

```
1 ssh://root@103.254.67.181:10006/usr/bin/  
python -u /home/sunfengzhen/pycharm/  
weather_zky/model/main.py  
2 Using TensorFlow backend.  
3 #data process has been done  
4 [0] train-rmse:20.6081  
5 Will train until train-rmse hasn't  
improved in 3 rounds.  
6 [1] train-rmse:19.4887  
7 [2] train-rmse:18.5077  
8 [3] train-rmse:17.6369  
9 [4] train-rmse:16.8757  
10 [5] train-rmse:16.2075  
11 [6] train-rmse:15.6143  
12 [7] train-rmse:15.0882  
13 [8] train-rmse:14.6195  
14 [9] train-rmse:14.1947  
15 [10]train-rmse:13.8143  
16 [11]train-rmse:13.4845  
17 [12]train-rmse:13.1808  
18 [13]train-rmse:12.9115  
19 [14]train-rmse:12.6837  
20 [15]train-rmse:12.4641  
21 [16]train-rmse:12.2507
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22 [17]train-rmse: 12.0676
23 [18]train-rmse: 11.8842
24 [19]train-rmse: 11.7482
25 [20]train-rmse: 11.5911
26 [21]train-rmse: 11.4281
27 [22]train-rmse: 11.3046
28 [23]train-rmse: 11.1798
29 [24]train-rmse: 11.0633
30 [25]train-rmse: 10.9399
31 [26]train-rmse: 10.8255
32 [27]train-rmse: 10.718
33 [28]train-rmse: 10.6251
34 [29]train-rmse: 10.5099
35 [30]train-rmse: 10.4052
36 [31]train-rmse: 10.2871
37 [32]train-rmse: 10.1766
38 [33]train-rmse: 10.0808
39 [34]train-rmse: 10.0113
40 [35]train-rmse: 9.91759
41 [36]train-rmse: 9.83217
42 [37]train-rmse: 9.74204
43 [38]train-rmse: 9.70775
44 [39]train-rmse: 9.60227
45 [40]train-rmse: 9.52714
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46 [41]train-rmse: 9.47797
47 [42]train-rmse: 9.41412
48 [43]train-rmse: 9.28472
49 [44]train-rmse: 9.1849
50 [45]train-rmse: 9.15267
51 [46]train-rmse: 9.12418
52 [47]train-rmse: 9.06856
53 [48]train-rmse: 9.00422
54 [49]train-rmse: 8.96818
55 [50]train-rmse: 8.92849
56 [51]train-rmse: 8.89074
57 [52]train-rmse: 8.86197
58 [53]train-rmse: 8.80529
59 [54]train-rmse: 8.72762
60 [55]train-rmse: 8.65699
61 [56]train-rmse: 8.58712
62 [57]train-rmse: 8.57169
63 [58]train-rmse: 8.54677
64 [59]train-rmse: 8.48673
65 [60]train-rmse: 8.41965
66 [61]train-rmse: 8.36421
67 [62]train-rmse: 8.32443
68 [63]train-rmse: 8.29194
69 [64]train-rmse: 8.23122
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70 [65]train-rmse: 8.21992
71 [66]train-rmse: 8.15909
72 [67]train-rmse: 8.08226
73 [68]train-rmse: 8.01144
74 [69]train-rmse: 7.93799
75 [70]train-rmse: 7.85665
76 [71]train-rmse: 7.81562
77 [72]train-rmse: 7.74707
78 [73]train-rmse: 7.67954
79 [74]train-rmse: 7.62904
80 [75]train-rmse: 7.61202
81 [76]train-rmse: 7.5457
82 [77]train-rmse: 7.46366
83 [78]train-rmse: 7.41352
84 [79]train-rmse: 7.37514
85 [80]train-rmse: 7.36295
86 [81]train-rmse: 7.31278
87 [82]train-rmse: 7.26035
88 [83]train-rmse: 7.21333
89 [84]train-rmse: 7.16235
90 [85]train-rmse: 7.10409
91 [86]train-rmse: 7.0536
92 [87]train-rmse: 6.99308
93 [88]train-rmse: 6.92628
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94 [89] train-rmse: 6.88213
95 [90] train-rmse: 6.82851
96 [91] train-rmse: 6.80017
97 [92] train-rmse: 6.75161
98 [93] train-rmse: 6.71926
99 [94] train-rmse: 6.6708
100 [95] train-rmse: 6.6373
101 [96] train-rmse: 6.58376
102 [97] train-rmse: 6.52581
103 [98] train-rmse: 6.5114
104 [99] train-rmse: 6.46907
105 [0] train-rmse: 20.6145
106 Will train until train-rmse hasn't
    improved in 3 rounds.
107 [1] train-rmse: 19.505
108 [2] train-rmse: 18.5193
109 [3] train-rmse: 17.6641
110 [4] train-rmse: 16.8875
111 [5] train-rmse: 16.2302
112 [6] train-rmse: 15.6328
113 [7] train-rmse: 15.1197
114 [8] train-rmse: 14.6662
115 [9] train-rmse: 14.2618
116 [10] train-rmse: 13.8874
```

