.1739

5123 Epoch 2306/20000

5124 - 0s - loss: 7.5943 -
mean_absolute_error: 2.0252 - val_loss
: 12.7136 - val_mean_absolute_error: 2
.1739

5125 Epoch 2307/20000

5126 - 0s - loss: 7.5777 -
mean_absolute_error: 1.9935 - val_loss
: 12.7132 - val_mean_absolute_error: 2
.1739

5127 Epoch 2308/20000

5128 - 0s - loss: 6.9143 -
mean_absolute_error: 1.9076 - val_loss
: 12.7125 - val_mean_absolute_error: 2
.1739

5129 Epoch 2309/20000

```
5130 - 0s - loss: 7.2859 -  
mean_absolute_error: 1.9684 - val_loss  
: 12.7127 - val_mean_absolute_error: 2  
.1738  
5131 Epoch 2310/20000  
5132 - 0s - loss: 8.4423 -  
mean_absolute_error: 2.1124 - val_loss  
: 12.7132 - val_mean_absolute_error: 2  
.1739  
5133  
5134 Epoch 02310: saving model to ./model/  
model_best.h5  
5135 Epoch 2311/20000  
5136 - 0s - loss: 7.3092 -  
mean_absolute_error: 1.9325 - val_loss  
: 12.7119 - val_mean_absolute_error: 2  
.1738  
5137 Epoch 2312/20000  
5138 - 0s - loss: 7.0195 -  
mean_absolute_error: 1.9826 - val_loss  
: 12.7118 - val_mean_absolute_error: 2  
.1738  
5139 Epoch 2313/20000  
5140 - 0s - loss: 6.8337 -
```

5140 mean_absolute_error: 1.8604 - val_loss
: 12.7121 - val_mean_absolute_error: 2
.1738

5141 Epoch 2314/20000

5142 - 0s - loss: 7.7241 -
mean_absolute_error: 2.0303 - val_loss
: 12.7122 - val_mean_absolute_error: 2
.1737

5143 Epoch 2315/20000

5144 - 0s - loss: 7.4331 -
mean_absolute_error: 1.9147 - val_loss
: 12.7138 - val_mean_absolute_error: 2
.1738

5145 Epoch 2316/20000

5146 - 0s - loss: 8.2430 -
mean_absolute_error: 2.0168 - val_loss
: 12.7138 - val_mean_absolute_error: 2
.1738

5147 Epoch 2317/20000

5148 - 0s - loss: 8.6355 -
mean_absolute_error: 2.1043 - val_loss
: 12.7137 - val_mean_absolute_error: 2
.1738

5149 Epoch 2318/20000

```
5150 - 0s - loss: 8.4765 -  
mean_absolute_error: 2.0156 - val_loss  
: 12.7143 - val_mean_absolute_error: 2  
.1738  
5151 Epoch 2319/20000  
5152 - 0s - loss: 8.8917 -  
mean_absolute_error: 2.0654 - val_loss  
: 12.7140 - val_mean_absolute_error: 2  
.1738  
5153 Epoch 2320/20000  
5154 - 0s - loss: 7.6261 -  
mean_absolute_error: 1.9281 - val_loss  
: 12.7133 - val_mean_absolute_error: 2  
.1737  
5155  
5156 Epoch 02320: saving model to ./model/  
model_best.h5  
5157 Epoch 2321/20000  
5158 - 0s - loss: 7.6690 -  
mean_absolute_error: 1.9627 - val_loss  
: 12.7130 - val_mean_absolute_error: 2  
.1737  
5159 Epoch 2322/20000  
5160 - 0s - loss: 8.4457 -
```

5160 mean_absolute_error: 2.0611 - val_loss
: 12.7144 - val_mean_absolute_error: 2
.1738

5161 Epoch 2323/20000

5162 - 0s - loss: 8.9019 -
mean_absolute_error: 2.0394 - val_loss
: 12.7142 - val_mean_absolute_error: 2
.1738

5163 Epoch 2324/20000

5164 - 0s - loss: 6.5240 -
mean_absolute_error: 1.8550 - val_loss
: 12.7138 - val_mean_absolute_error: 2
.1738

5165 Epoch 2325/20000

5166 - 0s - loss: 8.3658 -
mean_absolute_error: 2.1044 - val_loss
: 12.7136 - val_mean_absolute_error: 2
.1738

5167 Epoch 2326/20000

5168 - 0s - loss: 7.3932 -
mean_absolute_error: 1.9848 - val_loss
: 12.7134 - val_mean_absolute_error: 2
.1738

5169 Epoch 2327/20000

```
5170 - 0s - loss: 9.2462 -  
mean_absolute_error: 2.1632 - val_loss  
: 12.7128 - val_mean_absolute_error: 2  
.1737  
5171 Epoch 2328/20000  
5172 - 0s - loss: 6.9289 -  
mean_absolute_error: 1.9868 - val_loss  
: 12.7130 - val_mean_absolute_error: 2  
.1737  
5173 Epoch 2329/20000  
5174 - 0s - loss: 6.2824 -  
mean_absolute_error: 1.8693 - val_loss  
: 12.7128 - val_mean_absolute_error: 2  
.1737  
5175 Epoch 2330/20000  
5176 - 0s - loss: 6.7647 -  
mean_absolute_error: 1.8982 - val_loss  
: 12.7125 - val_mean_absolute_error: 2  
.1736  
5177  
5178 Epoch 02330: saving model to ./model/  
model_best.h5  
5179 Epoch 2331/20000  
5180 - 0s - loss: 9.1553 -
```

```
5180 mean_absolute_error: 2.1880 - val_loss
    : 12.7132 - val_mean_absolute_error: 2
    .1737
5181 Epoch 2332/20000
5182   - 0s - loss: 9.3115 -
    mean_absolute_error: 2.0800 - val_loss
    : 12.7128 - val_mean_absolute_error: 2
    .1736
5183 Epoch 2333/20000
5184   - 0s - loss: 6.7128 -
    mean_absolute_error: 1.9156 - val_loss
    : 12.7127 - val_mean_absolute_error: 2
    .1736
5185 Epoch 2334/20000
5186   - 0s - loss: 8.1780 -
    mean_absolute_error: 2.0366 - val_loss
    : 12.7129 - val_mean_absolute_error: 2
    .1736
5187 Epoch 2335/20000
5188   - 0s - loss: 8.7308 -
    mean_absolute_error: 2.1303 - val_loss
    : 12.7126 - val_mean_absolute_error: 2
    .1736
5189 Epoch 2336/20000
```



```
5190 - 0s - loss: 8.2307 -  
mean_absolute_error: 2.1027 - val_loss  
: 12.7127 - val_mean_absolute_error: 2  
.1736  
5191 Epoch 2337/20000  
5192 - 0s - loss: 6.2338 -  
mean_absolute_error: 1.7306 - val_loss  
: 12.7126 - val_mean_absolute_error: 2  
.1736  
5193 Epoch 2338/20000  
5194 - 0s - loss: 7.1095 -  
mean_absolute_error: 1.9379 - val_loss  
: 12.7130 - val_mean_absolute_error: 2  
.1736  
5195 Epoch 2339/20000  
5196 - 0s - loss: 8.3568 -  
mean_absolute_error: 2.1121 - val_loss  
: 12.7130 - val_mean_absolute_error: 2  
.1736  
5197 Epoch 2340/20000  
5198 - 0s - loss: 6.6993 -  
mean_absolute_error: 1.9693 - val_loss  
: 12.7127 - val_mean_absolute_error: 2  
.1737
```

5199

5200 Epoch 02340: saving model to ./model/
model_best.h5

5201 Epoch 2341/20000

5202 - 0s - loss: 7.0135 -
mean_absolute_error: 1.8454 - val_loss
: 12.7125 - val_mean_absolute_error: 2
.1736

5203 Epoch 2342/20000

5204 - 0s - loss: 8.8257 -
mean_absolute_error: 2.1044 - val_loss
: 12.7128 - val_mean_absolute_error: 2
.1737

5205 Epoch 2343/20000

5206 - 0s - loss: 6.9550 -
mean_absolute_error: 2.0346 - val_loss
: 12.7126 - val_mean_absolute_error: 2
.1737

5207 Epoch 2344/20000

5208 - 0s - loss: 6.3538 -
mean_absolute_error: 1.8708 - val_loss
: 12.7118 - val_mean_absolute_error: 2
.1736

5209 Epoch 2345/20000

```
5210 - 0s - loss: 7.0605 -  
mean_absolute_error: 2.0001 - val_loss  
: 12.7115 - val_mean_absolute_error: 2  
.1736  
5211 Epoch 2346/20000  
5212 - 0s - loss: 8.0808 -  
mean_absolute_error: 2.0550 - val_loss  
: 12.7111 - val_mean_absolute_error: 2  
.1735  
5213 Epoch 2347/20000  
5214 - 0s - loss: 7.9426 -  
mean_absolute_error: 1.9441 - val_loss  
: 12.7119 - val_mean_absolute_error: 2  
.1736  
5215 Epoch 2348/20000  
5216 - 0s - loss: 7.1935 -  
mean_absolute_error: 2.0059 - val_loss  
: 12.7115 - val_mean_absolute_error: 2  
.1735  
5217 Epoch 2349/20000  
5218 - 0s - loss: 8.7963 -  
mean_absolute_error: 2.0611 - val_loss  
: 12.7103 - val_mean_absolute_error: 2  
.1735
```

```
5219 Epoch 2350/20000
5220   - 0s - loss: 8.3785 -
      mean_absolute_error: 2.0074 - val_loss
      : 12.7095 - val_mean_absolute_error: 2
      .1734
5221
5222 Epoch 02350: saving model to ./model/
      model_best.h5
5223 Epoch 2351/20000
5224   - 0s - loss: 7.7273 -
      mean_absolute_error: 1.9958 - val_loss
      : 12.7098 - val_mean_absolute_error: 2
      .1735
5225 Epoch 2352/20000
5226   - 0s - loss: 7.4099 -
      mean_absolute_error: 2.0606 - val_loss
      : 12.7089 - val_mean_absolute_error: 2
      .1734
5227 Epoch 2353/20000
5228   - 0s - loss: 7.4306 -
      mean_absolute_error: 2.0373 - val_loss
      : 12.7084 - val_mean_absolute_error: 2
      .1733
5229 Epoch 2354/20000
```

```
5230 - 0s - loss: 8.7779 -  
mean_absolute_error: 2.1471 - val_loss  
: 12.7088 - val_mean_absolute_error: 2  
.1733  
5231 Epoch 2355/20000  
5232 - 0s - loss: 8.7118 -  
mean_absolute_error: 1.9825 - val_loss  
: 12.7100 - val_mean_absolute_error: 2  
.1734  
5233 Epoch 2356/20000  
5234 - 0s - loss: 7.7663 -  
mean_absolute_error: 2.0211 - val_loss  
: 12.7091 - val_mean_absolute_error: 2  
.1733  
5235 Epoch 2357/20000  
5236 - 0s - loss: 5.7608 -  
mean_absolute_error: 1.8161 - val_loss  
: 12.7095 - val_mean_absolute_error: 2  
.1733  
5237 Epoch 2358/20000  
5238 - 0s - loss: 10.3792 -  
mean_absolute_error: 2.2712 - val_loss  
: 12.7104 - val_mean_absolute_error: 2  
.1734
```

```
5239 Epoch 2359/20000
5240   - 0s - loss: 7.7407 -
      mean_absolute_error: 2.0581 - val_loss
      : 12.7106 - val_mean_absolute_error: 2
      .1734
5241 Epoch 2360/20000
5242   - 0s - loss: 8.9503 -
      mean_absolute_error: 2.0820 - val_loss
      : 12.7105 - val_mean_absolute_error: 2
      .1734
5243
5244 Epoch 02360: saving model to ./model/
      model_best.h5
5245 Epoch 2361/20000
5246   - 0s - loss: 5.8394 -
      mean_absolute_error: 1.7714 - val_loss
      : 12.7089 - val_mean_absolute_error: 2
      .1733
5247 Epoch 2362/20000
5248   - 0s - loss: 8.2232 -
      mean_absolute_error: 1.9538 - val_loss
      : 12.7087 - val_mean_absolute_error: 2
      .1733
5249 Epoch 2363/20000
```

```
5250 - 0s - loss: 7.6213 -  
mean_absolute_error: 2.0249 - val_loss  
: 12.7089 - val_mean_absolute_error: 2  
.1733  
5251 Epoch 2364/20000  
5252 - 0s - loss: 6.6329 -  
mean_absolute_error: 1.9405 - val_loss  
: 12.7087 - val_mean_absolute_error: 2  
.1733  
5253 Epoch 2365/20000  
5254 - 0s - loss: 6.8886 -  
mean_absolute_error: 1.9445 - val_loss  
: 12.7079 - val_mean_absolute_error: 2  
.1733  
5255 Epoch 2366/20000  
5256 - 0s - loss: 8.2201 -  
mean_absolute_error: 2.0153 - val_loss  
: 12.7079 - val_mean_absolute_error: 2  
.1733  
5257 Epoch 2367/20000  
5258 - 0s - loss: 8.5764 -  
mean_absolute_error: 2.1042 - val_loss  
: 12.7070 - val_mean_absolute_error: 2  
.1732
```

```
5259 Epoch 2368/20000
5260   - 0s - loss: 7.3524 -
      mean_absolute_error: 1.9596 - val_loss
      : 12.7071 - val_mean_absolute_error: 2
      .1732
5261 Epoch 2369/20000
5262   - 0s - loss: 7.5104 -
      mean_absolute_error: 2.0181 - val_loss
      : 12.7059 - val_mean_absolute_error: 2
      .1731
5263 Epoch 2370/20000
5264   - 0s - loss: 7.7883 -
      mean_absolute_error: 2.0788 - val_loss
      : 12.7054 - val_mean_absolute_error: 2
      .1731
5265
5266 Epoch 2370: saving model to ./model/
      model_best.h5
5267 Epoch 2371/20000
5268   - 0s - loss: 7.3092 -
      mean_absolute_error: 1.9113 - val_loss
      : 12.7063 - val_mean_absolute_error: 2
      .1732
5269 Epoch 2372/20000
```



```
5270 - 0s - loss: 6.6325 -  
      mean_absolute_error: 1.9313 - val_loss  
      : 12.7061 - val_mean_absolute_error: 2  
      .1731  
5271 Epoch 2373/20000  
5272 - 0s - loss: 7.0459 -  
      mean_absolute_error: 1.8486 - val_loss  
      : 12.7056 - val_mean_absolute_error: 2  
      .1731  
5273 Epoch 2374/20000  
5274 - 0s - loss: 6.9681 -  
      mean_absolute_error: 1.9010 - val_loss  
      : 12.7048 - val_mean_absolute_error: 2  
      .1731  
5275 Epoch 2375/20000  
5276 - 0s - loss: 7.9726 -  
      mean_absolute_error: 1.9468 - val_loss  
      : 12.7054 - val_mean_absolute_error: 2  
      .1731  
5277 Epoch 2376/20000  
5278 - 0s - loss: 6.9863 -  
      mean_absolute_error: 1.8635 - val_loss  
      : 12.7055 - val_mean_absolute_error: 2  
      .1732
```

```
5279 Epoch 2377/20000
5280   - 0s - loss: 8.3410 -
      mean_absolute_error: 2.0615 - val_loss
      : 12.7060 - val_mean_absolute_error: 2
      .1733
5281 Epoch 2378/20000
5282   - 0s - loss: 8.9309 -
      mean_absolute_error: 2.0396 - val_loss
      : 12.7055 - val_mean_absolute_error: 2
      .1732
5283 Epoch 2379/20000
5284   - 0s - loss: 7.7367 -
      mean_absolute_error: 2.0474 - val_loss
      : 12.7058 - val_mean_absolute_error: 2
      .1732
5285 Epoch 2380/20000
5286   - 0s - loss: 7.5509 -
      mean_absolute_error: 1.9222 - val_loss
      : 12.7065 - val_mean_absolute_error: 2
      .1733
5287
5288 Epoch 02380: saving model to ./model/
      model_best.h5
5289 Epoch 2381/20000
```

```
5290 - 0s - loss: 7.2600 -  
mean_absolute_error: 1.9451 - val_loss  
: 12.7068 - val_mean_absolute_error: 2  
.1733  
5291 Epoch 2382/20000  
5292 - 0s - loss: 7.0230 -  
mean_absolute_error: 1.8642 - val_loss  
: 12.7070 - val_mean_absolute_error: 2  
.1733  
5293 Epoch 2383/20000  
5294 - 0s - loss: 6.9090 -  
mean_absolute_error: 1.9707 - val_loss  
: 12.7064 - val_mean_absolute_error: 2  
.1732  
5295 Epoch 2384/20000  
5296 - 0s - loss: 6.5965 -  
mean_absolute_error: 1.9483 - val_loss  
: 12.7057 - val_mean_absolute_error: 2  
.1732  
5297 Epoch 2385/20000  
5298 - 0s - loss: 7.8237 -  
mean_absolute_error: 2.0643 - val_loss  
: 12.7056 - val_mean_absolute_error: 2  
.1732
```

```
5299 Epoch 2386/20000
5300   - 0s - loss: 8.9297 -
      mean_absolute_error: 2.0161 - val_loss
      : 12.7060 - val_mean_absolute_error: 2
      .1732
5301 Epoch 2387/20000
5302   - 0s - loss: 8.3168 -
      mean_absolute_error: 2.1136 - val_loss
      : 12.7070 - val_mean_absolute_error: 2
      .1733
5303 Epoch 2388/20000
5304   - 0s - loss: 7.9013 -
      mean_absolute_error: 2.0482 - val_loss
      : 12.7077 - val_mean_absolute_error: 2
      .1734
5305 Epoch 2389/20000
5306   - 0s - loss: 9.4236 -
      mean_absolute_error: 2.1361 - val_loss
      : 12.7076 - val_mean_absolute_error: 2
      .1734
5307 Epoch 2390/20000
5308   - 0s - loss: 7.0614 -
      mean_absolute_error: 1.8807 - val_loss
      : 12.7072 - val_mean_absolute_error: 2
```

5308 .1733

5309

5310 Epoch 02390: saving model to ./model/
model_best.h5

5311 Epoch 2391/20000

5312 - 0s - loss: 6.5687 -
mean_absolute_error: 1.9189 - val_loss
: 12.7072 - val_mean_absolute_error: 2
.1734

5313 Epoch 2392/20000

5314 - 0s - loss: 6.2175 -
mean_absolute_error: 1.8501 - val_loss
: 12.7063 - val_mean_absolute_error: 2
.1733

5315 Epoch 2393/20000

5316 - 0s - loss: 8.4965 -
mean_absolute_error: 2.0504 - val_loss
: 12.7062 - val_mean_absolute_error: 2
.1733

5317 Epoch 2394/20000

5318 - 0s - loss: 8.1268 -
mean_absolute_error: 2.0406 - val_loss
: 12.7060 - val_mean_absolute_error: 2
.1733

```
5319 Epoch 2395/20000
5320   - 0s - loss: 8.2040 -
      mean_absolute_error: 2.0355 - val_loss
      : 12.7058 - val_mean_absolute_error: 2
      .1732
5321 Epoch 2396/20000
5322   - 0s - loss: 8.8683 -
      mean_absolute_error: 2.0547 - val_loss
      : 12.7059 - val_mean_absolute_error: 2
      .1733
5323 Epoch 2397/20000
5324   - 0s - loss: 6.8290 -
      mean_absolute_error: 1.8786 - val_loss
      : 12.7063 - val_mean_absolute_error: 2
      .1733
5325 Epoch 2398/20000
5326   - 0s - loss: 7.6201 -
      mean_absolute_error: 2.0939 - val_loss
      : 12.7065 - val_mean_absolute_error: 2
      .1733
5327 Epoch 2399/20000
5328   - 0s - loss: 7.8942 -
      mean_absolute_error: 1.9622 - val_loss
      : 12.7062 - val_mean_absolute_error: 2
```

```
5328 .1733
5329 Epoch 2400/20000
5330 - 0s - loss: 7.1468 -
mean_absolute_error: 1.9461 - val_loss
: 12.7064 - val_mean_absolute_error: 2
.1734
5331
5332 Epoch 02400: saving model to ./model/
model_best.h5
5333 Epoch 2401/20000
5334 - 0s - loss: 6.6045 -
mean_absolute_error: 1.9333 - val_loss
: 12.7061 - val_mean_absolute_error: 2
.1733
5335 Epoch 2402/20000
5336 - 0s - loss: 8.0276 -
mean_absolute_error: 2.0253 - val_loss
: 12.7064 - val_mean_absolute_error: 2
.1734
5337 Epoch 2403/20000
5338 - 0s - loss: 7.5562 -
mean_absolute_error: 1.9776 - val_loss
: 12.7065 - val_mean_absolute_error: 2
.1734
```

```
5339 Epoch 2404/20000
5340   - 0s - loss: 6.4980 -
      mean_absolute_error: 1.8860 - val_loss
      : 12.7066 - val_mean_absolute_error: 2
      .1735
5341 Epoch 2405/20000
5342   - 0s - loss: 6.9538 -
      mean_absolute_error: 1.9152 - val_loss
      : 12.7056 - val_mean_absolute_error: 2
      .1734
5343 Epoch 2406/20000
5344   - 0s - loss: 8.3730 -
      mean_absolute_error: 1.9936 - val_loss
      : 12.7054 - val_mean_absolute_error: 2
      .1733
5345 Epoch 2407/20000
5346   - 0s - loss: 6.1660 -
      mean_absolute_error: 1.8421 - val_loss
      : 12.7053 - val_mean_absolute_error: 2
      .1733
5347 Epoch 2408/20000
5348   - 0s - loss: 7.3710 -
      mean_absolute_error: 2.0487 - val_loss
      : 12.7048 - val_mean_absolute_error: 2
```



```
5348 .1733
5349 Epoch 2409/20000
5350 - 0s - loss: 6.8759 -
mean_absolute_error: 1.9155 - val_loss
: 12.7039 - val_mean_absolute_error: 2
.1732
5351 Epoch 2410/20000
5352 - 0s - loss: 7.0037 -
mean_absolute_error: 1.9557 - val_loss
: 12.7030 - val_mean_absolute_error: 2
.1732
5353
5354 Epoch 02410: saving model to ./model/
model_best.h5
5355 Epoch 2411/20000
5356 - 0s - loss: 6.4946 -
mean_absolute_error: 1.8530 - val_loss
: 12.7025 - val_mean_absolute_error: 2
.1732
5357 Epoch 2412/20000
5358 - 0s - loss: 6.8489 -
mean_absolute_error: 1.8940 - val_loss
: 12.7025 - val_mean_absolute_error: 2
.1732
```

```
5359 Epoch 2413/20000
5360   - 0s - loss: 7.8107 -
      mean_absolute_error: 2.0013 - val_loss
      : 12.7024 - val_mean_absolute_error: 2
      .1731
5361 Epoch 2414/20000
5362   - 0s - loss: 6.6051 -
      mean_absolute_error: 1.8928 - val_loss
      : 12.7027 - val_mean_absolute_error: 2
      .1732
5363 Epoch 2415/20000
5364   - 0s - loss: 5.9198 -
      mean_absolute_error: 1.8394 - val_loss
      : 12.7026 - val_mean_absolute_error: 2
      .1732
5365 Epoch 2416/20000
5366   - 0s - loss: 7.3015 -
      mean_absolute_error: 1.9614 - val_loss
      : 12.7023 - val_mean_absolute_error: 2
      .1733
5367 Epoch 2417/20000
5368   - 0s - loss: 5.8789 -
      mean_absolute_error: 1.8512 - val_loss
      : 12.7031 - val_mean_absolute_error: 2
```

```
5368 .1734
5369 Epoch 2418/20000
5370 - 0s - loss: 6.4247 -
      mean_absolute_error: 1.9315 - val_loss
      : 12.7041 - val_mean_absolute_error: 2
      .1735
5371 Epoch 2419/20000
5372 - 0s - loss: 7.3855 -
      mean_absolute_error: 1.9455 - val_loss
      : 12.7030 - val_mean_absolute_error: 2
      .1733
5373 Epoch 2420/20000
5374 - 0s - loss: 7.9112 -
      mean_absolute_error: 2.0427 - val_loss
      : 12.7042 - val_mean_absolute_error: 2
      .1735
5375
5376 Epoch 02420: saving model to ./model/
      model_best.h5
5377 Epoch 2421/20000
5378 - 0s - loss: 8.2680 -
      mean_absolute_error: 2.0842 - val_loss
      : 12.7035 - val_mean_absolute_error: 2
      .1735
```

```
5379 Epoch 2422/20000
5380   - 0s - loss: 8.2945 -
      mean_absolute_error: 2.0710 - val_loss
      : 12.7034 - val_mean_absolute_error: 2
      .1735
5381 Epoch 2423/20000
5382   - 0s - loss: 7.6963 -
      mean_absolute_error: 1.9984 - val_loss
      : 12.7023 - val_mean_absolute_error: 2
      .1734
5383 Epoch 2424/20000
5384   - 0s - loss: 7.6622 -
      mean_absolute_error: 2.0131 - val_loss
      : 12.7025 - val_mean_absolute_error: 2
      .1734
5385 Epoch 2425/20000
5386   - 0s - loss: 7.8559 -
      mean_absolute_error: 1.9319 - val_loss
      : 12.7021 - val_mean_absolute_error: 2
      .1734
5387 Epoch 2426/20000
5388   - 0s - loss: 8.6476 -
      mean_absolute_error: 2.1309 - val_loss
      : 12.7022 - val_mean_absolute_error: 2
```

```
5388 .1733
5389 Epoch 2427/20000
5390 - 0s - loss: 9.1820 -
      mean_absolute_error: 2.1054 - val_loss
      : 12.7032 - val_mean_absolute_error: 2
      .1735
5391 Epoch 2428/20000
5392 - 0s - loss: 8.1335 -
      mean_absolute_error: 2.0558 - val_loss
      : 12.7036 - val_mean_absolute_error: 2
      .1735
5393 Epoch 2429/20000
5394 - 0s - loss: 7.0595 -
      mean_absolute_error: 1.9917 - val_loss
      : 12.7040 - val_mean_absolute_error: 2
      .1735
5395 Epoch 2430/20000
5396 - 0s - loss: 7.7843 -
      mean_absolute_error: 2.1088 - val_loss
      : 12.7044 - val_mean_absolute_error: 2
      .1735
5397
5398 Epoch 02430: saving model to ./model/
      model_best.h5
```

```
5399 Epoch 2431/20000
5400   - 0s - loss: 8.7677 -
      mean_absolute_error: 2.0164 - val_loss
      : 12.7053 - val_mean_absolute_error: 2
      .1736
5401 Epoch 2432/20000
5402   - 0s - loss: 7.4323 -
      mean_absolute_error: 2.0570 - val_loss
      : 12.7057 - val_mean_absolute_error: 2
      .1736
5403 Epoch 2433/20000
5404   - 0s - loss: 6.8991 -
      mean_absolute_error: 1.9452 - val_loss
      : 12.7064 - val_mean_absolute_error: 2
      .1737
5405 Epoch 2434/20000
5406   - 0s - loss: 8.5447 -
      mean_absolute_error: 2.0323 - val_loss
      : 12.7071 - val_mean_absolute_error: 2
      .1737
5407 Epoch 2435/20000
5408   - 0s - loss: 7.9473 -
      mean_absolute_error: 2.0476 - val_loss
      : 12.7079 - val_mean_absolute_error: 2
```

```
5408 .1738
5409 Epoch 2436/20000
5410 - 0s - loss: 8.2575 -
      mean_absolute_error: 2.0659 - val_loss
      : 12.7070 - val_mean_absolute_error: 2
      .1737
5411 Epoch 2437/20000
5412 - 0s - loss: 6.8749 -
      mean_absolute_error: 1.9016 - val_loss
      : 12.7073 - val_mean_absolute_error: 2
      .1738
5413 Epoch 2438/20000
5414 - 0s - loss: 6.6887 -
      mean_absolute_error: 1.9051 - val_loss
      : 12.7068 - val_mean_absolute_error: 2
      .1738
5415 Epoch 2439/20000
5416 - 0s - loss: 7.4072 -
      mean_absolute_error: 1.9068 - val_loss
      : 12.7063 - val_mean_absolute_error: 2
      .1738
5417 Epoch 2440/20000
5418 - 0s - loss: 8.4215 -
      mean_absolute_error: 2.0978 - val_loss
```

5418 : 12.7061 - val_mean_absolute_error: 2
.1738

5419

5420 Epoch 02440: saving model to ./model/
model_best.h5

5421 Epoch 2441/20000

5422 - 0s - loss: 6.5938 -
mean_absolute_error: 1.8557 - val_loss
: 12.7060 - val_mean_absolute_error: 2
.1738

5423 Epoch 2442/20000

5424 - 0s - loss: 8.5297 -
mean_absolute_error: 2.0102 - val_loss
: 12.7069 - val_mean_absolute_error: 2
.1739

5425 Epoch 2443/20000

5426 - 0s - loss: 7.4845 -
mean_absolute_error: 2.0174 - val_loss
: 12.7069 - val_mean_absolute_error: 2
.1739

5427 Epoch 2444/20000

5428 - 0s - loss: 9.3445 -
mean_absolute_error: 2.0955 - val_loss
: 12.7067 - val_mean_absolute_error: 2


```
5428 .1738
5429 Epoch 2445/20000
5430 - 0s - loss: 7.7814 -
mean_absolute_error: 2.0103 - val_loss
: 12.7059 - val_mean_absolute_error: 2
.1737
5431 Epoch 2446/20000
5432 - 0s - loss: 6.2942 -
mean_absolute_error: 1.8836 - val_loss
: 12.7058 - val_mean_absolute_error: 2
.1737
5433 Epoch 2447/20000
5434 - 0s - loss: 7.8453 -
mean_absolute_error: 1.9609 - val_loss
: 12.7059 - val_mean_absolute_error: 2
.1737
5435 Epoch 2448/20000
5436 - 0s - loss: 9.3954 -
mean_absolute_error: 2.1591 - val_loss
: 12.7065 - val_mean_absolute_error: 2
.1737
5437 Epoch 2449/20000
5438 - 0s - loss: 7.7216 -
mean_absolute_error: 2.0399 - val_loss
```

5438 : 12.7062 - val_mean_absolute_error: 2
.1737

5439 Epoch 2450/20000

5440 - 0s - loss: 9.3477 -
mean_absolute_error: 2.1037 - val_loss
: 12.7057 - val_mean_absolute_error: 2
.1736

