????

July 26, 2019

```python
[2]: import numpy as np
     import pandas as pd
     import seaborn as sns
     import matplotlib.pyplot as plt
     import xgboost as xgb
     from time import time
```

1

```python
[3]: #
     train = pd.read_csv('train.csv', parse_dates=[2])
     test = pd.read_csv('test.csv', parse_dates=[3])
     store = pd.read_csv('store.csv')
```

```
/usr/local/miniconda3/lib/python3.7/site-
packages/IPython/core/interactiveshell.py:3049: DtypeWarning: Columns (7) have
mixed types. Specify dtype option on import or set low_memory=False.
  interactivity=interactivity, compiler=compiler, result=result)
```

2 ,

```python
[4]: #train.head().append(train.tail())
```

```python
[5]: #test.head().append(test.tail())
```

```python
[6]: #store.head().append(store.tail())
```

3

```python
[7]: display(train.isnull().sum(),
             test.isnull().sum(),
             store.isnull().sum())
```

```
Store           0
```

```
DayOfWeek        0
Date             0
Sales            0
Customers        0
Open             0
Promo            0
StateHoliday     0
SchoolHoliday    0
dtype: int64
```

```
Id                0
Store             0
DayOfWeek         0
Date              0
Open             11
Promo             0
StateHoliday      0
SchoolHoliday     0
dtype: int64
```

```
Store                             0
StoreType                         0
Assortment                        0
CompetitionDistance               3
CompetitionOpenSinceMonth       354
CompetitionOpenSinceYear        354
Promo2                            0
Promo2SinceWeek                 544
Promo2SinceYear                 544
PromoInterval                   544
dtype: int64
```

4 -

```
[8]:  #test[pd.isnull(test.Open)]
```

```
[9]:  #store[pd.isnull(store.CompetitionDistance)]
```
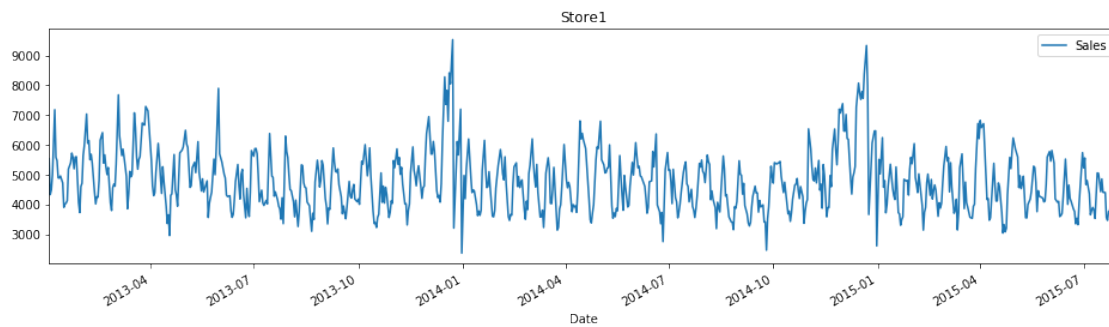
```
[10]: #store[pd.isnull(store.CompetitionOpenSinceMonth)].head(10)
```

```
[11]: #Promo2
      NoPW = store[pd.isnull(store.Promo2SinceWeek)]
      NoPW[NoPW.Promo2 != 0].shape
      #0
      #00
```

```
[11]: (0, 10)
```

5 1

```
[12]: strain = train.loc[(train.Sales>0)&(train.Store==1)].plot(x='Date',
                                                                 y='Sales',
                                                                 title='Store1',
                                                                 figsize=(16, 4)
                                                                 )
      #1112
```
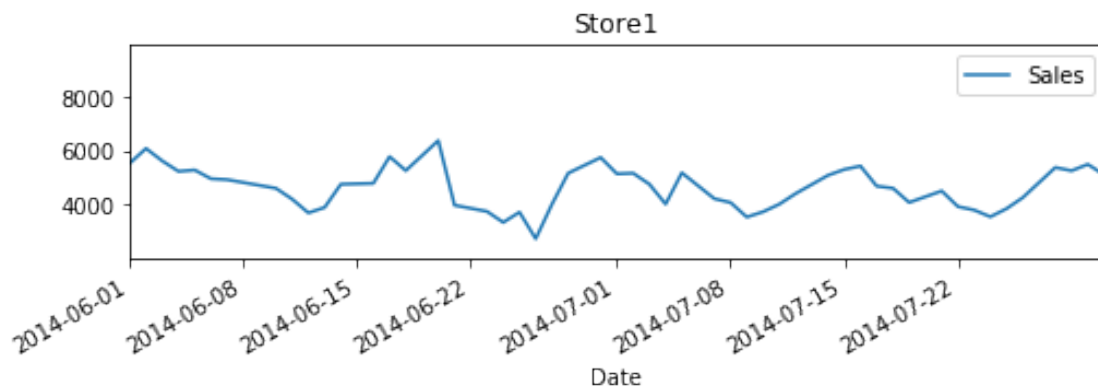