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117 [11]train-rmse: 13.5567
118 [12]train-rmse: 13.2517
119 [13]train-rmse: 12.9952
120 [14]train-rmse: 12.7538
121 [15]train-rmse: 12.5429
122 [16]train-rmse: 12.3332
123 [17]train-rmse: 12.1445
124 [18]train-rmse: 11.9647
125 [19]train-rmse: 11.8061
126 [20]train-rmse: 11.6568
127 [21]train-rmse: 11.4863
128 [22]train-rmse: 11.3603
129 [23]train-rmse: 11.2447
130 [24]train-rmse: 11.1169
131 [25]train-rmse: 11.011
132 [26]train-rmse: 10.8829
133 [27]train-rmse: 10.7662
134 [28]train-rmse: 10.6425
135 [29]train-rmse: 10.5274
136 [30]train-rmse: 10.4357
137 [31]train-rmse: 10.3476
138 [32]train-rmse: 10.2438
139 [33]train-rmse: 10.1381
140 [34]train-rmse: 10.0532
```

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141 [35]train-rmse: 9.94063
142 [36]train-rmse: 9.86976
143 [37]train-rmse: 9.80382
144 [38]train-rmse: 9.69259
145 [39]train-rmse: 9.64132
146 [40]train-rmse: 9.52193
147 [41]train-rmse: 9.48753
148 [42]train-rmse: 9.42689
149 [43]train-rmse: 9.38486
150 [44]train-rmse: 9.3361
151 [45]train-rmse: 9.29356
152 [46]train-rmse: 9.23131
153 [47]train-rmse: 9.19589
154 [48]train-rmse: 9.14605
155 [49]train-rmse: 9.08078
156 [50]train-rmse: 9.03615
157 [51]train-rmse: 8.9796
158 [52]train-rmse: 8.90247
159 [53]train-rmse: 8.82405
160 [54]train-rmse: 8.77255
161 [55]train-rmse: 8.67891
162 [56]train-rmse: 8.62351
163 [57]train-rmse: 8.59162
164 [58]train-rmse: 8.52811
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165 [59]train-rmse: 8.50217
166 [60]train-rmse: 8.44335
167 [61]train-rmse: 8.36223
168 [62]train-rmse: 8.31131
169 [63]train-rmse: 8.29601
170 [64]train-rmse: 8.21317
171 [65]train-rmse: 8.17682
172 [66]train-rmse: 8.13776
173 [67]train-rmse: 8.12416
174 [68]train-rmse: 8.09441
175 [69]train-rmse: 8.02673
176 [70]train-rmse: 8.00409
177 [71]train-rmse: 7.97993
178 [72]train-rmse: 7.90967
179 [73]train-rmse: 7.8452
180 [74]train-rmse: 7.82348
181 [75]train-rmse: 7.77736
182 [76]train-rmse: 7.74495
183 [77]train-rmse: 7.64942
184 [78]train-rmse: 7.58624
185 [79]train-rmse: 7.56254
186 [80]train-rmse: 7.50988
187 [81]train-rmse: 7.4675
188 [82]train-rmse: 7.38097
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189 [83] train-rmse: 7.31058
190 [84] train-rmse: 7.28289
191 [85] train-rmse: 7.24751
192 [86] train-rmse: 7.17809
193 [87] train-rmse: 7.11392
194 [88] train-rmse: 7.09887
195 [89] train-rmse: 7.05543
196 [90] train-rmse: 6.98587
197 [91] train-rmse: 6.91064
198 [92] train-rmse: 6.86484
199 [93] train-rmse: 6.80678
200 [94] train-rmse: 6.76692
201 [95] train-rmse: 6.71094
202 [96] train-rmse: 6.65423
203 [97] train-rmse: 6.62283
204 [98] train-rmse: 6.57784
205 [99] train-rmse: 6.554
206 [0] train-rmse: 20.5615
207 Will train until train-rmse hasn't
    improved in 3 rounds.
208 [1] train-rmse: 19.4688
209 [2] train-rmse: 18.4858
210 [3] train-rmse: 17.6261
211 [4] train-rmse: 16.8756
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212 [5] train-rmse: 16.218
213 [6] train-rmse: 15.6149
214 [7] train-rmse: 15.0967
215 [8] train-rmse: 14.6275
216 [9] train-rmse: 14.2047
217 [10] train-rmse: 13.8253
218 [11] train-rmse: 13.496
219 [12] train-rmse: 13.1906
220 [13] train-rmse: 12.9348
221 [14] train-rmse: 12.6969
222 [15] train-rmse: 12.4868
223 [16] train-rmse: 12.2834
224 [17] train-rmse: 12.0955
225 [18] train-rmse: 11.9221
226 [19] train-rmse: 11.7343
227 [20] train-rmse: 11.5693
228 [21] train-rmse: 11.4274
229 [22] train-rmse: 11.2975
230 [23] train-rmse: 11.1705
231 [24] train-rmse: 11.0496
232 [25] train-rmse: 10.9341
233 [26] train-rmse: 10.8121
234 [27] train-rmse: 10.713
235 [28] train-rmse: 10.578
```

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236 [29]train-rmse: 10.4701
237 [30]train-rmse: 10.3727
238 [31]train-rmse: 10.2513
239 [32]train-rmse: 10.1771
240 [33]train-rmse: 10.0894
241 [34]train-rmse: 10.0152
242 [35]train-rmse: 9.94844
243 [36]train-rmse: 9.88512
244 [37]train-rmse: 9.81823
245 [38]train-rmse: 9.72313
246 [39]train-rmse: 9.62943
247 [40]train-rmse: 9.57274
248 [41]train-rmse: 9.48689
249 [42]train-rmse: 9.43082
250 [43]train-rmse: 9.40428
251 [44]train-rmse: 9.38503
252 [45]train-rmse: 9.30447
253 [46]train-rmse: 9.25075
254 [47]train-rmse: 9.21106
255 [48]train-rmse: 9.13486
256 [49]train-rmse: 9.1086
257 [50]train-rmse: 9.06374
258 [51]train-rmse: 8.97982
259 [52]train-rmse: 8.87591
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260 [53]train-rmse: 8.82498
261 [54]train-rmse: 8.7983
262 [55]train-rmse: 8.73047
263 [56]train-rmse: 8.69933
264 [57]train-rmse: 8.62589
265 [58]train-rmse: 8.5858
266 [59]train-rmse: 8.52887
267 [60]train-rmse: 8.46588
268 [61]train-rmse: 8.39231
269 [62]train-rmse: 8.31176
270 [63]train-rmse: 8.29135
271 [64]train-rmse: 8.23306
272 [65]train-rmse: 8.15598
273 [66]train-rmse: 8.09688
274 [67]train-rmse: 8.0389
275 [68]train-rmse: 8.02396
276 [69]train-rmse: 7.94165
277 [70]train-rmse: 7.87426
278 [71]train-rmse: 7.84617
279 [72]train-rmse: 7.80516
280 [73]train-rmse: 7.75844
281 [74]train-rmse: 7.74413
282 [75]train-rmse: 7.67617
283 [76]train-rmse: 7.63043
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284 [77]train-rmse: 7.61481
285 [78]train-rmse: 7.56113
286 [79]train-rmse: 7.52076
287 [80]train-rmse: 7.43741
288 [81]train-rmse: 7.36037
289 [82]train-rmse: 7.32379
290 [83]train-rmse: 7.24855
291 [84]train-rmse: 7.18349
292 [85]train-rmse: 7.10728
293 [86]train-rmse: 7.06288
294 [87]train-rmse: 7.0278
295 [88]train-rmse: 6.95532
296 [89]train-rmse: 6.90946
297 [90]train-rmse: 6.83375
298 [91]train-rmse: 6.82251
299 [92]train-rmse: 6.76564
300 [93]train-rmse: 6.68515
301 [94]train-rmse: 6.62139
302 [95]train-rmse: 6.58007
303 [96]train-rmse: 6.53106
304 [97]train-rmse: 6.48154
305 [98]train-rmse: 6.46747
306 [99]train-rmse: 6.40958
307 [0] train-rmse: 20.652
```

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308 Will train until train-rmse hasn't
    improved in 3 rounds.
309 [1] train-rmse: 19.5382
310 [2] train-rmse: 18.5699
311 [3] train-rmse: 17.7046
312 [4] train-rmse: 16.9595
313 [5] train-rmse: 16.2857
314 [6] train-rmse: 15.6916
315 [7] train-rmse: 15.165
316 [8] train-rmse: 14.6964
317 [9] train-rmse: 14.2859
318 [10] train-rmse: 13.9012
319 [11] train-rmse: 13.5904
320 [12] train-rmse: 13.2974
321 [13] train-rmse: 13.038
322 [14] train-rmse: 12.8029
323 [15] train-rmse: 12.5892
324 [16] train-rmse: 12.4022
325 [17] train-rmse: 12.2067
326 [18] train-rmse: 12.0416
327 [19] train-rmse: 11.8777
328 [20] train-rmse: 11.7215
329 [21] train-rmse: 11.57
330 [22] train-rmse: 11.4508
```