5441

5442 Epoch 02450: saving model to ./model/
model_best.h5

5443 Epoch 2451/20000

5444 - 0s - loss: 8.4743 -
mean_absolute_error: 2.0352 - val_loss
: 12.7055 - val_mean_absolute_error: 2
.1736

5445 Epoch 2452/20000

5446 - 0s - loss: 8.9325 -
mean_absolute_error: 2.0369 - val_loss
: 12.7046 - val_mean_absolute_error: 2
.1735

5447 Epoch 2453/20000

5448 - 0s - loss: 7.9406 -
mean_absolute_error: 1.9984 - val_loss
: 12.7048 - val_mean_absolute_error: 2

```
5448 .1735
5449 Epoch 2454/20000
5450 - 0s - loss: 7.7205 -
      mean_absolute_error: 2.0507 - val_loss
      : 12.7056 - val_mean_absolute_error: 2
      .1735
5451 Epoch 2455/20000
5452 - 0s - loss: 7.6827 -
      mean_absolute_error: 1.9513 - val_loss
      : 12.7061 - val_mean_absolute_error: 2
      .1736
5453 Epoch 2456/20000
5454 - 0s - loss: 8.1101 -
      mean_absolute_error: 2.0594 - val_loss
      : 12.7064 - val_mean_absolute_error: 2
      .1736
5455 Epoch 2457/20000
5456 - 0s - loss: 8.2792 -
      mean_absolute_error: 2.0962 - val_loss
      : 12.7068 - val_mean_absolute_error: 2
      .1736
5457 Epoch 2458/20000
5458 - 0s - loss: 7.8432 -
      mean_absolute_error: 2.0137 - val_loss
```

```
5458 : 12.7070 - val_mean_absolute_error: 2
      .1736
5459 Epoch 2459/20000
5460   - 0s - loss: 7.2834 -
      mean_absolute_error: 2.0200 - val_loss
      : 12.7079 - val_mean_absolute_error: 2
      .1736
5461 Epoch 2460/20000
5462   - 0s - loss: 7.4888 -
      mean_absolute_error: 1.8805 - val_loss
      : 12.7082 - val_mean_absolute_error: 2
      .1736
5463
5464 Epoch 02460: saving model to ./model/
      model_best.h5
5465 Epoch 2461/20000
5466   - 0s - loss: 7.2420 -
      mean_absolute_error: 1.8966 - val_loss
      : 12.7077 - val_mean_absolute_error: 2
      .1735
5467 Epoch 2462/20000
5468   - 0s - loss: 8.5958 -
      mean_absolute_error: 2.1076 - val_loss
      : 12.7067 - val_mean_absolute_error: 2
```

```
5468 .1734
5469 Epoch 2463/20000
5470 - 0s - loss: 8.6127 -
mean_absolute_error: 1.9490 - val_loss
: 12.7061 - val_mean_absolute_error: 2
.1734
5471 Epoch 2464/20000
5472 - 0s - loss: 8.0112 -
mean_absolute_error: 2.0251 - val_loss
: 12.7055 - val_mean_absolute_error: 2
.1734
5473 Epoch 2465/20000
5474 - 0s - loss: 7.1444 -
mean_absolute_error: 1.9259 - val_loss
: 12.7049 - val_mean_absolute_error: 2
.1734
5475 Epoch 2466/20000
5476 - 0s - loss: 7.4112 -
mean_absolute_error: 1.9257 - val_loss
: 12.7049 - val_mean_absolute_error: 2
.1733
5477 Epoch 2467/20000
5478 - 0s - loss: 8.5766 -
mean_absolute_error: 2.0191 - val_loss
```

```
5478 : 12.7045 - val_mean_absolute_error: 2
      .1733
5479 Epoch 2468/20000
5480   - 0s - loss: 8.7991 -
      mean_absolute_error: 2.0849 - val_loss
      : 12.7050 - val_mean_absolute_error: 2
      .1734
5481 Epoch 2469/20000
5482   - 0s - loss: 7.5921 -
      mean_absolute_error: 2.0389 - val_loss
      : 12.7041 - val_mean_absolute_error: 2
      .1733
5483 Epoch 2470/20000
5484   - 0s - loss: 8.6654 -
      mean_absolute_error: 2.0115 - val_loss
      : 12.7033 - val_mean_absolute_error: 2
      .1733
5485
5486 Epoch 02470: saving model to ./model /
      model_best.h5
5487 Epoch 2471/20000
5488   - 0s - loss: 7.8902 -
      mean_absolute_error: 2.0262 - val_loss
      : 12.7035 - val_mean_absolute_error: 2
```

```
5488 .1732
5489 Epoch 2472/20000
5490 - 0s - loss: 7.2128 -
      mean_absolute_error: 1.9806 - val_loss
      : 12.7037 - val_mean_absolute_error: 2
      .1733
5491 Epoch 2473/20000
5492 - 0s - loss: 7.4818 -
      mean_absolute_error: 2.0325 - val_loss
      : 12.7037 - val_mean_absolute_error: 2
      .1733
5493 Epoch 2474/20000
5494 - 0s - loss: 7.4901 -
      mean_absolute_error: 2.0259 - val_loss
      : 12.7036 - val_mean_absolute_error: 2
      .1733
5495 Epoch 2475/20000
5496 - 0s - loss: 7.8092 -
      mean_absolute_error: 1.9859 - val_loss
      : 12.7026 - val_mean_absolute_error: 2
      .1732
5497 Epoch 2476/20000
5498 - 0s - loss: 6.3489 -
      mean_absolute_error: 1.9008 - val_loss
```

```
5498 : 12.7018 - val_mean_absolute_error: 2
      .1732
5499 Epoch 2477/20000
5500   - 0s - loss: 6.8395 -
      mean_absolute_error: 1.8927 - val_loss
      : 12.7022 - val_mean_absolute_error: 2
      .1732
5501 Epoch 2478/20000
5502   - 0s - loss: 7.5969 -
      mean_absolute_error: 2.0111 - val_loss
      : 12.7017 - val_mean_absolute_error: 2
      .1731
5503 Epoch 2479/20000
5504   - 0s - loss: 8.6400 -
      mean_absolute_error: 2.1207 - val_loss
      : 12.7013 - val_mean_absolute_error: 2
      .1730
5505 Epoch 2480/20000
5506   - 0s - loss: 7.7045 -
      mean_absolute_error: 2.0542 - val_loss
      : 12.7017 - val_mean_absolute_error: 2
      .1730
5507
5508 Epoch 02480: saving model to ./model/
```



```
5508 model_best.h5
5509 Epoch 2481/20000
5510   - 0s - loss: 7.0112 -
      mean_absolute_error: 1.9405 - val_loss
      : 12.7025 - val_mean_absolute_error: 2
      .1731
5511 Epoch 2482/20000
5512   - 0s - loss: 6.0392 -
      mean_absolute_error: 1.8439 - val_loss
      : 12.7029 - val_mean_absolute_error: 2
      .1730
5513 Epoch 2483/20000
5514   - 0s - loss: 6.5586 -
      mean_absolute_error: 1.8478 - val_loss
      : 12.7022 - val_mean_absolute_error: 2
      .1730
5515 Epoch 2484/20000
5516   - 0s - loss: 8.0173 -
      mean_absolute_error: 2.0417 - val_loss
      : 12.7040 - val_mean_absolute_error: 2
      .1732
5517 Epoch 2485/20000
5518   - 0s - loss: 7.1728 -
      mean_absolute_error: 1.9816 - val_loss
```

```
5518 : 12.7038 - val_mean_absolute_error: 2
      .1732
5519 Epoch 2486/20000
5520   - 0s - loss: 9.4643 -
      mean_absolute_error: 2.1686 - val_loss
      : 12.7042 - val_mean_absolute_error: 2
      .1732
5521 Epoch 2487/20000
5522   - 0s - loss: 8.6071 -
      mean_absolute_error: 2.1518 - val_loss
      : 12.7047 - val_mean_absolute_error: 2
      .1732
5523 Epoch 2488/20000
5524   - 0s - loss: 7.6104 -
      mean_absolute_error: 1.9979 - val_loss
      : 12.7055 - val_mean_absolute_error: 2
      .1733
5525 Epoch 2489/20000
5526   - 0s - loss: 5.7400 -
      mean_absolute_error: 1.8404 - val_loss
      : 12.7053 - val_mean_absolute_error: 2
      .1733
5527 Epoch 2490/20000
5528   - 0s - loss: 8.1426 -
```

5528 mean_absolute_error: 2.1309 - val_loss
: 12.7053 - val_mean_absolute_error: 2
.1733

5529

5530 Epoch 02490: saving model to ./model/
model_best.h5

5531 Epoch 2491/20000

5532 - 0s - loss: 7.8823 -
mean_absolute_error: 2.0383 - val_loss
: 12.7052 - val_mean_absolute_error: 2
.1733

5533 Epoch 2492/20000

5534 - 0s - loss: 10.1278 -
mean_absolute_error: 2.1183 - val_loss
: 12.7069 - val_mean_absolute_error: 2
.1734

5535 Epoch 2493/20000

5536 - 0s - loss: 8.4963 -
mean_absolute_error: 2.0134 - val_loss
: 12.7069 - val_mean_absolute_error: 2
.1735

5537 Epoch 2494/20000

5538 - 0s - loss: 7.8799 -
mean_absolute_error: 2.0323 - val_loss

```
5538 : 12.7068 - val_mean_absolute_error: 2
      .1735
5539 Epoch 2495/20000
5540   - 0s - loss: 8.9580 -
      mean_absolute_error: 2.1263 - val_loss
      : 12.7077 - val_mean_absolute_error: 2
      .1736
5541 Epoch 2496/20000
5542   - 0s - loss: 6.8260 -
      mean_absolute_error: 1.9534 - val_loss
      : 12.7077 - val_mean_absolute_error: 2
      .1735
5543 Epoch 2497/20000
5544   - 0s - loss: 6.6164 -
      mean_absolute_error: 1.9155 - val_loss
      : 12.7082 - val_mean_absolute_error: 2
      .1735
5545 Epoch 2498/20000
5546   - 0s - loss: 6.3792 -
      mean_absolute_error: 1.9087 - val_loss
      : 12.7080 - val_mean_absolute_error: 2
      .1735
5547 Epoch 2499/20000
5548   - 0s - loss: 7.5335 -
```

5548 mean_absolute_error: 1.9706 - val_loss
: 12.7090 - val_mean_absolute_error: 2
.1736

5549 Epoch 2500/20000

5550 - 0s - loss: 8.1463 -
mean_absolute_error: 2.0726 - val_loss
: 12.7101 - val_mean_absolute_error: 2
.1737

5551

5552 Epoch 02500: saving model to ./model/
model_best.h5

5553 Epoch 2501/20000

5554 - 0s - loss: 6.0061 -
mean_absolute_error: 1.8627 - val_loss
: 12.7090 - val_mean_absolute_error: 2
.1736

5555 Epoch 2502/20000

5556 - 0s - loss: 7.0337 -
mean_absolute_error: 1.9590 - val_loss
: 12.7083 - val_mean_absolute_error: 2
.1735

5557 Epoch 2503/20000

5558 - 0s - loss: 7.6545 -
mean_absolute_error: 1.9675 - val_loss

```
5558 : 12.7083 - val_mean_absolute_error: 2
      .1735
5559 Epoch 2504/20000
5560 - 0s - loss: 7.6582 -
      mean_absolute_error: 1.9607 - val_loss
      : 12.7079 - val_mean_absolute_error: 2
      .1735
5561 Epoch 2505/20000
5562 - 0s - loss: 6.6892 -
      mean_absolute_error: 1.9019 - val_loss
      : 12.7075 - val_mean_absolute_error: 2
      .1735
5563 Epoch 2506/20000
5564 - 0s - loss: 8.0364 -
      mean_absolute_error: 2.1356 - val_loss
      : 12.7070 - val_mean_absolute_error: 2
      .1734
5565 Epoch 2507/20000
5566 - 0s - loss: 7.2174 -
      mean_absolute_error: 1.8514 - val_loss
      : 12.7078 - val_mean_absolute_error: 2
      .1735
5567 Epoch 2508/20000
5568 - 0s - loss: 7.8502 -
```

```
5568 mean_absolute_error: 2.0385 - val_loss
: 12.7069 - val_mean_absolute_error: 2
.1735
```

```
5569 Epoch 2509/20000
```

```
5570 - 0s - loss: 6.1105 -
mean_absolute_error: 1.8965 - val_loss
: 12.7055 - val_mean_absolute_error: 2
.1734
```

```
5571 Epoch 2510/20000
```

```
5572 - 0s - loss: 7.7369 -
mean_absolute_error: 1.9962 - val_loss
: 12.7059 - val_mean_absolute_error: 2
.1734
```

```
5573
```

```
5574 Epoch 02510: saving model to ./model/
model_best.h5
```

```
5575 Epoch 2511/20000
```

```
5576 - 0s - loss: 8.3109 -
mean_absolute_error: 2.0411 - val_loss
: 12.7063 - val_mean_absolute_error: 2
.1734
```

```
5577 Epoch 2512/20000
```

```
5578 - 0s - loss: 8.2141 -
mean_absolute_error: 2.0386 - val_loss
```

```
5578 : 12.7072 - val_mean_absolute_error: 2
      .1735
5579 Epoch 2513/20000
5580   - 0s - loss: 6.8488 -
      mean_absolute_error: 1.8248 - val_loss
      : 12.7073 - val_mean_absolute_error: 2
      .1735
5581 Epoch 2514/20000
5582   - 0s - loss: 8.0136 -
      mean_absolute_error: 2.0801 - val_loss
      : 12.7077 - val_mean_absolute_error: 2
      .1735
5583 Epoch 2515/20000
5584   - 0s - loss: 7.5573 -
      mean_absolute_error: 1.9590 - val_loss
      : 12.7078 - val_mean_absolute_error: 2
      .1735
5585 Epoch 2516/20000
5586   - 0s - loss: 6.5861 -
      mean_absolute_error: 1.8759 - val_loss
      : 12.7075 - val_mean_absolute_error: 2
      .1734
5587 Epoch 2517/20000
5588   - 0s - loss: 7.1778 -
```


5588 mean_absolute_error: 2.0278 - val_loss
: 12.7073 - val_mean_absolute_error: 2
.1734

5589 Epoch 2518/20000

5590 - 0s - loss: 8.8181 -

mean_absolute_error: 2.0633 - val_loss
: 12.7083 - val_mean_absolute_error: 2
.1735

5591 Epoch 2519/20000

5592 - 0s - loss: 7.7407 -

mean_absolute_error: 2.0585 - val_loss
: 12.7077 - val_mean_absolute_error: 2
.1736

5593 Epoch 2520/20000

5594 - 0s - loss: 6.8204 -

mean_absolute_error: 1.8337 - val_loss
: 12.7081 - val_mean_absolute_error: 2
.1736

5595

5596 Epoch 02520: saving model to ./model/
model_best.h5

5597 Epoch 2521/20000

5598 - 0s - loss: 6.6776 -

mean_absolute_error: 1.9550 - val_loss

```
5598 : 12.7085 - val_mean_absolute_error: 2
      .1736
5599 Epoch 2522/20000
5600   - 0s - loss: 5.8267 -
      mean_absolute_error: 1.7327 - val_loss
      : 12.7091 - val_mean_absolute_error: 2
      .1737
5601 Epoch 2523/20000
5602   - 0s - loss: 6.9968 -
      mean_absolute_error: 1.8661 - val_loss
      : 12.7092 - val_mean_absolute_error: 2
      .1737
5603 Epoch 2524/20000
5604   - 0s - loss: 6.6056 -
      mean_absolute_error: 1.9345 - val_loss
      : 12.7106 - val_mean_absolute_error: 2
      .1738
5605 Epoch 2525/20000
5606   - 0s - loss: 7.9283 -
      mean_absolute_error: 2.0053 - val_loss
      : 12.7095 - val_mean_absolute_error: 2
      .1737
5607 Epoch 2526/20000
5608   - 0s - loss: 8.3138 -
```

5608 mean_absolute_error: 2.1166 - val_loss
: 12.7100 - val_mean_absolute_error: 2
.1737

5609 Epoch 2527/20000

5610 - 0s - loss: 5.9835 -
mean_absolute_error: 1.8583 - val_loss
: 12.7098 - val_mean_absolute_error: 2
.1737

5611 Epoch 2528/20000

5612 - 0s - loss: 6.9493 -
mean_absolute_error: 1.9055 - val_loss
: 12.7096 - val_mean_absolute_error: 2
.1737

5613 Epoch 2529/20000

5614 - 0s - loss: 8.7471 -
mean_absolute_error: 2.0390 - val_loss
: 12.7104 - val_mean_absolute_error: 2
.1737

5615 Epoch 2530/20000

5616 - 0s - loss: 9.8494 -
mean_absolute_error: 2.1264 - val_loss
: 12.7103 - val_mean_absolute_error: 2
.1737

5617

```
5618 Epoch 02530: saving model to ./model/
model_best.h5
5619 Epoch 2531/20000
5620   - 0s - loss: 6.8535 -
mean_absolute_error: 1.9133 - val_loss
: 12.7104 - val_mean_absolute_error: 2
.1737
5621 Epoch 2532/20000
5622   - 0s - loss: 7.6484 -
mean_absolute_error: 1.8818 - val_loss
: 12.7104 - val_mean_absolute_error: 2
.1738
5623 Epoch 2533/20000
5624   - 0s - loss: 7.7736 -
mean_absolute_error: 2.0169 - val_loss
: 12.7111 - val_mean_absolute_error: 2
.1738
5625 Epoch 2534/20000
5626   - 0s - loss: 8.6491 -
mean_absolute_error: 2.0309 - val_loss
: 12.7111 - val_mean_absolute_error: 2
.1738
5627 Epoch 2535/20000
5628   - 0s - loss: 7.2791 -
```

```
5628 mean_absolute_error: 1.9406 - val_loss
    : 12.7105 - val_mean_absolute_error: 2
    .1738
5629 Epoch 2536/20000
5630 - 0s - loss: 7.1618 -
    mean_absolute_error: 1.9169 - val_loss
    : 12.7102 - val_mean_absolute_error: 2
    .1738
5631 Epoch 2537/20000
5632 - 0s - loss: 8.5966 -
    mean_absolute_error: 2.1305 - val_loss
    : 12.7087 - val_mean_absolute_error: 2
    .1737
5633 Epoch 2538/20000
5634 - 0s - loss: 6.7487 -
    mean_absolute_error: 1.8627 - val_loss
    : 12.7074 - val_mean_absolute_error: 2
    .1736
5635 Epoch 2539/20000
5636 - 0s - loss: 6.9686 -
    mean_absolute_error: 1.9427 - val_loss
    : 12.7077 - val_mean_absolute_error: 2
    .1735
5637 Epoch 2540/20000
```

```
5638 - 0s - loss: 6.7268 -  
mean_absolute_error: 1.8946 - val_loss  
: 12.7081 - val_mean_absolute_error: 2  
.1736
```

5639

```
5640 Epoch 02540: saving model to ./model/  
model_best.h5
```

```
5641 Epoch 2541/20000
```

```
5642 - 0s - loss: 8.2426 -  
mean_absolute_error: 1.9712 - val_loss  
: 12.7078 - val_mean_absolute_error: 2  
.1736
```

```
5643 Epoch 2542/20000
```

```
5644 - 0s - loss: 6.5097 -  
mean_absolute_error: 1.9182 - val_loss  
: 12.7076 - val_mean_absolute_error: 2  
.1736
```

```
5645 Epoch 2543/20000
```

```
5646 - 0s - loss: 7.9852 -  
mean_absolute_error: 2.0558 - val_loss  
: 12.7070 - val_mean_absolute_error: 2  
.1735
```

```
5647 Epoch 2544/20000
```

```
5648 - 0s - loss: 7.0389 -
```

```
5648 mean_absolute_error: 2.0006 - val_loss
    : 12.7057 - val_mean_absolute_error: 2
    .1734
5649 Epoch 2545/20000
5650 - 0s - loss: 7.8579 -
    mean_absolute_error: 2.0017 - val_loss
    : 12.7059 - val_mean_absolute_error: 2
    .1734
5651 Epoch 2546/20000
5652 - 0s - loss: 6.8798 -
    mean_absolute_error: 1.8526 - val_loss
    : 12.7065 - val_mean_absolute_error: 2
    .1735
5653 Epoch 2547/20000
5654 - 0s - loss: 7.5889 -
    mean_absolute_error: 2.0257 - val_loss
    : 12.7056 - val_mean_absolute_error: 2
    .1734
5655 Epoch 2548/20000
5656 - 0s - loss: 8.0666 -
    mean_absolute_error: 1.9699 - val_loss
    : 12.7053 - val_mean_absolute_error: 2
    .1733
5657 Epoch 2549/20000
```

```
5658 - 0s - loss: 7.2561 -  
mean_absolute_error: 1.9370 - val_loss  
: 12.7058 - val_mean_absolute_error: 2  
.1733
```

```
5659 Epoch 2550/20000
```

```
5660 - 0s - loss: 6.5459 -  
mean_absolute_error: 1.8746 - val_loss  
: 12.7070 - val_mean_absolute_error: 2  
.1734
```

```
5661
```

```
5662 Epoch 02550: saving model to ./model/  
model_best.h5
```

```
5663 Epoch 2551/20000
```

```
5664 - 0s - loss: 7.7375 -  
mean_absolute_error: 1.9311 - val_loss  
: 12.7063 - val_mean_absolute_error: 2  
.1734
```

```
5665 Epoch 2552/20000
```

```
5666 - 0s - loss: 7.7296 -  
mean_absolute_error: 1.9656 - val_loss  
: 12.7064 - val_mean_absolute_error: 2  
.1734
```

```
5667 Epoch 2553/20000
```

```
5668 - 0s - loss: 7.2416 -
```



```
5668 mean_absolute_error: 2.0190 - val_loss
    : 12.7064 - val_mean_absolute_error: 2
    .1734
5669 Epoch 2554/20000
5670 - 0s - loss: 9.2943 -
    mean_absolute_error: 2.0963 - val_loss
    : 12.7074 - val_mean_absolute_error: 2
    .1734
5671 Epoch 2555/20000
5672 - 0s - loss: 9.0858 -
    mean_absolute_error: 2.1207 - val_loss
    : 12.7081 - val_mean_absolute_error: 2
    .1735
5673 Epoch 2556/20000
5674 - 0s - loss: 7.8341 -
    mean_absolute_error: 1.9882 - val_loss
    : 12.7072 - val_mean_absolute_error: 2
    .1734
5675 Epoch 2557/20000
5676 - 0s - loss: 7.7312 -
    mean_absolute_error: 2.0277 - val_loss
    : 12.7077 - val_mean_absolute_error: 2
    .1735
5677 Epoch 2558/20000
```

```
5678 - 0s - loss: 8.5195 -  
mean_absolute_error: 2.1016 - val_loss  
: 12.7083 - val_mean_absolute_error: 2  
.1736  
5679 Epoch 2559/20000  
5680 - 0s - loss: 6.8819 -  
mean_absolute_error: 1.9325 - val_loss  
: 12.7086 - val_mean_absolute_error: 2  
.1735  
5681 Epoch 2560/20000  
5682 - 0s - loss: 7.3748 -  
mean_absolute_error: 1.8908 - val_loss  
: 12.7081 - val_mean_absolute_error: 2  
.1735  
5683  
5684 Epoch 02560: saving model to ./model/  
model_best.h5  
5685 Epoch 2561/20000  
5686 - 0s - loss: 7.8110 -  
mean_absolute_error: 1.9769 - val_loss  
: 12.7085 - val_mean_absolute_error: 2  
.1735  
5687 Epoch 2562/20000  
5688 - 0s - loss: 7.6322 -
```

```
5688 mean_absolute_error: 1.9458 - val_loss
    : 12.7093 - val_mean_absolute_error: 2
    .1736
5689 Epoch 2563/20000
5690 - 0s - loss: 7.3590 -
    mean_absolute_error: 1.9424 - val_loss
    : 12.7086 - val_mean_absolute_error: 2
    .1735
5691 Epoch 2564/20000
5692 - 0s - loss: 7.7351 -
    mean_absolute_error: 2.0384 - val_loss
    : 12.7083 - val_mean_absolute_error: 2
    .1735
5693 Epoch 2565/20000
5694 - 0s - loss: 7.3724 -
    mean_absolute_error: 1.9303 - val_loss
    : 12.7085 - val_mean_absolute_error: 2
    .1735
5695 Epoch 2566/20000
5696 - 0s - loss: 6.7820 -
    mean_absolute_error: 1.9092 - val_loss
    : 12.7087 - val_mean_absolute_error: 2
    .1735
5697 Epoch 2567/20000
```

```
5698 - 0s - loss: 6.9520 -  
mean_absolute_error: 1.9737 - val_loss  
: 12.7084 - val_mean_absolute_error: 2  
.1735  
5699 Epoch 2568/20000  
5700 - 0s - loss: 6.4638 -  
mean_absolute_error: 1.8704 - val_loss  
: 12.7071 - val_mean_absolute_error: 2  
.1733  
5701 Epoch 2569/20000  
5702 - 0s - loss: 7.4503 -  
mean_absolute_error: 1.9389 - val_loss  
: 12.7066 - val_mean_absolute_error: 2  
.1733  
5703 Epoch 2570/20000  
5704 - 0s - loss: 7.0740 -  
mean_absolute_error: 1.8887 - val_loss  
: 12.7059 - val_mean_absolute_error: 2  
.1732  
5705  
5706 Epoch 02570: saving model to ./model/  
model_best.h5  
5707 Epoch 2571/20000  
5708 - 0s - loss: 7.6852 -
```

```
5708 mean_absolute_error: 1.9818 - val_loss
    : 12.7054 - val_mean_absolute_error: 2
    .1732
5709 Epoch 2572/20000
5710 - 0s - loss: 7.1049 -
    mean_absolute_error: 1.8996 - val_loss
    : 12.7047 - val_mean_absolute_error: 2
    .1732
5711 Epoch 2573/20000
5712 - 0s - loss: 7.3686 -
    mean_absolute_error: 1.9334 - val_loss
    : 12.7053 - val_mean_absolute_error: 2
    .1733
5713 Epoch 2574/20000
5714 - 0s - loss: 8.4558 -
    mean_absolute_error: 2.1368 - val_loss
    : 12.7058 - val_mean_absolute_error: 2
    .1733
5715 Epoch 2575/20000
5716 - 0s - loss: 6.1716 -
    mean_absolute_error: 1.8887 - val_loss
    : 12.7057 - val_mean_absolute_error: 2
    .1733
5717 Epoch 2576/20000
```

```
5718 - 0s - loss: 6.6198 -  
mean_absolute_error: 1.8958 - val_loss  
: 12.7054 - val_mean_absolute_error: 2  
.1733  
5719 Epoch 2577/20000  
5720 - 0s - loss: 8.7799 -  
mean_absolute_error: 2.0677 - val_loss  
: 12.7061 - val_mean_absolute_error: 2  
.1733  
5721 Epoch 2578/20000  
5722 - 0s - loss: 7.7549 -  
mean_absolute_error: 1.9744 - val_loss  
: 12.7057 - val_mean_absolute_error: 2  
.1733  
5723 Epoch 2579/20000  
5724 - 0s - loss: 7.7504 -  
mean_absolute_error: 1.9895 - val_loss  
: 12.7061 - val_mean_absolute_error: 2  
.1733  
5725 Epoch 2580/20000  
5726 - 0s - loss: 7.6340 -  
mean_absolute_error: 1.9925 - val_loss  
: 12.7054 - val_mean_absolute_error: 2  
.1732
```

5727

5728 Epoch 02580: saving model to ./model/
model_best.h5

5729 Epoch 2581/20000

5730 - 0s - loss: 6.8208 -
mean_absolute_error: 1.9748 - val_loss
: 12.7058 - val_mean_absolute_error: 2
.1733

5731 Epoch 2582/20000

5732 - 0s - loss: 7.7703 -
mean_absolute_error: 1.9769 - val_loss
: 12.7056 - val_mean_absolute_error: 2
.1733

5733 Epoch 2583/20000

5734 - 0s - loss: 7.8087 -
mean_absolute_error: 2.0267 - val_loss
: 12.7059 - val_mean_absolute_error: 2
.1734

5735 Epoch 2584/20000

5736 - 0s - loss: 6.2206 -
mean_absolute_error: 1.8789 - val_loss
: 12.7063 - val_mean_absolute_error: 2
.1734