6 16-9

```
[13]: strain = train.loc[(train.Sales>0)&(train.Store==1),
                          ['Date', 'Sales']].plot(x='Date',
                                                   y='Sales',
                                                   title='Store1',
                                                   figsize=(8, 2),
                                                   xlim=['2014-6-1',
                                                         '2014-7-31'
                                                         ])
```
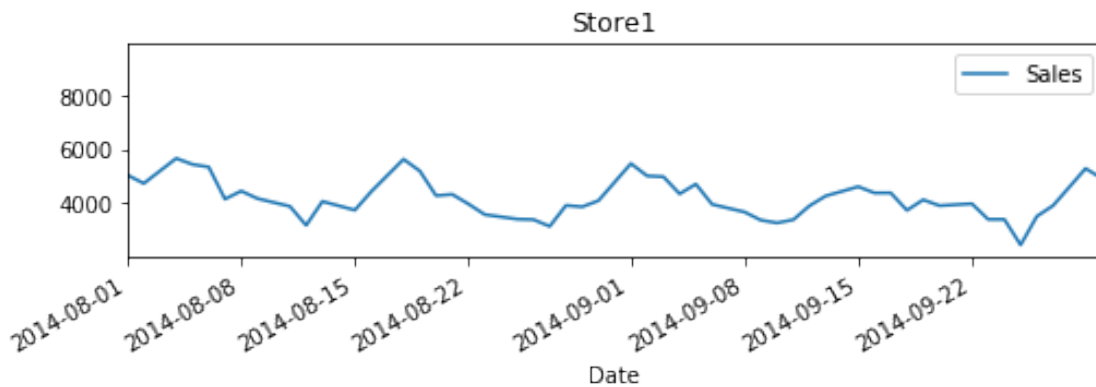
```
[14]: strain = train.loc[(train.Sales>0)&(train.Store==1), ['Date', 'Sales']].
      ↪plot(x='Date',
                                                    y='Sales',
                                                    title='Store1',
                                                    figsize=(8, 2),
                                                    xlim=['2014-8-1',
                                                          '2014-9-30'
                                                         ])

      #
      #6,789
      #201589676
```

Store1

7

```
[15]: #
      #testOpen1
      test['Open'].fillna(1, inplace=True)
      #display(test.isnull().sum())
```

```
[16]: store.fillna(0, inplace=True)
      #display(store.isnull().sum())
```

```
[17]: #trainteststore
      train = pd.merge(train, store, on='Store')
      test = pd.merge(test, store, on='Store')
```

```
[18]: #111576hold_out
      train = train.sort_values(['Date'], ascending=False)
      ho_test = train[: 6*7*1115]
      ho_train = train[6*7*1115:]
```

```
[19]: #ho_train.dtypes
```

```
[20]: #ho_test.dtypes
```

```
[21]: #test.dtypes
```

```
[22]: #0>0
      ho_test = ho_test[(ho_test['Open']!=0)&(ho_test['Sales']>0)]
      ho_train = ho_test[(ho_test['Open']!=0)&(ho_test['Sales']>0)]
      ho_train.head()
```

```
[22]:         Store  DayOfWeek        Date   Sales  Customers  Open  Promo  \
      0           1          5  2015-07-31    5263        555     1      1
      679364    747          5  2015-07-31   10708        826     1      1
      702362    772          5  2015-07-31    5224        635     1      1
      683890    752          5  2015-07-31    7763        565     1      1
      17714      20          5  2015-07-31    9593        974     1      1

              StateHoliday  SchoolHoliday StoreType Assortment  CompetitionDistance  \
      0                  0              1         c          a               1270.0
      679364             0              1         c          c              45740.0
      702362             0              1         d          c               1850.0
      683890             0              1         a          a                970.0
      17714              0              0         d          a               2340.0

              CompetitionOpenSinceMonth  CompetitionOpenSinceYear  Promo2  \
      0                             9.0                    2008.0       0
      679364                        8.0                    2008.0       0
      702362                        0.0                       0.0       0
      683890                        3.0                    2013.0       1
      17714                         5.0                    2009.0       1

              Promo2SinceWeek  Promo2SinceYear      PromoInterval
      0                   0.0              0.0                  0
      679364              0.0              0.0                  0
      702362              0.0              0.0                  0
      683890             31.0           2013.0  Feb,May,Aug,Nov
      17714              40.0           2014.0  Jan,Apr,Jul,Oct
```

```
[23]: #ho_test.head()
```

```
[24]: #test.head()
```

8

```
[25]: #
      def features_create(data):
          #
          #mappings = {'0':0, 'a':1, 'b':2, 'c':3, 'd':4}
          data['Assortment'].replace({'a':1, 'b':2, 'c':3}, inplace=True)
          data['StoreType'].replace({'a':1, 'b':2, 'c':3, 'd':4}, inplace=True)
          data['StateHoliday'].replace({'0':0, 'a':1}, inplace=True)
```

```python
    #'WeekOfYear'
    data['Year'] = data.Date.dt.year
    data['Month'] = data.Date.dt.month
    data['Day'] = data.Date.dt.day
    data['DayOfWeek'] = data.Date.dt.dayofweek
    data['WeekOfYear'] = data.Date.dt.weekofyear

    #CompetitionOpen'PrompOpen'
    #
    data['CompetitionOpen'] =␣
↪12*(data['Year']-data['CompetitionOpenSinceYear'])+(data['Month']-data['CompetitionOpenSinc
    data['PromoOpen'] =␣
↪12*(data['Year']-data['Promo2SinceYear'])+(data['WeekOfYear']-data['Promo2SinceWeek'])/
↪4.0
    data['CompetitionOpen'] = data['CompetitionOpen'].apply(lambda x : x
                                                            if x > 0 else 0)
    data['PromoOpen'] = data['PromoOpen'].apply(lambda x : x
                                                if x > 0 else 0)

    #'PromoInterval'IsPromoMonth
    #, 10
    month2str = {1:'Jan', 2:'Feb', 3:'Mar', 4:'Apr', 5:'May', 6:'Jun',
                 7:'Jul', 8:'Aug', 9:'Sept', 10:'Oct', 11:'Nov', 12:'Dec'}
    data['monthStr'] = data['Month'].map(month2str)
    data.loc[data['PromoInterval']==0, 'PromoInterval'] = ''
    for interval in data['PromoInterval'].unique():
        if interval != '':
            for month in interval.split(','):
                data.loc[data['monthStr']==month, 'IsPromoMonth'] = 1
    return data
```

```python
[26]: #ho_train, ho_testtest
      features_create(ho_train)
      features_create(ho_test)
      features_create(test)
      print('Feature creation finished')
```

```
Feature creation finished
```

```python
[27]: #ho_train.dtypes
```

```python
[28]: #ho_test.dtypes
```

```python
[29]: #test.dtypes
```

```python
[30]: #
      ho_train.drop(['Date', 'Customers', 'Open', 'PromoInterval', 'monthStr'],
                    axis=1, inplace=True)
```

```python
ho_test.drop(['Date', 'Customers', 'Open', 'PromoInterval', 'monthStr'],
             axis=1, inplace=True)
```

```python
[31]: #Sales
      #plt.subplots(figsize=(24,20))
      #sns.heatmap(ho_train.corr(), annot=True,
                #vmin=-0.1, vmax=0.1,center=0)
```

```python
[32]: #,
      ho_xtrain = ho_train.drop(['Sales'], axis=1)
      ho_ytrain = np.log1p(ho_train.Sales)

      ho_xtest = ho_test.drop(['Sales'],axis=1)
      ho_ytest = np.log1p(ho_test.Sales)
```

```python
[33]: ho_xtest.head()
```