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331 [23]train-rmse: 11.3436
332 [24]train-rmse: 11.2261
333 [25]train-rmse: 11.1126
334 [26]train-rmse: 11.0075
335 [27]train-rmse: 10.911
336 [28]train-rmse: 10.8043
337 [29]train-rmse: 10.724
338 [30]train-rmse: 10.616
339 [31]train-rmse: 10.5014
340 [32]train-rmse: 10.3819
341 [33]train-rmse: 10.2791
342 [34]train-rmse: 10.1886
343 [35]train-rmse: 10.1009
344 [36]train-rmse: 9.99102
345 [37]train-rmse: 9.93959
346 [38]train-rmse: 9.84285
347 [39]train-rmse: 9.7543
348 [40]train-rmse: 9.6683
349 [41]train-rmse: 9.55971
350 [42]train-rmse: 9.53429
351 [43]train-rmse: 9.42366
352 [44]train-rmse: 9.3648
353 [45]train-rmse: 9.28033
354 [46]train-rmse: 9.22324
```

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355 [47]train-rmse: 9.15397
356 [48]train-rmse: 9.11536
357 [49]train-rmse: 9.06966
358 [50]train-rmse: 8.97512
359 [51]train-rmse: 8.90876
360 [52]train-rmse: 8.79858
361 [53]train-rmse: 8.73014
362 [54]train-rmse: 8.66791
363 [55]train-rmse: 8.58529
364 [56]train-rmse: 8.5712
365 [57]train-rmse: 8.51581
366 [58]train-rmse: 8.46161
367 [59]train-rmse: 8.42377
368 [60]train-rmse: 8.34605
369 [61]train-rmse: 8.321
370 [62]train-rmse: 8.26636
371 [63]train-rmse: 8.24774
372 [64]train-rmse: 8.22345
373 [65]train-rmse: 8.13244
374 [66]train-rmse: 8.07569
375 [67]train-rmse: 8.06231
376 [68]train-rmse: 8.02739
377 [69]train-rmse: 7.96378
378 [70]train-rmse: 7.92011
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379 [71]train-rmse: 7.85324
380 [72]train-rmse: 7.77129
381 [73]train-rmse: 7.73785
382 [74]train-rmse: 7.72262
383 [75]train-rmse: 7.66422
384 [76]train-rmse: 7.60116
385 [77]train-rmse: 7.52941
386 [78]train-rmse: 7.48155
387 [79]train-rmse: 7.44099
388 [80]train-rmse: 7.38611
389 [81]train-rmse: 7.30952
390 [82]train-rmse: 7.25427
391 [83]train-rmse: 7.19125
392 [84]train-rmse: 7.15614
393 [85]train-rmse: 7.12288
394 [86]train-rmse: 7.05889
395 [87]train-rmse: 7.01648
396 [88]train-rmse: 6.96617
397 [89]train-rmse: 6.89625
398 [90]train-rmse: 6.87535
399 [91]train-rmse: 6.85632
400 [92]train-rmse: 6.77362
401 [93]train-rmse: 6.74784
402 [94]train-rmse: 6.7309
```

```
403 [95]train-rmse: 6.65711
404 [96]train-rmse: 6.63593
405 [97]train-rmse: 6.56307
406 [98]train-rmse: 6.52231
407 [99]train-rmse: 6.47199
408 [0] train-rmse: 20.5707
409 Will train until train-rmse hasn't
    improved in 3 rounds.
410 [1] train-rmse: 19.4675
411 [2] train-rmse: 18.4971
412 [3] train-rmse: 17.6408
413 [4] train-rmse: 16.8784
414 [5] train-rmse: 16.2063
415 [6] train-rmse: 15.6162
416 [7] train-rmse: 15.0948
417 [8] train-rmse: 14.638
418 [9] train-rmse: 14.2349
419 [10]train-rmse: 13.8648
420 [11]train-rmse: 13.5365
421 [12]train-rmse: 13.245
422 [13]train-rmse: 12.9783
423 [14]train-rmse: 12.7286
424 [15]train-rmse: 12.5078
425 [16]train-rmse: 12.3069
```

```
426 [17]train-rmse: 12.1315
427 [18]train-rmse: 11.9625
428 [19]train-rmse: 11.8004
429 [20]train-rmse: 11.6455
430 [21]train-rmse: 11.5118
431 [22]train-rmse: 11.3936
432 [23]train-rmse: 11.2682
433 [24]train-rmse: 11.1406
434 [25]train-rmse: 11.0151
435 [26]train-rmse: 10.895
436 [27]train-rmse: 10.7871
437 [28]train-rmse: 10.6746
438 [29]train-rmse: 10.5516
439 [30]train-rmse: 10.4509
440 [31]train-rmse: 10.3603
441 [32]train-rmse: 10.2705
442 [33]train-rmse: 10.16
443 [34]train-rmse: 10.0646
444 [35]train-rmse: 10.0021
445 [36]train-rmse: 9.94208
446 [37]train-rmse: 9.84528
447 [38]train-rmse: 9.82034
448 [39]train-rmse: 9.74468
449 [40]train-rmse: 9.71179
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```
450 [41]train-rmse: 9.64482
451 [42]train-rmse: 9.58733
452 [43]train-rmse: 9.54005
453 [44]train-rmse: 9.4743
454 [45]train-rmse: 9.38893
455 [46]train-rmse: 9.33535
456 [47]train-rmse: 9.29338
457 [48]train-rmse: 9.21292
458 [49]train-rmse: 9.16447
459 [50]train-rmse: 9.09722
460 [51]train-rmse: 9.05555
461 [52]train-rmse: 9.01048
462 [53]train-rmse: 8.94836
463 [54]train-rmse: 8.89833
464 [55]train-rmse: 8.86331
465 [56]train-rmse: 8.75291
466 [57]train-rmse: 8.68529
467 [58]train-rmse: 8.61201
468 [59]train-rmse: 8.52624
469 [60]train-rmse: 8.46139
470 [61]train-rmse: 8.36574
471 [62]train-rmse: 8.34052
472 [63]train-rmse: 8.31865
473 [64]train-rmse: 8.25164
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474 [65]train-rmse: 8.1913
475 [66]train-rmse: 8.17284
476 [67]train-rmse: 8.08766
477 [68]train-rmse: 8.03524
478 [69]train-rmse: 7.95239
479 [70]train-rmse: 7.91635
480 [71]train-rmse: 7.85713
481 [72]train-rmse: 7.81461
482 [73]train-rmse: 7.72563
483 [74]train-rmse: 7.64335
484 [75]train-rmse: 7.5681
485 [76]train-rmse: 7.50111
486 [77]train-rmse: 7.43604
487 [78]train-rmse: 7.3842
488 [79]train-rmse: 7.33132
489 [80]train-rmse: 7.2884
490 [81]train-rmse: 7.21576
491 [82]train-rmse: 7.15927
492 [83]train-rmse: 7.14676
493 [84]train-rmse: 7.09193
494 [85]train-rmse: 7.0375
495 [86]train-rmse: 6.9867
496 [87]train-rmse: 6.97227
497 [88]train-rmse: 6.88288
```

```
498 [89] train-rmse: 6.81659
499 [90] train-rmse: 6.76193
500 [91] train-rmse: 6.70216
501 [92] train-rmse: 6.64817
502 [93] train-rmse: 6.64218
503 [94] train-rmse: 6.58152
504 [95] train-rmse: 6.56949
505 [96] train-rmse: 6.50642
506 [97] train-rmse: 6.44526
507 [98] train-rmse: 6.40261
508 [99] train-rmse: 6.363
509 [0] train-rmse: 21.5169
510 Will train until train-rmse hasn't
    improved in 3 rounds.
511 [1] train-rmse: 21.1883
512 [2] train-rmse: 20.8669
513 [3] train-rmse: 20.5507
514 [4] train-rmse: 20.2405
515 [5] train-rmse: 19.9351
516 [6] train-rmse: 19.636