5737 Epoch 2585/20000

```
5738 - 0s - loss: 7.1971 -  
mean_absolute_error: 2.0022 - val_loss  
: 12.7067 - val_mean_absolute_error: 2  
.1735  
5739 Epoch 2586/20000  
5740 - 0s - loss: 7.9450 -  
mean_absolute_error: 2.0380 - val_loss  
: 12.7066 - val_mean_absolute_error: 2  
.1735  
5741 Epoch 2587/20000  
5742 - 0s - loss: 8.8403 -  
mean_absolute_error: 2.0907 - val_loss  
: 12.7061 - val_mean_absolute_error: 2  
.1735  
5743 Epoch 2588/20000  
5744 - 0s - loss: 8.3846 -  
mean_absolute_error: 2.0957 - val_loss  
: 12.7055 - val_mean_absolute_error: 2  
.1734  
5745 Epoch 2589/20000  
5746 - 0s - loss: 8.8224 -  
mean_absolute_error: 2.0322 - val_loss  
: 12.7053 - val_mean_absolute_error: 2  
.1734
```



```
5747 Epoch 2590/20000
5748   - 0s - loss: 7.4660 -
      mean_absolute_error: 1.9924 - val_loss
      : 12.7051 - val_mean_absolute_error: 2
      .1734
5749
5750 Epoch 02590: saving model to ./model/
      model_best.h5
5751 Epoch 2591/20000
5752   - 0s - loss: 7.8724 -
      mean_absolute_error: 2.0738 - val_loss
      : 12.7052 - val_mean_absolute_error: 2
      .1734
5753 Epoch 2592/20000
5754   - 0s - loss: 7.3607 -
      mean_absolute_error: 1.9918 - val_loss
      : 12.7046 - val_mean_absolute_error: 2
      .1734
5755 Epoch 2593/20000
5756   - 0s - loss: 7.2901 -
      mean_absolute_error: 2.0041 - val_loss
      : 12.7045 - val_mean_absolute_error: 2
      .1734
5757 Epoch 2594/20000
```

```
5758 - 0s - loss: 9.3090 -  
mean_absolute_error: 2.1538 - val_loss  
: 12.7055 - val_mean_absolute_error: 2  
.1735  
5759 Epoch 2595/20000  
5760 - 0s - loss: 7.0569 -  
mean_absolute_error: 1.9027 - val_loss  
: 12.7058 - val_mean_absolute_error: 2  
.1735  
5761 Epoch 2596/20000  
5762 - 0s - loss: 8.7998 -  
mean_absolute_error: 2.1195 - val_loss  
: 12.7070 - val_mean_absolute_error: 2  
.1736  
5763 Epoch 2597/20000  
5764 - 0s - loss: 7.7370 -  
mean_absolute_error: 1.9718 - val_loss  
: 12.7064 - val_mean_absolute_error: 2  
.1736  
5765 Epoch 2598/20000  
5766 - 0s - loss: 7.0526 -  
mean_absolute_error: 1.9252 - val_loss  
: 12.7055 - val_mean_absolute_error: 2  
.1735
```

```
5767 Epoch 2599/20000
5768   - 0s - loss: 6.0542 -
      mean_absolute_error: 1.8826 - val_loss
      : 12.7052 - val_mean_absolute_error: 2
      .1735
5769 Epoch 2600/20000
5770   - 0s - loss: 8.0916 -
      mean_absolute_error: 1.9828 - val_loss
      : 12.7051 - val_mean_absolute_error: 2
      .1735
5771
5772 Epoch 02600: saving model to ./model/
      model_best.h5
5773 Epoch 2601/20000
5774   - 0s - loss: 6.9751 -
      mean_absolute_error: 1.9255 - val_loss
      : 12.7058 - val_mean_absolute_error: 2
      .1735
5775 Epoch 2602/20000
5776   - 0s - loss: 8.2390 -
      mean_absolute_error: 1.9938 - val_loss
      : 12.7051 - val_mean_absolute_error: 2
      .1735
5777 Epoch 2603/20000
```

```
5778 - 0s - loss: 7.0480 -  
mean_absolute_error: 1.9312 - val_loss  
: 12.7048 - val_mean_absolute_error: 2  
.1734  
5779 Epoch 2604/20000  
5780 - 0s - loss: 8.3799 -  
mean_absolute_error: 2.0076 - val_loss  
: 12.7059 - val_mean_absolute_error: 2  
.1735  
5781 Epoch 2605/20000  
5782 - 0s - loss: 7.8504 -  
mean_absolute_error: 2.0966 - val_loss  
: 12.7060 - val_mean_absolute_error: 2  
.1735  
5783 Epoch 2606/20000  
5784 - 0s - loss: 7.4986 -  
mean_absolute_error: 1.9490 - val_loss  
: 12.7060 - val_mean_absolute_error: 2  
.1735  
5785 Epoch 2607/20000  
5786 - 0s - loss: 9.9874 -  
mean_absolute_error: 2.1103 - val_loss  
: 12.7052 - val_mean_absolute_error: 2  
.1734
```

```
5787 Epoch 2608/20000
5788   - 0s - loss: 7.1453 -
      mean_absolute_error: 1.9814 - val_loss
      : 12.7054 - val_mean_absolute_error: 2
      .1734
5789 Epoch 2609/20000
5790   - 0s - loss: 8.1052 -
      mean_absolute_error: 2.0799 - val_loss
      : 12.7054 - val_mean_absolute_error: 2
      .1734
5791 Epoch 2610/20000
5792   - 0s - loss: 8.3012 -
      mean_absolute_error: 2.0450 - val_loss
      : 12.7051 - val_mean_absolute_error: 2
      .1734
5793
5794 Epoch 02610: saving model to ./model/
      model_best.h5
5795 Epoch 2611/20000
5796   - 0s - loss: 7.6382 -
      mean_absolute_error: 2.0016 - val_loss
      : 12.7055 - val_mean_absolute_error: 2
      .1734
5797 Epoch 2612/20000
```

```
5798 - 0s - loss: 6.8654 -  
mean_absolute_error: 1.9131 - val_loss  
: 12.7067 - val_mean_absolute_error: 2  
.1735  
5799 Epoch 2613/20000  
5800 - 0s - loss: 6.5587 -  
mean_absolute_error: 1.8780 - val_loss  
: 12.7068 - val_mean_absolute_error: 2  
.1735  
5801 Epoch 2614/20000  
5802 - 0s - loss: 7.7415 -  
mean_absolute_error: 1.9528 - val_loss  
: 12.7061 - val_mean_absolute_error: 2  
.1735  
5803 Epoch 2615/20000  
5804 - 0s - loss: 8.4165 -  
mean_absolute_error: 2.1274 - val_loss  
: 12.7051 - val_mean_absolute_error: 2  
.1734  
5805 Epoch 2616/20000  
5806 - 0s - loss: 8.2752 -  
mean_absolute_error: 2.0215 - val_loss  
: 12.7062 - val_mean_absolute_error: 2  
.1735
```

```
5807 Epoch 2617/20000
5808   - 0s - loss: 8.6248 -
      mean_absolute_error: 2.1332 - val_loss
      : 12.7070 - val_mean_absolute_error: 2
      .1736
5809 Epoch 2618/20000
5810   - 0s - loss: 7.4141 -
      mean_absolute_error: 1.9521 - val_loss
      : 12.7059 - val_mean_absolute_error: 2
      .1735
5811 Epoch 2619/20000
5812   - 0s - loss: 7.9109 -
      mean_absolute_error: 2.0010 - val_loss
      : 12.7067 - val_mean_absolute_error: 2
      .1735
5813 Epoch 2620/20000
5814   - 0s - loss: 7.1222 -
      mean_absolute_error: 1.9618 - val_loss
      : 12.7079 - val_mean_absolute_error: 2
      .1736
5815
5816 Epoch 02620: saving model to ./model/
      model_best.h5
5817 Epoch 2621/20000
```

```
5818 - 0s - loss: 7.3176 -  
mean_absolute_error: 1.9822 - val_loss  
: 12.7086 - val_mean_absolute_error: 2  
.1736  
5819 Epoch 2622/20000  
5820 - 0s - loss: 6.7999 -  
mean_absolute_error: 1.8927 - val_loss  
: 12.7090 - val_mean_absolute_error: 2  
.1737  
5821 Epoch 2623/20000  
5822 - 0s - loss: 6.3671 -  
mean_absolute_error: 1.8953 - val_loss  
: 12.7089 - val_mean_absolute_error: 2  
.1737  
5823 Epoch 2624/20000  
5824 - 0s - loss: 6.1665 -  
mean_absolute_error: 1.9064 - val_loss  
: 12.7095 - val_mean_absolute_error: 2  
.1737  
5825 Epoch 2625/20000  
5826 - 0s - loss: 7.3232 -  
mean_absolute_error: 1.9569 - val_loss  
: 12.7092 - val_mean_absolute_error: 2  
.1737
```



```
5827 Epoch 2626/20000
5828   - 0s - loss: 7.4262 -
      mean_absolute_error: 2.0046 - val_loss
      : 12.7090 - val_mean_absolute_error: 2
      .1737
5829 Epoch 2627/20000
5830   - 0s - loss: 8.5512 -
      mean_absolute_error: 2.0320 - val_loss
      : 12.7092 - val_mean_absolute_error: 2
      .1737
5831 Epoch 2628/20000
5832   - 0s - loss: 6.3793 -
      mean_absolute_error: 1.8447 - val_loss
      : 12.7088 - val_mean_absolute_error: 2
      .1737
5833 Epoch 2629/20000
5834   - 0s - loss: 7.9353 -
      mean_absolute_error: 2.1070 - val_loss
      : 12.7088 - val_mean_absolute_error: 2
      .1737
5835 Epoch 2630/20000
5836   - 0s - loss: 7.2246 -
      mean_absolute_error: 1.9771 - val_loss
      : 12.7108 - val_mean_absolute_error: 2
```

5836 .1739

5837

5838 Epoch 02630: saving model to ./model/
model_best.h5

5839 Epoch 2631/20000

5840 - 0s - loss: 6.7979 -
mean_absolute_error: 1.9278 - val_loss
: 12.7105 - val_mean_absolute_error: 2
.1738

5841 Epoch 2632/20000

5842 - 0s - loss: 7.2256 -
mean_absolute_error: 1.9238 - val_loss
: 12.7109 - val_mean_absolute_error: 2
.1739

5843 Epoch 2633/20000

5844 - 0s - loss: 7.6421 -
mean_absolute_error: 2.0118 - val_loss
: 12.7104 - val_mean_absolute_error: 2
.1739

5845 Epoch 2634/20000

5846 - 0s - loss: 8.5240 -
mean_absolute_error: 2.0843 - val_loss
: 12.7105 - val_mean_absolute_error: 2
.1739

```
5847 Epoch 2635/20000
5848   - 0s - loss: 7.8436 -
      mean_absolute_error: 2.0740 - val_loss
      : 12.7099 - val_mean_absolute_error: 2
      .1739
5849 Epoch 2636/20000
5850   - 0s - loss: 7.8446 -
      mean_absolute_error: 2.0467 - val_loss
      : 12.7095 - val_mean_absolute_error: 2
      .1738
5851 Epoch 2637/20000
5852   - 0s - loss: 6.5141 -
      mean_absolute_error: 1.9649 - val_loss
      : 12.7093 - val_mean_absolute_error: 2
      .1738
5853 Epoch 2638/20000
5854   - 0s - loss: 7.7105 -
      mean_absolute_error: 2.0144 - val_loss
      : 12.7097 - val_mean_absolute_error: 2
      .1738
5855 Epoch 2639/20000
5856   - 0s - loss: 7.6189 -
      mean_absolute_error: 1.9541 - val_loss
      : 12.7105 - val_mean_absolute_error: 2
```

```
5856 .1738
5857 Epoch 2640/20000
5858 - 0s - loss: 8.3496 -
mean_absolute_error: 2.0576 - val_loss
: 12.7111 - val_mean_absolute_error: 2
.1739
5859
5860 Epoch 02640: saving model to ./model/
model_best.h5
5861 Epoch 2641/20000
5862 - 0s - loss: 6.6622 -
mean_absolute_error: 1.8607 - val_loss
: 12.7108 - val_mean_absolute_error: 2
.1739
5863 Epoch 2642/20000
5864 - 0s - loss: 9.6320 -
mean_absolute_error: 2.2277 - val_loss
: 12.7105 - val_mean_absolute_error: 2
.1738
5865 Epoch 2643/20000
5866 - 0s - loss: 6.7167 -
mean_absolute_error: 1.8826 - val_loss
: 12.7109 - val_mean_absolute_error: 2
.1738
```

```
5867 Epoch 2644/20000
5868   - 0s - loss: 8.4542 -
      mean_absolute_error: 2.0767 - val_loss
      : 12.7109 - val_mean_absolute_error: 2
      .1739
5869 Epoch 2645/20000
5870   - 0s - loss: 7.8118 -
      mean_absolute_error: 2.0389 - val_loss
      : 12.7099 - val_mean_absolute_error: 2
      .1738
5871 Epoch 2646/20000
5872   - 0s - loss: 8.8449 -
      mean_absolute_error: 2.1121 - val_loss
      : 12.7093 - val_mean_absolute_error: 2
      .1738
5873 Epoch 2647/20000
5874   - 0s - loss: 6.8438 -
      mean_absolute_error: 1.9393 - val_loss
      : 12.7100 - val_mean_absolute_error: 2
      .1738
5875 Epoch 2648/20000
5876   - 0s - loss: 6.6938 -
      mean_absolute_error: 1.9538 - val_loss
      : 12.7104 - val_mean_absolute_error: 2
```

```
5876 .1738
5877 Epoch 2649/20000
5878 - 0s - loss: 8.5205 -
mean_absolute_error: 2.1518 - val_loss
: 12.7108 - val_mean_absolute_error: 2
.1739
5879 Epoch 2650/20000
5880 - 0s - loss: 8.1579 -
mean_absolute_error: 2.0208 - val_loss
: 12.7105 - val_mean_absolute_error: 2
.1738
5881
5882 Epoch 02650: saving model to ./model/
model_best.h5
5883 Epoch 2651/20000
5884 - 0s - loss: 8.3615 -
mean_absolute_error: 2.0919 - val_loss
: 12.7113 - val_mean_absolute_error: 2
.1739
5885 Epoch 2652/20000
5886 - 0s - loss: 6.6113 -
mean_absolute_error: 1.8767 - val_loss
: 12.7110 - val_mean_absolute_error: 2
.1739
```

```
5887 Epoch 2653/20000
5888   - 0s - loss: 7.3141 -
      mean_absolute_error: 1.9706 - val_loss
      : 12.7108 - val_mean_absolute_error: 2
      .1738
5889 Epoch 2654/20000
5890   - 0s - loss: 7.6253 -
      mean_absolute_error: 2.0080 - val_loss
      : 12.7105 - val_mean_absolute_error: 2
      .1738
5891 Epoch 2655/20000
5892   - 0s - loss: 6.9160 -
      mean_absolute_error: 1.9070 - val_loss
      : 12.7099 - val_mean_absolute_error: 2
      .1738
5893 Epoch 2656/20000
5894   - 0s - loss: 6.7477 -
      mean_absolute_error: 1.9956 - val_loss
      : 12.7101 - val_mean_absolute_error: 2
      .1738
5895 Epoch 2657/20000
5896   - 0s - loss: 7.6995 -
      mean_absolute_error: 2.0094 - val_loss
      : 12.7093 - val_mean_absolute_error: 2
```

```
5896 .1737
5897 Epoch 2658/20000
5898 - 0s - loss: 8.4586 -
mean_absolute_error: 2.1044 - val_loss
: 12.7095 - val_mean_absolute_error: 2
.1737
5899 Epoch 2659/20000
5900 - 0s - loss: 7.2375 -
mean_absolute_error: 1.9871 - val_loss
: 12.7094 - val_mean_absolute_error: 2
.1738
5901 Epoch 2660/20000
5902 - 0s - loss: 8.8092 -
mean_absolute_error: 2.1541 - val_loss
: 12.7101 - val_mean_absolute_error: 2
.1738
5903
5904 Epoch 02660: saving model to ./model/
model_best.h5
5905 Epoch 2661/20000
5906 - 0s - loss: 7.9891 -
mean_absolute_error: 1.9608 - val_loss
: 12.7102 - val_mean_absolute_error: 2
.1738
```



```
5907 Epoch 2662/20000
5908   - 0s - loss: 7.8079 -
      mean_absolute_error: 2.0168 - val_loss
      : 12.7096 - val_mean_absolute_error: 2
      .1738
5909 Epoch 2663/20000
5910   - 0s - loss: 6.7821 -
      mean_absolute_error: 1.9312 - val_loss
      : 12.7090 - val_mean_absolute_error: 2
      .1738
5911 Epoch 2664/20000
5912   - 0s - loss: 7.1388 -
      mean_absolute_error: 2.0315 - val_loss
      : 12.7095 - val_mean_absolute_error: 2
      .1738
5913 Epoch 2665/20000
5914   - 0s - loss: 6.9552 -
      mean_absolute_error: 1.8675 - val_loss
      : 12.7096 - val_mean_absolute_error: 2
      .1738
5915 Epoch 2666/20000
5916   - 0s - loss: 7.1132 -
      mean_absolute_error: 1.9798 - val_loss
      : 12.7106 - val_mean_absolute_error: 2
```

```
5916 .1739
5917 Epoch 2667/20000
5918 - 0s - loss: 8.2289 -
mean_absolute_error: 2.0600 - val_loss
: 12.7119 - val_mean_absolute_error: 2
.1739
5919 Epoch 2668/20000
5920 - 0s - loss: 5.6803 -
mean_absolute_error: 1.7522 - val_loss
: 12.7126 - val_mean_absolute_error: 2
.1740
5921 Epoch 2669/20000
5922 - 0s - loss: 7.6718 -
mean_absolute_error: 1.9032 - val_loss
: 12.7115 - val_mean_absolute_error: 2
.1739
5923 Epoch 2670/20000
5924 - 0s - loss: 6.6806 -
mean_absolute_error: 1.9758 - val_loss
: 12.7108 - val_mean_absolute_error: 2
.1739
5925
5926 Epoch 02670: saving model to ./model/
model_best.h5
```

```
5927 Epoch 2671/20000
5928   - 0s - loss: 7.2841 -
      mean_absolute_error: 1.9594 - val_loss
      : 12.7102 - val_mean_absolute_error: 2
      .1738
5929 Epoch 2672/20000
5930   - 0s - loss: 6.1691 -
      mean_absolute_error: 1.8492 - val_loss
      : 12.7095 - val_mean_absolute_error: 2
      .1738
5931 Epoch 2673/20000
5932   - 0s - loss: 7.7256 -
      mean_absolute_error: 2.0042 - val_loss
      : 12.7102 - val_mean_absolute_error: 2
      .1738
5933 Epoch 2674/20000
5934   - 0s - loss: 7.9460 -
      mean_absolute_error: 2.0996 - val_loss
      : 12.7098 - val_mean_absolute_error: 2
      .1738
5935 Epoch 2675/20000
5936   - 0s - loss: 8.5160 -
      mean_absolute_error: 2.1077 - val_loss
      : 12.7094 - val_mean_absolute_error: 2
```

```
5936 .1737
5937 Epoch 2676/20000
5938 - 0s - loss: 7.1845 -
mean_absolute_error: 1.9460 - val_loss
: 12.7096 - val_mean_absolute_error: 2
.1737
5939 Epoch 2677/20000
5940 - 0s - loss: 7.7692 -
mean_absolute_error: 2.0325 - val_loss
: 12.7094 - val_mean_absolute_error: 2
.1737
5941 Epoch 2678/20000
5942 - 0s - loss: 7.0187 -
mean_absolute_error: 1.9070 - val_loss
: 12.7096 - val_mean_absolute_error: 2
.1737
5943 Epoch 2679/20000
5944 - 0s - loss: 8.9166 -
mean_absolute_error: 2.1206 - val_loss
: 12.7108 - val_mean_absolute_error: 2
.1738
5945 Epoch 2680/20000
5946 - 0s - loss: 8.8586 -
mean_absolute_error: 2.0604 - val_loss
```

5946 : 12.7108 - val_mean_absolute_error: 2
.1739

5947

5948 Epoch 02680: saving model to ./model/
model_best.h5

5949 Epoch 2681/20000

5950 - 0s - loss: 6.1256 -
mean_absolute_error: 1.9154 - val_loss
: 12.7103 - val_mean_absolute_error: 2
.1739

5951 Epoch 2682/20000

5952 - 0s - loss: 7.4697 -
mean_absolute_error: 2.0218 - val_loss
: 12.7107 - val_mean_absolute_error: 2
.1738

5953 Epoch 2683/20000

5954 - 0s - loss: 7.6344 -
mean_absolute_error: 2.0269 - val_loss
: 12.7100 - val_mean_absolute_error: 2
.1737

5955 Epoch 2684/20000

5956 - 0s - loss: 6.9272 -
mean_absolute_error: 1.9034 - val_loss
: 12.7093 - val_mean_absolute_error: 2

```
5956 .1736
5957 Epoch 2685/20000
5958 - 0s - loss: 6.3437 -
      mean_absolute_error: 1.9384 - val_loss
      : 12.7092 - val_mean_absolute_error: 2
      .1737
5959 Epoch 2686/20000
5960 - 0s - loss: 7.2647 -
      mean_absolute_error: 1.8868 - val_loss
      : 12.7095 - val_mean_absolute_error: 2
      .1737
5961 Epoch 2687/20000
5962 - 0s - loss: 8.4062 -
      mean_absolute_error: 2.1484 - val_loss
      : 12.7091 - val_mean_absolute_error: 2
      .1737
5963 Epoch 2688/20000
5964 - 0s - loss: 7.0077 -
      mean_absolute_error: 1.9357 - val_loss
      : 12.7092 - val_mean_absolute_error: 2
      .1737
5965 Epoch 2689/20000
5966 - 0s - loss: 7.1645 -
      mean_absolute_error: 1.9852 - val_loss
```

5966 : 12.7082 - val_mean_absolute_error: 2
.1736

5967 Epoch 2690/20000

5968 - 0s - loss: 7.5699 -
mean_absolute_error: 1.9626 - val_loss
: 12.7086 - val_mean_absolute_error: 2
.1735

5969

5970 Epoch 02690: saving model to ./model/
model_best.h5

5971 Epoch 2691/20000

5972 - 0s - loss: 7.6184 -
mean_absolute_error: 1.9909 - val_loss
: 12.7079 - val_mean_absolute_error: 2
.1735

5973 Epoch 2692/20000

5974 - 0s - loss: 7.3599 -
mean_absolute_error: 1.9358 - val_loss
: 12.7071 - val_mean_absolute_error: 2
.1734

5975 Epoch 2693/20000

5976 - 0s - loss: 6.9782 -
mean_absolute_error: 1.8765 - val_loss
: 12.7066 - val_mean_absolute_error: 2

```
5976 .1734
5977 Epoch 2694/20000
5978 - 0s - loss: 5.4424 -
mean_absolute_error: 1.7260 - val_loss
: 12.7058 - val_mean_absolute_error: 2
.1733
5979 Epoch 2695/20000
5980 - 0s - loss: 8.6003 -
mean_absolute_error: 2.0214 - val_loss
: 12.7071 - val_mean_absolute_error: 2
.1733
5981 Epoch 2696/20000
5982 - 0s - loss: 5.8552 -
mean_absolute_error: 1.8184 - val_loss
: 12.7066 - val_mean_absolute_error: 2
.1733
5983 Epoch 2697/20000
5984 - 0s - loss: 6.4580 -
mean_absolute_error: 1.9042 - val_loss
: 12.7070 - val_mean_absolute_error: 2
.1734
5985 Epoch 2698/20000
5986 - 0s - loss: 7.8525 -
mean_absolute_error: 2.1216 - val_loss
```



```
5986 : 12.7073 - val_mean_absolute_error: 2
      .1734
5987 Epoch 2699/20000
5988   - 0s - loss: 8.1601 -
      mean_absolute_error: 2.0195 - val_loss
      : 12.7071 - val_mean_absolute_error: 2
      .1734
5989 Epoch 2700/20000
5990   - 0s - loss: 8.1560 -
      mean_absolute_error: 2.1354 - val_loss
      : 12.7083 - val_mean_absolute_error: 2
      .1735
5991
5992 Epoch 02700: saving model to ./model/
      model_best.h5
5993 Epoch 2701/20000
5994   - 0s - loss: 7.5818 -
      mean_absolute_error: 1.9593 - val_loss
      : 12.7074 - val_mean_absolute_error: 2
      .1734
5995 Epoch 2702/20000
5996   - 0s - loss: 7.3264 -
      mean_absolute_error: 1.9986 - val_loss
      : 12.7073 - val_mean_absolute_error: 2
```

```
5996 .1734
5997 Epoch 2703/20000
5998 - 0s - loss: 7.0844 -
mean_absolute_error: 1.8837 - val_loss
: 12.7073 - val_mean_absolute_error: 2
.1734
5999 Epoch 2704/20000
6000 - 0s - loss: 6.7579 -
mean_absolute_error: 1.9199 - val_loss
: 12.7070 - val_mean_absolute_error: 2
.1733
6001 Epoch 2705/20000
6002 - 0s - loss: 7.1782 -
mean_absolute_error: 2.0143 - val_loss
: 12.7068 - val_mean_absolute_error: 2
.1733
6003 Epoch 2706/20000
6004 - 0s - loss: 7.3943 -
mean_absolute_error: 1.9881 - val_loss
: 12.7067 - val_mean_absolute_error: 2
.1733
6005 Epoch 2707/20000
6006 - 0s - loss: 7.6018 -
mean_absolute_error: 2.0331 - val_loss
```

```
6006 : 12.7059 - val_mean_absolute_error: 2
      .1732
6007 Epoch 2708/20000
6008   - 0s - loss: 7.3820 -
      mean_absolute_error: 2.0076 - val_loss
      : 12.7063 - val_mean_absolute_error: 2
      .1732
6009 Epoch 2709/20000
6010   - 0s - loss: 7.6764 -
      mean_absolute_error: 1.9225 - val_loss
      : 12.7068 - val_mean_absolute_error: 2
      .1733
6011 Epoch 2710/20000
6012   - 0s - loss: 6.5951 -
      mean_absolute_error: 1.8786 - val_loss
      : 12.7067 - val_mean_absolute_error: 2
      .1733
6013
6014 Epoch 02710: saving model to ./model/
      model_best.h5
6015 Epoch 2711/20000
6016   - 0s - loss: 6.8430 -
      mean_absolute_error: 1.9321 - val_loss
      : 12.7061 - val_mean_absolute_error: 2
```

```
6016 . 1733
6017 Epoch 2712/20000
6018 - 0s - loss: 6.0010 -
mean_absolute_error: 1.8231 - val_loss
: 12.7066 - val_mean_absolute_error: 2
. 1733
6019 Epoch 2713/20000
6020 - 0s - loss: 9.7371 -
mean_absolute_error: 2.1693 - val_loss
: 12.7063 - val_mean_absolute_error: 2
. 1732
6021 Epoch 2714/20000
6022 - 0s - loss: 8.2704 -
mean_absolute_error: 2.0598 - val_loss
: 12.7065 - val_mean_absolute_error: 2
. 1732
6023 Epoch 2715/20000
6024 - 0s - loss: 7.5984 -
mean_absolute_error: 1.9368 - val_loss
: 12.7065 - val_mean_absolute_error: 2
. 1732
6025 Epoch 2716/20000
6026 - 0s - loss: 6.5696 -
mean_absolute_error: 1.8779 - val_loss
```

```
6026 : 12.7067 - val_mean_absolute_error: 2
      .1732
6027 Epoch 2717/20000
6028 - 0s - loss: 6.5663 -
      mean_absolute_error: 1.9140 - val_loss
      : 12.7068 - val_mean_absolute_error: 2
      .1733
6029 Epoch 2718/20000
6030 - 0s - loss: 6.2497 -
      mean_absolute_error: 1.8799 - val_loss
      : 12.7070 - val_mean_absolute_error: 2
      .1733
6031 Epoch 2719/20000
6032 - 0s - loss: 6.7516 -
      mean_absolute_error: 1.8838 - val_loss
      : 12.7066 - val_mean_absolute_error: 2
      .1733
6033 Epoch 2720/20000
6034 - 0s - loss: 9.8542 -
      mean_absolute_error: 2.1996 - val_loss
      : 12.7069 - val_mean_absolute_error: 2
      .1734
6035
6036 Epoch 02720: saving model to ./model/
```

6036 model_best.h5

6037 Epoch 2721/20000

6038 - 0s - loss: 7.8399 -

mean_absolute_error: 1.9524 - val_loss
: 12.7066 - val_mean_absolute_error: 2
.1733

6039 Epoch 2722/20000

6040 - 0s - loss: 6.3257 -

mean_absolute_error: 1.9101 - val_loss
: 12.7067 - val_mean_absolute_error: 2
.1733

6041 Epoch 2723/20000

6042 - 0s - loss: 6.8887 -

mean_absolute_error: 1.9265 - val_loss
: 12.7072 - val_mean_absolute_error: 2
.1733

6043 Epoch 2724/20000

6044 - 0s - loss: 7.1622 -

mean_absolute_error: 1.9960 - val_loss
: 12.7069 - val_mean_absolute_error: 2
.1733

6045 Epoch 2725/20000

6046 - 0s - loss: 6.7527 -

mean_absolute_error: 1.8572 - val_loss

```
6046 : 12.7069 - val_mean_absolute_error: 2
      .1732
6047 Epoch 2726/20000
6048   - 0s - loss: 7.5835 -
      mean_absolute_error: 1.9961 - val_loss
      : 12.7075 - val_mean_absolute_error: 2
      .1733
6049 Epoch 2727/20000
6050   - 0s - loss: 6.4885 -
      mean_absolute_error: 1.8750 - val_loss
      : 12.7075 - val_mean_absolute_error: 2
      .1733
6051 Epoch 2728/20000
6052   - 0s - loss: 7.6992 -
      mean_absolute_error: 2.0507 - val_loss
      : 12.7069 - val_mean_absolute_error: 2
      .1732
6053 Epoch 2729/20000
6054   - 0s - loss: 7.2205 -
      mean_absolute_error: 1.9638 - val_loss
      : 12.7062 - val_mean_absolute_error: 2
      .1732
6055 Epoch 2730/20000
6056   - 0s - loss: 8.0527 -
```

```
6056 mean_absolute_error: 2.1027 - val_loss
      : 12.7060 - val_mean_absolute_error: 2
      .1732
```

```
6057
```

```
6058 Epoch 02730: saving model to ./model/
      model_best.h5
```

```
6059 Epoch 2731/20000
```

```
6060 - 0s - loss: 8.3362 -
      mean_absolute_error: 1.9665 - val_loss
      : 12.7063 - val_mean_absolute_error: 2
      .1732
```

```
6061 Epoch 2732/20000
```

```
6062 - 0s - loss: 6.7015 -
      mean_absolute_error: 1.8592 - val_loss
      : 12.7064 - val_mean_absolute_error: 2
      .1732
```

```
6063 Epoch 2733/20000
```

```
6064 - 0s - loss: 7.4036 -
      mean_absolute_error: 1.8757 - val_loss
      : 12.7072 - val_mean_absolute_error: 2
      .1733
```

```
6065 Epoch 2734/20000
```

```
6066 - 0s - loss: 9.3768 -
      mean_absolute_error: 2.1558 - val_loss
```



```
6066 : 12.7065 - val_mean_absolute_error: 2
      .1733
6067 Epoch 2735/20000
6068 - 0s - loss: 7.4300 -
      mean_absolute_error: 1.9143 - val_loss
      : 12.7063 - val_mean_absolute_error: 2
      .1732
6069 Epoch 2736/20000
6070 - 0s - loss: 9.2928 -
      mean_absolute_error: 2.1359 - val_loss
      : 12.7061 - val_mean_absolute_error: 2
      .1732
6071 Epoch 2737/20000
6072 - 0s - loss: 8.1539 -
      mean_absolute_error: 2.0989 - val_loss
      : 12.7054 - val_mean_absolute_error: 2
      .1732
6073 Epoch 2738/20000
6074 - 0s - loss: 6.6231 -
      mean_absolute_error: 1.8933 - val_loss
      : 12.7056 - val_mean_absolute_error: 2
      .1732
6075 Epoch 2739/20000
6076 - 0s - loss: 7.4907 -
```

6076 mean_absolute_error: 1.9292 - val_loss
: 12.7060 - val_mean_absolute_error: 2
.1733

6077 Epoch 2740/20000

6078 - 0s - loss: 6.6996 -
mean_absolute_error: 1.8930 - val_loss
: 12.7048 - val_mean_absolute_error: 2
.1732