[33]:

	Store	DayOfWeek	Promo	StateHoliday	SchoolHoliday	StoreType \
0	1	4	1	0	1	3
679364	747	4	1	0	1	3
702362	772	4	1	0	1	4
683890	752	4	1	0	1	1
17714	20	4	1	0	0	4

	Assortment	CompetitionDistance	CompetitionOpenSinceMonth \
0	1	1270.0	9.0
679364	3	45740.0	8.0
702362	3	1850.0	0.0
683890	1	970.0	3.0
17714	1	2340.0	5.0

	CompetitionOpenSinceYear	Promo2	Promo2SinceWeek	Promo2SinceYear \
0	2008.0	0	0.0	0.0
679364	2008.0	0	0.0	0.0
702362	0.0	0	0.0	0.0
683890	2013.0	1	31.0	2013.0
17714	2009.0	1	40.0	2014.0

	Year	Month	Day	WeekOfYear	CompetitionOpen	PromoOpen	IsPromoMonth
0	2015	7	31	31	82.0	24187.75	1.0
679364	2015	7	31	31	83.0	24187.75	1.0
702362	2015	7	31	31	24187.0	24187.75	1.0
683890	2015	7	31	31	28.0	24.00	1.0
17714	2015	7	31	31	74.0	9.75	1.0

```python
[34]: #test
      xtest =test.drop(['Id','Date','Open','PromoInterval','monthStr'],
                    axis = 1)
```

9

```
[35]: def rmspe(y, yhat):
          return np.sqrt(np.mean((yhat/y-1)**2))


      #
      def rmspe_xg(yhat, y):
          y = np.expm1(y.get_label())
          yhat = np.expm1(yhat)
          return "rmspe", rmspe(y, yhat)
```

10

```
[36]: #
      params = {"objective": "reg:linear",
                "booster" : "gbtree",
                "eta": 0.03,
                "max_depth": 10,
                "subsample": 0.9,
                "colsample_bytree": 0.7,
                "silent": 1,
                "seed": 10
                }
      num_boost_round = 600
```

```
[37]: #DMatrix XGBoost
      dtrain = xgb.DMatrix(ho_xtrain, ho_ytrain)
      dvalid = xgb.DMatrix(ho_xtest, ho_ytest)
      watchlist = [(dtrain, 'train'), (dvalid, 'eval')]
```

```
/usr/local/miniconda3/lib/python3.7/site-packages/xgboost/core.py:587:
FutureWarning: Series.base is deprecated and will be removed in a future version
  if getattr(data, 'base', None) is not None and \
```

```
[38]: #
      print("Train a XGBoost model")
      start = time()
      gbm = xgb.train(params, dtrain, num_boost_round, evals=watchlist,
                      early_stopping_rounds=100, feval=rmspe_xg, verbose_eval=True)
      end = time()
      print("Training time is {:2f} s.".format(end-start))
```

```
Train a XGBoost model
[0]     train-rmse:8.02732      eval-rmse:8.02732      train-rmspe:0.999811
eval-rmspe:0.999811
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
```

stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
[1]   train-rmse:7.787   eval-rmse:7.787 train-rmspe:0.999713   eval-rmspe:0.999713
[2]   train-rmse:7.55392   eval-rmse:7.55392   train-rmspe:0.999594   eval-rmspe:0.999594
[3]   train-rmse:7.32785   eval-rmse:7.32785   train-rmspe:0.999448   eval-rmspe:0.999448
[4]   train-rmse:7.10856   eval-rmse:7.10856   train-rmspe:0.999272   eval-rmspe:0.999272
[5]   train-rmse:6.89589   eval-rmse:6.89589   train-rmspe:0.999059   eval-rmspe:0.999059
[6]   train-rmse:6.6896   eval-rmse:6.6896   train-rmspe:0.998806   eval-rmspe:0.998806
[7]   train-rmse:6.48952   eval-rmse:6.48952   train-rmspe:0.998504   eval-rmspe:0.998504
[8]   train-rmse:6.29544   eval-rmse:6.29544   train-rmspe:0.998149   eval-rmspe:0.998149
[9]   train-rmse:6.10723   eval-rmse:6.10723   train-rmspe:0.997733   eval-rmspe:0.997733
[10]   train-rmse:5.92466   eval-rmse:5.92466   train-rmspe:0.997246   eval-rmspe:0.997246
[11]   train-rmse:5.74763   eval-rmse:5.74763   train-rmspe:0.996682   eval-rmspe:0.996682
[12]   train-rmse:5.5759   eval-rmse:5.5759   train-rmspe:0.99603   eval-rmspe:0.99603
[13]   train-rmse:5.40935   eval-rmse:5.40935   train-rmspe:0.995282   eval-rmspe:0.995282
[14]   train-rmse:5.24782   eval-rmse:5.24782   train-rmspe:0.994428   eval-rmspe:0.994428
[15]   train-rmse:5.09116   eval-rmse:5.09116   train-rmspe:0.993456   eval-rmspe:0.993456
[16]   train-rmse:4.93923   eval-rmse:4.93923   train-rmspe:0.992357   eval-rmspe:0.992357
[17]   train-rmse:4.79185   eval-rmse:4.79185   train-rmspe:0.99112   eval-rmspe:0.99112
[18]   train-rmse:4.64887   eval-rmse:4.64887   train-rmspe:0.989733   eval-rmspe:0.989733
[19]   train-rmse:4.51027   eval-rmse:4.51027   train-rmspe:0.988186   eval-rmspe:0.988186
[20]   train-rmse:4.37584   eval-rmse:4.37584   train-rmspe:0.986468   eval-rmspe:0.986468
[21]   train-rmse:4.24543   eval-rmse:4.24543   train-rmspe:0.984568   eval-rmspe:0.984568
[22]   train-rmse:4.11897   eval-rmse:4.11897   train-rmspe:0.982472   eval-rmspe:0.982472
[23]   train-rmse:3.99634   eval-rmse:3.99634   train-rmspe:0.98017

```
eval-rmspe:0.98017
[24]    train-rmse:3.87741      eval-rmse:3.87741       train-rmspe:0.977651
eval-rmspe:0.977651
[25]    train-rmse:3.76213      eval-rmse:3.76213       train-rmspe:0.974904
eval-rmspe:0.974904
[26]    train-rmse:3.65023      eval-rmse:3.65023       train-rmspe:0.971925
eval-rmspe:0.971925
[27]    train-rmse:3.54173      eval-rmse:3.54173       train-rmspe:0.9687
eval-rmspe:0.9687
[28]    train-rmse:3.43652      eval-rmse:3.43652       train-rmspe:0.965217
eval-rmspe:0.965217
[29]    train-rmse:3.33448      eval-rmse:3.33448       train-rmspe:0.961479
eval-rmspe:0.961479
[30]    train-rmse:3.23555      eval-rmse:3.23555       train-rmspe:0.957474
eval-rmspe:0.957474
[31]    train-rmse:3.13963      eval-rmse:3.13963       train-rmspe:0.953188
eval-rmspe:0.953188
[32]    train-rmse:3.04655      eval-rmse:3.04655       train-rmspe:0.948627
eval-rmspe:0.948627
[33]    train-rmse:2.95634      eval-rmse:2.95634       train-rmspe:0.943775
eval-rmspe:0.943775
[34]    train-rmse:2.86882      eval-rmse:2.86882       train-rmspe:0.938647
eval-rmspe:0.938647
[35]    train-rmse:2.78398      eval-rmse:2.78398       train-rmspe:0.933237
eval-rmspe:0.933237
[36]    train-rmse:2.70169      eval-rmse:2.70169       train-rmspe:0.927552
eval-rmspe:0.927552
[37]    train-rmse:2.62196      eval-rmse:2.62196       train-rmspe:0.921548
eval-rmspe:0.921548
[38]    train-rmse:2.54464      eval-rmse:2.54464       train-rmspe:0.91526
eval-rmspe:0.91526
[39]    train-rmse:2.46959      eval-rmse:2.46959       train-rmspe:0.908711
eval-rmspe:0.908711
[40]    train-rmse:2.39682      eval-rmse:2.39682       train-rmspe:0.901879
eval-rmspe:0.901879
[41]    train-rmse:2.32628      eval-rmse:2.32628       train-rmspe:0.894752
eval-rmspe:0.894752
[42]    train-rmse:2.25796      eval-rmse:2.25796       train-rmspe:0.887318
eval-rmspe:0.887318
[43]    train-rmse:2.19157      eval-rmse:2.19157       train-rmspe:0.879687
eval-rmspe:0.879687
[44]    train-rmse:2.12726      eval-rmse:2.12726       train-rmspe:0.871757
eval-rmspe:0.871757
[45]    train-rmse:2.06495      eval-rmse:2.06495       train-rmspe:0.863557
eval-rmspe:0.863557
[46]    train-rmse:2.00449      eval-rmse:2.00449       train-rmspe:0.855147
eval-rmspe:0.855147
[47]    train-rmse:1.94579      eval-rmse:1.94579       train-rmspe:0.846541
```

```
eval-rmspe:0.846541
[48]    train-rmse:1.88896    eval-rmse:1.88896    train-rmspe:0.837679
eval-rmspe:0.837679
[49]    train-rmse:1.83395    eval-rmse:1.83395    train-rmspe:0.828542
eval-rmspe:0.828542
[50]    train-rmse:1.78058    eval-rmse:1.78058    train-rmspe:0.81924
eval-rmspe:0.81924
[51]    train-rmse:1.72885    eval-rmse:1.72885    train-rmspe:0.809723
eval-rmspe:0.809723
[52]    train-rmse:1.6786    eval-rmse:1.6786    train-rmspe:0.800068
eval-rmspe:0.800068
[53]    train-rmse:1.62985    eval-rmse:1.62985    train-rmspe:0.790273
eval-rmspe:0.790273
[54]    train-rmse:1.58257    eval-rmse:1.58257    train-rmspe:0.78032
eval-rmspe:0.78032