517 [7] train-rmse: 19.3395
518 [8] train-rmse: 19.0491
519 [9] train-rmse: 18.7634
520 [10] train-rmse: 18.4829
```

```
521 [11]train-rmse: 18.2068
522 [12]train-rmse: 17.9355
523 [13]train-rmse: 17.6675
524 [14]train-rmse: 17.4047
525 [15]train-rmse: 17.1453
526 [16]train-rmse: 16.8909
527 [17]train-rmse: 16.6418
528 [18]train-rmse: 16.3968
529 [19]train-rmse: 16.1537
530 [20]train-rmse: 15.9171
531 [21]train-rmse: 15.6852
532 [22]train-rmse: 15.457
533 [23]train-rmse: 15.2317
534 [24]train-rmse: 15.0111
535 [25]train-rmse: 14.7921
536 [26]train-rmse: 14.5788
537 [27]train-rmse: 14.3675
538 [28]train-rmse: 14.1583
539 [29]train-rmse: 13.9527
540 [30]train-rmse: 13.7512
541 [31]train-rmse: 13.5522
542 [32]train-rmse: 13.358
543 [33]train-rmse: 13.1654
544 [34]train-rmse: 12.9751
```

```
545 [35]train-rmse: 12.7883
546 [36]train-rmse: 12.6078
547 [37]train-rmse: 12.4278
548 [38]train-rmse: 12.2517
549 [39]train-rmse: 12.0784
550 [40]train-rmse: 11.9086
551 [41]train-rmse: 11.7403
552 [42]train-rmse: 11.5743
553 [43]train-rmse: 11.4107
554 [44]train-rmse: 11.2491
555 [45]train-rmse: 11.092
556 [46]train-rmse: 10.9365
557 [47]train-rmse: 10.7836
558 [48]train-rmse: 10.6346
559 [49]train-rmse: 10.4869
560 [50]train-rmse: 10.3425
561 [51]train-rmse: 10.1986
562 [52]train-rmse: 10.0571
563 [53]train-rmse: 9.91768
564 [54]train-rmse: 9.78015
565 [55]train-rmse: 9.64583
566 [56]train-rmse: 9.51496
567 [57]train-rmse: 9.38416
568 [58]train-rmse: 9.25608
```



```
569 [59]train-rmse: 9.13014
570 [60]train-rmse: 9.00717
571 [61]train-rmse: 8.88473
572 [62]train-rmse: 8.76376
573 [63]train-rmse: 8.6451
574 [64]train-rmse: 8.52864
575 [65]train-rmse: 8.41362
576 [66]train-rmse: 8.30009
577 [67]train-rmse: 8.18955
578 [68]train-rmse: 8.07977
579 [69]train-rmse: 7.9725
580 [70]train-rmse: 7.86638
581 [71]train-rmse: 7.7624
582 [72]train-rmse: 7.65965
583 [73]train-rmse: 7.55849
584 [74]train-rmse: 7.459
585 [75]train-rmse: 7.36022
586 [76]train-rmse: 7.26406
587 [77]train-rmse: 7.16968
588 [78]train-rmse: 7.07549
589 [79]train-rmse: 6.98358
590 [80]train-rmse: 6.89258
591 [81]train-rmse: 6.80323
592 [82]train-rmse: 6.71514
```

```
593 [83] train-rmse: 6.62815
594 [84] train-rmse: 6.54235
595 [85] train-rmse: 6.45741
596 [86] train-rmse: 6.37543
597 [87] train-rmse: 6.29428
598 [88] train-rmse: 6.21495
599 [89] train-rmse: 6.13603
600 [90] train-rmse: 6.05745
601 [91] train-rmse: 5.9804
602 [92] train-rmse: 5.90492
603 [93] train-rmse: 5.83156
604 [94] train-rmse: 5.75774
605 [95] train-rmse: 5.68559
606 [96] train-rmse: 5.61452
607 [97] train-rmse: 5.54481
608 [98] train-rmse: 5.47571
609 [99] train-rmse: 5.40777
610 [0] train-rmse: 21.4776
611 Will train until train-rmse hasn't
    improved in 3 rounds.
612 [1] train-rmse: 21.1519
613 [2] train-rmse: 20.8324
614 [3] train-rmse: 20.5148
615 [4] train-rmse: 20.2048
```

```
616 [5] train-rmse: 19.8999
617 [6] train-rmse: 19.5989
618 [7] train-rmse: 19.3039
619 [8] train-rmse: 19.0123
620 [9] train-rmse: 18.7281
621 [10] train-rmse: 18.4472
622 [11] train-rmse: 18.172
623 [12] train-rmse: 17.9015
624 [13] train-rmse: 17.6367
625 [14] train-rmse: 17.3747
626 [15] train-rmse: 17.116
627 [16] train-rmse: 16.8645
628 [17] train-rmse: 16.6154
629 [18] train-rmse: 16.3684
630 [19] train-rmse: 16.1277
631 [20] train-rmse: 15.8896
632 [21] train-rmse: 15.6573
633 [22] train-rmse: 15.4272
634 [23] train-rmse: 15.2011
635 [24] train-rmse: 14.98
636 [25] train-rmse: 14.7617
637 [26] train-rmse: 14.5482
638 [27] train-rmse: 14.3354
639 [28] train-rmse: 14.1274
```

```
640 [29]train-rmse: 13.9241
641 [30]train-rmse: 13.7231
642 [31]train-rmse: 13.5242
643 [32]train-rmse: 13.3299
644 [33]train-rmse: 13.1398
645 [34]train-rmse: 12.9519
646 [35]train-rmse: 12.7662
647 [36]train-rmse: 12.5843
648 [37]train-rmse: 12.4055
649 [38]train-rmse: 12.2309
650 [39]train-rmse: 12.0583
651 [40]train-rmse: 11.8866
652 [41]train-rmse: 11.7181
653 [42]train-rmse: 11.5528
654 [43]train-rmse: 11.3883
655 [44]train-rmse: 11.2285
656 [45]train-rmse: 11.0713
657 [46]train-rmse: 10.9162
658 [47]train-rmse: 10.7633
659 [48]train-rmse: 10.6132
660 [49]train-rmse: 10.4651
661 [50]train-rmse: 10.3201
662 [51]train-rmse: 10.1777
663 [52]train-rmse: 10.0375
```

```
664 [53]train-rmse: 9.8984
665 [54]train-rmse: 9.76233
666 [55]train-rmse: 9.6283
667 [56]train-rmse: 9.49691
668 [57]train-rmse: 9.36698
669 [58]train-rmse: 9.23745
670 [59]train-rmse: 9.11091
671 [60]train-rmse: 8.98727
672 [61]train-rmse: 8.86564
673 [62]train-rmse: 8.74542
674 [63]train-rmse: 8.62697
675 [64]train-rmse: 8.51029
676 [65]train-rmse: 8.3953
677 [66]train-rmse: 8.28264
678 [67]train-rmse: 8.17192
679 [68]train-rmse: 8.06214
680 [69]train-rmse: 7.95449
681 [70]train-rmse: 7.84816
682 [71]train-rmse: 7.7436
683 [72]train-rmse: 7.64186
684 [73]train-rmse: 7.53977
685 [74]train-rmse: 7.43955
686 [75]train-rmse: 7.34151
687 [76]train-rmse: 7.24515
```

```
688 [77]train-rmse: 7.15032
689 [78]train-rmse: 7.05721
690 [79]train-rmse: 6.96486
691 [80]train-rmse: 6.8737
692 [81]train-rmse: 6.78324
693 [82]train-rmse: 6.6955
694 [83]train-rmse: 6.60893
695 [84]train-rmse: 6.52348
696 [85]train-rmse: 6.43893
697 [86]train-rmse: 6.35655
698 [87]train-rmse: 6.27489
699 [88]train-rmse: 6.19401
700 [89]train-rmse: 6.11415
701 [90]train-rmse: 6.03625
702 [91]train-rmse: 5.96047
703 [92]train-rmse: 5.88497
704 [93]train-rmse: 5.80994
705 [94]train-rmse: 5.73563
706 [95]train-rmse: 5.66371
707 [96]train-rmse: 5.59268
708 [97]train-rmse: 5.52249
709 [98]train-rmse: 5.45348
710 [99]train-rmse: 5.38507
711 [0] train-rmse: 21.5289
```