6079

6080 Epoch 02740: saving model to ./model/
model_best.h5

6081 Epoch 2741/20000

6082 - 0s - loss: 6.8277 -
mean_absolute_error: 1.9563 - val_loss
: 12.7040 - val_mean_absolute_error: 2
.1732

6083 Epoch 2742/20000

6084 - 0s - loss: 7.9472 -
mean_absolute_error: 1.9139 - val_loss
: 12.7028 - val_mean_absolute_error: 2
.1730

6085 Epoch 2743/20000

6086 - 0s - loss: 7.1749 -
mean_absolute_error: 1.9288 - val_loss

```
6086 : 12.7022 - val_mean_absolute_error: 2
      .1730
6087 Epoch 2744/20000
6088 - 0s - loss: 7.7333 -
      mean_absolute_error: 1.9577 - val_loss
      : 12.7024 - val_mean_absolute_error: 2
      .1730
6089 Epoch 2745/20000
6090 - 0s - loss: 7.8816 -
      mean_absolute_error: 1.9916 - val_loss
      : 12.7013 - val_mean_absolute_error: 2
      .1729
6091 Epoch 2746/20000
6092 - 0s - loss: 7.2161 -
      mean_absolute_error: 1.9845 - val_loss
      : 12.7015 - val_mean_absolute_error: 2
      .1729
6093 Epoch 2747/20000
6094 - 0s - loss: 6.2061 -
      mean_absolute_error: 1.7673 - val_loss
      : 12.7016 - val_mean_absolute_error: 2
      .1729
6095 Epoch 2748/20000
6096 - 0s - loss: 6.9703 -
```

6096 mean_absolute_error: 1.9012 - val_loss
: 12.7004 - val_mean_absolute_error: 2
.1729

6097 Epoch 2749/20000

6098 - 0s - loss: 7.7992 -
mean_absolute_error: 2.0202 - val_loss
: 12.7001 - val_mean_absolute_error: 2
.1729

6099 Epoch 2750/20000

6100 - 0s - loss: 8.9262 -
mean_absolute_error: 2.0818 - val_loss
: 12.6996 - val_mean_absolute_error: 2
.1728

6101

6102 Epoch 02750: saving model to ./model/
model_best.h5

6103 Epoch 2751/20000

6104 - 0s - loss: 8.8714 -
mean_absolute_error: 2.1422 - val_loss
: 12.6998 - val_mean_absolute_error: 2
.1728

6105 Epoch 2752/20000

6106 - 0s - loss: 7.1941 -
mean_absolute_error: 1.9261 - val_loss

```
6106 : 12.7002 - val_mean_absolute_error: 2
      .1729
6107 Epoch 2753/20000
6108 - 0s - loss: 8.8342 -
      mean_absolute_error: 2.0590 - val_loss
      : 12.6993 - val_mean_absolute_error: 2
      .1728
6109 Epoch 2754/20000
6110 - 0s - loss: 7.3694 -
      mean_absolute_error: 1.8707 - val_loss
      : 12.6986 - val_mean_absolute_error: 2
      .1728
6111 Epoch 2755/20000
6112 - 0s - loss: 9.1290 -
      mean_absolute_error: 2.0938 - val_loss
      : 12.6979 - val_mean_absolute_error: 2
      .1727
6113 Epoch 2756/20000
6114 - 0s - loss: 8.1634 -
      mean_absolute_error: 2.0458 - val_loss
      : 12.6981 - val_mean_absolute_error: 2
      .1727
6115 Epoch 2757/20000
6116 - 0s - loss: 7.8431 -
```

6116 mean_absolute_error: 1.9612 - val_loss
: 12.6980 - val_mean_absolute_error: 2
.1727

6117 Epoch 2758/20000

6118 - 0s - loss: 7.9137 -
mean_absolute_error: 2.1073 - val_loss
: 12.6984 - val_mean_absolute_error: 2
.1728

6119 Epoch 2759/20000

6120 - 0s - loss: 8.1246 -
mean_absolute_error: 2.0173 - val_loss
: 12.6978 - val_mean_absolute_error: 2
.1727

6121 Epoch 2760/20000

6122 - 0s - loss: 8.3122 -
mean_absolute_error: 1.9801 - val_loss
: 12.6970 - val_mean_absolute_error: 2
.1727

6123

6124 Epoch 02760: saving model to ./model/
model_best.h5

6125 Epoch 2761/20000

6126 - 0s - loss: 7.7972 -
mean_absolute_error: 1.9665 - val_loss

```
6126 : 12.6972 - val_mean_absolute_error: 2
      .1728
6127 Epoch 2762/20000
6128 - 0s - loss: 6.6942 -
      mean_absolute_error: 1.8742 - val_loss
      : 12.6969 - val_mean_absolute_error: 2
      .1728
6129 Epoch 2763/20000
6130 - 0s - loss: 9.2083 -
      mean_absolute_error: 2.1208 - val_loss
      : 12.6977 - val_mean_absolute_error: 2
      .1728
6131 Epoch 2764/20000
6132 - 0s - loss: 8.3846 -
      mean_absolute_error: 2.0452 - val_loss
      : 12.6981 - val_mean_absolute_error: 2
      .1729
6133 Epoch 2765/20000
6134 - 0s - loss: 6.8881 -
      mean_absolute_error: 1.9161 - val_loss
      : 12.6982 - val_mean_absolute_error: 2
      .1729
6135 Epoch 2766/20000
6136 - 0s - loss: 5.6769 -
```

6136 mean_absolute_error: 1.7783 - val_loss
: 12.6982 - val_mean_absolute_error: 2
.1729

6137 Epoch 2767/20000

6138 - 0s - loss: 7.8321 -
mean_absolute_error: 1.8903 - val_loss
: 12.6977 - val_mean_absolute_error: 2
.1728

6139 Epoch 2768/20000

6140 - 0s - loss: 7.6524 -
mean_absolute_error: 1.9907 - val_loss
: 12.6984 - val_mean_absolute_error: 2
.1729

6141 Epoch 2769/20000

6142 - 0s - loss: 7.5645 -
mean_absolute_error: 2.0306 - val_loss
: 12.6981 - val_mean_absolute_error: 2
.1728

6143 Epoch 2770/20000

6144 - 0s - loss: 7.8019 -
mean_absolute_error: 2.0494 - val_loss
: 12.6981 - val_mean_absolute_error: 2
.1728

6145


```
6146 Epoch 02770: saving model to ./model/
model_best.h5
6147 Epoch 2771/20000
6148   - 0s - loss: 8.6208 -
mean_absolute_error: 2.0803 - val_loss
: 12.6987 - val_mean_absolute_error: 2
.1728
6149 Epoch 2772/20000
6150   - 0s - loss: 7.1044 -
mean_absolute_error: 1.9525 - val_loss
: 12.6993 - val_mean_absolute_error: 2
.1729
6151 Epoch 2773/20000
6152   - 0s - loss: 7.8203 -
mean_absolute_error: 2.0396 - val_loss
: 12.6993 - val_mean_absolute_error: 2
.1729
6153 Epoch 2774/20000
6154   - 0s - loss: 6.2770 -
mean_absolute_error: 1.8722 - val_loss
: 12.6990 - val_mean_absolute_error: 2
.1728
6155 Epoch 2775/20000
6156   - 0s - loss: 7.2443 -
```

```
6156 mean_absolute_error: 1.9090 - val_loss
      : 12.6989 - val_mean_absolute_error: 2
      .1729
6157 Epoch 2776/20000
6158   - 0s - loss: 7.6186 -
      mean_absolute_error: 2.0055 - val_loss
      : 12.6998 - val_mean_absolute_error: 2
      .1729
6159 Epoch 2777/20000
6160   - 0s - loss: 6.8077 -
      mean_absolute_error: 1.8635 - val_loss
      : 12.6992 - val_mean_absolute_error: 2
      .1728
6161 Epoch 2778/20000
6162   - 0s - loss: 7.4107 -
      mean_absolute_error: 1.9525 - val_loss
      : 12.6982 - val_mean_absolute_error: 2
      .1727
6163 Epoch 2779/20000
6164   - 0s - loss: 7.5584 -
      mean_absolute_error: 1.9650 - val_loss
      : 12.6993 - val_mean_absolute_error: 2
      .1729
6165 Epoch 2780/20000
```

```
6166 - 0s - loss: 8.1455 -  
mean_absolute_error: 2.1625 - val_loss  
: 12.6993 - val_mean_absolute_error: 2  
.1729
```

```
6167
```

```
6168 Epoch 02780: saving model to ./model/  
model_best.h5
```

```
6169 Epoch 2781/20000
```

```
6170 - 0s - loss: 7.1793 -  
mean_absolute_error: 1.9599 - val_loss  
: 12.6982 - val_mean_absolute_error: 2  
.1729
```

```
6171 Epoch 2782/20000
```

```
6172 - 0s - loss: 7.7122 -  
mean_absolute_error: 1.9688 - val_loss  
: 12.6985 - val_mean_absolute_error: 2  
.1729
```

```
6173 Epoch 2783/20000
```

```
6174 - 0s - loss: 8.2625 -  
mean_absolute_error: 2.0967 - val_loss  
: 12.6986 - val_mean_absolute_error: 2  
.1730
```

```
6175 Epoch 2784/20000
```

```
6176 - 0s - loss: 8.9540 -
```

```
6176 mean_absolute_error: 2.0764 - val_loss
    : 12.6991 - val_mean_absolute_error: 2
    .1730
6177 Epoch 2785/20000
6178   - 0s - loss: 7.1921 -
    mean_absolute_error: 1.9613 - val_loss
    : 12.6998 - val_mean_absolute_error: 2
    .1731
6179 Epoch 2786/20000
6180   - 0s - loss: 6.8899 -
    mean_absolute_error: 1.9399 - val_loss
    : 12.6994 - val_mean_absolute_error: 2
    .1731
6181 Epoch 2787/20000
6182   - 0s - loss: 7.2372 -
    mean_absolute_error: 1.9425 - val_loss
    : 12.6993 - val_mean_absolute_error: 2
    .1730
6183 Epoch 2788/20000
6184   - 0s - loss: 8.0267 -
    mean_absolute_error: 2.0290 - val_loss
    : 12.6994 - val_mean_absolute_error: 2
    .1730
6185 Epoch 2789/20000
```

```
6186 - 0s - loss: 8.6078 -  
mean_absolute_error: 2.2038 - val_loss  
: 12.7000 - val_mean_absolute_error: 2  
.1731  
6187 Epoch 2790/20000  
6188 - 0s - loss: 7.3700 -  
mean_absolute_error: 1.9784 - val_loss  
: 12.6998 - val_mean_absolute_error: 2  
.1731  
6189  
6190 Epoch 02790: saving model to ./model/  
model_best.h5  
6191 Epoch 2791/20000  
6192 - 0s - loss: 7.7546 -  
mean_absolute_error: 2.0897 - val_loss  
: 12.7010 - val_mean_absolute_error: 2  
.1732  
6193 Epoch 2792/20000  
6194 - 0s - loss: 6.8251 -  
mean_absolute_error: 1.9781 - val_loss  
: 12.7006 - val_mean_absolute_error: 2  
.1732  
6195 Epoch 2793/20000  
6196 - 0s - loss: 8.5202 -
```

```
6196 mean_absolute_error: 2.0271 - val_loss
      : 12.6992 - val_mean_absolute_error: 2
      .1731
6197 Epoch 2794/20000
6198   - 0s - loss: 7.1385 -
      mean_absolute_error: 1.9329 - val_loss
      : 12.6991 - val_mean_absolute_error: 2
      .1731
6199 Epoch 2795/20000
6200   - 0s - loss: 7.1211 -
      mean_absolute_error: 1.9471 - val_loss
      : 12.6996 - val_mean_absolute_error: 2
      .1732
6201 Epoch 2796/20000
6202   - 0s - loss: 7.3292 -
      mean_absolute_error: 1.9267 - val_loss
      : 12.6997 - val_mean_absolute_error: 2
      .1731
6203 Epoch 2797/20000
6204   - 0s - loss: 7.3700 -
      mean_absolute_error: 2.0571 - val_loss
      : 12.6998 - val_mean_absolute_error: 2
      .1732
6205 Epoch 2798/20000
```

```
6206 - 0s - loss: 6.8446 -  
mean_absolute_error: 1.8791 - val_loss  
: 12.6996 - val_mean_absolute_error: 2  
.1732  
6207 Epoch 2799/20000  
6208 - 0s - loss: 6.4210 -  
mean_absolute_error: 1.9714 - val_loss  
: 12.6996 - val_mean_absolute_error: 2  
.1731  
6209 Epoch 2800/20000  
6210 - 0s - loss: 7.5344 -  
mean_absolute_error: 2.0151 - val_loss  
: 12.7006 - val_mean_absolute_error: 2  
.1732  
6211  
6212 Epoch 02800: saving model to ./model/  
model_best.h5  
6213 Epoch 2801/20000  
6214 - 0s - loss: 9.9954 -  
mean_absolute_error: 2.2621 - val_loss  
: 12.7007 - val_mean_absolute_error: 2  
.1733  
6215 Epoch 2802/20000  
6216 - 0s - loss: 7.5759 -
```

```
6216 mean_absolute_error: 1.9755 - val_loss
    : 12.6998 - val_mean_absolute_error: 2
    .1732
6217 Epoch 2803/20000
6218 - 0s - loss: 7.7570 -
    mean_absolute_error: 2.0100 - val_loss
    : 12.7006 - val_mean_absolute_error: 2
    .1733
6219 Epoch 2804/20000
6220 - 0s - loss: 9.0737 -
    mean_absolute_error: 2.0732 - val_loss
    : 12.7002 - val_mean_absolute_error: 2
    .1732
6221 Epoch 2805/20000
6222 - 0s - loss: 5.8263 -
    mean_absolute_error: 1.8265 - val_loss
    : 12.6995 - val_mean_absolute_error: 2
    .1732
6223 Epoch 2806/20000
6224 - 0s - loss: 8.3343 -
    mean_absolute_error: 2.1275 - val_loss
    : 12.6996 - val_mean_absolute_error: 2
    .1732
6225 Epoch 2807/20000
```



```
6226 - 0s - loss: 7.5622 -  
mean_absolute_error: 1.9499 - val_loss  
: 12.6984 - val_mean_absolute_error: 2  
.1731  
6227 Epoch 2808/20000  
6228 - 0s - loss: 8.6767 -  
mean_absolute_error: 2.1198 - val_loss  
: 12.6978 - val_mean_absolute_error: 2  
.1731  
6229 Epoch 2809/20000  
6230 - 0s - loss: 8.1504 -  
mean_absolute_error: 2.0586 - val_loss  
: 12.6975 - val_mean_absolute_error: 2  
.1730  
6231 Epoch 2810/20000  
6232 - 0s - loss: 6.8969 -  
mean_absolute_error: 1.9751 - val_loss  
: 12.6979 - val_mean_absolute_error: 2  
.1730  
6233  
6234 Epoch 02810: saving model to ./model/  
model_best.h5  
6235 Epoch 2811/20000  
6236 - 0s - loss: 7.4410 -
```

```
6236 mean_absolute_error: 1.9802 - val_loss
      : 12.6985 - val_mean_absolute_error: 2
      .1730
6237 Epoch 2812/20000
6238   - 0s - loss: 7.1104 -
      mean_absolute_error: 1.9746 - val_loss
      : 12.6969 - val_mean_absolute_error: 2
      .1729
6239 Epoch 2813/20000
6240   - 0s - loss: 7.0485 -
      mean_absolute_error: 2.0021 - val_loss
      : 12.6955 - val_mean_absolute_error: 2
      .1728
6241 Epoch 2814/20000
6242   - 0s - loss: 7.4546 -
      mean_absolute_error: 1.9756 - val_loss
      : 12.6958 - val_mean_absolute_error: 2
      .1728
6243 Epoch 2815/20000
6244   - 0s - loss: 7.1119 -
      mean_absolute_error: 1.9646 - val_loss
      : 12.6958 - val_mean_absolute_error: 2
      .1728
6245 Epoch 2816/20000
```

```
6246 - 0s - loss: 8.6954 -  
mean_absolute_error: 2.1458 - val_loss  
: 12.6960 - val_mean_absolute_error: 2  
.1728  
6247 Epoch 2817/20000  
6248 - 0s - loss: 7.5088 -  
mean_absolute_error: 1.9978 - val_loss  
: 12.6959 - val_mean_absolute_error: 2  
.1728  
6249 Epoch 2818/20000  
6250 - 0s - loss: 7.0206 -  
mean_absolute_error: 1.9151 - val_loss  
: 12.6958 - val_mean_absolute_error: 2  
.1728  
6251 Epoch 2819/20000  
6252 - 0s - loss: 7.2207 -  
mean_absolute_error: 1.9460 - val_loss  
: 12.6959 - val_mean_absolute_error: 2  
.1728  
6253 Epoch 2820/20000  
6254 - 0s - loss: 6.5411 -  
mean_absolute_error: 1.8014 - val_loss  
: 12.6959 - val_mean_absolute_error: 2  
.1728
```

6255

6256 Epoch 02820: saving model to ./model/
model_best.h5

6257 Epoch 2821/20000

6258 - 0s - loss: 8.7157 -
mean_absolute_error: 2.0507 - val_loss
: 12.6959 - val_mean_absolute_error: 2
.1728

6259 Epoch 2822/20000

6260 - 0s - loss: 6.2020 -
mean_absolute_error: 1.8646 - val_loss
: 12.6970 - val_mean_absolute_error: 2
.1729

6261 Epoch 2823/20000

6262 - 0s - loss: 7.1208 -
mean_absolute_error: 1.9264 - val_loss
: 12.6969 - val_mean_absolute_error: 2
.1729

6263 Epoch 2824/20000

6264 - 0s - loss: 5.9004 -
mean_absolute_error: 1.7555 - val_loss
: 12.6974 - val_mean_absolute_error: 2
.1729

6265 Epoch 2825/20000

```
6266 - 0s - loss: 7.4494 -  
mean_absolute_error: 1.8882 - val_loss  
: 12.6968 - val_mean_absolute_error: 2  
.1729  
6267 Epoch 2826/20000  
6268 - 0s - loss: 6.6904 -  
mean_absolute_error: 1.9231 - val_loss  
: 12.6969 - val_mean_absolute_error: 2  
.1729  
6269 Epoch 2827/20000  
6270 - 0s - loss: 8.9629 -  
mean_absolute_error: 2.1091 - val_loss  
: 12.6974 - val_mean_absolute_error: 2  
.1730  
6271 Epoch 2828/20000  
6272 - 0s - loss: 8.4146 -  
mean_absolute_error: 2.0404 - val_loss  
: 12.6989 - val_mean_absolute_error: 2  
.1730  
6273 Epoch 2829/20000  
6274 - 0s - loss: 6.5266 -  
mean_absolute_error: 1.9449 - val_loss  
: 12.6994 - val_mean_absolute_error: 2  
.1730
```

```
6275 Epoch 2830/20000
6276   - 0s - loss: 7.3975 -
      mean_absolute_error: 2.0769 - val_loss
      : 12.6995 - val_mean_absolute_error: 2
      .1730
6277
6278 Epoch 02830: saving model to ./model/
      model_best.h5
6279 Epoch 2831/20000
6280   - 0s - loss: 6.2086 -
      mean_absolute_error: 1.8794 - val_loss
      : 12.6980 - val_mean_absolute_error: 2
      .1729
6281 Epoch 2832/20000
6282   - 0s - loss: 7.9916 -
      mean_absolute_error: 2.0287 - val_loss
      : 12.6975 - val_mean_absolute_error: 2
      .1728
6283 Epoch 2833/20000
6284   - 0s - loss: 7.5146 -
      mean_absolute_error: 1.9193 - val_loss
      : 12.6966 - val_mean_absolute_error: 2
      .1727
6285 Epoch 2834/20000
```

```
6286 - 0s - loss: 7.5281 -  
mean_absolute_error: 1.9947 - val_loss  
: 12.6965 - val_mean_absolute_error: 2  
.1727  
6287 Epoch 2835/20000  
6288 - 0s - loss: 6.9015 -  
mean_absolute_error: 1.9246 - val_loss  
: 12.6976 - val_mean_absolute_error: 2  
.1728  
6289 Epoch 2836/20000  
6290 - 0s - loss: 9.2446 -  
mean_absolute_error: 2.0479 - val_loss  
: 12.6964 - val_mean_absolute_error: 2  
.1727  
6291 Epoch 2837/20000  
6292 - 0s - loss: 8.6077 -  
mean_absolute_error: 2.0590 - val_loss  
: 12.6967 - val_mean_absolute_error: 2  
.1726  
6293 Epoch 2838/20000  
6294 - 0s - loss: 8.1659 -  
mean_absolute_error: 2.1272 - val_loss  
: 12.6966 - val_mean_absolute_error: 2  
.1726
```

```
6295 Epoch 2839/20000
6296   - 0s - loss: 7.6877 -
      mean_absolute_error: 2.0019 - val_loss
      : 12.6966 - val_mean_absolute_error: 2
      .1726
6297 Epoch 2840/20000
6298   - 0s - loss: 8.7165 -
      mean_absolute_error: 2.0920 - val_loss
      : 12.6971 - val_mean_absolute_error: 2
      .1727
6299
6300 Epoch 02840: saving model to ./model/
      model_best.h5
6301 Epoch 2841/20000
6302   - 0s - loss: 6.0594 -
      mean_absolute_error: 1.7892 - val_loss
      : 12.6965 - val_mean_absolute_error: 2
      .1727
6303 Epoch 2842/20000
6304   - 0s - loss: 7.3322 -
      mean_absolute_error: 2.0674 - val_loss
      : 12.6971 - val_mean_absolute_error: 2
      .1727
6305 Epoch 2843/20000
```



```
6306 - 0s - loss: 7.2086 -  
mean_absolute_error: 1.9042 - val_loss  
: 12.6959 - val_mean_absolute_error: 2  
.1726  
6307 Epoch 2844/20000  
6308 - 0s - loss: 7.8972 -  
mean_absolute_error: 2.0081 - val_loss  
: 12.6958 - val_mean_absolute_error: 2  
.1726  
6309 Epoch 2845/20000  
6310 - 0s - loss: 7.9330 -  
mean_absolute_error: 2.0661 - val_loss  
: 12.6961 - val_mean_absolute_error: 2  
.1726  
6311 Epoch 2846/20000  
6312 - 0s - loss: 8.4607 -  
mean_absolute_error: 1.9867 - val_loss  
: 12.6970 - val_mean_absolute_error: 2  
.1727  
6313 Epoch 2847/20000  
6314 - 0s - loss: 8.1295 -  
mean_absolute_error: 2.0152 - val_loss  
: 12.6973 - val_mean_absolute_error: 2  
.1728
```

```
6315 Epoch 2848/20000
6316   - 0s - loss: 8.0671 -
      mean_absolute_error: 2.0039 - val_loss
      : 12.6980 - val_mean_absolute_error: 2
      .1729
6317 Epoch 2849/20000
6318   - 0s - loss: 6.7066 -
      mean_absolute_error: 1.9348 - val_loss
      : 12.6977 - val_mean_absolute_error: 2
      .1729
6319 Epoch 2850/20000
6320   - 0s - loss: 8.5053 -
      mean_absolute_error: 2.0736 - val_loss
      : 12.6979 - val_mean_absolute_error: 2
      .1729
6321
6322 Epoch 02850: saving model to ./model/
      model_best.h5
6323 Epoch 2851/20000
6324   - 0s - loss: 6.5009 -
      mean_absolute_error: 1.9139 - val_loss
      : 12.6992 - val_mean_absolute_error: 2
      .1730
6325 Epoch 2852/20000
```

```
6326 - 0s - loss: 6.6807 -  
mean_absolute_error: 1.8693 - val_loss  
: 12.6986 - val_mean_absolute_error: 2  
.1729  
6327 Epoch 2853/20000  
6328 - 0s - loss: 8.1012 -  
mean_absolute_error: 2.0828 - val_loss  
: 12.6996 - val_mean_absolute_error: 2  
.1730  
6329 Epoch 2854/20000  
6330 - 0s - loss: 8.2727 -  
mean_absolute_error: 2.1138 - val_loss  
: 12.6998 - val_mean_absolute_error: 2  
.1730  
6331 Epoch 2855/20000  
6332 - 0s - loss: 7.9155 -  
mean_absolute_error: 2.0989 - val_loss  
: 12.6992 - val_mean_absolute_error: 2  
.1729  
6333 Epoch 2856/20000  
6334 - 0s - loss: 7.8266 -  
mean_absolute_error: 2.0126 - val_loss  
: 12.6993 - val_mean_absolute_error: 2  
.1729
```

```
6335 Epoch 2857/20000
6336   - 0s - loss: 7.2860 -
      mean_absolute_error: 1.9582 - val_loss
      : 12.6977 - val_mean_absolute_error: 2
      .1728
6337 Epoch 2858/20000
6338   - 0s - loss: 8.9982 -
      mean_absolute_error: 2.0152 - val_loss
      : 12.6982 - val_mean_absolute_error: 2
      .1729
6339 Epoch 2859/20000
6340   - 0s - loss: 9.2780 -
      mean_absolute_error: 2.2095 - val_loss
      : 12.6988 - val_mean_absolute_error: 2
      .1729
6341 Epoch 2860/20000
6342   - 0s - loss: 8.9598 -
      mean_absolute_error: 2.0876 - val_loss
      : 12.6988 - val_mean_absolute_error: 2
      .1730
6343
6344 Epoch 02860: saving model to ./model/
      model_best.h5
6345 Epoch 2861/20000
```

```
6346 - 0s - loss: 7.7331 -  
mean_absolute_error: 1.9315 - val_loss  
: 12.6995 - val_mean_absolute_error: 2  
.1730  
6347 Epoch 2862/20000  
6348 - 0s - loss: 7.5260 -  
mean_absolute_error: 2.0128 - val_loss  
: 12.6993 - val_mean_absolute_error: 2  
.1730  
6349 Epoch 2863/20000  
6350 - 0s - loss: 7.9063 -  
mean_absolute_error: 2.0020 - val_loss  
: 12.6996 - val_mean_absolute_error: 2  
.1730  
6351 Epoch 2864/20000  
6352 - 0s - loss: 6.4875 -  
mean_absolute_error: 1.9218 - val_loss  
: 12.7000 - val_mean_absolute_error: 2  
.1730  
6353 Epoch 2865/20000  
6354 - 0s - loss: 7.7273 -  
mean_absolute_error: 2.0032 - val_loss  
: 12.6989 - val_mean_absolute_error: 2  
.1729
```

```
6355 Epoch 2866/20000
6356   - 0s - loss: 7.9213 -
      mean_absolute_error: 2.0276 - val_loss
      : 12.6989 - val_mean_absolute_error: 2
      .1730
6357 Epoch 2867/20000
6358   - 0s - loss: 10.6397 -
      mean_absolute_error: 2.0995 - val_loss
      : 12.6993 - val_mean_absolute_error: 2
      .1730
6359 Epoch 2868/20000
6360   - 0s - loss: 7.6602 -
      mean_absolute_error: 2.0988 - val_loss
      : 12.6996 - val_mean_absolute_error: 2
      .1730
6361 Epoch 2869/20000
6362   - 0s - loss: 7.5760 -
      mean_absolute_error: 2.0148 - val_loss
      : 12.6994 - val_mean_absolute_error: 2
      .1729
6363 Epoch 2870/20000
6364   - 0s - loss: 7.0768 -
      mean_absolute_error: 1.9554 - val_loss
      : 12.6985 - val_mean_absolute_error: 2
```

6364 .1728

6365

6366 Epoch 02870: saving model to ./model/
model_best.h5

6367 Epoch 2871/20000

6368 - 0s - loss: 8.5595 -
mean_absolute_error: 2.0596 - val_loss
: 12.6971 - val_mean_absolute_error: 2
.1728

6369 Epoch 2872/20000

6370 - 0s - loss: 7.1546 -
mean_absolute_error: 1.8998 - val_loss
: 12.6974 - val_mean_absolute_error: 2
.1728

6371 Epoch 2873/20000

6372 - 0s - loss: 7.2723 -
mean_absolute_error: 2.0062 - val_loss
: 12.6970 - val_mean_absolute_error: 2
.1728