[55]    train-rmse:1.53687    eval-rmse:1.53687    train-rmspe:0.770178
eval-rmspe:0.770178
[56]    train-rmse:1.49251    eval-rmse:1.49251    train-rmspe:0.759939
eval-rmspe:0.759939
[57]    train-rmse:1.44964    eval-rmse:1.44964    train-rmspe:0.749516
eval-rmspe:0.749516
[58]    train-rmse:1.40788    eval-rmse:1.40788    train-rmspe:0.739119
eval-rmspe:0.739119
[59]    train-rmse:1.36751    eval-rmse:1.36751    train-rmspe:0.728544
eval-rmspe:0.728544
[60]    train-rmse:1.32812    eval-rmse:1.32812    train-rmspe:0.717977
eval-rmspe:0.717977
[61]    train-rmse:1.29014    eval-rmse:1.29014    train-rmspe:0.707284
eval-rmspe:0.707284
[62]    train-rmse:1.25335    eval-rmse:1.25335    train-rmspe:0.696553
eval-rmspe:0.696553
[63]    train-rmse:1.21762    eval-rmse:1.21762    train-rmspe:0.685804
eval-rmspe:0.685804
[64]    train-rmse:1.18307    eval-rmse:1.18307    train-rmspe:0.674987
eval-rmspe:0.674987
[65]    train-rmse:1.14968    eval-rmse:1.14968    train-rmspe:0.66414
eval-rmspe:0.66414
[66]    train-rmse:1.11732    eval-rmse:1.11732    train-rmspe:0.653321
eval-rmspe:0.653321
[67]    train-rmse:1.08589    eval-rmse:1.08589    train-rmspe:0.642489
eval-rmspe:0.642489
[68]    train-rmse:1.05554    eval-rmse:1.05554    train-rmspe:0.631687
eval-rmspe:0.631687
[69]    train-rmse:1.02603    eval-rmse:1.02603    train-rmspe:0.620969
eval-rmspe:0.620969
[70]    train-rmse:0.99761    eval-rmse:0.99761    train-rmspe:0.610242
eval-rmspe:0.610242
[71]    train-rmse:0.969912    eval-rmse:0.969912    train-rmspe:0.599599
```

```
eval-rmspe:0.599599
[72]    train-rmse:0.943288    eval-rmse:0.943288    train-rmspe:0.589005
eval-rmspe:0.589005
[73]    train-rmse:0.917118    eval-rmse:0.917118    train-rmspe:0.578551
eval-rmspe:0.578551
[74]    train-rmse:0.892063    eval-rmse:0.892063    train-rmspe:0.568135
eval-rmspe:0.568135
[75]    train-rmse:0.867758    eval-rmse:0.867758    train-rmspe:0.557831
eval-rmspe:0.557831
[76]    train-rmse:0.844294    eval-rmse:0.844294    train-rmspe:0.547611
eval-rmspe:0.547611
[77]    train-rmse:0.821557    eval-rmse:0.821557    train-rmspe:0.537538
eval-rmspe:0.537538
[78]    train-rmse:0.799327    eval-rmse:0.799327    train-rmspe:0.527581
eval-rmspe:0.527581
[79]    train-rmse:0.777911    eval-rmse:0.777911    train-rmspe:0.517749
eval-rmspe:0.517749
[80]    train-rmse:0.757397    eval-rmse:0.757397    train-rmspe:0.508045
eval-rmspe:0.508045
[81]    train-rmse:0.737424    eval-rmse:0.737424    train-rmspe:0.49851
eval-rmspe:0.49851
[82]    train-rmse:0.71808    eval-rmse:0.71808    train-rmspe:0.489112
eval-rmspe:0.489112
[83]    train-rmse:0.699196    eval-rmse:0.699196    train-rmspe:0.479822
eval-rmspe:0.479822
[84]    train-rmse:0.681064    eval-rmse:0.681064    train-rmspe:0.470728
eval-rmspe:0.470728
[85]    train-rmse:0.663282    eval-rmse:0.663282    train-rmspe:0.461743
eval-rmspe:0.461743
[86]    train-rmse:0.646154    eval-rmse:0.646154    train-rmspe:0.452945
eval-rmspe:0.452945
[87]    train-rmse:0.629961    eval-rmse:0.629961    train-rmspe:0.44437
eval-rmspe:0.44437
[88]    train-rmse:0.614275    eval-rmse:0.614275    train-rmspe:0.435969
eval-rmspe:0.435969
[89]    train-rmse:0.598972    eval-rmse:0.598972    train-rmspe:0.427726
eval-rmspe:0.427726
[90]    train-rmse:0.583914    eval-rmse:0.583914    train-rmspe:0.4196
eval-rmspe:0.4196
[91]    train-rmse:0.569575    eval-rmse:0.569575    train-rmspe:0.411718
eval-rmspe:0.411718
[92]    train-rmse:0.555846    eval-rmse:0.555846    train-rmspe:0.404078
eval-rmspe:0.404078
[93]    train-rmse:0.542631    eval-rmse:0.542631    train-rmspe:0.396616
eval-rmspe:0.396616
[94]    train-rmse:0.529784    eval-rmse:0.529784    train-rmspe:0.3893
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[95]    train-rmse:0.517288    eval-rmse:0.517288    train-rmspe:0.382176
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eval-rmspe:0.382176
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eval-rmspe:0.375272
[97]   train-rmse:0.493522   eval-rmse:0.493522   train-rmspe:0.368493
eval-rmspe:0.368493
[98]   train-rmse:0.482315   eval-rmse:0.482315   train-rmspe:0.361913
eval-rmspe:0.361913
[99]   train-rmse:0.471571   eval-rmse:0.471571   train-rmspe:0.355553
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[102]   train-rmse:0.441176   eval-rmse:0.441176   train-rmspe:0.337506
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[103]   train-rmse:0.431634   eval-rmse:0.431634   train-rmspe:0.331769
eval-rmspe:0.331769
[104]   train-rmse:0.422471   eval-rmse:0.422471   train-rmspe:0.326284
eval-rmspe:0.326284
[105]   train-rmse:0.413609   eval-rmse:0.413609   train-rmspe:0.320993
eval-rmspe:0.320993
[106]   train-rmse:0.404663   eval-rmse:0.404663   train-rmspe:0.315612
eval-rmspe:0.315612
[107]   train-rmse:0.396578   eval-rmse:0.396578   train-rmspe:0.310712
eval-rmspe:0.310712
[108]   train-rmse:0.388501   eval-rmse:0.388501   train-rmspe:0.305842
eval-rmspe:0.305842
[109]   train-rmse:0.381072   eval-rmse:0.381072   train-rmspe:0.301332
eval-rmspe:0.301332
[110]   train-rmse:0.373757   eval-rmse:0.373757   train-rmspe:0.296907
eval-rmspe:0.296907