712 Will train until train-rmse hasn't
improved in 3 rounds.

713 [1] train-rmse: 21.2037

714 [2] train-rmse: 20.8835

715 [3] train-rmse: 20.5681

716 [4] train-rmse: 20.2586

717 [5] train-rmse: 19.9537

718 [6] train-rmse: 19.6535

719 [7] train-rmse: 19.3576

720 [8] train-rmse: 19.0667

721 [9] train-rmse: 18.7813

722 [10] train-rmse: 18.4997

723 [11] train-rmse: 18.2249

724 [12] train-rmse: 17.9533

725 [13] train-rmse: 17.6866

726 [14] train-rmse: 17.425

727 [15] train-rmse: 17.1649

728 [16] train-rmse: 16.9108

729 [17] train-rmse: 16.6617

730 [18] train-rmse: 16.4148

731 [19] train-rmse: 16.1726

732 [20] train-rmse: 15.936

733 [21] train-rmse: 15.7035

734 [22] train-rmse: 15.4743

```
735 [23]train-rmse: 15.2476
736 [24]train-rmse: 15.0253
737 [25]train-rmse: 14.808
738 [26]train-rmse: 14.5938
739 [27]train-rmse: 14.3804
740 [28]train-rmse: 14.172
741 [29]train-rmse: 13.967
742 [30]train-rmse: 13.7675
743 [31]train-rmse: 13.5683
744 [32]train-rmse: 13.3734
745 [33]train-rmse: 13.1812
746 [34]train-rmse: 12.9902
747 [35]train-rmse: 12.8051
748 [36]train-rmse: 12.6228
749 [37]train-rmse: 12.4411
750 [38]train-rmse: 12.2653
751 [39]train-rmse: 12.0907
752 [40]train-rmse: 11.9185
753 [41]train-rmse: 11.7504
754 [42]train-rmse: 11.5846
755 [43]train-rmse: 11.4222
756 [44]train-rmse: 11.2614
757 [45]train-rmse: 11.1026
758 [46]train-rmse: 10.9482
```



```
759 [47]train-rmse: 10.7956
760 [48]train-rmse: 10.6454
761 [49]train-rmse: 10.4966
762 [50]train-rmse: 10.3511
763 [51]train-rmse: 10.2076
764 [52]train-rmse: 10.0674
765 [53]train-rmse: 9.92916
766 [54]train-rmse: 9.79296
767 [55]train-rmse: 9.6579
768 [56]train-rmse: 9.52483
769 [57]train-rmse: 9.39457
770 [58]train-rmse: 9.26467
771 [59]train-rmse: 9.13878
772 [60]train-rmse: 9.01352
773 [61]train-rmse: 8.89166
774 [62]train-rmse: 8.77115
775 [63]train-rmse: 8.65184
776 [64]train-rmse: 8.53546
777 [65]train-rmse: 8.42015
778 [66]train-rmse: 8.30741
779 [67]train-rmse: 8.19589
780 [68]train-rmse: 8.08625
781 [69]train-rmse: 7.97913
782 [70]train-rmse: 7.87345
```

```
783 [71]train-rmse: 7.76867
784 [72]train-rmse: 7.66559
785 [73]train-rmse: 7.56441
786 [74]train-rmse: 7.46452
787 [75]train-rmse: 7.36707
788 [76]train-rmse: 7.27052
789 [77]train-rmse: 7.17502
790 [78]train-rmse: 7.08196
791 [79]train-rmse: 6.98898
792 [80]train-rmse: 6.89743
793 [81]train-rmse: 6.80872
794 [82]train-rmse: 6.72058
795 [83]train-rmse: 6.63267
796 [84]train-rmse: 6.54713
797 [85]train-rmse: 6.46302
798 [86]train-rmse: 6.38053
799 [87]train-rmse: 6.29824
800 [88]train-rmse: 6.21784
801 [89]train-rmse: 6.13815
802 [90]train-rmse: 6.05975
803 [91]train-rmse: 5.98345
804 [92]train-rmse: 5.90759
805 [93]train-rmse: 5.8332
806 [94]train-rmse: 5.75932
```

```
807 [95]train-rmse: 5.68787
808 [96]train-rmse: 5.61653
809 [97]train-rmse: 5.54563
810 [98]train-rmse: 5.47613
811 [99]train-rmse: 5.40737
812 [0] train-rmse: 21.5333
813 Will train until train-rmse hasn't
    improved in 3 rounds.
814 [1] train-rmse: 21.2055
815 [2] train-rmse: 20.8845
816 [3] train-rmse: 20.5686
817 [4] train-rmse: 20.2586
818 [5] train-rmse: 19.9526
819 [6] train-rmse: 19.6544
820 [7] train-rmse: 19.3583
821 [8] train-rmse: 19.0673
822 [9] train-rmse: 18.7826
823 [10]train-rmse: 18.5019
824 [11]train-rmse: 18.2265
825 [12]train-rmse: 17.9557
826 [13]train-rmse: 17.6884
827 [14]train-rmse: 17.4257
828 [15]train-rmse: 17.1664
829 [16]train-rmse: 16.9122
```

```
830 [17]train-rmse: 16.6621
831 [18]train-rmse: 16.415
832 [19]train-rmse: 16.1733
833 [20]train-rmse: 15.935
834 [21]train-rmse: 15.7026
835 [22]train-rmse: 15.472
836 [23]train-rmse: 15.2456
837 [24]train-rmse: 15.0232
838 [25]train-rmse: 14.8036
839 [26]train-rmse: 14.5891
840 [27]train-rmse: 14.3781
841 [28]train-rmse: 14.1698
842 [29]train-rmse: 13.9637
843 [30]train-rmse: 13.7614
844 [31]train-rmse: 13.5629
845 [32]train-rmse: 13.3684
846 [33]train-rmse: 13.1771
847 [34]train-rmse: 12.9873
848 [35]train-rmse: 12.8013
849 [36]train-rmse: 12.6193
850 [37]train-rmse: 12.4404
851 [38]train-rmse: 12.2648
852 [39]train-rmse: 12.0891
853 [40]train-rmse: 11.9183
```

```
854 [41]train-rmse: 11.7499
855 [42]train-rmse: 11.5829
856 [43]train-rmse: 11.4205
857 [44]train-rmse: 11.2595
858 [45]train-rmse: 11.1016
859 [46]train-rmse: 10.9472
860 [47]train-rmse: 10.7952
861 [48]train-rmse: 10.6449
862 [49]train-rmse: 10.4959
863 [50]train-rmse: 10.3494
864 [51]train-rmse: 10.206
865 [52]train-rmse: 10.0654
866 [53]train-rmse: 9.9261
867 [54]train-rmse: 9.78944
868 [55]train-rmse: 9.65539
869 [56]train-rmse: 9.5233
870 [57]train-rmse: 9.39268
871 [58]train-rmse: 9.2651
872 [59]train-rmse: 9.13932
873 [60]train-rmse: 9.01527
874 [61]train-rmse: 8.89353
875 [62]train-rmse: 8.77205
876 [63]train-rmse: 8.65283
877 [64]train-rmse: 8.53554
```

```
878 [65]train-rmse: 8.42155
879 [66]train-rmse: 8.30849
880 [67]train-rmse: 8.19703
881 [68]train-rmse: 8.08739
882 [69]train-rmse: 7.98013
883 [70]train-rmse: 7.87372
884 [71]train-rmse: 7.76903
885 [72]train-rmse: 7.66563
886 [73]train-rmse: 7.56393
887 [74]train-rmse: 7.46314
888 [75]train-rmse: 7.36404
889 [76]train-rmse: 7.26702
890 [77]train-rmse: 7.17246
891 [78]train-rmse: 7.07914
892 [79]train-rmse: 6.98689
893 [80]train-rmse: 6.89563
894 [81]train-rmse: 6.80613
895 [82]train-rmse: 6.71766
896 [83]train-rmse: 6.63106
897 [84]train-rmse: 6.5452
898 [85]train-rmse: 6.46016
899 [86]train-rmse: 6.37836
900 [87]train-rmse: 6.29719
901 [88]train-rmse: 6.21748
```

```
902 [89] train-rmse: 6.13825
903 [90] train-rmse: 6.06039
904 [91] train-rmse: 5.98391
905 [92] train-rmse: 5.9078
906 [93] train-rmse: 5.83329
907 [94] train-rmse: 5.76095
908 [95] train-rmse: 5.68973
909 [96] train-rmse: 5.61812
910 [97] train-rmse: 5.54731
911 [98] train-rmse: 5.47813
912 [99] train-rmse: 5.41065
913 [0] train-rmse: 21.5647
914 Will train until train-rmse hasn't
    improved in 3 rounds.
915 [1] train-rmse: 21.2368
916 [2] train-rmse: 20.9166
917 [3] train-rmse: 20.5992
918 [4] train-rmse: 20.289
919 [5] train-rmse: 19.9819
920 [6] train-rmse: 19.6801
921 [7] train-rmse: 19.3836
922 [8] train-rmse: 19.0938
923 [9] train-rmse: 18.8072
924 [10] train-rmse: 18.5268
```

```
925 [11]train-rmse: 18.2505
926 [12]train-rmse: 17.9819
927 [13]train-rmse: 17.713
928 [14]train-rmse: 17.4491
929 [15]train-rmse: 17.1906
930 [16]train-rmse: 16.9361
931 [17]train-rmse: 16.6871
932 [18]train-rmse: 16.4413
933 [19]train-rmse: 16.1995
934 [20]train-rmse: 15.9626
935 [21]train-rmse: 15.7282
936 [22]train-rmse: 15.4987
937 [23]train-rmse: 15.2728
938 [24]train-rmse: 15.0514
939 [25]train-rmse: 14.8328
940 [26]train-rmse: 14.6173
941 [27]train-rmse: 14.4041
942 [28]train-rmse: 14.1959
943 [29]train-rmse: 13.9902
944 [30]train-rmse: 13.7875
945 [31]train-rmse: 13.5901
946 [32]train-rmse: 13.3938
947 [33]train-rmse: 13.2013
948 [34]train-rmse: 13.0112
```



```
949 [35]train-rmse: 12.8265
950 [36]train-rmse: 12.6446
951 [37]train-rmse: 12.4644
952 [38]train-rmse: 12.2881
953 [39]train-rmse: 12.1141
954 [40]train-rmse: 11.9407
955 [41]train-rmse: 11.773
956 [42]train-rmse: 11.6061
957 [43]train-rmse: 11.443
958 [44]train-rmse: 11.2827
959 [45]train-rmse: 11.1255
960 [46]train-rmse: 10.9685
961 [47]train-rmse: 10.8163
962 [48]train-rmse: 10.6664
963 [49]train-rmse: 10.5181
964 [50]train-rmse: 10.3723
965 [51]train-rmse: 10.2288
966 [52]train-rmse: 10.0874
967 [53]train-rmse: 9.94706
968 [54]train-rmse: 9.81075
969 [55]train-rmse: 9.67627
970 [56]train-rmse: 9.54345
971 [57]train-rmse: 9.41284
972 [58]train-rmse: 9.28471
```

```
973 [59]train-rmse: 9.15888
974 [60]train-rmse: 9.03623
975 [61]train-rmse: 8.91338
976 [62]train-rmse: 8.79376
977 [63]train-rmse: 8.67558
978 [64]train-rmse: 8.55905
979 [65]train-rmse: 8.44417
980 [66]train-rmse: 8.33163
981 [67]train-rmse: 8.21968
982 [68]train-rmse: 8.10967
983 [69]train-rmse: 8.00255
984 [70]train-rmse: 7.89611
985 [71]train-rmse: 7.79055
986 [72]train-rmse: 7.68771
987 [73]train-rmse: 7.5861
988 [74]train-rmse: 7.48544
989 [75]train-rmse: 7.38663
990 [76]train-rmse: 7.28915
991 [77]train-rmse: 7.1937
992 [78]train-rmse: 7.09975
993 [79]train-rmse: 7.00581
994 [80]train-rmse: 6.91411
995 [81]train-rmse: 6.82526
996 [82]train-rmse: 6.73681
```

```
997 [83] train-rmse: 6.64996
998 [84] train-rmse: 6.56396
999 [85] train-rmse: 6.4808
1000 [86] train-rmse: 6.39897
1001 [87] train-rmse: 6.31686
1002 [88] train-rmse: 6.23681
1003 [89] train-rmse: 6.15767
1004 [90] train-rmse: 6.07939
1005 [91] train-rmse: 6.00274
1006 [92] train-rmse: 5.92666
1007 [93] train-rmse: 5.85188
1008 [94] train-rmse: 5.77782
1009 [95] train-rmse: 5.70503
1010 [96] train-rmse: 5.63471
1011 [97] train-rmse: 5.56401
1012 [98] train-rmse: 5.49391
1013 [99] train-rmse: 5.42528
1014 #xgb model has been done
1015 [Parallel(n_jobs=-1)]: Using backend
    ThreadingBackend with 32 concurrent
    workers.
1016 building tree 1 of 100
1017 building tree 2 of 100
1018 building tree 4 of 100
```