6373 Epoch 2874/20000

6374 - 0s - loss: 6.6675 -
mean_absolute_error: 1.8599 - val_loss
: 12.6967 - val_mean_absolute_error: 2
.1727

```
6375 Epoch 2875/20000
6376   - 0s - loss: 6.5155 -
      mean_absolute_error: 1.9170 - val_loss
      : 12.6970 - val_mean_absolute_error: 2
      .1727
6377 Epoch 2876/20000
6378   - 0s - loss: 9.0038 -
      mean_absolute_error: 2.1892 - val_loss
      : 12.6970 - val_mean_absolute_error: 2
      .1727
6379 Epoch 2877/20000
6380   - 0s - loss: 7.3253 -
      mean_absolute_error: 1.9486 - val_loss
      : 12.6967 - val_mean_absolute_error: 2
      .1727
6381 Epoch 2878/20000
6382   - 0s - loss: 7.9479 -
      mean_absolute_error: 1.9532 - val_loss
      : 12.6964 - val_mean_absolute_error: 2
      .1727
6383 Epoch 2879/20000
6384   - 0s - loss: 6.6120 -
      mean_absolute_error: 1.9281 - val_loss
      : 12.6966 - val_mean_absolute_error: 2
```



```
6384 .1727
6385 Epoch 2880/20000
6386 - 0s - loss: 8.6317 -
mean_absolute_error: 2.1131 - val_loss
: 12.6970 - val_mean_absolute_error: 2
.1728

6387
6388 Epoch 02880: saving model to ./model/
model_best.h5
6389 Epoch 2881/20000
6390 - 0s - loss: 7.5557 -
mean_absolute_error: 2.0576 - val_loss
: 12.6969 - val_mean_absolute_error: 2
.1728

6391 Epoch 2882/20000
6392 - 0s - loss: 6.2244 -
mean_absolute_error: 1.8363 - val_loss
: 12.6969 - val_mean_absolute_error: 2
.1728

6393 Epoch 2883/20000
6394 - 0s - loss: 7.4247 -
mean_absolute_error: 1.9417 - val_loss
: 12.6963 - val_mean_absolute_error: 2
.1728
```

```
6395 Epoch 2884/20000
6396   - 0s - loss: 7.9475 -
      mean_absolute_error: 2.0042 - val_loss
      : 12.6968 - val_mean_absolute_error: 2
      .1728
6397 Epoch 2885/20000
6398   - 0s - loss: 8.2366 -
      mean_absolute_error: 2.0563 - val_loss
      : 12.6969 - val_mean_absolute_error: 2
      .1729
6399 Epoch 2886/20000
6400   - 0s - loss: 6.0496 -
      mean_absolute_error: 1.8412 - val_loss
      : 12.6974 - val_mean_absolute_error: 2
      .1729
6401 Epoch 2887/20000
6402   - 0s - loss: 6.7308 -
      mean_absolute_error: 1.9207 - val_loss
      : 12.6979 - val_mean_absolute_error: 2
      .1730
6403 Epoch 2888/20000
6404   - 0s - loss: 8.6547 -
      mean_absolute_error: 2.1221 - val_loss
      : 12.6979 - val_mean_absolute_error: 2
```

```
6404 .1730
6405 Epoch 2889/20000
6406 - 0s - loss: 7.5976 -
mean_absolute_error: 2.0539 - val_loss
: 12.6978 - val_mean_absolute_error: 2
.1729
6407 Epoch 2890/20000
6408 - 0s - loss: 8.9571 -
mean_absolute_error: 2.1373 - val_loss
: 12.6973 - val_mean_absolute_error: 2
.1729
6409
6410 Epoch 02890: saving model to ./model/
model_best.h5
6411 Epoch 2891/20000
6412 - 0s - loss: 9.2821 -
mean_absolute_error: 2.1134 - val_loss
: 12.6963 - val_mean_absolute_error: 2
.1728
6413 Epoch 2892/20000
6414 - 0s - loss: 8.1525 -
mean_absolute_error: 2.0312 - val_loss
: 12.6975 - val_mean_absolute_error: 2
.1728
```

```
6415 Epoch 2893/20000
6416   - 0s - loss: 7.0984 -
      mean_absolute_error: 2.0153 - val_loss
      : 12.6975 - val_mean_absolute_error: 2
      .1728
6417 Epoch 2894/20000
6418   - 0s - loss: 8.3178 -
      mean_absolute_error: 2.1373 - val_loss
      : 12.6977 - val_mean_absolute_error: 2
      .1728
6419 Epoch 2895/20000
6420   - 0s - loss: 7.0663 -
      mean_absolute_error: 1.9099 - val_loss
      : 12.6980 - val_mean_absolute_error: 2
      .1729
6421 Epoch 2896/20000
6422   - 0s - loss: 7.3963 -
      mean_absolute_error: 1.9148 - val_loss
      : 12.6983 - val_mean_absolute_error: 2
      .1729
6423 Epoch 2897/20000
6424   - 0s - loss: 7.8581 -
      mean_absolute_error: 2.1037 - val_loss
      : 12.6984 - val_mean_absolute_error: 2
```

```
6424 .1728
6425 Epoch 2898/20000
6426 - 0s - loss: 7.2252 -
mean_absolute_error: 1.9252 - val_loss
: 12.6980 - val_mean_absolute_error: 2
.1728
6427 Epoch 2899/20000
6428 - 0s - loss: 7.1236 -
mean_absolute_error: 2.0232 - val_loss
: 12.6982 - val_mean_absolute_error: 2
.1728
6429 Epoch 2900/20000
6430 - 0s - loss: 9.0844 -
mean_absolute_error: 2.1801 - val_loss
: 12.6978 - val_mean_absolute_error: 2
.1727
6431
6432 Epoch 02900: saving model to ./model/
model_best.h5
6433 Epoch 2901/20000
6434 - 0s - loss: 8.1075 -
mean_absolute_error: 2.0236 - val_loss
: 12.6988 - val_mean_absolute_error: 2
.1728
```

```
6435 Epoch 2902/20000
6436   - 0s - loss: 8.1282 -
      mean_absolute_error: 1.9960 - val_loss
      : 12.6988 - val_mean_absolute_error: 2
      .1728
6437 Epoch 2903/20000
6438   - 0s - loss: 8.9596 -
      mean_absolute_error: 2.1112 - val_loss
      : 12.6990 - val_mean_absolute_error: 2
      .1728
6439 Epoch 2904/20000
6440   - 0s - loss: 6.4293 -
      mean_absolute_error: 1.9052 - val_loss
      : 12.6985 - val_mean_absolute_error: 2
      .1728
6441 Epoch 2905/20000
6442   - 0s - loss: 7.0783 -
      mean_absolute_error: 1.8845 - val_loss
      : 12.6979 - val_mean_absolute_error: 2
      .1727
6443 Epoch 2906/20000
6444   - 0s - loss: 7.0832 -
      mean_absolute_error: 1.9100 - val_loss
      : 12.6975 - val_mean_absolute_error: 2
```

```
6444 .1727
6445 Epoch 2907/20000
6446 - 0s - loss: 7.7716 -
mean_absolute_error: 2.0079 - val_loss
: 12.6968 - val_mean_absolute_error: 2
.1727
6447 Epoch 2908/20000
6448 - 0s - loss: 7.1872 -
mean_absolute_error: 1.8860 - val_loss
: 12.6969 - val_mean_absolute_error: 2
.1727
6449 Epoch 2909/20000
6450 - 0s - loss: 7.7727 -
mean_absolute_error: 2.0722 - val_loss
: 12.6980 - val_mean_absolute_error: 2
.1727
6451 Epoch 2910/20000
6452 - 0s - loss: 7.2325 -
mean_absolute_error: 2.0467 - val_loss
: 12.6988 - val_mean_absolute_error: 2
.1728
6453
6454 Epoch 02910: saving model to ./model/
model_best.h5
```

```
6455 Epoch 2911/20000
6456   - 0s - loss: 8.2198 -
      mean_absolute_error: 2.0078 - val_loss
      : 12.6986 - val_mean_absolute_error: 2
      .1728
6457 Epoch 2912/20000
6458   - 0s - loss: 8.5553 -
      mean_absolute_error: 2.0776 - val_loss
      : 12.6992 - val_mean_absolute_error: 2
      .1729
6459 Epoch 2913/20000
6460   - 0s - loss: 7.2911 -
      mean_absolute_error: 1.9235 - val_loss
      : 12.6990 - val_mean_absolute_error: 2
      .1729
6461 Epoch 2914/20000
6462   - 0s - loss: 6.5430 -
      mean_absolute_error: 1.9341 - val_loss
      : 12.6994 - val_mean_absolute_error: 2
      .1729
6463 Epoch 2915/20000
6464   - 0s - loss: 7.9425 -
      mean_absolute_error: 2.0882 - val_loss
      : 12.6994 - val_mean_absolute_error: 2
```



```
6464 .1729
6465 Epoch 2916/20000
6466 - 0s - loss: 8.7374 -
mean_absolute_error: 2.1007 - val_loss
: 12.6988 - val_mean_absolute_error: 2
.1729
6467 Epoch 2917/20000
6468 - 0s - loss: 6.7806 -
mean_absolute_error: 1.8928 - val_loss
: 12.6985 - val_mean_absolute_error: 2
.1728
6469 Epoch 2918/20000
6470 - 0s - loss: 8.3919 -
mean_absolute_error: 2.0773 - val_loss
: 12.6986 - val_mean_absolute_error: 2
.1728
6471 Epoch 2919/20000
6472 - 0s - loss: 7.6187 -
mean_absolute_error: 1.9439 - val_loss
: 12.6986 - val_mean_absolute_error: 2
.1728
6473 Epoch 2920/20000
6474 - 0s - loss: 6.5274 -
mean_absolute_error: 1.9995 - val_loss
```

6474 : 12.6989 - val_mean_absolute_error: 2
.1728

6475

6476 Epoch 02920: saving model to ./model/
model_best.h5

6477 Epoch 2921/20000

6478 - 0s - loss: 7.8801 -
mean_absolute_error: 1.8602 - val_loss
: 12.6982 - val_mean_absolute_error: 2
.1728

6479 Epoch 2922/20000

6480 - 0s - loss: 6.6307 -
mean_absolute_error: 1.8458 - val_loss
: 12.6980 - val_mean_absolute_error: 2
.1727

6481 Epoch 2923/20000

6482 - 0s - loss: 6.0753 -
mean_absolute_error: 1.8189 - val_loss
: 12.6974 - val_mean_absolute_error: 2
.1727

6483 Epoch 2924/20000

6484 - 0s - loss: 7.5730 -
mean_absolute_error: 2.0214 - val_loss
: 12.6975 - val_mean_absolute_error: 2

```
6484 .1727
6485 Epoch 2925/20000
6486 - 0s - loss: 6.6413 -
mean_absolute_error: 1.8476 - val_loss
: 12.6980 - val_mean_absolute_error: 2
.1728
6487 Epoch 2926/20000
6488 - 0s - loss: 7.9105 -
mean_absolute_error: 1.9922 - val_loss
: 12.6993 - val_mean_absolute_error: 2
.1728
6489 Epoch 2927/20000
6490 - 0s - loss: 8.7452 -
mean_absolute_error: 2.0529 - val_loss
: 12.6994 - val_mean_absolute_error: 2
.1729
6491 Epoch 2928/20000
6492 - 0s - loss: 6.8952 -
mean_absolute_error: 1.8644 - val_loss
: 12.6993 - val_mean_absolute_error: 2
.1729
6493 Epoch 2929/20000
6494 - 0s - loss: 6.8804 -
mean_absolute_error: 1.8799 - val_loss
```

```
6494 : 12.6999 - val_mean_absolute_error: 2
      .1728
6495 Epoch 2930/20000
6496   - 0s - loss: 7.8402 -
      mean_absolute_error: 2.0127 - val_loss
      : 12.6995 - val_mean_absolute_error: 2
      .1728
6497
6498 Epoch 02930: saving model to ./model/
      model_best.h5
6499 Epoch 2931/20000
6500   - 0s - loss: 7.5289 -
      mean_absolute_error: 1.9563 - val_loss
      : 12.6999 - val_mean_absolute_error: 2
      .1729
6501 Epoch 2932/20000
6502   - 0s - loss: 7.5154 -
      mean_absolute_error: 1.9826 - val_loss
      : 12.6992 - val_mean_absolute_error: 2
      .1728
6503 Epoch 2933/20000
6504   - 0s - loss: 8.1896 -
      mean_absolute_error: 2.0373 - val_loss
      : 12.6994 - val_mean_absolute_error: 2
```

```
6504 .1728
6505 Epoch 2934/20000
6506 - 0s - loss: 8.1914 -
mean_absolute_error: 2.0665 - val_loss
: 12.6996 - val_mean_absolute_error: 2
.1728
6507 Epoch 2935/20000
6508 - 0s - loss: 8.7614 -
mean_absolute_error: 2.0891 - val_loss
: 12.6995 - val_mean_absolute_error: 2
.1728
6509 Epoch 2936/20000
6510 - 0s - loss: 9.1502 -
mean_absolute_error: 2.0057 - val_loss
: 12.7001 - val_mean_absolute_error: 2
.1729
6511 Epoch 2937/20000
6512 - 0s - loss: 7.7017 -
mean_absolute_error: 1.9788 - val_loss
: 12.7001 - val_mean_absolute_error: 2
.1729
6513 Epoch 2938/20000
6514 - 0s - loss: 7.8723 -
mean_absolute_error: 2.0174 - val_loss
```

```
6514 : 12.6998 - val_mean_absolute_error: 2
      .1730
6515 Epoch 2939/20000
6516   - 0s - loss: 10.9338 -
      mean_absolute_error: 2.2525 - val_loss
      : 12.6997 - val_mean_absolute_error: 2
      .1729
6517 Epoch 2940/20000
6518   - 0s - loss: 6.9800 -
      mean_absolute_error: 1.8393 - val_loss
      : 12.7005 - val_mean_absolute_error: 2
      .1730
6519
6520 Epoch 02940: saving model to ./model/
      model_best.h5
6521 Epoch 2941/20000
6522   - 0s - loss: 7.7967 -
      mean_absolute_error: 2.0591 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1731
6523 Epoch 2942/20000
6524   - 0s - loss: 7.2965 -
      mean_absolute_error: 1.9130 - val_loss
      : 12.7006 - val_mean_absolute_error: 2
```

```
6524 . 1730
6525 Epoch 2943/20000
6526 - 0s - loss: 6.5601 -
mean_absolute_error: 1.9394 - val_loss
: 12.7009 - val_mean_absolute_error: 2
. 1730
6527 Epoch 2944/20000
6528 - 0s - loss: 7.5629 -
mean_absolute_error: 1.9129 - val_loss
: 12.7009 - val_mean_absolute_error: 2
. 1730
6529 Epoch 2945/20000
6530 - 0s - loss: 7.6800 -
mean_absolute_error: 1.9986 - val_loss
: 12.7013 - val_mean_absolute_error: 2
. 1731
6531 Epoch 2946/20000
6532 - 0s - loss: 7.6260 -
mean_absolute_error: 1.9230 - val_loss
: 12.7007 - val_mean_absolute_error: 2
. 1730
6533 Epoch 2947/20000
6534 - 0s - loss: 8.4913 -
mean_absolute_error: 2.1401 - val_loss
```

```
6534 : 12.7016 - val_mean_absolute_error: 2
      .1731
6535 Epoch 2948/20000
6536 - 0s - loss: 6.7390 -
      mean_absolute_error: 1.8919 - val_loss
      : 12.7012 - val_mean_absolute_error: 2
      .1731
6537 Epoch 2949/20000
6538 - 0s - loss: 9.0784 -
      mean_absolute_error: 2.1025 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1731
6539 Epoch 2950/20000
6540 - 0s - loss: 10.0028 -
      mean_absolute_error: 2.1909 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1731
6541
6542 Epoch 02950: saving model to ./model /
      model_best.h5
6543 Epoch 2951/20000
6544 - 0s - loss: 6.8415 -
      mean_absolute_error: 1.9735 - val_loss
      : 12.7008 - val_mean_absolute_error: 2
```



```
6544 . 1731
6545 Epoch 2952/20000
6546 - 0s - loss: 6.4613 -
mean_absolute_error: 1.8656 - val_loss
: 12.7002 - val_mean_absolute_error: 2
. 1730
6547 Epoch 2953/20000
6548 - 0s - loss: 6.6168 -
mean_absolute_error: 1.8916 - val_loss
: 12.6997 - val_mean_absolute_error: 2
. 1730
6549 Epoch 2954/20000
6550 - 0s - loss: 7.3943 -
mean_absolute_error: 2.0360 - val_loss
: 12.7002 - val_mean_absolute_error: 2
. 1729
6551 Epoch 2955/20000
6552 - 0s - loss: 8.3003 -
mean_absolute_error: 2.0111 - val_loss
: 12.7004 - val_mean_absolute_error: 2
. 1729
6553 Epoch 2956/20000
6554 - 0s - loss: 7.6038 -
mean_absolute_error: 1.9989 - val_loss
```

```
6554 : 12.7015 - val_mean_absolute_error: 2
      .1731
6555 Epoch 2957/20000
6556   - 0s - loss: 7.8499 -
      mean_absolute_error: 2.0642 - val_loss
      : 12.7018 - val_mean_absolute_error: 2
      .1731
6557 Epoch 2958/20000
6558   - 0s - loss: 6.9098 -
      mean_absolute_error: 1.9821 - val_loss
      : 12.7018 - val_mean_absolute_error: 2
      .1731
6559 Epoch 2959/20000
6560   - 0s - loss: 7.1826 -
      mean_absolute_error: 1.8915 - val_loss
      : 12.7012 - val_mean_absolute_error: 2
      .1731
6561 Epoch 2960/20000
6562   - 0s - loss: 7.3914 -
      mean_absolute_error: 1.9715 - val_loss
      : 12.7018 - val_mean_absolute_error: 2
      .1731
6563
6564 Epoch 02960: saving model to ./model/
```

```
6564 model_best.h5
6565 Epoch 2961/20000
6566   - 0s - loss: 8.8517 -
      mean_absolute_error: 2.1481 - val_loss
      : 12.7012 - val_mean_absolute_error: 2
      .1731
6567 Epoch 2962/20000
6568   - 0s - loss: 7.2659 -
      mean_absolute_error: 1.9010 - val_loss
      : 12.7016 - val_mean_absolute_error: 2
      .1732
6569 Epoch 2963/20000
6570   - 0s - loss: 9.0145 -
      mean_absolute_error: 2.1140 - val_loss
      : 12.7011 - val_mean_absolute_error: 2
      .1732
6571 Epoch 2964/20000
6572   - 0s - loss: 7.6934 -
      mean_absolute_error: 2.1022 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1731
6573 Epoch 2965/20000
6574   - 0s - loss: 7.4175 -
      mean_absolute_error: 2.1010 - val_loss
```

```
6574 : 12.7011 - val_mean_absolute_error: 2
      .1730
6575 Epoch 2966/20000
6576 - 0s - loss: 7.1716 -
      mean_absolute_error: 1.9926 - val_loss
      : 12.7013 - val_mean_absolute_error: 2
      .1731
6577 Epoch 2967/20000
6578 - 0s - loss: 5.8459 -
      mean_absolute_error: 1.8228 - val_loss
      : 12.7008 - val_mean_absolute_error: 2
      .1730
6579 Epoch 2968/20000
6580 - 0s - loss: 7.2106 -
      mean_absolute_error: 1.9849 - val_loss
      : 12.7005 - val_mean_absolute_error: 2
      .1730
6581 Epoch 2969/20000
6582 - 0s - loss: 7.9360 -
      mean_absolute_error: 2.0219 - val_loss
      : 12.7011 - val_mean_absolute_error: 2
      .1730
6583 Epoch 2970/20000
6584 - 0s - loss: 6.4582 -
```

```
6584 mean_absolute_error: 1.9044 - val_loss
    : 12.7003 - val_mean_absolute_error: 2
    .1729
```

6585

```
6586 Epoch 02970: saving model to ./model/
    model_best.h5
```

```
6587 Epoch 2971/20000
```

```
6588 - 0s - loss: 8.1531 -
    mean_absolute_error: 2.1525 - val_loss
    : 12.6999 - val_mean_absolute_error: 2
    .1728
```

```
6589 Epoch 2972/20000
```

```
6590 - 0s - loss: 9.5714 -
    mean_absolute_error: 2.1206 - val_loss
    : 12.6991 - val_mean_absolute_error: 2
    .1727
```

```
6591 Epoch 2973/20000
```

```
6592 - 0s - loss: 7.8766 -
    mean_absolute_error: 2.0860 - val_loss
    : 12.6997 - val_mean_absolute_error: 2
    .1728
```

```
6593 Epoch 2974/20000
```

```
6594 - 0s - loss: 8.4957 -
    mean_absolute_error: 2.0454 - val_loss
```

```
6594 : 12.6999 - val_mean_absolute_error: 2
      .1728
6595 Epoch 2975/20000
6596 - 0s - loss: 7.7467 -
      mean_absolute_error: 1.9981 - val_loss
      : 12.7005 - val_mean_absolute_error: 2
      .1729
6597 Epoch 2976/20000
6598 - 0s - loss: 7.9499 -
      mean_absolute_error: 1.9609 - val_loss
      : 12.7005 - val_mean_absolute_error: 2
      .1729
6599 Epoch 2977/20000
6600 - 0s - loss: 7.0198 -
      mean_absolute_error: 1.8654 - val_loss
      : 12.6995 - val_mean_absolute_error: 2
      .1728
6601 Epoch 2978/20000
6602 - 0s - loss: 6.3492 -
      mean_absolute_error: 1.8943 - val_loss
      : 12.6993 - val_mean_absolute_error: 2
      .1728
6603 Epoch 2979/20000
6604 - 0s - loss: 7.2736 -
```

6604 mean_absolute_error: 1.9106 - val_loss
: 12.6988 - val_mean_absolute_error: 2
.1728

6605 Epoch 2980/20000

6606 - 0s - loss: 8.1269 -
mean_absolute_error: 2.0631 - val_loss
: 12.6993 - val_mean_absolute_error: 2
.1728

6607

6608 Epoch 02980: saving model to ./model/
model_best.h5

6609 Epoch 2981/20000

6610 - 0s - loss: 6.0381 -
mean_absolute_error: 1.7678 - val_loss
: 12.6992 - val_mean_absolute_error: 2
.1728

6611 Epoch 2982/20000

6612 - 0s - loss: 8.1542 -
mean_absolute_error: 2.0663 - val_loss
: 12.7001 - val_mean_absolute_error: 2
.1728

6613 Epoch 2983/20000

6614 - 0s - loss: 7.4340 -
mean_absolute_error: 1.9730 - val_loss

```
6614 : 12.6994 - val_mean_absolute_error: 2
      .1728
6615 Epoch 2984/20000
6616 - 0s - loss: 7.3343 -
      mean_absolute_error: 1.9497 - val_loss
      : 12.7004 - val_mean_absolute_error: 2
      .1728
6617 Epoch 2985/20000
6618 - 0s - loss: 7.7112 -
      mean_absolute_error: 1.9920 - val_loss
      : 12.7004 - val_mean_absolute_error: 2
      .1728
6619 Epoch 2986/20000
6620 - 0s - loss: 6.2479 -
      mean_absolute_error: 1.9309 - val_loss
      : 12.6999 - val_mean_absolute_error: 2
      .1728
6621 Epoch 2987/20000
6622 - 0s - loss: 7.7902 -
      mean_absolute_error: 2.0231 - val_loss
      : 12.7002 - val_mean_absolute_error: 2
      .1727
6623 Epoch 2988/20000
6624 - 0s - loss: 6.3581 -
```



```
6624 mean_absolute_error: 1.8761 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1728
```

```
6625 Epoch 2989/20000
```

```
6626 - 0s - loss: 7.6021 -
      mean_absolute_error: 1.9849 - val_loss
      : 12.7010 - val_mean_absolute_error: 2
      .1728
```

```
6627 Epoch 2990/20000
```

```
6628 - 0s - loss: 9.3065 -
      mean_absolute_error: 2.1961 - val_loss
      : 12.7018 - val_mean_absolute_error: 2
      .1729
```

```
6629
```

```
6630 Epoch 02990: saving model to ./model/
      model_best.h5
```

```
6631 Epoch 2991/20000
```

```
6632 - 0s - loss: 7.7433 -
      mean_absolute_error: 1.9685 - val_loss
      : 12.7012 - val_mean_absolute_error: 2
      .1728
```

```
6633 Epoch 2992/20000
```

```
6634 - 0s - loss: 6.5307 -
      mean_absolute_error: 1.8205 - val_loss
```

```
6634 : 12.7000 - val_mean_absolute_error: 2
      .1727
6635 Epoch 2993/20000
6636 - 0s - loss: 9.6363 -
      mean_absolute_error: 2.1224 - val_loss
      : 12.6999 - val_mean_absolute_error: 2
      .1727
6637 Epoch 2994/20000
6638 - 0s - loss: 5.8747 -
      mean_absolute_error: 1.7557 - val_loss
      : 12.7002 - val_mean_absolute_error: 2
      .1728
6639 Epoch 2995/20000
6640 - 0s - loss: 9.1887 -
      mean_absolute_error: 2.0868 - val_loss
      : 12.6997 - val_mean_absolute_error: 2
      .1728
6641 Epoch 2996/20000
6642 - 0s - loss: 7.2429 -
      mean_absolute_error: 1.9692 - val_loss
      : 12.6999 - val_mean_absolute_error: 2
      .1728
6643 Epoch 2997/20000
6644 - 0s - loss: 6.3308 -
```

```
6644 mean_absolute_error: 1.7710 - val_loss
      : 12.7005 - val_mean_absolute_error: 2
      .1729
```

```
6645 Epoch 2998/20000
```

```
6646 - 0s - loss: 6.7315 -
      mean_absolute_error: 1.9031 - val_loss
      : 12.6993 - val_mean_absolute_error: 2
      .1727
```

```
6647 Epoch 2999/20000
```

```
6648 - 0s - loss: 8.0171 -
      mean_absolute_error: 2.0517 - val_loss
      : 12.6985 - val_mean_absolute_error: 2
      .1727
```

```
6649 Epoch 3000/20000
```

```
6650 - 0s - loss: 5.9872 -
      mean_absolute_error: 1.8756 - val_loss
      : 12.6988 - val_mean_absolute_error: 2
      .1727
```

```
6651
```

```
6652 Epoch 03000: saving model to ./model/
      model_best.h5
```

```
6653 Epoch 3001/20000
```

```
6654 - 0s - loss: 6.2842 -
      mean_absolute_error: 1.8850 - val_loss
```

```
6654 : 12.6983 - val_mean_absolute_error: 2
      .1727
6655 Epoch 3002/20000
6656 - 0s - loss: 7.1634 -
      mean_absolute_error: 1.9209 - val_loss
      : 12.6965 - val_mean_absolute_error: 2
      .1725
6657 Epoch 3003/20000
6658 - 0s - loss: 8.3867 -
      mean_absolute_error: 2.0493 - val_loss
      : 12.6966 - val_mean_absolute_error: 2
      .1725
6659 Epoch 3004/20000
6660 - 0s - loss: 7.5462 -
      mean_absolute_error: 1.9121 - val_loss
      : 12.6971 - val_mean_absolute_error: 2
      .1726
6661 Epoch 3005/20000
6662 - 0s - loss: 7.3869 -
      mean_absolute_error: 1.9258 - val_loss
      : 12.6972 - val_mean_absolute_error: 2
      .1726
6663 Epoch 3006/20000
6664 - 0s - loss: 7.9348 -
```

6664 mean_absolute_error: 2.0086 - val_loss
: 12.6973 - val_mean_absolute_error: 2
.1726

6665 Epoch 3007/20000

6666 - 0s - loss: 6.3262 -
mean_absolute_error: 1.8881 - val_loss
: 12.6975 - val_mean_absolute_error: 2
.1726

6667 Epoch 3008/20000

6668 - 0s - loss: 6.5313 -
mean_absolute_error: 1.8630 - val_loss
: 12.6966 - val_mean_absolute_error: 2
.1725

6669 Epoch 3009/20000

6670 - 0s - loss: 8.6916 -
mean_absolute_error: 2.0969 - val_loss
: 12.6958 - val_mean_absolute_error: 2
.1725

6671 Epoch 3010/20000

6672 - 0s - loss: 6.6205 -
mean_absolute_error: 1.9067 - val_loss
: 12.6961 - val_mean_absolute_error: 2
.1725