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eval-rmspe:0.292618
[112]   train-rmse:0.359914   eval-rmse:0.359914   train-rmspe:0.288539
eval-rmspe:0.288539
[113]   train-rmse:0.353416   eval-rmse:0.353416   train-rmspe:0.284613
eval-rmspe:0.284613
[114]   train-rmse:0.347371   eval-rmse:0.347371   train-rmspe:0.280973
eval-rmspe:0.280973
[115]   train-rmse:0.341227   eval-rmse:0.341227   train-rmspe:0.277284
eval-rmspe:0.277284
[116]   train-rmse:0.335544   eval-rmse:0.335544   train-rmspe:0.273901
eval-rmspe:0.273901
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[119]   train-rmse:0.319456   eval-rmse:0.319456   train-rmspe:0.264262

eval-rmspe:0.264262
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[122]   train-rmse:0.304751   eval-rmse:0.304751   train-rmspe:0.255462
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eval-rmspe:0.253035
[124]   train-rmse:0.296234   eval-rmse:0.296234   train-rmspe:0.250473
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[125]   train-rmse:0.292145   eval-rmse:0.292145   train-rmspe:0.248116
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[126]   train-rmse:0.287985   eval-rmse:0.287985   train-rmspe:0.245634
eval-rmspe:0.245634
[127]   train-rmse:0.284474   eval-rmse:0.284474   train-rmspe:0.243696
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[128]   train-rmse:0.280981   eval-rmse:0.280981   train-rmspe:0.24181
eval-rmspe:0.24181
[129]   train-rmse:0.277611   eval-rmse:0.277611   train-rmspe:0.239943
eval-rmspe:0.239943
[130]   train-rmse:0.274401   eval-rmse:0.274401   train-rmspe:0.238226
eval-rmspe:0.238226
[131]   train-rmse:0.271148   eval-rmse:0.271148   train-rmspe:0.236493
eval-rmspe:0.236493
[132]   train-rmse:0.267355   eval-rmse:0.267355   train-rmspe:0.234204
eval-rmspe:0.234204
[133]   train-rmse:0.264561   eval-rmse:0.264561   train-rmspe:0.232738
eval-rmspe:0.232738
[134]   train-rmse:0.261794   eval-rmse:0.261794   train-rmspe:0.231257
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[135]   train-rmse:0.259422   eval-rmse:0.259422   train-rmspe:0.230133
eval-rmspe:0.230133
[136]   train-rmse:0.256478   eval-rmse:0.256478   train-rmspe:0.2285
eval-rmspe:0.2285
[137]   train-rmse:0.254153   eval-rmse:0.254153   train-rmspe:0.227332
eval-rmspe:0.227332
[138]   train-rmse:0.251881   eval-rmse:0.251881   train-rmspe:0.226218
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[139]   train-rmse:0.249431   eval-rmse:0.249431   train-rmspe:0.224888
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eval-rmspe:0.223839
[141]   train-rmse:0.245339   eval-rmse:0.245339   train-rmspe:0.222966
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eval-rmspe:0.221263
[143]   train-rmse:0.240747   eval-rmse:0.240747   train-rmspe:0.220429

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[144]   train-rmse:0.238789   eval-rmse:0.238789   train-rmspe:0.219401
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[145]   train-rmse:0.236736   eval-rmse:0.236736   train-rmspe:0.218328
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[146]   train-rmse:0.234373   eval-rmse:0.234373   train-rmspe:0.216911
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[147]   train-rmse:0.232557   eval-rmse:0.232557   train-rmspe:0.216042
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[148]   train-rmse:0.23062   eval-rmse:0.23062   train-rmspe:0.214981
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[149]   train-rmse:0.228716   eval-rmse:0.228716   train-rmspe:0.213947
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[154]   train-rmse:0.221358   eval-rmse:0.221358   train-rmspe:0.21028
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[155]   train-rmse:0.219857   eval-rmse:0.219857   train-rmspe:0.209455
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[156]   train-rmse:0.218926   eval-rmse:0.218926   train-rmspe:0.209195
eval-rmspe:0.209195
[157]   train-rmse:0.217559   eval-rmse:0.217559   train-rmspe:0.20847
eval-rmspe:0.20847
[158]   train-rmse:0.216155   eval-rmse:0.216155   train-rmspe:0.207767
eval-rmspe:0.207767
[159]   train-rmse:0.213995   eval-rmse:0.213995   train-rmspe:0.206271
eval-rmspe:0.206271
[160]   train-rmse:0.213143   eval-rmse:0.213143   train-rmspe:0.206013
eval-rmspe:0.206013
[161]   train-rmse:0.212036   eval-rmse:0.212036   train-rmspe:0.20547
eval-rmspe:0.20547
[162]   train-rmse:0.21098   eval-rmse:0.21098   train-rmspe:0.204904
eval-rmspe:0.204904
[163]   train-rmse:0.209552   eval-rmse:0.209552   train-rmspe:0.203993
eval-rmspe:0.203993
[164]   train-rmse:0.208403   eval-rmse:0.208403   train-rmspe:0.203403
eval-rmspe:0.203403
[165]   train-rmse:0.207477   eval-rmse:0.207477   train-rmspe:0.202981
eval-rmspe:0.202981
[166]   train-rmse:0.206456   eval-rmse:0.206456   train-rmspe:0.202433
eval-rmspe:0.202433
[167]   train-rmse:0.205706   eval-rmse:0.205706   train-rmspe:0.202169

eval-rmspe:0.202169
[168]	train-rmse:0.204967	eval-rmse:0.204967	train-rmspe:0.201825
eval-rmspe:0.201825
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[174]	train-rmse:0.199005	eval-rmse:0.199005	train-rmspe:0.198201