1019 building tree 3 of 100building tree 5
of 100

1020

1021 building tree 6 of 100

1022 building tree 7 of 100

1023 building tree 8 of 100

1024 building tree 9 of 100

1025 building tree 10 of 100

1026 building tree 11 of 100

1027 building tree 12 of 100

1028 building tree 13 of 100

1029 building tree 14 of 100

1030 building tree 15 of 100

1031 building tree 16 of 100

1032 building tree 17 of 100

1033 building tree 18 of 100

1034 building tree 20 of 100building tree
19 of 100

1035 building tree 21 of 100

1036

1037 building tree 22 of 100

1038 building tree 23 of 100

1039 building tree 24 of 100building tree
25 of 100

1040

1041 bui l di ng tree 26 of 100

1042 bui l di ng tree 27 of 100

1043 bui l di ng tree 28 of 100

1044 bui l di ng tree 29 of 100

1045 bui l di ng tree 30 of 100

1046 bui l di ng tree 31 of 100

1047 bui l di ng tree 32 of 100

1048 bui l di ng tree 33 of 100

1049 bui l di ng tree 34 of 100

1050 bui l di ng tree 35 of 100

1051 bui l di ng tree 36 of 100

1052 bui l di ng tree 37 of 100

1053 bui l di ng tree 38 of 100

1054 bui l di ng tree 39 of 100

1055 bui l di ng tree 40 of 100

1056 bui l di ng tree 41 of 100

1057 bui l di ng tree 42 of 100

1058 bui l di ng tree 43 of 100

1059 bui l di ng tree 44 of 100

1060 bui l di ng tree 45 of 100

1061 bui l di ng tree 46 of 100

1062 bui l di ng tree 47 of 100

1063 bui l di ng tree 48 of 100

1064 building tree 49 of 100
1065 building tree 50 of 100
1066 building tree 51 of 100
1067 building tree 52 of 100
1068 building tree 53 of 100
1069 building tree 54 of 100
1070 building tree 55 of 100
1071 building tree 56 of 100
1072 building tree 57 of 100
1073 building tree 58 of 100
1074 building tree 59 of 100
1075 building tree 60 of 100
1076 building tree 61 of 100
1077 building tree 62 of 100
1078 building tree 63 of 100
1079 building tree 64 of 100
1080 building tree 65 of 100
1081 building tree 66 of 100
1082 building tree 67 of 100
1083 building tree 68 of 100
1084 building tree 69 of 100
1085 building tree 70 of 100
1086 building tree 71 of 100
1087 building tree 72 of 100