6673

```
6674 Epoch 03010: saving model to ./model/
model_best.h5
6675 Epoch 3011/20000
6676   - 0s - loss: 7.4249 -
mean_absolute_error: 1.9931 - val_loss
: 12.6973 - val_mean_absolute_error: 2
.1727
6677 Epoch 3012/20000
6678   - 0s - loss: 6.6347 -
mean_absolute_error: 1.9304 - val_loss
: 12.6976 - val_mean_absolute_error: 2
.1727
6679 Epoch 3013/20000
6680   - 0s - loss: 7.9850 -
mean_absolute_error: 2.0073 - val_loss
: 12.6983 - val_mean_absolute_error: 2
.1727
6681 Epoch 3014/20000
6682   - 0s - loss: 6.8207 -
mean_absolute_error: 1.8501 - val_loss
: 12.6984 - val_mean_absolute_error: 2
.1728
6683 Epoch 3015/20000
6684   - 0s - loss: 8.8412 -
```

```
6684 mean_absolute_error: 2.1341 - val_loss
    : 12.6982 - val_mean_absolute_error: 2
    .1728
6685 Epoch 3016/20000
6686   - 0s - loss: 7.1928 -
    mean_absolute_error: 1.8993 - val_loss
    : 12.6990 - val_mean_absolute_error: 2
    .1728
6687 Epoch 3017/20000
6688   - 0s - loss: 9.1913 -
    mean_absolute_error: 2.1567 - val_loss
    : 12.6976 - val_mean_absolute_error: 2
    .1727
6689 Epoch 3018/20000
6690   - 0s - loss: 7.5506 -
    mean_absolute_error: 1.9800 - val_loss
    : 12.6980 - val_mean_absolute_error: 2
    .1728
6691 Epoch 3019/20000
6692   - 0s - loss: 8.2518 -
    mean_absolute_error: 2.0781 - val_loss
    : 12.6973 - val_mean_absolute_error: 2
    .1727
6693 Epoch 3020/20000
```

```
6694 - 0s - loss: 7.7034 -  
mean_absolute_error: 1.9297 - val_loss  
: 12.6982 - val_mean_absolute_error: 2  
.1727
```

```
6695
```

```
6696 Epoch 03020: saving model to ./model/  
model_best.h5
```

```
6697 Epoch 3021/20000
```

```
6698 - 0s - loss: 6.8502 -  
mean_absolute_error: 1.9109 - val_loss  
: 12.6983 - val_mean_absolute_error: 2  
.1727
```

```
6699 Epoch 3022/20000
```

```
6700 - 0s - loss: 6.6907 -  
mean_absolute_error: 1.9382 - val_loss  
: 12.6982 - val_mean_absolute_error: 2  
.1727
```

```
6701 Epoch 3023/20000
```

```
6702 - 0s - loss: 6.9959 -  
mean_absolute_error: 1.9523 - val_loss  
: 12.6980 - val_mean_absolute_error: 2  
.1727
```

```
6703 Epoch 3024/20000
```

```
6704 - 0s - loss: 7.6321 -
```



```
6704 mean_absolute_error: 2.0183 - val_loss
    : 12.6985 - val_mean_absolute_error: 2
    .1728
6705 Epoch 3025/20000
6706   - 0s - loss: 7.3185 -
    mean_absolute_error: 2.0104 - val_loss
    : 12.6989 - val_mean_absolute_error: 2
    .1728
6707 Epoch 3026/20000
6708   - 0s - loss: 7.5642 -
    mean_absolute_error: 2.0212 - val_loss
    : 12.6986 - val_mean_absolute_error: 2
    .1728
6709 Epoch 3027/20000
6710   - 0s - loss: 8.6331 -
    mean_absolute_error: 2.0869 - val_loss
    : 12.6995 - val_mean_absolute_error: 2
    .1728
6711 Epoch 3028/20000
6712   - 0s - loss: 6.1679 -
    mean_absolute_error: 1.8712 - val_loss
    : 12.6986 - val_mean_absolute_error: 2
    .1728
6713 Epoch 3029/20000
```

```
6714 - 0s - loss: 6.0426 -  
mean_absolute_error: 1.8688 - val_loss  
: 12.6987 - val_mean_absolute_error: 2  
.1727
```

```
6715 Epoch 3030/20000
```

```
6716 - 0s - loss: 6.6061 -  
mean_absolute_error: 1.9269 - val_loss  
: 12.6982 - val_mean_absolute_error: 2  
.1727
```

```
6717
```

```
6718 Epoch 03030: saving model to ./model/  
model_best.h5
```

```
6719 Epoch 3031/20000
```

```
6720 - 0s - loss: 7.3203 -  
mean_absolute_error: 2.0221 - val_loss  
: 12.6979 - val_mean_absolute_error: 2  
.1727
```

```
6721 Epoch 3032/20000
```

```
6722 - 0s - loss: 6.6831 -  
mean_absolute_error: 1.8571 - val_loss  
: 12.6988 - val_mean_absolute_error: 2  
.1727
```

```
6723 Epoch 3033/20000
```

```
6724 - 0s - loss: 7.8132 -
```

```
6724 mean_absolute_error: 1.9977 - val_loss
    : 12.6991 - val_mean_absolute_error: 2
    .1728
6725 Epoch 3034/20000
6726 - 0s - loss: 7.4825 -
    mean_absolute_error: 2.0068 - val_loss
    : 12.6998 - val_mean_absolute_error: 2
    .1728
6727 Epoch 3035/20000
6728 - 0s - loss: 6.4103 -
    mean_absolute_error: 1.9325 - val_loss
    : 12.7002 - val_mean_absolute_error: 2
    .1728
6729 Epoch 3036/20000
6730 - 0s - loss: 8.2222 -
    mean_absolute_error: 2.0504 - val_loss
    : 12.7014 - val_mean_absolute_error: 2
    .1729
6731 Epoch 3037/20000
6732 - 0s - loss: 8.7232 -
    mean_absolute_error: 2.1076 - val_loss
    : 12.7014 - val_mean_absolute_error: 2
    .1729
6733 Epoch 3038/20000
```

```
6734 - 0s - loss: 8.0126 -  
mean_absolute_error: 2.0314 - val_loss  
: 12.7014 - val_mean_absolute_error: 2  
.1729  
6735 Epoch 3039/20000  
6736 - 0s - loss: 8.5682 -  
mean_absolute_error: 2.0127 - val_loss  
: 12.7026 - val_mean_absolute_error: 2  
.1730  
6737 Epoch 3040/20000  
6738 - 0s - loss: 7.5620 -  
mean_absolute_error: 2.0619 - val_loss  
: 12.7035 - val_mean_absolute_error: 2  
.1730  
6739  
6740 Epoch 3040: saving model to ./model/  
model_best.h5  
6741 Epoch 3041/20000  
6742 - 0s - loss: 6.8289 -  
mean_absolute_error: 1.9280 - val_loss  
: 12.7038 - val_mean_absolute_error: 2  
.1731  
6743 Epoch 3042/20000  
6744 - 0s - loss: 7.1890 -
```

```
6744 mean_absolute_error: 1.8942 - val_loss
    : 12.7033 - val_mean_absolute_error: 2
    .1731
6745 Epoch 3043/20000
6746   - 0s - loss: 8.3768 -
    mean_absolute_error: 2.0772 - val_loss
    : 12.7033 - val_mean_absolute_error: 2
    .1731
6747 Epoch 3044/20000
6748   - 0s - loss: 8.3012 -
    mean_absolute_error: 2.1156 - val_loss
    : 12.7028 - val_mean_absolute_error: 2
    .1730
6749 Epoch 3045/20000
6750   - 0s - loss: 8.4644 -
    mean_absolute_error: 2.0929 - val_loss
    : 12.7033 - val_mean_absolute_error: 2
    .1730
6751 Epoch 3046/20000
6752   - 0s - loss: 7.0380 -
    mean_absolute_error: 1.9158 - val_loss
    : 12.7034 - val_mean_absolute_error: 2
    .1730
6753 Epoch 3047/20000
```

```
6754 - 0s - loss: 7.1069 -  
mean_absolute_error: 1.9859 - val_loss  
: 12.7026 - val_mean_absolute_error: 2  
.1730  
6755 Epoch 3048/20000  
6756 - 0s - loss: 9.0990 -  
mean_absolute_error: 2.2383 - val_loss  
: 12.7035 - val_mean_absolute_error: 2  
.1730  
6757 Epoch 3049/20000  
6758 - 0s - loss: 7.5259 -  
mean_absolute_error: 1.9292 - val_loss  
: 12.7045 - val_mean_absolute_error: 2  
.1731  
6759 Epoch 3050/20000  
6760 - 0s - loss: 8.2142 -  
mean_absolute_error: 2.0677 - val_loss  
: 12.7043 - val_mean_absolute_error: 2  
.1731  
6761  
6762 Epoch 3050: saving model to ./model/  
model_best.h5  
6763 Epoch 3051/20000  
6764 - 0s - loss: 8.4933 -
```

```
6764 mean_absolute_error: 2.0751 - val_loss
    : 12.7041 - val_mean_absolute_error: 2
    .1730
6765 Epoch 3052/20000
6766   - 0s - loss: 6.7460 -
    mean_absolute_error: 1.9188 - val_loss
    : 12.7048 - val_mean_absolute_error: 2
    .1731
6767 Epoch 3053/20000
6768   - 0s - loss: 7.3803 -
    mean_absolute_error: 1.9576 - val_loss
    : 12.7050 - val_mean_absolute_error: 2
    .1731
6769 Epoch 3054/20000
6770   - 0s - loss: 6.8701 -
    mean_absolute_error: 1.8994 - val_loss
    : 12.7048 - val_mean_absolute_error: 2
    .1731
6771 Epoch 3055/20000
6772   - 0s - loss: 7.3315 -
    mean_absolute_error: 2.0093 - val_loss
    : 12.7046 - val_mean_absolute_error: 2
    .1731
6773 Epoch 3056/20000
```

```
6774 - 0s - loss: 5.9529 -  
mean_absolute_error: 1.8335 - val_loss  
: 12.7053 - val_mean_absolute_error: 2  
.1732  
6775 Epoch 3057/20000  
6776 - 0s - loss: 7.6704 -  
mean_absolute_error: 1.9594 - val_loss  
: 12.7063 - val_mean_absolute_error: 2  
.1733  
6777 Epoch 3058/20000  
6778 - 0s - loss: 6.9872 -  
mean_absolute_error: 1.8695 - val_loss  
: 12.7058 - val_mean_absolute_error: 2  
.1732  
6779 Epoch 3059/20000  
6780 - 0s - loss: 7.0445 -  
mean_absolute_error: 1.9616 - val_loss  
: 12.7049 - val_mean_absolute_error: 2  
.1732  
6781 Epoch 3060/20000  
6782 - 0s - loss: 7.0893 -  
mean_absolute_error: 1.9224 - val_loss  
: 12.7046 - val_mean_absolute_error: 2  
.1732
```


6783

6784 Epoch 03060: saving model to ./model/
model_best.h5

6785 Epoch 3061/20000

6786 - 0s - loss: 6.3993 -
mean_absolute_error: 1.9077 - val_loss
: 12.7048 - val_mean_absolute_error: 2
.1732

6787 Epoch 3062/20000

6788 - 0s - loss: 10.2841 -
mean_absolute_error: 2.0500 - val_loss
: 12.7048 - val_mean_absolute_error: 2
.1732

6789 Epoch 3063/20000

6790 - 0s - loss: 7.6524 -
mean_absolute_error: 2.0023 - val_loss
: 12.7041 - val_mean_absolute_error: 2
.1732

6791 Epoch 3064/20000

6792 - 0s - loss: 8.8058 -
mean_absolute_error: 2.0958 - val_loss
: 12.7044 - val_mean_absolute_error: 2
.1732

6793 Epoch 3065/20000

```
6794 - 0s - loss: 10.1872 -  
mean_absolute_error: 2.1936 - val_loss  
: 12.7039 - val_mean_absolute_error: 2  
.1732  
6795 Epoch 3066/20000  
6796 - 0s - loss: 7.2309 -  
mean_absolute_error: 1.8756 - val_loss  
: 12.7035 - val_mean_absolute_error: 2  
.1731  
6797 Epoch 3067/20000  
6798 - 0s - loss: 7.4212 -  
mean_absolute_error: 1.9560 - val_loss  
: 12.7023 - val_mean_absolute_error: 2  
.1731  
6799 Epoch 3068/20000  
6800 - 0s - loss: 7.4314 -  
mean_absolute_error: 1.9196 - val_loss  
: 12.7037 - val_mean_absolute_error: 2  
.1732  
6801 Epoch 3069/20000  
6802 - 0s - loss: 8.0123 -  
mean_absolute_error: 2.0065 - val_loss  
: 12.7042 - val_mean_absolute_error: 2  
.1732
```

```
6803 Epoch 3070/20000
6804   - 0s - loss: 8.3924 -
      mean_absolute_error: 2.0451 - val_loss
      : 12.7038 - val_mean_absolute_error: 2
      .1732
6805
6806 Epoch 03070: saving model to ./model/
      model_best.h5
6807 Epoch 3071/20000
6808   - 0s - loss: 8.0000 -
      mean_absolute_error: 2.0186 - val_loss
      : 12.7040 - val_mean_absolute_error: 2
      .1733
6809 Epoch 3072/20000
6810   - 0s - loss: 9.1687 -
      mean_absolute_error: 2.1254 - val_loss
      : 12.7033 - val_mean_absolute_error: 2
      .1732
6811 Epoch 3073/20000
6812   - 0s - loss: 8.3490 -
      mean_absolute_error: 2.0598 - val_loss
      : 12.7028 - val_mean_absolute_error: 2
      .1732
6813 Epoch 3074/20000
```

```
6814 - 0s - loss: 7.6113 -  
      mean_absolute_error: 1.9356 - val_loss  
      : 12.7037 - val_mean_absolute_error: 2  
      .1733  
6815 Epoch 3075/20000  
6816 - 0s - loss: 7.7789 -  
      mean_absolute_error: 2.0587 - val_loss  
      : 12.7038 - val_mean_absolute_error: 2  
      .1733  
6817 Epoch 3076/20000  
6818 - 0s - loss: 7.0501 -  
      mean_absolute_error: 1.9723 - val_loss  
      : 12.7047 - val_mean_absolute_error: 2  
      .1734  
6819 Epoch 3077/20000  
6820 - 0s - loss: 7.0545 -  
      mean_absolute_error: 1.9657 - val_loss  
      : 12.7047 - val_mean_absolute_error: 2  
      .1734  
6821 Epoch 3078/20000  
6822 - 0s - loss: 6.9270 -  
      mean_absolute_error: 1.9791 - val_loss  
      : 12.7058 - val_mean_absolute_error: 2  
      .1735
```

```
6823 Epoch 3079/20000
6824   - 0s - loss: 7.2146 -
      mean_absolute_error: 1.9088 - val_loss
      : 12.7044 - val_mean_absolute_error: 2
      .1733
6825 Epoch 3080/20000
6826   - 0s - loss: 6.6034 -
      mean_absolute_error: 1.8937 - val_loss
      : 12.7041 - val_mean_absolute_error: 2
      .1733
6827
6828 Epoch 3080: saving model to ./model/
      model_best.h5
6829 Epoch 3081/20000
6830   - 0s - loss: 7.5665 -
      mean_absolute_error: 2.0194 - val_loss
      : 12.7042 - val_mean_absolute_error: 2
      .1733
6831 Epoch 3082/20000
6832   - 0s - loss: 7.6617 -
      mean_absolute_error: 2.0057 - val_loss
      : 12.7045 - val_mean_absolute_error: 2
      .1733
6833 Epoch 3083/20000
```

```
6834 - 0s - loss: 8.7166 -  
mean_absolute_error: 2.1145 - val_loss  
: 12.7036 - val_mean_absolute_error: 2  
.1733  
6835 Epoch 3084/20000  
6836 - 0s - loss: 10.1367 -  
mean_absolute_error: 2.2027 - val_loss  
: 12.7031 - val_mean_absolute_error: 2  
.1732  
6837 Epoch 3085/20000  
6838 - 0s - loss: 8.2366 -  
mean_absolute_error: 2.0013 - val_loss  
: 12.7039 - val_mean_absolute_error: 2  
.1734  
6839 Epoch 3086/20000  
6840 - 0s - loss: 7.7256 -  
mean_absolute_error: 2.0508 - val_loss  
: 12.7041 - val_mean_absolute_error: 2  
.1734  
6841 Epoch 3087/20000  
6842 - 0s - loss: 6.1980 -  
mean_absolute_error: 1.8418 - val_loss  
: 12.7037 - val_mean_absolute_error: 2  
.1734
```

```
6843 Epoch 3088/20000
6844   - 0s - loss: 7.4798 -
      mean_absolute_error: 1.9633 - val_loss
      : 12.7031 - val_mean_absolute_error: 2
      .1733
6845 Epoch 3089/20000
6846   - 0s - loss: 8.4702 -
      mean_absolute_error: 2.0726 - val_loss
      : 12.7027 - val_mean_absolute_error: 2
      .1733
6847 Epoch 3090/20000
6848   - 0s - loss: 6.7026 -
      mean_absolute_error: 1.9393 - val_loss
      : 12.7024 - val_mean_absolute_error: 2
      .1733
6849
6850 Epoch 3090: saving model to ./model/
      model_best.h5
6851 Epoch 3091/20000
6852   - 0s - loss: 7.6806 -
      mean_absolute_error: 1.9935 - val_loss
      : 12.7025 - val_mean_absolute_error: 2
      .1733
6853 Epoch 3092/20000
```

```
6854 - 0s - loss: 8.1118 -  
mean_absolute_error: 1.9694 - val_loss  
: 12.7026 - val_mean_absolute_error: 2  
.1733  
6855 Epoch 3093/20000  
6856 - 0s - loss: 7.4574 -  
mean_absolute_error: 1.9963 - val_loss  
: 12.7017 - val_mean_absolute_error: 2  
.1732  
6857 Epoch 3094/20000  
6858 - 0s - loss: 7.7742 -  
mean_absolute_error: 2.0111 - val_loss  
: 12.7009 - val_mean_absolute_error: 2  
.1732  
6859 Epoch 3095/20000  
6860 - 0s - loss: 7.1701 -  
mean_absolute_error: 1.8985 - val_loss  
: 12.7007 - val_mean_absolute_error: 2  
.1732  
6861 Epoch 3096/20000  
6862 - 0s - loss: 7.9211 -  
mean_absolute_error: 2.0073 - val_loss  
: 12.7013 - val_mean_absolute_error: 2  
.1732
```



```
6863 Epoch 3097/20000
6864   - 0s - loss: 7.9720 -
      mean_absolute_error: 2.0298 - val_loss
      : 12.7008 - val_mean_absolute_error: 2
      .1732
6865 Epoch 3098/20000
6866   - 0s - loss: 7.7961 -
      mean_absolute_error: 1.9787 - val_loss
      : 12.6994 - val_mean_absolute_error: 2
      .1732
6867 Epoch 3099/20000
6868   - 0s - loss: 9.7183 -
      mean_absolute_error: 2.1548 - val_loss
      : 12.6996 - val_mean_absolute_error: 2
      .1732
6869 Epoch 3100/20000
6870   - 0s - loss: 7.6709 -
      mean_absolute_error: 1.9619 - val_loss
      : 12.6995 - val_mean_absolute_error: 2
      .1732
6871
6872 Epoch 3100: saving model to ./model/
      model_best.h5
6873 Epoch 3101/20000
```

```
6874 - 0s - loss: 7.1085 -  
mean_absolute_error: 1.9466 - val_loss  
: 12.6989 - val_mean_absolute_error: 2  
.1731  
6875 Epoch 3102/20000  
6876 - 0s - loss: 7.0971 -  
mean_absolute_error: 1.9498 - val_loss  
: 12.6987 - val_mean_absolute_error: 2  
.1731  
6877 Epoch 3103/20000  
6878 - 0s - loss: 7.6320 -  
mean_absolute_error: 1.9956 - val_loss  
: 12.6984 - val_mean_absolute_error: 2  
.1731  
6879 Epoch 3104/20000  
6880 - 0s - loss: 7.3727 -  
mean_absolute_error: 1.9619 - val_loss  
: 12.6977 - val_mean_absolute_error: 2  
.1730  
6881 Epoch 3105/20000  
6882 - 0s - loss: 7.5993 -  
mean_absolute_error: 1.9684 - val_loss  
: 12.6979 - val_mean_absolute_error: 2  
.1730
```

```
6883 Epoch 3106/20000
6884   - 0s - loss: 8.5852 -
      mean_absolute_error: 2.1183 - val_loss
      : 12.6989 - val_mean_absolute_error: 2
      .1731
6885 Epoch 3107/20000
6886   - 0s - loss: 6.7815 -
      mean_absolute_error: 1.9378 - val_loss
      : 12.6999 - val_mean_absolute_error: 2
      .1732
6887 Epoch 3108/20000
6888   - 0s - loss: 8.1686 -
      mean_absolute_error: 1.8831 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1733
6889 Epoch 3109/20000
6890   - 0s - loss: 7.6462 -
      mean_absolute_error: 1.9041 - val_loss
      : 12.7006 - val_mean_absolute_error: 2
      .1733
6891 Epoch 3110/20000
6892   - 0s - loss: 7.8815 -
      mean_absolute_error: 1.9979 - val_loss
      : 12.7014 - val_mean_absolute_error: 2
```

6892 .1734

6893

6894 Epoch 03110: saving model to ./model/
model_best.h5

6895 Epoch 3111/20000

6896 - 0s - loss: 7.5135 -
mean_absolute_error: 1.9992 - val_loss
: 12.7017 - val_mean_absolute_error: 2
.1734

6897 Epoch 3112/20000

6898 - 0s - loss: 7.0612 -
mean_absolute_error: 1.8958 - val_loss
: 12.7014 - val_mean_absolute_error: 2
.1733

6899 Epoch 3113/20000

6900 - 0s - loss: 7.6754 -
mean_absolute_error: 2.0265 - val_loss
: 12.7001 - val_mean_absolute_error: 2
.1732

6901 Epoch 3114/20000

6902 - 0s - loss: 7.5696 -
mean_absolute_error: 1.9851 - val_loss
: 12.6992 - val_mean_absolute_error: 2
.1731

```
6903 Epoch 3115/20000
6904   - 0s - loss: 9.0893 -
      mean_absolute_error: 2.2113 - val_loss
      : 12.6992 - val_mean_absolute_error: 2
      .1731
6905 Epoch 3116/20000
6906   - 0s - loss: 7.2114 -
      mean_absolute_error: 1.9678 - val_loss
      : 12.6984 - val_mean_absolute_error: 2
      .1731
6907 Epoch 3117/20000
6908   - 0s - loss: 7.2112 -
      mean_absolute_error: 1.9319 - val_loss
      : 12.6985 - val_mean_absolute_error: 2
      .1731
6909 Epoch 3118/20000
6910   - 0s - loss: 8.4662 -
      mean_absolute_error: 2.1196 - val_loss
      : 12.6985 - val_mean_absolute_error: 2
      .1731
6911 Epoch 3119/20000
6912   - 0s - loss: 8.1625 -
      mean_absolute_error: 2.0212 - val_loss
      : 12.6986 - val_mean_absolute_error: 2
```

```
6912 .1731
6913 Epoch 3120/20000
6914 - 0s - loss: 7.3947 -
mean_absolute_error: 2.0051 - val_loss
: 12.6982 - val_mean_absolute_error: 2
.1731
6915
6916 Epoch 03120: saving model to ./model/
model_best.h5
6917 Epoch 3121/20000
6918 - 0s - loss: 7.0068 -
mean_absolute_error: 1.8715 - val_loss
: 12.6977 - val_mean_absolute_error: 2
.1731
6919 Epoch 3122/20000
6920 - 0s - loss: 7.2277 -
mean_absolute_error: 1.9761 - val_loss
: 12.6989 - val_mean_absolute_error: 2
.1732
6921 Epoch 3123/20000
6922 - 0s - loss: 6.9670 -
mean_absolute_error: 1.8980 - val_loss
: 12.6985 - val_mean_absolute_error: 2
.1731
```

```
6923 Epoch 3124/20000
6924   - 0s - loss: 6.8197 -
      mean_absolute_error: 1.9097 - val_loss
      : 12.6987 - val_mean_absolute_error: 2
      .1731
6925 Epoch 3125/20000
6926   - 0s - loss: 8.8303 -
      mean_absolute_error: 2.0422 - val_loss
      : 12.6981 - val_mean_absolute_error: 2
      .1731
6927 Epoch 3126/20000
6928   - 0s - loss: 7.7515 -
      mean_absolute_error: 1.9707 - val_loss
      : 12.6975 - val_mean_absolute_error: 2
      .1731
6929 Epoch 3127/20000
6930   - 0s - loss: 7.6622 -
      mean_absolute_error: 1.9873 - val_loss
      : 12.6973 - val_mean_absolute_error: 2
      .1730
6931 Epoch 3128/20000
6932   - 0s - loss: 7.2694 -
      mean_absolute_error: 2.0691 - val_loss
      : 12.6975 - val_mean_absolute_error: 2
```

```
6932 .1731
6933 Epoch 3129/20000
6934 - 0s - loss: 6.1181 -
mean_absolute_error: 1.7794 - val_loss
: 12.6976 - val_mean_absolute_error: 2
.1731
6935 Epoch 3130/20000
6936 - 0s - loss: 7.6141 -
mean_absolute_error: 2.0232 - val_loss
: 12.6968 - val_mean_absolute_error: 2
.1730
6937
6938 Epoch 03130: saving model to ./model/
model_best.h5
6939 Epoch 3131/20000
6940 - 0s - loss: 5.5439 -
mean_absolute_error: 1.8179 - val_loss
: 12.6970 - val_mean_absolute_error: 2
.1730
6941 Epoch 3132/20000
6942 - 0s - loss: 7.8640 -
mean_absolute_error: 1.9998 - val_loss
: 12.6965 - val_mean_absolute_error: 2
.1730
```



```
6943 Epoch 3133/20000
6944   - 0s - loss: 8.3184 -
      mean_absolute_error: 2.1097 - val_loss
      : 12.6973 - val_mean_absolute_error: 2
      .1730
6945 Epoch 3134/20000
6946   - 0s - loss: 8.1014 -
      mean_absolute_error: 1.9806 - val_loss
      : 12.6969 - val_mean_absolute_error: 2
      .1729
6947 Epoch 3135/20000
6948   - 0s - loss: 8.3465 -
      mean_absolute_error: 2.1612 - val_loss
      : 12.6965 - val_mean_absolute_error: 2
      .1729
6949 Epoch 3136/20000
6950   - 0s - loss: 8.7936 -
      mean_absolute_error: 2.0704 - val_loss
      : 12.6969 - val_mean_absolute_error: 2
      .1729
6951 Epoch 3137/20000
6952   - 0s - loss: 8.0515 -
      mean_absolute_error: 1.9597 - val_loss
      : 12.6968 - val_mean_absolute_error: 2
```

```
6952 . 1728
6953 Epoch 3138/20000
6954 - 0s - loss: 7.4009 -
mean_absolute_error: 1.9711 - val_loss
: 12.6969 - val_mean_absolute_error: 2
. 1729
6955 Epoch 3139/20000
6956 - 0s - loss: 8.2846 -
mean_absolute_error: 2.0751 - val_loss
: 12.6970 - val_mean_absolute_error: 2
. 1729
6957 Epoch 3140/20000
6958 - 0s - loss: 7.8181 -
mean_absolute_error: 2.0367 - val_loss
: 12.6966 - val_mean_absolute_error: 2
. 1729
6959
6960 Epoch 3140: saving model to ./model/
model_best.h5
6961 Epoch 3141/20000
6962 - 0s - loss: 6.7687 -
mean_absolute_error: 1.9046 - val_loss
: 12.6966 - val_mean_absolute_error: 2
. 1729
```

```
6963 Epoch 3142/20000
6964   - 0s - loss: 5.9452 -
      mean_absolute_error: 1.8228 - val_loss
      : 12.6970 - val_mean_absolute_error: 2
      .1729
6965 Epoch 3143/20000
6966   - 0s - loss: 6.6352 -
      mean_absolute_error: 1.9546 - val_loss
      : 12.6967 - val_mean_absolute_error: 2
      .1729
6967 Epoch 3144/20000
6968   - 0s - loss: 6.7537 -
      mean_absolute_error: 1.9050 - val_loss
      : 12.6963 - val_mean_absolute_error: 2
      .1729
6969 Epoch 3145/20000
6970   - 0s - loss: 7.3773 -
      mean_absolute_error: 2.0357 - val_loss
      : 12.6956 - val_mean_absolute_error: 2
      .1729
6971 Epoch 3146/20000
6972   - 0s - loss: 7.8003 -
      mean_absolute_error: 1.9956 - val_loss
      : 12.6962 - val_mean_absolute_error: 2
```

```
6972 .1729
6973 Epoch 3147/20000
6974 - 0s - loss: 7.9236 -
      mean_absolute_error: 2.0570 - val_loss
      : 12.6967 - val_mean_absolute_error: 2
      .1730
6975 Epoch 3148/20000
6976 - 0s - loss: 9.3475 -
      mean_absolute_error: 2.0483 - val_loss
      : 12.6971 - val_mean_absolute_error: 2
      .1730
6977 Epoch 3149/20000
6978 - 0s - loss: 6.7362 -
      mean_absolute_error: 1.8992 - val_loss
      : 12.6962 - val_mean_absolute_error: 2
      .1730
6979 Epoch 3150/20000
6980 - 0s - loss: 7.3235 -
      mean_absolute_error: 2.0029 - val_loss
      : 12.6949 - val_mean_absolute_error: 2
      .1728
6981
6982 Epoch 03150: saving model to ./model/
      model_best.h5
```

```
6983 Epoch 3151/20000
6984   - 0s - loss: 7.9578 -
      mean_absolute_error: 2.0047 - val_loss
      : 12.6943 - val_mean_absolute_error: 2
      .1728
6985 Epoch 3152/20000
6986   - 0s - loss: 7.9404 -
      mean_absolute_error: 2.1236 - val_loss
      : 12.6937 - val_mean_absolute_error: 2
      .1727
6987 Epoch 3153/20000
6988   - 0s - loss: 6.9530 -
      mean_absolute_error: 1.9187 - val_loss
      : 12.6932 - val_mean_absolute_error: 2
      .1726
6989 Epoch 3154/20000
6990   - 0s - loss: 7.7972 -
      mean_absolute_error: 1.9556 - val_loss
      : 12.6937 - val_mean_absolute_error: 2
      .1727
6991 Epoch 3155/20000
6992   - 0s - loss: 7.3839 -
      mean_absolute_error: 1.9894 - val_loss
      : 12.6921 - val_mean_absolute_error: 2
```

```
6992 .1726
6993 Epoch 3156/20000
6994 - 0s - loss: 6.6916 -
mean_absolute_error: 1.9417 - val_loss
: 12.6918 - val_mean_absolute_error: 2
.1725
6995 Epoch 3157/20000
6996 - 0s - loss: 6.1393 -
mean_absolute_error: 1.7674 - val_loss
: 12.6924 - val_mean_absolute_error: 2
.1725
6997 Epoch 3158/20000
6998 - 0s - loss: 8.7793 -
mean_absolute_error: 2.0905 - val_loss
: 12.6921 - val_mean_absolute_error: 2
.1725
6999 Epoch 3159/20000
7000 - 0s - loss: 8.2965 -
mean_absolute_error: 2.0952 - val_loss
: 12.6927 - val_mean_absolute_error: 2
.1726
7001 Epoch 3160/20000
7002 - 0s - loss: 7.2853 -
mean_absolute_error: 2.0345 - val_loss
```

7002 : 12.6929 - val_mean_absolute_error: 2
.1726

7003

7004 Epoch 03160: saving model to ./model/
model_best.h5

7005 Epoch 3161/20000

7006 - 0s - loss: 8.9201 -
mean_absolute_error: 2.0708 - val_loss
: 12.6936 - val_mean_absolute_error: 2
.1727

7007 Epoch 3162/20000

7008 - 0s - loss: 7.5005 -
mean_absolute_error: 1.9759 - val_loss
: 12.6931 - val_mean_absolute_error: 2
.1727

7009 Epoch 3163/20000

7010 - 0s - loss: 8.9584 -
mean_absolute_error: 2.0872 - val_loss
: 12.6933 - val_mean_absolute_error: 2
.1728

7011 Epoch 3164/20000

7012 - 0s - loss: 8.4383 -
mean_absolute_error: 2.0764 - val_loss
: 12.6945 - val_mean_absolute_error: 2

```
7012 . 1728
7013 Epoch 3165/20000
7014 - 0s - loss: 7.8024 -
mean_absolute_error: 1.9862 - val_loss
: 12.6951 - val_mean_absolute_error: 2
. 1729
7015 Epoch 3166/20000
7016 - 0s - loss: 7.1529 -
mean_absolute_error: 1.9961 - val_loss
: 12.6960 - val_mean_absolute_error: 2
. 1730
7017 Epoch 3167/20000
7018 - 0s - loss: 7.1597 -
mean_absolute_error: 1.9761 - val_loss
: 12.6957 - val_mean_absolute_error: 2
. 1730
7019 Epoch 3168/20000
7020 - 0s - loss: 9.0514 -
mean_absolute_error: 2.1745 - val_loss
: 12.6961 - val_mean_absolute_error: 2
. 1730
7021 Epoch 3169/20000
7022 - 0s - loss: 7.7064 -
mean_absolute_error: 1.9977 - val_loss
```


7022 : 12.6964 - val_mean_absolute_error: 2
.1730

7023 Epoch 3170/20000

7024 - 0s - loss: 8.4240 -
mean_absolute_error: 2.1839 - val_loss
: 12.6966 - val_mean_absolute_error: 2
.1730

7025

7026 Epoch 03170: saving model to ./model/
model_best.h5

7027 Epoch 3171/20000

7028 - 0s - loss: 6.4326 -
mean_absolute_error: 1.9688 - val_loss
: 12.6971 - val_mean_absolute_error: 2
.1730

7029 Epoch 3172/20000

7030 - 0s - loss: 6.8677 -
mean_absolute_error: 1.9055 - val_loss
: 12.6963 - val_mean_absolute_error: 2
.1729