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[175]	train-rmse:0.198146	eval-rmse:0.198146	train-rmspe:0.197729
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[176]	train-rmse:0.197473	eval-rmse:0.197473	train-rmspe:0.197372
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[177]	train-rmse:0.196939	eval-rmse:0.196939	train-rmspe:0.197181
eval-rmspe:0.197181
[178]	train-rmse:0.19617	eval-rmse:0.19617	train-rmspe:0.196749
eval-rmspe:0.196749
[179]	train-rmse:0.195079	eval-rmse:0.195079	train-rmspe:0.195978
eval-rmspe:0.195978
[180]	train-rmse:0.194333	eval-rmse:0.194333	train-rmspe:0.195567
eval-rmspe:0.195567
[181]	train-rmse:0.193797	eval-rmse:0.193797	train-rmspe:0.195286
eval-rmspe:0.195286
[182]	train-rmse:0.193149	eval-rmse:0.193149	train-rmspe:0.194958
eval-rmspe:0.194958
[183]	train-rmse:0.192687	eval-rmse:0.192687	train-rmspe:0.194759
eval-rmspe:0.194759
[184]	train-rmse:0.192212	eval-rmse:0.192212	train-rmspe:0.194543
eval-rmspe:0.194543
[185]	train-rmse:0.191448	eval-rmse:0.191448	train-rmspe:0.193998
eval-rmspe:0.193998
[186]	train-rmse:0.19067	eval-rmse:0.19067	train-rmspe:0.193455
eval-rmspe:0.193455
[187]	train-rmse:0.190084	eval-rmse:0.190084	train-rmspe:0.193053
eval-rmspe:0.193053
[188]	train-rmse:0.188668	eval-rmse:0.188668	train-rmspe:0.191818
eval-rmspe:0.191818
[189]	train-rmse:0.188263	eval-rmse:0.188263	train-rmspe:0.191645
eval-rmspe:0.191645
[190]	train-rmse:0.18785	eval-rmse:0.18785	train-rmspe:0.191422
eval-rmspe:0.191422
[191]	train-rmse:0.186194	eval-rmse:0.186194	train-rmspe:0.189853

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eval-rmspe:0.189853
[192]    train-rmse:0.18569      eval-rmse:0.18569       train-rmspe:0.189507
eval-rmspe:0.189507
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[194]    train-rmse:0.18397      eval-rmse:0.18397       train-rmspe:0.188104
eval-rmspe:0.188104
[195]    train-rmse:0.183509     eval-rmse:0.183509      train-rmspe:0.187798
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[197]    train-rmse:0.182106     eval-rmse:0.182106      train-rmspe:0.186762
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[198]    train-rmse:0.180789     eval-rmse:0.180789      train-rmspe:0.185454
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[199]    train-rmse:0.180567     eval-rmse:0.180567      train-rmspe:0.185398
eval-rmspe:0.185398
[200]    train-rmse:0.180131     eval-rmse:0.180131      train-rmspe:0.18513
eval-rmspe:0.18513
[201]    train-rmse:0.179371     eval-rmse:0.179371      train-rmspe:0.184478
eval-rmspe:0.184478
[202]    train-rmse:0.17905      eval-rmse:0.17905       train-rmspe:0.184275
eval-rmspe:0.184275
[203]    train-rmse:0.178616     eval-rmse:0.178616      train-rmspe:0.183975
eval-rmspe:0.183975
[204]    train-rmse:0.178341     eval-rmse:0.178341      train-rmspe:0.183815
eval-rmspe:0.183815
[205]    train-rmse:0.177854     eval-rmse:0.177854      train-rmspe:0.18339
eval-rmspe:0.18339
[206]    train-rmse:0.176982     eval-rmse:0.176982      train-rmspe:0.182653
eval-rmspe:0.182653
[207]    train-rmse:0.175605     eval-rmse:0.175605      train-rmspe:0.181289
eval-rmspe:0.181289
[208]    train-rmse:0.17503      eval-rmse:0.17503       train-rmspe:0.180804
eval-rmspe:0.180804
[209]    train-rmse:0.174477     eval-rmse:0.174477      train-rmspe:0.180327
eval-rmspe:0.180327
[210]    train-rmse:0.174131     eval-rmse:0.174131      train-rmspe:0.180071
eval-rmspe:0.180071
[211]    train-rmse:0.173736     eval-rmse:0.173736      train-rmspe:0.179775
eval-rmspe:0.179775
[212]    train-rmse:0.172996     eval-rmse:0.172996      train-rmspe:0.179122
eval-rmspe:0.179122
[213]    train-rmse:0.172012     eval-rmse:0.172012      train-rmspe:0.178178
eval-rmspe:0.178178
[214]    train-rmse:0.171429     eval-rmse:0.171429      train-rmspe:0.177687
eval-rmspe:0.177687
[215]    train-rmse:0.170995     eval-rmse:0.170995      train-rmspe:0.177327
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eval-rmspe:0.177327
[216]	train-rmse:0.170573	eval-rmse:0.170573	train-rmspe:0.176964
eval-rmspe:0.176964
[217]	train-rmse:0.170108	eval-rmse:0.170108	train-rmspe:0.17659
eval-rmspe:0.17659
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[219]	train-rmse:0.168797	eval-rmse:0.168797	train-rmspe:0.175405
eval-rmspe:0.175405
[220]	train-rmse:0.168173	eval-rmse:0.168173	train-rmspe:0.17487
eval-rmspe:0.17487
[221]	train-rmse:0.167696	eval-rmse:0.167696	train-rmspe:0.174463
eval-rmspe:0.174463
[222]	train-rmse:0.167214	eval-rmse:0.167214	train-rmspe:0.173981
eval-rmspe:0.173981
[223]	train-rmse:0.166947	eval-rmse:0.166947	train-rmspe:0.173755
eval-rmspe:0.173755
[224]	train-rmse:0.166598	eval-rmse:0.166598	train-rmspe:0.173441
eval-rmspe:0.173441
[225]	train-rmse:0.165892	eval-rmse:0.165892	train-rmspe:0.172776
eval-rmspe:0.172776
[226]	train-rmse:0.165681	eval-rmse:0.165681	train-rmspe:0.17264
eval-rmspe:0.17264
[227]	train-rmse:0.164882	eval-rmse:0.164882	train-rmspe:0.17185
eval-rmspe:0.17185
[228]	train-rmse:0.164716	eval-rmse:0.164716	train-rmspe:0.171749
eval-rmspe:0.171749
[229]	train-rmse:0.164281	eval-rmse:0.164281	train-rmspe:0.171332