1088	bui	l	d	i	n	g	t	r	e	73	o	f	100
1089	bui	l	d	i	n	g	t	r	e	74	o	f	100
1090	bui	l	d	i	n	g	t	r	e	75	o	f	100
1091	bui	l	d	i	n	g	t	r	e	76	o	f	100
1092	bui	l	d	i	n	g	t	r	e	77	o	f	100
1093	bui	l	d	i	n	g	t	r	e	78	o	f	100
1094	bui	l	d	i	n	g	t	r	e	79	o	f	100
1095	bui	l	d	i	n	g	t	r	e	80	o	f	100
1096	bui	l	d	i	n	g	t	r	e	81	o	f	100
1097	bui	l	d	i	n	g	t	r	e	82	o	f	100
1098	bui	l	d	i	n	g	t	r	e	83	o	f	100
1099	bui	l	d	i	n	g	t	r	e	84	o	f	100
1100	bui	l	d	i	n	g	t	r	e	85	o	f	100
1101	bui	l	d	i	n	g	t	r	e	86	o	f	100
1102	bui	l	d	i	n	g	t	r	e	87	o	f	100
1103	bui	l	d	i	n	g	t	r	e	88	o	f	100
1104	bui	l	d	i	n	g	t	r	e	89	o	f	100
1105	bui	l	d	i	n	g	t	r	e	90	o	f	100
1106	bui	l	d	i	n	g	t	r	e	91	o	f	100
1107	bui	l	d	i	n	g	t	r	e	92	o	f	100
1108	bui	l	d	i	n	g	t	r	e	93	o	f	100
1109	bui	l	d	i	n	g	t	r	e	94	o	f	100
1110	bui	l	d	i	n	g	t	r	e	95	o	f	100
1111	bui	l	d	i	n	g	t	r	e	96	o	f	100

```
1112 building tree 97 of 100
1113 building tree 98 of 100
1114 building tree 99 of 100
1115 building tree 100 of 100
1116 [Parallel(n_jobs=-1)]: Done 88 out of
    100 | elapsed: 1.6min remaining:
    13.1s
1117 [Parallel(n_jobs=-1)]: Done 100 out of
    100 | elapsed: 1.8min finished
1118 [Parallel(n_jobs=32)]: Using backend
    ThreadingBackend with 32 concurrent
    workers.
1119 [Parallel(n_jobs=32)]: Done 1 tasks
    | elapsed: 0.0s
1120 [Parallel(n_jobs=32)]: Done 88 out of
    100 | elapsed: 0.1s remaining:
    0.0s
1121 [Parallel(n_jobs=32)]: Done 100 out of
    100 | elapsed: 0.1s finished
1122 [Parallel(n_jobs=-1)]: Using backend
    ThreadingBackend with 32 concurrent
    workers.
1123 building tree 1 of 100
1124 building tree 2 of 100
```


1125 building tree 3 of 100
1126 building tree 4 of 100
1127 building tree 5 of 100
1128 building tree 6 of 100
1129 building tree 7 of 100
1130 building tree 8 of 100
1131 building tree 9 of 100
1132 building tree 10 of 100
1133 building tree 11 of 100
1134 building tree 12 of 100
1135 building tree 13 of 100
1136 building tree 14 of 100building tree
15 of 100
1137 building tree 16 of 100
1138 building tree 17 of 100
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1140 building tree 18 of 100
1141 building tree 19 of 100
1142 building tree 20 of 100
1143 building tree 21 of 100
1144 building tree 22 of 100
1145 building tree 23 of 100
1146 building tree 24 of 100
1147 building tree 25 of 100

1148 building tree 27 of 100building tree
28 of 100building tree 26 of 100

1149

1150

1151 building tree 29 of 100

1152 building tree 30 of 100

1153 building tree 31 of 100

1154 building tree 32 of 100

1155 building tree 33 of 100

1156 building tree 34 of 100

1157 building tree 35 of 100

1158 building tree 36 of 100

1159 building tree 37 of 100

1160 building tree 38 of 100

1161 building tree 39 of 100

1162 building tree 40 of 100

1163 building tree 41 of 100

1164 building tree 42 of 100

1165 building tree 43 of 100

1166 building tree 44 of 100

1167 building tree 45 of 100

1168 building tree 46 of 100

1169 building tree 47 of 100

1170 building tree 48 of 100

1171 building tree 49 of 100
1172 building tree 50 of 100
1173 building tree 51 of 100
1174 building tree 52 of 100
1175 building tree 53 of 100
1176 building tree 54 of 100
1177 building tree 55 of 100
1178 building tree 56 of 100
1179 building tree 57 of 100
1180 building tree 58 of 100
1181 building tree 59 of 100
1182 building tree 60 of 100
1183 building tree 61 of 100
1184 building tree 62 of 100
1185 building tree 63 of 100
1186 building tree 64 of 100
1187 building tree 65 of 100
1188 building tree 66 of 100
1189 building tree 67 of 100
1190 building tree 68 of 100
1191 building tree 69 of 100
1192 building tree 70 of 100
1193 building tree 71 of 100
1194 building tree 72 of 100

1195 bui l di ng tree 73 of 100
1196 bui l di ng tree 74 of 100
1197 bui l di ng tree 75 of 100
1198 bui l di ng tree 76 of 100
1199 bui l di ng tree 77 of 100
1200 bui l di ng tree 78 of 100
1201 bui l di ng tree 79 of 100
1202 bui l di ng tree 80 of 100
1203 bui l di ng tree 81 of 100
1204 bui l di ng tree 82 of 100
1205 bui l di ng tree 83 of 100
1206 bui l di ng tree 84 of 100
1207 bui l di ng tree 85 of 100
1208 bui l di ng tree 86 of 100
1209 bui l di ng tree 87 of 100
1210 bui l di ng tree 88 of 100
1211 bui l di ng tree 89 of 100
1212 bui l di ng tree 90 of 100
1213 bui l di ng tree 91 of 100
1214 bui l di ng tree 92 of 100
1215 bui l di ng tree 93 of 100
1216 bui l di ng tree 94 of 100
1217 bui l di ng tree 95 of 100
1218 bui l di ng tree 96 of 100

```
1219 building tree 97 of 100
1220 building tree 98 of 100
1221 building tree 99 of 100
1222 building tree 100 of 100
1223 [Parallel(n_jobs=-1)]: Done 88 out of
    100 | elapsed: 18.8s remaining:
    2.6s
1224 [Parallel(n_jobs=-1)]: Done 100 out of
    100 | elapsed: 20.6s finished
1225 [Parallel(n_jobs=32)]: Using backend
    ThreadingBackend with 32 concurrent
    workers.
1226 [Parallel(n_jobs=32)]: Done 88 out of
    100 | elapsed: 0.1s remaining:
    0.0s
1227 [Parallel(n_jobs=32)]: Done 100 out of
    100 | elapsed: 0.1s finished
1228 [Parallel(n_jobs=-1)]: Using backend
    ThreadingBackend with 32 concurrent
    workers.
1229 building tree 1 of 100
1230 building tree 2 of 100
1231 building tree 3 of 100
1232 building tree 4 of 100
```