7031 Epoch 3173/20000

7032 - 0s - loss: 6.9496 -
mean_absolute_error: 1.9628 - val_loss
: 12.6970 - val_mean_absolute_error: 2

```
7032 . 1729
7033 Epoch 3174/20000
7034 - 0s - loss: 7.9539 -
mean_absolute_error: 2.0364 - val_loss
: 12.6956 - val_mean_absolute_error: 2
. 1728
7035 Epoch 3175/20000
7036 - 0s - loss: 7.3238 -
mean_absolute_error: 1.9602 - val_loss
: 12.6951 - val_mean_absolute_error: 2
. 1728
7037 Epoch 3176/20000
7038 - 0s - loss: 8.0435 -
mean_absolute_error: 2.0051 - val_loss
: 12.6953 - val_mean_absolute_error: 2
. 1729
7039 Epoch 3177/20000
7040 - 0s - loss: 7.6474 -
mean_absolute_error: 2.0457 - val_loss
: 12.6950 - val_mean_absolute_error: 2
. 1729
7041 Epoch 3178/20000
7042 - 0s - loss: 7.4924 -
mean_absolute_error: 1.9611 - val_loss
```

```
7042 : 12.6945 - val_mean_absolute_error: 2
      .1728
7043 Epoch 3179/20000
7044   - 0s - loss: 8.2861 -
      mean_absolute_error: 2.1234 - val_loss
      : 12.6946 - val_mean_absolute_error: 2
      .1728
7045 Epoch 3180/20000
7046   - 0s - loss: 8.7640 -
      mean_absolute_error: 2.1068 - val_loss
      : 12.6956 - val_mean_absolute_error: 2
      .1729
7047
7048 Epoch 03180: saving model to ./model/
      model_best.h5
7049 Epoch 3181/20000
7050   - 0s - loss: 9.0845 -
      mean_absolute_error: 2.0786 - val_loss
      : 12.6962 - val_mean_absolute_error: 2
      .1730
7051 Epoch 3182/20000
7052   - 0s - loss: 7.4179 -
      mean_absolute_error: 2.0179 - val_loss
      : 12.6965 - val_mean_absolute_error: 2
```

```
7052 . 1730
7053 Epoch 3183/20000
7054 - 0s - loss: 7.5392 -
mean_absolute_error: 2.0288 - val_loss
: 12.6968 - val_mean_absolute_error: 2
. 1730
7055 Epoch 3184/20000
7056 - 0s - loss: 6.9030 -
mean_absolute_error: 1.9976 - val_loss
: 12.6985 - val_mean_absolute_error: 2
. 1731
7057 Epoch 3185/20000
7058 - 0s - loss: 7.3317 -
mean_absolute_error: 1.9861 - val_loss
: 12.6977 - val_mean_absolute_error: 2
. 1731
7059 Epoch 3186/20000
7060 - 0s - loss: 9.2286 -
mean_absolute_error: 2.1211 - val_loss
: 12.6986 - val_mean_absolute_error: 2
. 1732
7061 Epoch 3187/20000
7062 - 0s - loss: 7.1032 -
mean_absolute_error: 2.0077 - val_loss
```

```
7062 : 12.6985 - val_mean_absolute_error: 2
      .1732
7063 Epoch 3188/20000
7064   - 0s - loss: 6.8847 -
      mean_absolute_error: 1.8753 - val_loss
      : 12.6974 - val_mean_absolute_error: 2
      .1731
7065 Epoch 3189/20000
7066   - 0s - loss: 7.2141 -
      mean_absolute_error: 1.9926 - val_loss
      : 12.6983 - val_mean_absolute_error: 2
      .1731
7067 Epoch 3190/20000
7068   - 0s - loss: 7.5477 -
      mean_absolute_error: 2.0544 - val_loss
      : 12.6986 - val_mean_absolute_error: 2
      .1732
7069
7070 Epoch 03190: saving model to ./model /
      model_best.h5
7071 Epoch 3191/20000
7072   - 0s - loss: 7.4140 -
      mean_absolute_error: 2.0191 - val_loss
      : 12.6975 - val_mean_absolute_error: 2
```

```
7072 .1731
7073 Epoch 3192/20000
7074 - 0s - loss: 7.6554 -
mean_absolute_error: 2.0130 - val_loss
: 12.6973 - val_mean_absolute_error: 2
.1731
7075 Epoch 3193/20000
7076 - 0s - loss: 7.8266 -
mean_absolute_error: 2.1064 - val_loss
: 12.6969 - val_mean_absolute_error: 2
.1731
7077 Epoch 3194/20000
7078 - 0s - loss: 8.0108 -
mean_absolute_error: 2.0750 - val_loss
: 12.6962 - val_mean_absolute_error: 2
.1730
7079 Epoch 3195/20000
7080 - 0s - loss: 8.4531 -
mean_absolute_error: 2.0245 - val_loss
: 12.6960 - val_mean_absolute_error: 2
.1730
7081 Epoch 3196/20000
7082 - 0s - loss: 8.9360 -
mean_absolute_error: 2.1375 - val_loss
```

```
7082 : 12.6959 - val_mean_absolute_error: 2
      .1730
7083 Epoch 3197/20000
7084   - 0s - loss: 7.6537 -
      mean_absolute_error: 1.9091 - val_loss
      : 12.6963 - val_mean_absolute_error: 2
      .1730
7085 Epoch 3198/20000
7086   - 0s - loss: 9.8607 -
      mean_absolute_error: 2.1304 - val_loss
      : 12.6967 - val_mean_absolute_error: 2
      .1731
7087 Epoch 3199/20000
7088   - 0s - loss: 7.6691 -
      mean_absolute_error: 1.9431 - val_loss
      : 12.6964 - val_mean_absolute_error: 2
      .1731
7089 Epoch 3200/20000
7090   - 0s - loss: 7.6584 -
      mean_absolute_error: 2.0186 - val_loss
      : 12.6955 - val_mean_absolute_error: 2
      .1730
7091
7092 Epoch 03200: saving model to ./model/
```

```
7092 model_best.h5
7093 Epoch 3201/20000
7094   - 0s - loss: 6.0446 -
      mean_absolute_error: 1.8831 - val_loss
      : 12.6951 - val_mean_absolute_error: 2
      .1730
7095 Epoch 3202/20000
7096   - 0s - loss: 7.0546 -
      mean_absolute_error: 1.8962 - val_loss
      : 12.6942 - val_mean_absolute_error: 2
      .1729
7097 Epoch 3203/20000
7098   - 0s - loss: 7.7693 -
      mean_absolute_error: 2.0066 - val_loss
      : 12.6950 - val_mean_absolute_error: 2
      .1729
7099 Epoch 3204/20000
7100   - 0s - loss: 7.1678 -
      mean_absolute_error: 2.0260 - val_loss
      : 12.6959 - val_mean_absolute_error: 2
      .1730
7101 Epoch 3205/20000
7102   - 0s - loss: 8.3036 -
      mean_absolute_error: 2.0211 - val_loss
```



```
7102 : 12.6960 - val_mean_absolute_error: 2
      .1731
7103 Epoch 3206/20000
7104 - 0s - loss: 7.4714 -
      mean_absolute_error: 1.9920 - val_loss
      : 12.6960 - val_mean_absolute_error: 2
      .1731
7105 Epoch 3207/20000
7106 - 0s - loss: 6.0209 -
      mean_absolute_error: 1.8204 - val_loss
      : 12.6955 - val_mean_absolute_error: 2
      .1731
7107 Epoch 3208/20000
7108 - 0s - loss: 7.7381 -
      mean_absolute_error: 2.0709 - val_loss
      : 12.6954 - val_mean_absolute_error: 2
      .1731
7109 Epoch 3209/20000
7110 - 0s - loss: 8.0135 -
      mean_absolute_error: 1.9279 - val_loss
      : 12.6961 - val_mean_absolute_error: 2
      .1732
7111 Epoch 3210/20000
7112 - 0s - loss: 7.0928 -
```

```
7112 mean_absolute_error: 1.8823 - val_loss
      : 12.6962 - val_mean_absolute_error: 2
      .1733
```

```
7113
```

```
7114 Epoch 03210: saving model to ./model/
      model_best.h5
```

```
7115 Epoch 3211/20000
```

```
7116   - 0s - loss: 7.6414 -
      mean_absolute_error: 2.0032 - val_loss
      : 12.6958 - val_mean_absolute_error: 2
      .1732
```

```
7117 Epoch 3212/20000
```

```
7118   - 0s - loss: 7.0416 -
      mean_absolute_error: 1.8843 - val_loss
      : 12.6952 - val_mean_absolute_error: 2
      .1732
```

```
7119 Epoch 3213/20000
```

```
7120   - 0s - loss: 8.9974 -
      mean_absolute_error: 2.1195 - val_loss
      : 12.6946 - val_mean_absolute_error: 2
      .1731
```

```
7121 Epoch 3214/20000
```

```
7122   - 0s - loss: 9.4053 -
      mean_absolute_error: 2.1329 - val_loss
```

```
7122 : 12.6935 - val_mean_absolute_error: 2
      .1731
7123 Epoch 3215/20000
7124 - 0s - loss: 7.0289 -
      mean_absolute_error: 1.9424 - val_loss
      : 12.6930 - val_mean_absolute_error: 2
      .1730
7125 Epoch 3216/20000
7126 - 0s - loss: 7.1704 -
      mean_absolute_error: 1.9402 - val_loss
      : 12.6933 - val_mean_absolute_error: 2
      .1730
7127 Epoch 3217/20000
7128 - 0s - loss: 8.2842 -
      mean_absolute_error: 2.0029 - val_loss
      : 12.6935 - val_mean_absolute_error: 2
      .1730
7129 Epoch 3218/20000
7130 - 0s - loss: 7.9697 -
      mean_absolute_error: 2.0153 - val_loss
      : 12.6937 - val_mean_absolute_error: 2
      .1730
7131 Epoch 3219/20000
7132 - 0s - loss: 7.6703 -
```

7132 mean_absolute_error: 1.9451 - val_loss
: 12.6935 - val_mean_absolute_error: 2
.1730

7133 Epoch 3220/20000

7134 - 0s - loss: 7.8345 -
mean_absolute_error: 2.0387 - val_loss
: 12.6942 - val_mean_absolute_error: 2
.1731

7135

7136 Epoch 03220: saving model to ./model/
model_best.h5

7137 Epoch 3221/20000

7138 - 0s - loss: 8.2636 -
mean_absolute_error: 2.0329 - val_loss
: 12.6945 - val_mean_absolute_error: 2
.1731

7139 Epoch 3222/20000

7140 - 0s - loss: 7.7009 -
mean_absolute_error: 1.9762 - val_loss
: 12.6947 - val_mean_absolute_error: 2
.1731

7141 Epoch 3223/20000

7142 - 0s - loss: 7.3069 -
mean_absolute_error: 2.0048 - val_loss

```
7142 : 12.6946 - val_mean_absolute_error: 2
      .1731
7143 Epoch 3224/20000
7144 - 0s - loss: 10.1575 -
      mean_absolute_error: 2.1223 - val_loss
      : 12.6962 - val_mean_absolute_error: 2
      .1732
7145 Epoch 3225/20000
7146 - 0s - loss: 8.5443 -
      mean_absolute_error: 2.1054 - val_loss
      : 12.6962 - val_mean_absolute_error: 2
      .1732
7147 Epoch 3226/20000
7148 - 0s - loss: 8.3154 -
      mean_absolute_error: 2.0257 - val_loss
      : 12.6961 - val_mean_absolute_error: 2
      .1732
7149 Epoch 3227/20000
7150 - 0s - loss: 7.4386 -
      mean_absolute_error: 2.0006 - val_loss
      : 12.6958 - val_mean_absolute_error: 2
      .1732
7151 Epoch 3228/20000
7152 - 0s - loss: 7.1353 -
```

7152 mean_absolute_error: 1.9738 - val_loss
: 12.6966 - val_mean_absolute_error: 2
.1732

7153 Epoch 3229/20000

7154 - 0s - loss: 9.4248 -
mean_absolute_error: 2.0531 - val_loss
: 12.6978 - val_mean_absolute_error: 2
.1733

7155 Epoch 3230/20000

7156 - 0s - loss: 7.9324 -
mean_absolute_error: 2.0756 - val_loss
: 12.6984 - val_mean_absolute_error: 2
.1733

7157

7158 Epoch 03230: saving model to ./model/
model_best.h5

7159 Epoch 3231/20000

7160 - 0s - loss: 6.7943 -
mean_absolute_error: 1.8619 - val_loss
: 12.6973 - val_mean_absolute_error: 2
.1732

7161 Epoch 3232/20000

7162 - 0s - loss: 6.8694 -
mean_absolute_error: 1.9883 - val_loss

```
7162 : 12.6967 - val_mean_absolute_error: 2
      .1731
7163 Epoch 3233/20000
7164   - 0s - loss: 7.3750 -
      mean_absolute_error: 2.0246 - val_loss
      : 12.6968 - val_mean_absolute_error: 2
      .1731
7165 Epoch 3234/20000
7166   - 0s - loss: 8.0647 -
      mean_absolute_error: 1.9849 - val_loss
      : 12.6970 - val_mean_absolute_error: 2
      .1731
7167 Epoch 3235/20000
7168   - 0s - loss: 7.6817 -
      mean_absolute_error: 2.0386 - val_loss
      : 12.6981 - val_mean_absolute_error: 2
      .1733
7169 Epoch 3236/20000
7170   - 0s - loss: 7.6417 -
      mean_absolute_error: 1.9697 - val_loss
      : 12.6983 - val_mean_absolute_error: 2
      .1733
7171 Epoch 3237/20000
7172   - 0s - loss: 7.9500 -
```

7172 mean_absolute_error: 2.0402 - val_loss
: 12.6987 - val_mean_absolute_error: 2
.1733

7173 Epoch 3238/20000

7174 - 0s - loss: 8.5662 -
mean_absolute_error: 2.0538 - val_loss
: 12.6992 - val_mean_absolute_error: 2
.1734

7175 Epoch 3239/20000

7176 - 0s - loss: 8.1283 -
mean_absolute_error: 2.0489 - val_loss
: 12.6986 - val_mean_absolute_error: 2
.1733

7177 Epoch 3240/20000

7178 - 0s - loss: 7.0406 -
mean_absolute_error: 1.9164 - val_loss
: 12.6975 - val_mean_absolute_error: 2
.1732

7179

7180 Epoch 03240: saving model to ./model/
model_best.h5

7181 Epoch 3241/20000

7182 - 0s - loss: 6.9511 -
mean_absolute_error: 1.8462 - val_loss


```
7182 : 12.6970 - val_mean_absolute_error: 2
      .1731
7183 Epoch 3242/20000
7184   - 0s - loss: 9.3464 -
      mean_absolute_error: 2.0489 - val_loss
      : 12.6972 - val_mean_absolute_error: 2
      .1731
7185 Epoch 3243/20000
7186   - 0s - loss: 8.5704 -
      mean_absolute_error: 2.0712 - val_loss
      : 12.6968 - val_mean_absolute_error: 2
      .1731
7187 Epoch 3244/20000
7188   - 0s - loss: 8.2438 -
      mean_absolute_error: 2.0759 - val_loss
      : 12.6965 - val_mean_absolute_error: 2
      .1731
7189 Epoch 3245/20000
7190   - 0s - loss: 7.7432 -
      mean_absolute_error: 2.0055 - val_loss
      : 12.6964 - val_mean_absolute_error: 2
      .1731
7191 Epoch 3246/20000
7192   - 0s - loss: 9.2115 -
```

7192 mean_absolute_error: 2.1810 - val_loss
: 12.6972 - val_mean_absolute_error: 2
.1732

7193 Epoch 3247/20000

7194 - 0s - loss: 8.4509 -
mean_absolute_error: 1.9821 - val_loss
: 12.6973 - val_mean_absolute_error: 2
.1731

7195 Epoch 3248/20000

7196 - 0s - loss: 7.9493 -
mean_absolute_error: 1.9680 - val_loss
: 12.6968 - val_mean_absolute_error: 2
.1731

7197 Epoch 3249/20000

7198 - 0s - loss: 7.2235 -
mean_absolute_error: 1.9323 - val_loss
: 12.6965 - val_mean_absolute_error: 2
.1731

7199 Epoch 3250/20000

7200 - 0s - loss: 6.9447 -
mean_absolute_error: 1.8827 - val_loss
: 12.6967 - val_mean_absolute_error: 2
.1731

7201

```
7202 Epoch 03250: saving model to ./model/
model_best.h5
7203 Epoch 3251/20000
7204   - 0s - loss: 6.2724 -
mean_absolute_error: 1.8556 - val_loss
: 12.6973 - val_mean_absolute_error: 2
.1731
7205 Epoch 3252/20000
7206   - 0s - loss: 7.3886 -
mean_absolute_error: 2.0401 - val_loss
: 12.6968 - val_mean_absolute_error: 2
.1731
7207 Epoch 3253/20000
7208   - 0s - loss: 7.9427 -
mean_absolute_error: 2.0046 - val_loss
: 12.6973 - val_mean_absolute_error: 2
.1731
7209 Epoch 3254/20000
7210   - 0s - loss: 6.8866 -
mean_absolute_error: 1.9080 - val_loss
: 12.6965 - val_mean_absolute_error: 2
.1730
7211 Epoch 3255/20000
7212   - 0s - loss: 8.3994 -
```

```
7212 mean_absolute_error: 2.1347 - val_loss
    : 12.6980 - val_mean_absolute_error: 2
    .1730
7213 Epoch 3256/20000
7214 - 0s - loss: 9.0286 -
    mean_absolute_error: 2.1324 - val_loss
    : 12.6982 - val_mean_absolute_error: 2
    .1730
7215 Epoch 3257/20000
7216 - 0s - loss: 7.0214 -
    mean_absolute_error: 1.9509 - val_loss
    : 12.6972 - val_mean_absolute_error: 2
    .1730
7217 Epoch 3258/20000
7218 - 0s - loss: 6.0438 -
    mean_absolute_error: 1.8968 - val_loss
    : 12.6973 - val_mean_absolute_error: 2
    .1730
7219 Epoch 3259/20000
7220 - 0s - loss: 6.9845 -
    mean_absolute_error: 1.9568 - val_loss
    : 12.6966 - val_mean_absolute_error: 2
    .1729
7221 Epoch 3260/20000
```

```
7222 - 0s - loss: 8.0803 -  
mean_absolute_error: 2.0421 - val_loss  
: 12.6958 - val_mean_absolute_error: 2  
.1728
```

```
7223
```

```
7224 Epoch 03260: saving model to ./model/  
model_best.h5
```

```
7225 Epoch 3261/20000
```

```
7226 - 0s - loss: 7.7358 -  
mean_absolute_error: 2.0219 - val_loss  
: 12.6967 - val_mean_absolute_error: 2  
.1729
```

```
7227 Epoch 3262/20000
```

```
7228 - 0s - loss: 7.9796 -  
mean_absolute_error: 2.0604 - val_loss  
: 12.6970 - val_mean_absolute_error: 2  
.1729
```

```
7229 Epoch 3263/20000
```

```
7230 - 0s - loss: 8.4757 -  
mean_absolute_error: 2.0131 - val_loss  
: 12.6969 - val_mean_absolute_error: 2  
.1729
```

```
7231 Epoch 3264/20000
```

```
7232 - 0s - loss: 8.7942 -
```

```
7232 mean_absolute_error: 2.1056 - val_loss
    : 12.6961 - val_mean_absolute_error: 2
    .1728
7233 Epoch 3265/20000
7234   - 0s - loss: 7.2277 -
    mean_absolute_error: 2.0078 - val_loss
    : 12.6968 - val_mean_absolute_error: 2
    .1728
7235 Epoch 3266/20000
7236   - 0s - loss: 7.0999 -
    mean_absolute_error: 2.0312 - val_loss
    : 12.6958 - val_mean_absolute_error: 2
    .1728
7237 Epoch 3267/20000
7238   - 0s - loss: 7.8852 -
    mean_absolute_error: 2.0915 - val_loss
    : 12.6961 - val_mean_absolute_error: 2
    .1728
7239 Epoch 3268/20000
7240   - 0s - loss: 6.2863 -
    mean_absolute_error: 1.8494 - val_loss
    : 12.6963 - val_mean_absolute_error: 2
    .1728
7241 Epoch 3269/20000
```

```
7242 - 0s - loss: 7.6150 -  
mean_absolute_error: 1.9764 - val_loss  
: 12.6961 - val_mean_absolute_error: 2  
.1728
```

```
7243 Epoch 3270/20000
```

```
7244 - 0s - loss: 7.7053 -  
mean_absolute_error: 2.0409 - val_loss  
: 12.6957 - val_mean_absolute_error: 2  
.1728
```

```
7245
```

```
7246 Epoch 03270: saving model to ./model/  
model_best.h5
```

```
7247 Epoch 3271/20000
```

```
7248 - 0s - loss: 8.3182 -  
mean_absolute_error: 2.0088 - val_loss  
: 12.6964 - val_mean_absolute_error: 2  
.1728
```

```
7249 Epoch 3272/20000
```

```
7250 - 0s - loss: 7.9035 -  
mean_absolute_error: 1.9886 - val_loss  
: 12.6967 - val_mean_absolute_error: 2  
.1729
```

```
7251 Epoch 3273/20000
```

```
7252 - 0s - loss: 7.5782 -
```

7252 mean_absolute_error: 2.0212 - val_loss
: 12.6958 - val_mean_absolute_error: 2
.1727

7253 Epoch 3274/20000

7254 - 0s - loss: 7.9803 -
mean_absolute_error: 2.0171 - val_loss
: 12.6961 - val_mean_absolute_error: 2
.1727

7255 Epoch 3275/20000

7256 - 0s - loss: 6.6121 -
mean_absolute_error: 1.9449 - val_loss
: 12.6962 - val_mean_absolute_error: 2
.1728

7257 Epoch 3276/20000

7258 - 0s - loss: 7.3037 -
mean_absolute_error: 2.0243 - val_loss
: 12.6961 - val_mean_absolute_error: 2
.1728

7259 Epoch 3277/20000

7260 - 0s - loss: 7.6045 -
mean_absolute_error: 2.0214 - val_loss
: 12.6964 - val_mean_absolute_error: 2
.1728

7261 Epoch 3278/20000


```
7262 - 0s - loss: 8.5362 -  
mean_absolute_error: 2.0720 - val_loss  
: 12.6959 - val_mean_absolute_error: 2  
.1728  
7263 Epoch 3279/20000  
7264 - 0s - loss: 9.6434 -  
mean_absolute_error: 2.1758 - val_loss  
: 12.6960 - val_mean_absolute_error: 2  
.1728  
7265 Epoch 3280/20000  
7266 - 0s - loss: 9.4597 -  
mean_absolute_error: 2.2141 - val_loss  
: 12.6960 - val_mean_absolute_error: 2  
.1728  
7267  
7268 Epoch 03280: saving model to ./model/  
model_best.h5  
7269 Epoch 3281/20000  
7270 - 0s - loss: 7.6359 -  
mean_absolute_error: 2.0307 - val_loss  
: 12.6969 - val_mean_absolute_error: 2  
.1728  
7271 Epoch 3282/20000  
7272 - 0s - loss: 6.7273 -
```

```
7272 mean_absolute_error: 1.9031 - val_loss
    : 12.6969 - val_mean_absolute_error: 2
    .1729
7273 Epoch 3283/20000
7274   - 0s - loss: 6.5656 -
    mean_absolute_error: 1.9092 - val_loss
    : 12.6970 - val_mean_absolute_error: 2
    .1729
7275 Epoch 3284/20000
7276   - 0s - loss: 8.7812 -
    mean_absolute_error: 2.0655 - val_loss
    : 12.6964 - val_mean_absolute_error: 2
    .1729
7277 Epoch 3285/20000
7278   - 0s - loss: 7.0280 -
    mean_absolute_error: 1.8947 - val_loss
    : 12.6967 - val_mean_absolute_error: 2
    .1728
7279 Epoch 3286/20000
7280   - 0s - loss: 6.5181 -
    mean_absolute_error: 1.8698 - val_loss
    : 12.6965 - val_mean_absolute_error: 2
    .1729
7281 Epoch 3287/20000
```

```
7282 - 0s - loss: 8.1811 -  
mean_absolute_error: 2.0021 - val_loss  
: 12.6962 - val_mean_absolute_error: 2  
.1729  
7283 Epoch 3288/20000  
7284 - 0s - loss: 7.5981 -  
mean_absolute_error: 1.9700 - val_loss  
: 12.6956 - val_mean_absolute_error: 2  
.1728  
7285 Epoch 3289/20000  
7286 - 0s - loss: 7.2928 -  
mean_absolute_error: 1.9614 - val_loss  
: 12.6963 - val_mean_absolute_error: 2  
.1729  
7287 Epoch 3290/20000  
7288 - 0s - loss: 7.9762 -  
mean_absolute_error: 1.9807 - val_loss  
: 12.6960 - val_mean_absolute_error: 2  
.1729  
7289  
7290 Epoch 03290: saving model to ./model/  
model_best.h5  
7291 Epoch 3291/20000  
7292 - 0s - loss: 6.7163 -
```

```
7292 mean_absolute_error: 1.9500 - val_loss
    : 12.6952 - val_mean_absolute_error: 2
    .1729
7293 Epoch 3292/20000
7294   - 0s - loss: 7.2593 -
    mean_absolute_error: 1.9526 - val_loss
    : 12.6954 - val_mean_absolute_error: 2
    .1729
7295 Epoch 3293/20000
7296   - 0s - loss: 7.4246 -
    mean_absolute_error: 1.8869 - val_loss
    : 12.6954 - val_mean_absolute_error: 2
    .1729
7297 Epoch 3294/20000
7298   - 0s - loss: 7.0665 -
    mean_absolute_error: 1.9059 - val_loss
    : 12.6961 - val_mean_absolute_error: 2
    .1730
7299 Epoch 3295/20000
7300   - 0s - loss: 8.4010 -
    mean_absolute_error: 2.0923 - val_loss
    : 12.6960 - val_mean_absolute_error: 2
    .1730
7301 Epoch 3296/20000
```

```
7302 - 0s - loss: 8.7237 -  
mean_absolute_error: 2.1775 - val_loss  
: 12.6957 - val_mean_absolute_error: 2  
.1729  
7303 Epoch 3297/20000  
7304 - 0s - loss: 9.2620 -  
mean_absolute_error: 2.0300 - val_loss  
: 12.6958 - val_mean_absolute_error: 2  
.1730  
7305 Epoch 3298/20000  
7306 - 0s - loss: 6.9164 -  
mean_absolute_error: 1.9399 - val_loss  
: 12.6946 - val_mean_absolute_error: 2  
.1729  
7307 Epoch 3299/20000  
7308 - 0s - loss: 7.2477 -  
mean_absolute_error: 1.9698 - val_loss  
: 12.6945 - val_mean_absolute_error: 2  
.1728  
7309 Epoch 3300/20000  
7310 - 0s - loss: 8.3015 -  
mean_absolute_error: 2.0553 - val_loss  
: 12.6942 - val_mean_absolute_error: 2  
.1728
```

7311

7312 Epoch 03300: saving model to ./model/
model_best.h5

7313 Epoch 3301/20000

7314 - 0s - loss: 7.3654 -
mean_absolute_error: 2.0142 - val_loss
: 12.6934 - val_mean_absolute_error: 2
.1727

7315 Epoch 3302/20000

7316 - 0s - loss: 7.3947 -
mean_absolute_error: 2.0753 - val_loss
: 12.6931 - val_mean_absolute_error: 2
.1727

7317 Epoch 3303/20000

7318 - 0s - loss: 7.9888 -
mean_absolute_error: 2.0407 - val_loss
: 12.6929 - val_mean_absolute_error: 2
.1727

7319 Epoch 3304/20000

7320 - 0s - loss: 7.2350 -
mean_absolute_error: 2.0203 - val_loss
: 12.6925 - val_mean_absolute_error: 2
.1727

7321 Epoch 3305/20000

```
7322 - 0s - loss: 6.7846 -  
mean_absolute_error: 1.8983 - val_loss  
: 12.6923 - val_mean_absolute_error: 2  
.1727  
7323 Epoch 3306/20000  
7324 - 0s - loss: 8.0765 -  
mean_absolute_error: 2.0552 - val_loss  
: 12.6923 - val_mean_absolute_error: 2  
.1727  
7325 Epoch 3307/20000  
7326 - 0s - loss: 9.8838 -  
mean_absolute_error: 2.2235 - val_loss  
: 12.6926 - val_mean_absolute_error: 2  
.1727  
7327 Epoch 3308/20000  
7328 - 0s - loss: 6.6679 -  
mean_absolute_error: 1.9253 - val_loss  
: 12.6935 - val_mean_absolute_error: 2  
.1727  
7329 Epoch 3309/20000  
7330 - 0s - loss: 6.6255 -  
mean_absolute_error: 1.8762 - val_loss  
: 12.6937 - val_mean_absolute_error: 2  
.1727
```

```
7331 Epoch 3310/20000
7332   - 0s - loss: 6.6203 -
      mean_absolute_error: 1.8547 - val_loss
      : 12.6942 - val_mean_absolute_error: 2
      .1728
7333
7334 Epoch 03310: saving model to ./model/
      model_best.h5
7335 Epoch 3311/20000
7336   - 0s - loss: 6.9759 -
      mean_absolute_error: 1.9535 - val_loss
      : 12.6941 - val_mean_absolute_error: 2
      .1728
7337 Epoch 3312/20000
7338   - 0s - loss: 7.3814 -
      mean_absolute_error: 2.0071 - val_loss
      : 12.6942 - val_mean_absolute_error: 2
      .1727
7339 Epoch 3313/20000
7340   - 0s - loss: 5.4725 -
      mean_absolute_error: 1.7721 - val_loss
      : 12.6934 - val_mean_absolute_error: 2
      .1727
7341 Epoch 3314/20000
```



```
7342 - 0s - loss: 7.1855 -  
mean_absolute_error: 2.0197 - val_loss  
: 12.6940 - val_mean_absolute_error: 2  
.1727  
7343 Epoch 3315/20000  
7344 - 0s - loss: 9.4210 -  
mean_absolute_error: 2.1469 - val_loss  
: 12.6938 - val_mean_absolute_error: 2  
.1727  
7345 Epoch 3316/20000  
7346 - 0s - loss: 6.6557 -  
mean_absolute_error: 1.8788 - val_loss  
: 12.6940 - val_mean_absolute_error: 2  
.1727  
7347 Epoch 3317/20000  
7348 - 0s - loss: 6.4566 -  
mean_absolute_error: 1.8822 - val_loss  
: 12.6941 - val_mean_absolute_error: 2  
.1726  
7349 Epoch 3318/20000  
7350 - 0s - loss: 8.2121 -  
mean_absolute_error: 2.0623 - val_loss  
: 12.6947 - val_mean_absolute_error: 2  
.1727
```

```
7351 Epoch 3319/20000
7352   - 0s - loss: 7.1044 -
      mean_absolute_error: 1.9235 - val_loss
      : 12.6952 - val_mean_absolute_error: 2
      .1727
7353 Epoch 3320/20000
7354   - 0s - loss: 7.7427 -
      mean_absolute_error: 1.9013 - val_loss
      : 12.6955 - val_mean_absolute_error: 2
      .1727
7355
7356 Epoch 03320: saving model to ./model/
      model_best.h5
7357 Epoch 3321/20000
7358   - 0s - loss: 6.5290 -
      mean_absolute_error: 1.9732 - val_loss
      : 12.6947 - val_mean_absolute_error: 2
      .1727
7359 Epoch 3322/20000
7360   - 0s - loss: 9.3957 -
      mean_absolute_error: 2.1601 - val_loss
      : 12.6957 - val_mean_absolute_error: 2
      .1727
7361 Epoch 3323/20000
```

```
7362 - 0s - loss: 5.4857 -  
mean_absolute_error: 1.7978 - val_loss  
: 12.6966 - val_mean_absolute_error: 2  
.1728  
7363 Epoch 3324/20000  
7364 - 0s - loss: 6.4955 -  
mean_absolute_error: 1.9345 - val_loss  
: 12.6964 - val_mean_absolute_error: 2  
.1728  
7365 Epoch 3325/20000  
7366 - 0s - loss: 7.6563 -  
mean_absolute_error: 1.8966 - val_loss  
: 12.6962 - val_mean_absolute_error: 2  
.1728  
7367 Epoch 3326/20000  
7368 - 0s - loss: 6.6985 -  
mean_absolute_error: 1.9196 - val_loss  
: 12.6967 - val_mean_absolute_error: 2  
.1729  
7369 Epoch 3327/20000  
7370 - 0s - loss: 7.5776 -  
mean_absolute_error: 1.9765 - val_loss  
: 12.6959 - val_mean_absolute_error: 2  
.1728
```

```
7371 Epoch 3328/20000
7372   - 0s - loss: 9.1789 -
      mean_absolute_error: 2.1399 - val_loss
      : 12.6958 - val_mean_absolute_error: 2
      .1728
7373 Epoch 3329/20000
7374   - 0s - loss: 6.9774 -
      mean_absolute_error: 1.9902 - val_loss
      : 12.6962 - val_mean_absolute_error: 2
      .1728
7375 Epoch 3330/20000
7376   - 0s - loss: 7.8458 -
      mean_absolute_error: 1.9713 - val_loss
      : 12.6961 - val_mean_absolute_error: 2
      .1728
7377
7378 Epoch 03330: saving model to ./model/
      model_best.h5
7379 Epoch 3331/20000
7380   - 0s - loss: 7.5785 -
      mean_absolute_error: 1.8979 - val_loss
      : 12.6959 - val_mean_absolute_error: 2
      .1727
7381 Epoch 3332/20000
```

```
7382 - 0s - loss: 8.8357 -  
mean_absolute_error: 2.0476 - val_loss  
: 12.6967 - val_mean_absolute_error: 2  
.1728  
7383 Epoch 3333/20000  
7384 - 0s - loss: 7.7896 -  
mean_absolute_error: 2.0438 - val_loss  
: 12.6953 - val_mean_absolute_error: 2  
.1727  
7385 Epoch 3334/20000  
7386 - 0s - loss: 8.1675 -  
mean_absolute_error: 2.1201 - val_loss  
: 12.6951 - val_mean_absolute_error: 2  
.1726  
7387 Epoch 3335/20000  
7388 - 0s - loss: 6.9988 -  
mean_absolute_error: 1.8957 - val_loss  
: 12.6953 - val_mean_absolute_error: 2  
.1727  
7389 Epoch 3336/20000  
7390 - 0s - loss: 8.8666 -  
mean_absolute_error: 2.0997 - val_loss  
: 12.6949 - val_mean_absolute_error: 2  
.1727
```

```
7391 Epoch 3337/20000
7392   - 0s - loss: 8.0879 -
      mean_absolute_error: 1.9805 - val_loss
      : 12.6953 - val_mean_absolute_error: 2
      .1727
7393 Epoch 3338/20000
7394   - 0s - loss: 8.3699 -
      mean_absolute_error: 2.1076 - val_loss
      : 12.6947 - val_mean_absolute_error: 2
      .1726
7395 Epoch 3339/20000
7396   - 0s - loss: 7.1074 -
      mean_absolute_error: 1.9151 - val_loss
      : 12.6947 - val_mean_absolute_error: 2
      .1726
7397 Epoch 3340/20000
7398   - 0s - loss: 7.1135 -
      mean_absolute_error: 1.9979 - val_loss
      : 12.6953 - val_mean_absolute_error: 2
      .1727
7399
7400 Epoch 03340: saving model to ./model/
      model_best.h5
7401 Epoch 3341/20000
```

```
7402 - 0s - loss: 6.9306 -  
mean_absolute_error: 1.9311 - val_loss  
: 12.6957 - val_mean_absolute_error: 2  
.1728  
7403 Epoch 3342/20000  
7404 - 0s - loss: 8.2946 -  
mean_absolute_error: 2.0137 - val_loss  
: 12.6960 - val_mean_absolute_error: 2  
.1728  
7405 Epoch 3343/20000  
7406 - 0s - loss: 7.5543 -  
mean_absolute_error: 2.0021 - val_loss  
: 12.6965 - val_mean_absolute_error: 2  
.1728  
7407 Epoch 3344/20000  
7408 - 0s - loss: 6.4046 -  
mean_absolute_error: 1.9010 - val_loss  
: 12.6959 - val_mean_absolute_error: 2  
.1728  
7409 Epoch 3345/20000  
7410 - 0s - loss: 9.1999 -  
mean_absolute_error: 2.1729 - val_loss  
: 12.6961 - val_mean_absolute_error: 2  
.1728
```

```
7411 Epoch 3346/20000
7412   - 0s - loss: 6.5630 -
      mean_absolute_error: 1.8900 - val_loss
      : 12.6965 - val_mean_absolute_error: 2
      .1728
7413 Epoch 3347/20000
7414   - 0s - loss: 7.2434 -
      mean_absolute_error: 2.0012 - val_loss
      : 12.6970 - val_mean_absolute_error: 2
      .1729
7415 Epoch 3348/20000
7416   - 0s - loss: 7.0947 -
      mean_absolute_error: 1.9439 - val_loss
      : 12.6974 - val_mean_absolute_error: 2
      .1730
7417 Epoch 3349/20000
7418   - 0s - loss: 7.5712 -
      mean_absolute_error: 2.0313 - val_loss
      : 12.6972 - val_mean_absolute_error: 2
      .1730
7419 Epoch 3350/20000
7420   - 0s - loss: 7.1028 -
      mean_absolute_error: 1.9235 - val_loss
      : 12.6975 - val_mean_absolute_error: 2
```


7420 .1730

7421

7422 Epoch 03350: saving model to ./model/
model_best.h5

7423 Epoch 3351/20000

7424 - 0s - loss: 8.5191 -
mean_absolute_error: 2.1224 - val_loss
: 12.6975 - val_mean_absolute_error: 2
.1729

7425 Epoch 3352/20000

7426 - 0s - loss: 6.6719 -
mean_absolute_error: 1.9289 - val_loss
: 12.6979 - val_mean_absolute_error: 2
.1729

7427 Epoch 3353/20000

7428 - 0s - loss: 7.1926 -
mean_absolute_error: 1.9751 - val_loss
: 12.6979 - val_mean_absolute_error: 2
.1729

7429 Epoch 3354/20000

7430 - 0s - loss: 6.9598 -
mean_absolute_error: 1.9573 - val_loss
: 12.6972 - val_mean_absolute_error: 2
.1729

```
7431 Epoch 3355/20000
7432   - 0s - loss: 8.2859 -
      mean_absolute_error: 1.9722 - val_loss
      : 12.6967 - val_mean_absolute_error: 2
      .1728
7433 Epoch 3356/20000
7434   - 0s - loss: 7.7721 -
      mean_absolute_error: 2.0852 - val_loss
      : 12.6961 - val_mean_absolute_error: 2
      .1728
7435 Epoch 3357/20000
7436   - 0s - loss: 7.9291 -
      mean_absolute_error: 2.1010 - val_loss
      : 12.6971 - val_mean_absolute_error: 2
      .1729
7437 Epoch 3358/20000
7438   - 0s - loss: 8.1103 -
      mean_absolute_error: 2.0677 - val_loss
      : 12.6965 - val_mean_absolute_error: 2
      .1728
7439 Epoch 3359/20000
7440   - 0s - loss: 6.5618 -
      mean_absolute_error: 1.9284 - val_loss
      : 12.6965 - val_mean_absolute_error: 2
```

```
7440 .1728
7441 Epoch 3360/20000
7442 - 0s - loss: 8.0080 -
mean_absolute_error: 1.9604 - val_loss
: 12.6968 - val_mean_absolute_error: 2
.1728
7443
7444 Epoch 03360: saving model to ./model/
model_best.h5
7445 Epoch 3361/20000
7446 - 0s - loss: 8.7108 -
mean_absolute_error: 2.0575 - val_loss
: 12.6965 - val_mean_absolute_error: 2
.1727
7447 Epoch 3362/20000
7448 - 0s - loss: 8.2526 -
mean_absolute_error: 1.9783 - val_loss
: 12.6969 - val_mean_absolute_error: 2
.1728
7449 Epoch 3363/20000
7450 - 0s - loss: 8.3277 -
mean_absolute_error: 1.9974 - val_loss
: 12.6971 - val_mean_absolute_error: 2
.1728
```

```
7451 Epoch 3364/20000
7452   - 0s - loss: 6.9835 -
      mean_absolute_error: 1.9133 - val_loss
      : 12.6977 - val_mean_absolute_error: 2
      .1728
7453 Epoch 3365/20000
7454   - 0s - loss: 7.9128 -
      mean_absolute_error: 2.0163 - val_loss
      : 12.6980 - val_mean_absolute_error: 2
      .1728
7455 Epoch 3366/20000
7456   - 0s - loss: 8.8505 -
      mean_absolute_error: 2.1241 - val_loss
      : 12.6977 - val_mean_absolute_error: 2
      .1728
7457 Epoch 3367/20000
7458   - 0s - loss: 7.8472 -
      mean_absolute_error: 2.0430 - val_loss
      : 12.6981 - val_mean_absolute_error: 2
      .1729
7459 Epoch 3368/20000
7460   - 0s - loss: 9.4061 -
      mean_absolute_error: 2.0773 - val_loss
      : 12.6979 - val_mean_absolute_error: 2
```

```
7460 .1729
7461 Epoch 3369/20000
7462 - 0s - loss: 6.4858 -
mean_absolute_error: 1.8884 - val_loss
: 12.6980 - val_mean_absolute_error: 2
.1729
7463 Epoch 3370/20000
7464 - 0s - loss: 8.3678 -
mean_absolute_error: 2.0463 - val_loss
: 12.6981 - val_mean_absolute_error: 2
.1729
7465
7466 Epoch 03370: saving model to ./model/
model_best.h5
7467 Epoch 3371/20000
7468 - 0s - loss: 8.7256 -
mean_absolute_error: 2.1507 - val_loss
: 12.6971 - val_mean_absolute_error: 2
.1729
7469 Epoch 3372/20000
7470 - 0s - loss: 7.8292 -
mean_absolute_error: 2.0180 - val_loss
: 12.6980 - val_mean_absolute_error: 2
.1729
```

```
7471 Epoch 3373/20000
7472   - 0s - loss: 6.3402 -
      mean_absolute_error: 1.9370 - val_loss
      : 12.6977 - val_mean_absolute_error: 2
      .1729
7473 Epoch 3374/20000
7474   - 0s - loss: 8.5515 -
      mean_absolute_error: 2.0408 - val_loss
      : 12.6971 - val_mean_absolute_error: 2
      .1729
7475 Epoch 3375/20000
7476   - 0s - loss: 8.1137 -
      mean_absolute_error: 2.0116 - val_loss
      : 12.6969 - val_mean_absolute_error: 2
      .1729
7477 Epoch 3376/20000
7478   - 0s - loss: 5.5076 -
      mean_absolute_error: 1.7852 - val_loss
      : 12.6973 - val_mean_absolute_error: 2
      .1730
7479 Epoch 3377/20000
7480   - 0s - loss: 8.1725 -
      mean_absolute_error: 2.0407 - val_loss
      : 12.6977 - val_mean_absolute_error: 2
```

```
7480 .1730
7481 Epoch 3378/20000
7482 - 0s - loss: 8.2681 -
mean_absolute_error: 2.0755 - val_loss
: 12.6975 - val_mean_absolute_error: 2
.1730
7483 Epoch 3379/20000
7484 - 0s - loss: 8.1786 -
mean_absolute_error: 2.0321 - val_loss
: 12.6970 - val_mean_absolute_error: 2
.1729
7485 Epoch 3380/20000
7486 - 0s - loss: 6.6210 -
mean_absolute_error: 1.8599 - val_loss
: 12.6969 - val_mean_absolute_error: 2
.1729
7487
7488 Epoch 03380: saving model to ./model/
model_best.h5
7489 Epoch 3381/20000
7490 - 0s - loss: 8.6251 -
mean_absolute_error: 1.9461 - val_loss
: 12.6978 - val_mean_absolute_error: 2
.1730
```

```
7491 Epoch 3382/20000
7492   - 0s - loss: 6.0744 -
      mean_absolute_error: 1.8565 - val_loss
      : 12.6971 - val_mean_absolute_error: 2
      .1729
7493 Epoch 3383/20000
7494   - 0s - loss: 8.5541 -
      mean_absolute_error: 2.0107 - val_loss
      : 12.6975 - val_mean_absolute_error: 2
      .1729
7495 Epoch 3384/20000
7496   - 0s - loss: 7.9217 -
      mean_absolute_error: 1.9779 - val_loss
      : 12.6976 - val_mean_absolute_error: 2
      .1729
7497 Epoch 3385/20000
7498   - 0s - loss: 8.2997 -
      mean_absolute_error: 2.0913 - val_loss
      : 12.6975 - val_mean_absolute_error: 2
      .1729
7499 Epoch 3386/20000
7500   - 0s - loss: 7.2460 -
      mean_absolute_error: 1.9484 - val_loss
      : 12.6986 - val_mean_absolute_error: 2
```



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7500 .1730
7501 Epoch 3387/20000
7502 - 0s - loss: 7.9679 -
      mean_absolute_error: 2.0010 - val_loss
      : 12.6996 - val_mean_absolute_error: 2
      .1731
7503 Epoch 3388/20000
7504 - 0s - loss: 6.6648 -
      mean_absolute_error: 1.8758 - val_loss
      : 12.6994 - val_mean_absolute_error: 2
      .1730
7505 Epoch 3389/20000
7506 - 0s - loss: 7.4376 -
      mean_absolute_error: 1.9875 - val_loss
      : 12.6997 - val_mean_absolute_error: 2
      .1730
7507 Epoch 3390/20000
7508 - 0s - loss: 8.6471 -
      mean_absolute_error: 2.0917 - val_loss
      : 12.7009 - val_mean_absolute_error: 2
      .1731
7509
7510 Epoch 03390: saving model to ./model/
      model_best.h5
```

```
7511 Epoch 3391/20000
7512   - 0s - loss: 8.2642 -
      mean_absolute_error: 2.0611 - val_loss
      : 12.7009 - val_mean_absolute_error: 2
      .1731
7513 Epoch 3392/20000
7514   - 0s - loss: 6.9137 -
      mean_absolute_error: 1.9169 - val_loss
      : 12.7020 - val_mean_absolute_error: 2
      .1732
7515 Epoch 3393/20000
7516   - 0s - loss: 8.4120 -
      mean_absolute_error: 2.0395 - val_loss
      : 12.7015 - val_mean_absolute_error: 2
      .1732
7517 Epoch 3394/20000
7518   - 0s - loss: 7.3739 -
      mean_absolute_error: 1.9733 - val_loss
      : 12.7012 - val_mean_absolute_error: 2
      .1731
7519 Epoch 3395/20000
7520   - 0s - loss: 7.6881 -
      mean_absolute_error: 2.0777 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
```

```
7520 . 1731
7521 Epoch 3396/20000
7522 - 0s - loss: 7.6253 -
      mean_absolute_error: 2.0274 - val_loss
      : 12.6999 - val_mean_absolute_error: 2
      . 1730
7523 Epoch 3397/20000
7524 - 0s - loss: 7.3960 -
      mean_absolute_error: 1.9480 - val_loss
      : 12.7003 - val_mean_absolute_error: 2
      . 1730
7525 Epoch 3398/20000
7526 - 0s - loss: 6.4104 -
      mean_absolute_error: 1.8476 - val_loss
      : 12.6996 - val_mean_absolute_error: 2
      . 1730
7527 Epoch 3399/20000
7528 - 0s - loss: 7.0023 -
      mean_absolute_error: 1.9855 - val_loss
      : 12.6994 - val_mean_absolute_error: 2
      . 1729
7529 Epoch 3400/20000
7530 - 0s - loss: 7.0941 -
      mean_absolute_error: 2.0160 - val_loss
```

7530 : 12.6994 - val_mean_absolute_error: 2
.1730

7531

7532 Epoch 03400: saving model to ./model/
model_best.h5

7533 Epoch 3401/20000

7534 - 0s - loss: 8.8327 -
mean_absolute_error: 2.1252 - val_loss
: 12.6996 - val_mean_absolute_error: 2
.1730

7535 Epoch 3402/20000

7536 - 0s - loss: 6.3944 -
mean_absolute_error: 1.8265 - val_loss
: 12.6995 - val_mean_absolute_error: 2
.1730

7537 Epoch 3403/20000

7538 - 0s - loss: 8.2595 -
mean_absolute_error: 2.1746 - val_loss
: 12.6999 - val_mean_absolute_error: 2
.1731

7539 Epoch 3404/20000

7540 - 0s - loss: 7.1960 -
mean_absolute_error: 1.9726 - val_loss
: 12.7001 - val_mean_absolute_error: 2

```
7540 .1731
7541 Epoch 3405/20000
7542 - 0s - loss: 8.0550 -
mean_absolute_error: 2.0782 - val_loss
: 12.7006 - val_mean_absolute_error: 2
.1731
7543 Epoch 3406/20000
7544 - 0s - loss: 7.8546 -
mean_absolute_error: 1.9771 - val_loss
: 12.7011 - val_mean_absolute_error: 2
.1732
7545 Epoch 3407/20000
7546 - 0s - loss: 7.9100 -
mean_absolute_error: 2.0075 - val_loss
: 12.7022 - val_mean_absolute_error: 2
.1732
7547 Epoch 3408/20000
7548 - 0s - loss: 8.6113 -
mean_absolute_error: 2.0746 - val_loss
: 12.7011 - val_mean_absolute_error: 2
.1732
7549 Epoch 3409/20000
7550 - 0s - loss: 8.2256 -
mean_absolute_error: 2.0991 - val_loss
```

7550 : 12.7011 - val_mean_absolute_error: 2
.1732

7551 Epoch 3410/20000

7552 - 0s - loss: 7.2117 -
mean_absolute_error: 1.9239 - val_loss
: 12.7023 - val_mean_absolute_error: 2
.1733

7553

7554 Epoch 03410: saving model to ./model/
model_best.h5

7555 Epoch 3411/20000

7556 - 0s - loss: 7.4178 -
mean_absolute_error: 1.9575 - val_loss
: 12.7028 - val_mean_absolute_error: 2
.1734

7557 Epoch 3412/20000

7558 - 0s - loss: 7.7697 -
mean_absolute_error: 1.9659 - val_loss
: 12.7031 - val_mean_absolute_error: 2
.1734

7559 Epoch 3413/20000

7560 - 0s - loss: 7.9696 -
mean_absolute_error: 1.9720 - val_loss
: 12.7032 - val_mean_absolute_error: 2

```
7560 . 1734
7561 Epoch 3414/20000
7562 - 0s - loss: 9.7524 -
      mean_absolute_error: 2.1516 - val_loss
      : 12.7024 - val_mean_absolute_error: 2
      . 1733
7563 Epoch 3415/20000
7564 - 0s - loss: 6.7827 -
      mean_absolute_error: 1.8867 - val_loss
      : 12.7017 - val_mean_absolute_error: 2
      . 1733
7565 Epoch 3416/20000
7566 - 0s - loss: 7.0299 -
      mean_absolute_error: 1.8369 - val_loss
      : 12.7011 - val_mean_absolute_error: 2
      . 1732
7567 Epoch 3417/20000
7568 - 0s - loss: 8.8970 -
      mean_absolute_error: 2.1404 - val_loss
      : 12.7018 - val_mean_absolute_error: 2
      . 1733
7569 Epoch 3418/20000
7570 - 0s - loss: 7.2007 -
      mean_absolute_error: 1.9654 - val_loss
```

```
7570 : 12.7025 - val_mean_absolute_error: 2
      .1733
7571 Epoch 3419/20000
7572 - 0s - loss: 7.8237 -
      mean_absolute_error: 2.0702 - val_loss
      : 12.7010 - val_mean_absolute_error: 2
      .1732
7573 Epoch 3420/20000
7574 - 0s - loss: 6.8461 -
      mean_absolute_error: 1.8867 - val_loss
      : 12.7010 - val_mean_absolute_error: 2
      .1732
7575
7576 Epoch 03420: saving model to ./model/
      model_best.h5
7577 Epoch 3421/20000
7578 - 0s - loss: 7.6808 -
      mean_absolute_error: 2.0312 - val_loss
      : 12.7005 - val_mean_absolute_error: 2
      .1732
7579 Epoch 3422/20000
7580 - 0s - loss: 8.6601 -
      mean_absolute_error: 2.0101 - val_loss
      : 12.7002 - val_mean_absolute_error: 2
```



```
7580 .1731
7581 Epoch 3423/20000
7582 - 0s - loss: 9.5007 -
      mean_absolute_error: 2.1552 - val_loss
      : 12.7004 - val_mean_absolute_error: 2
      .1732
7583 Epoch 3424/20000
7584 - 0s - loss: 7.8075 -
      mean_absolute_error: 1.9752 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1732
7585 Epoch 3425/20000
7586 - 0s - loss: 7.0855 -
      mean_absolute_error: 2.0101 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1732
7587 Epoch 3426/20000
7588 - 0s - loss: 7.9450 -
      mean_absolute_error: 2.1203 - val_loss
      : 12.7000 - val_mean_absolute_error: 2
      .1731
7589 Epoch 3427/20000
7590 - 0s - loss: 8.7748 -
      mean_absolute_error: 2.1556 - val_loss
```

```
7590 : 12.7007 - val_mean_absolute_error: 2
      .1731
7591 Epoch 3428/20000
7592 - 0s - loss: 7.6909 -
      mean_absolute_error: 1.9499 - val_loss
      : 12.7017 - val_mean_absolute_error: 2
      .1732
7593 Epoch 3429/20000
7594 - 0s - loss: 8.5017 -
      mean_absolute_error: 2.0669 - val_loss
      : 12.7014 - val_mean_absolute_error: 2
      .1731
7595 Epoch 3430/20000
7596 - 0s - loss: 7.9624 -
      mean_absolute_error: 1.9964 - val_loss
      : 12.7010 - val_mean_absolute_error: 2
      .1731
7597
7598 Epoch 03430: saving model to ./model /
      model_best.h5
7599 Epoch 3431/20000
7600 - 0s - loss: 8.3724 -
      mean_absolute_error: 2.1278 - val_loss
      : 12.7014 - val_mean_absolute_error: 2
```

```
7600 .1731
7601 Epoch 3432/20000
7602 - 0s - loss: 9.8655 -
      mean_absolute_error: 2.2039 - val_loss
      : 12.7020 - val_mean_absolute_error: 2
      .1732
7603 Epoch 3433/20000
7604 - 0s - loss: 7.0498 -
      mean_absolute_error: 1.8976 - val_loss
      : 12.7014 - val_mean_absolute_error: 2
      .1731
7605 Epoch 3434/20000
7606 - 0s - loss: 6.4454 -
      mean_absolute_error: 1.9121 - val_loss
      : 12.7012 - val_mean_absolute_error: 2
      .1731
7607 Epoch 3435/20000
7608 - 0s - loss: 7.8379 -
      mean_absolute_error: 1.9216 - val_loss
      : 12.7020 - val_mean_absolute_error: 2
      .1731
7609 Epoch 3436/20000
7610 - 0s - loss: 7.1310 -
      mean_absolute_error: 1.9773 - val_loss
```

```
7610 : 12.7029 - val_mean_absolute_error: 2
      .1732
7611 Epoch 3437/20000
7612 - 0s - loss: 7.3954 -
      mean_absolute_error: 1.9685 - val_loss
      : 12.7026 - val_mean_absolute_error: 2
      .1732
7613 Epoch 3438/20000
7614 - 0s - loss: 8.4138 -
      mean_absolute_error: 2.0014 - val_loss
      : 12.7025 - val_mean_absolute_error: 2
      .1732
7615 Epoch 3439/20000
7616 - 0s - loss: 6.9852 -
      mean_absolute_error: 1.9161 - val_loss
      : 12.7023 - val_mean_absolute_error: 2
      .1731
7617 Epoch 3440/20000
7618 - 0s - loss: 7.4399 -
      mean_absolute_error: 2.0327 - val_loss
      : 12.7014 - val_mean_absolute_error: 2
      .1730
7619
7620 Epoch 03440: saving model to ./model/
```

```
7620 model_best.h5
7621 Epoch 3441/20000
7622   - 0s - loss: 7.8911 -
      mean_absolute_error: 1.9389 - val_loss
      : 12.7017 - val_mean_absolute_error: 2
      .1731
7623 Epoch 3442/20000
7624   - 0s - loss: 7.8665 -
      mean_absolute_error: 1.9431 - val_loss
      : 12.7018 - val_mean_absolute_error: 2
      .1731
7625 Epoch 3443/20000
7626   - 0s - loss: 8.5252 -
      mean_absolute_error: 2.0973 - val_loss
      : 12.7027 - val_mean_absolute_error: 2
      .1731
7627 Epoch 3444/20000
7628   - 0s - loss: 7.9496 -
      mean_absolute_error: 2.0520 - val_loss
      : 12.7019 - val_mean_absolute_error: 2
      .1731
7629 Epoch 3445/20000
7630   - 0s - loss: 8.3750 -
      mean_absolute_error: 2.0441 - val_loss
```

```
7630 : 12.7008 - val_mean_absolute_error: 2
      .1729
7631 Epoch 3446/20000
7632 - 0s - loss: 7.2158 -
      mean_absolute_error: 1.9470 - val_loss
      : 12.7013 - val_mean_absolute_error: 2
      .1730
7633 Epoch 3447/20000
7634 - 0s - loss: 7.0991 -
      mean_absolute_error: 1.9063 - val_loss
      : 12.7019 - val_mean_absolute_error: 2
      .1730
7635 Epoch 3448/20000
7636 - 0s - loss: 7.6533 -
      mean_absolute_error: 2.0294 - val_loss
      : 12.7007 - val_mean_absolute_error: 2
      .1729
7637 Epoch 3449/20000
7638 - 0s - loss: 6.7598 -
      mean_absolute_error: 1.9093 - val_loss
      : 12.7009 - val_mean_absolute_error: 2
      .1730
7639 Epoch 3450/20000
7640 - 0s - loss: 7.8264 -
```

7640 mean_absolute_error: 2.0442 - val_loss
: 12.7011 - val_mean_absolute_error: 2
.1730

7641

7642 Epoch 03450: saving model to ./model/
model_best.h5

7643 Epoch 3451/20000

7644 - 0s - loss: 6.8946 -
mean_absolute_error: 1.9163 - val_loss
: 12.7001 - val_mean_absolute_error: 2
.1730

7645 Epoch 3452/20000

7646 - 0s - loss: 6.9702 -
mean_absolute_error: 1.9178 - val_loss
: 12.6999 - val_mean_absolute_error: 2
.1730

7647 Epoch 3453/20000

7648 - 0s - loss: 10.4554 -
mean_absolute_error: 2.2455 - val_loss
: 12.6994 - val_mean_absolute_error: 2
.1729

7649 Epoch 3454/20000

7650 - 0s - loss: 7.3518 -
mean_absolute_error: 2.0204 - val_loss

```
7650 : 12.6984 - val_mean_absolute_error: 2
      .1729
7651 Epoch 3455/20000
7652 - 0s - loss: 7.1359 -
      mean_absolute_error: 1.9216 - val_loss
      : 12.6988 - val_mean_absolute_error: 2
      .1729
7653 Epoch 3456/20000
7654 - 0s - loss: 7.8324 -
      mean_absolute_error: 2.0197 - val_loss
      : 12.6985 - val_mean_absolute_error: 2
      .1728
7655 Epoch 3457/20000
7656 - 0s - loss: 7.5436 -
      mean_absolute_error: 1.9950 - val_loss
      : 12.6988 - val_mean_absolute_error: 2
      .1728
7657 Epoch 3458/20000
7658 - 0s - loss: 7.6110 -
      mean_absolute_error: 1.9654 - val_loss
      : 12.6989 - val_mean_absolute_error: 2
      .1728
7659 Epoch 3459/20000
7660 - 0s - loss: 6.8150 -
```


7660 mean_absolute_error: 1.8667 - val_loss
: 12.6985 - val_mean_absolute_error: 2
.1728

7661 Epoch 3460/20000

7662 - 0s - loss: 7.1721 -
mean_absolute_error: 1.9795 - val_loss
: 12.6988 - val_mean_absolute_error: 2
.1729

7663

7664 Epoch 03460: saving model to ./model/
model_best.h5

7665 Epoch 3461/20000

7666 - 0s - loss: 7.5922 -
mean_absolute_error: 1.9865 - val_loss
: 12.6986 - val_mean_absolute_error: 2
.1729

7667 Epoch 3462/20000

7668 - 0s - loss: 8.4222 -
mean_absolute_error: 2.1679 - val_loss
: 12.6982 - val_mean_absolute_error: 2
.1728

7669 Epoch 3463/20000

7670 - 0s - loss: 8.1102 -
mean_absolute_error: 1.9959 - val_loss

```

7670 : 12.6985 - val_mean_absolute_error: 2
      .1729
7671 Epoch 3464/20000
7672 - 0s - loss: 7.1244 -
      mean_absolute_error: 1.9847 - val_loss
      : 12.6982 - val_mean_absolute_error: 2
      .1728
7673 Epoch 3465/20000
7674 - 0s - loss: 7.1218 -
      mean_absolute_error: 1.9758 - val_loss
      : 12.6987 - val_mean_absolute_error: 2
      .1728
7675 Epoch 03465: early stopping
7676 history.history.keys = ['
      val_mean_absolute_error', 'loss', 'lr
      ', 'mean_absolute_error', 'val_loss']
7677 history.history = {'
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7677 291190371101285, 3.282594304025909, 3.
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7679 load the trained model  
7680 #####model evaluate  
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7681 results test_loss: 12.224833161223168  
7682 results test_mean_absolute_error: 2.
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7682 356871548820944

7683 #####model predict

#####

7684

7685 Process finished with exit code 0

7686