1233 building tree 5 of 100
1234 building tree 6 of 100
1235 building tree 7 of 100building tree 8
of 100
1236
1237 building tree 9 of 100
1238 building tree 10 of 100
1239 building tree 11 of 100
1240 building tree 12 of 100
1241 building tree 13 of 100
1242 building tree 14 of 100
1243 building tree 15 of 100
1244 building tree 16 of 100
1245 building tree 17 of 100
1246 building tree 18 of 100
1247 building tree 19 of 100
1248 building tree 20 of 100
1249 building tree 21 of 100
1250 building tree 22 of 100
1251 building tree 23 of 100
1252 building tree 24 of 100building tree
25 of 100building tree 26 of 100
1253
1254

1255 building tree 27 of 100
1256 building tree 28 of 100
1257 building tree 29 of 100building tree
30 of 100
1258
1259 building tree 31 of 100
1260 building tree 32 of 100
1261 building tree 33 of 100
1262 building tree 34 of 100
1263 building tree 35 of 100
1264 building tree 36 of 100
1265 building tree 37 of 100
1266 building tree 38 of 100
1267 building tree 39 of 100
1268 building tree 40 of 100
1269 building tree 41 of 100
1270 building tree 42 of 100building tree
43 of 100
1271
1272 building tree 44 of 100
1273 building tree 45 of 100
1274 building tree 46 of 100
1275 building tree 47 of 100
1276 building tree 48 of 100

1277 building tree 49 of 100
1278 building tree 50 of 100
1279 building tree 51 of 100
1280 building tree 52 of 100
1281 building tree 53 of 100
1282 building tree 54 of 100
1283 building tree 55 of 100
1284 building tree 56 of 100
1285 building tree 57 of 100
1286 building tree 58 of 100
1287 building tree 59 of 100
1288 building tree 60 of 100
1289 building tree 61 of 100
1290 building tree 62 of 100
1291 building tree 63 of 100
1292 building tree 64 of 100
1293 building tree 65 of 100
1294 building tree 66 of 100
1295 building tree 67 of 100
1296 building tree 68 of 100
1297 building tree 69 of 100
1298 building tree 70 of 100
1299 building tree 71 of 100
1300 building tree 72 of 100

1301 building tree 73 of 100
1302 building tree 74 of 100
1303 building tree 75 of 100
1304 building tree 76 of 100
1305 building tree 77 of 100
1306 building tree 78 of 100
1307 building tree 79 of 100
1308 building tree 80 of 100
1309 building tree 81 of 100
1310 building tree 82 of 100
1311 building tree 83 of 100
1312 building tree 84 of 100
1313 building tree 85 of 100
1314 building tree 86 of 100
1315 building tree 87 of 100
1316 building tree 88 of 100
1317 building tree 89 of 100
1318 building tree 90 of 100
1319 building tree 91 of 100
1320 building tree 92 of 100
1321 building tree 93 of 100
1322 building tree 94 of 100
1323 building tree 95 of 100
1324 building tree 96 of 100

```
1325 building tree 97 of 100
1326 building tree 98 of 100
1327 building tree 99 of 100
1328 building tree 100 of 100
1329 [Parallel(n_jobs=-1)]: Done 88 out of
    100 | elapsed: 17.4s remaining:
    2.4s
1330 [Parallel(n_jobs=-1)]: Done 100 out of
    100 | elapsed: 19.3s finished
1331 [Parallel(n_jobs=32)]: Using backend
    ThreadingBackend with 32 concurrent
    workers.
1332 [Parallel(n_jobs=32)]: Done 9 tasks
    | elapsed: 0.0s
1333 [Parallel(n_jobs=32)]: Done 88 out of
    100 | elapsed: 0.1s remaining:
    0.0s
1334 [Parallel(n_jobs=32)]: Done 100 out of
    100 | elapsed: 0.1s finished
1335 #rf model has been done
1336 #read data:
1337 #normalization:
1338 #train BiGRU:
1339 #load the pre-trained model:
```

```
1340 2019-04-25 03:34:58.244978: I
tensorflow/core/platform/
cpu_feature_guard.cc:141] Your CPU
supports instructions that this
TensorFlow binary was not compiled to
use: AVX2 FMA
1341 2019-04-25 03:34:58.256569: I
tensorflow/core/common_runtime/gpu/
gpu_device.cc:1432] Found device 0
with properties:
1342 name: GeForce GTX 1080 Ti major: 6
minor: 1 memoryClockRate(GHz): 1.582
1343 pciBusID: 0000:82:00.0
1344 totalMemory: 10.92GiB freeMemory: 10.
73GiB
1345 2019-04-25 03:34:58.430267: I
tensorflow/core/common_runtime/gpu/
gpu_device.cc:1432] Found device 1
with properties:
1346 name: GeForce GTX 1080 Ti major: 6
minor: 1 memoryClockRate(GHz): 1.582
1347 pciBusID: 0000:02:00.0
1348 totalMemory: 10.92GiB freeMemory: 10.
76GiB
```

```
1349 2019-04-25 03:34:58.430363: I
tensorflow/core/common_runtime/gpu/
gpu_device.cc:1511] Adding visible gpu
devices: 0, 1
1350 2019-04-25 03:34:58.909942: I
tensorflow/core/common_runtime/gpu/
gpu_device.cc:982] Device interconnect
StreamExecutor with strength 1 edge
matrix:
1351 2019-04-25 03:34:58.910023: I
tensorflow/core/common_runtime/gpu/
gpu_device.cc:988]      0 1
1352 2019-04-25 03:34:58.910033: I
tensorflow/core/common_runtime/gpu/
gpu_device.cc:1001] 0:   N N
1353 2019-04-25 03:34:58.910040: I
tensorflow/core/common_runtime/gpu/
gpu_device.cc:1001] 1:   N N
1354 2019-04-25 03:34:58.910554: I
tensorflow/core/common_runtime/gpu/
gpu_device.cc:1115] Created TensorFlow
device (/job:localhost/replica:0/task
:0/device:GPU:0 with 10379 MB memory
) -> physical GPU (device: 0, name:
```

```
1354 GeForce GTX 1080 Ti, pci bus id: 0000:
      82:00.0, compute capability: 6.1)
1355 2019-04-25 03:34:58.911223: I
      tensorflow/core/common_runtime/gpu/
      gpu_device.cc:1115] Created TensorFlow
      device (/job:localhost/replica:0/task
      :0/device:GPU:1 with 10409 MB memory
      ) -> physical GPU (device: 1, name:
      GeForce GTX 1080 Ti, pci bus id: 0000:
      02:00.0, compute capability: 6.1)
1356 Train Score: 7.21244 RMSE
1357 Test Score: 13.48796 RMSE
1358 #bigru model has been done
1359
1360 Process finished with exit code 0
1361
```