eval-rmspe:0.171332
[230]	train-rmse:0.164	eval-rmse:0.164 train-rmspe:0.171105	eval-rmspe:0.171105
[231]	train-rmse:0.163635	eval-rmse:0.163635	train-rmspe:0.170753
eval-rmspe:0.170753
[232]	train-rmse:0.162391	eval-rmse:0.162391	train-rmspe:0.169499
eval-rmspe:0.169499
[233]	train-rmse:0.161923	eval-rmse:0.161923	train-rmspe:0.169013
eval-rmspe:0.169013
[234]	train-rmse:0.161406	eval-rmse:0.161406	train-rmspe:0.168507
eval-rmspe:0.168507
[235]	train-rmse:0.160864	eval-rmse:0.160864	train-rmspe:0.167949
eval-rmspe:0.167949
[236]	train-rmse:0.160412	eval-rmse:0.160412	train-rmspe:0.167529
eval-rmspe:0.167529
[237]	train-rmse:0.159483	eval-rmse:0.159483	train-rmspe:0.166567
eval-rmspe:0.166567
[238]	train-rmse:0.158958	eval-rmse:0.158958	train-rmspe:0.166016
eval-rmspe:0.166016
[239]	train-rmse:0.158223	eval-rmse:0.158223	train-rmspe:0.165263

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eval-rmspe:0.165263
[240]    train-rmse:0.157856    eval-rmse:0.157856    train-rmspe:0.164933
eval-rmspe:0.164933
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[248]    train-rmse:0.154116    eval-rmse:0.154116    train-rmspe:0.161178
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[254]    train-rmse:0.151844    eval-rmse:0.151844    train-rmspe:0.158944
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[258]    train-rmse:0.150089    eval-rmse:0.150089    train-rmspe:0.157167
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[260]    train-rmse:0.148953    eval-rmse:0.148953    train-rmspe:0.155998
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[261]    train-rmse:0.14868     eval-rmse:0.14868     train-rmspe:0.155741
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[262]    train-rmse:0.148396    eval-rmse:0.148396    train-rmspe:0.155443
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[263]    train-rmse:0.148013    eval-rmse:0.148013    train-rmspe:0.155077
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[266]   train-rmse:0.146417   eval-rmse:0.146417   train-rmspe:0.153289
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[267]   train-rmse:0.146102   eval-rmse:0.146102   train-rmspe:0.152962
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[268]   train-rmse:0.145943   eval-rmse:0.145943   train-rmspe:0.152812
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[270]   train-rmse:0.145212   eval-rmse:0.145212   train-rmspe:0.152107
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[275]   train-rmse:0.143489   eval-rmse:0.143489   train-rmspe:0.15042
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[276]   train-rmse:0.143247   eval-rmse:0.143247   train-rmspe:0.150169
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[277]   train-rmse:0.142949   eval-rmse:0.142949   train-rmspe:0.149892
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[278]   train-rmse:0.142709   eval-rmse:0.142709   train-rmspe:0.149642
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[280]   train-rmse:0.141553   eval-rmse:0.141553   train-rmspe:0.148407
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[281]   train-rmse:0.14104   eval-rmse:0.14104   train-rmspe:0.147882
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[283]   train-rmse:0.140375   eval-rmse:0.140375   train-rmspe:0.14719
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[284]   train-rmse:0.139823   eval-rmse:0.139823   train-rmspe:0.146574
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[293]   train-rmse:0.136901   eval-rmse:0.136901   train-rmspe:0.143467
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[294]   train-rmse:0.136556   eval-rmse:0.136556   train-rmspe:0.143108
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[307]   train-rmse:0.132223   eval-rmse:0.132223   train-rmspe:0.138569
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[308]   train-rmse:0.13207   eval-rmse:0.13207   train-rmspe:0.138405
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[309]   train-rmse:0.13164   eval-rmse:0.13164   train-rmspe:0.137932
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[316]   train-rmse:0.129012   eval-rmse:0.129012   train-rmspe:0.135185
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[317]   train-rmse:0.128777   eval-rmse:0.128777   train-rmspe:0.134915
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[329]   train-rmse:0.124211   eval-rmse:0.124211   train-rmspe:0.130088
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[403]   train-rmse:0.105746   eval-rmse:0.105746   train-rmspe:0.110333
eval-rmspe:0.110333
[404]   train-rmse:0.105432   eval-rmse:0.105432   train-rmspe:0.109992
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[405]   train-rmse:0.105288   eval-rmse:0.105288   train-rmspe:0.109839
eval-rmspe:0.109839
[406]   train-rmse:0.105073   eval-rmse:0.105073   train-rmspe:0.109599
eval-rmspe:0.109599
[407]   train-rmse:0.104877   eval-rmse:0.104877   train-rmspe:0.109383

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[408]   train-rmse:0.10465   eval-rmse:0.10465   train-rmspe:0.109155
eval-rmspe:0.109155
[409]   train-rmse:0.104457   eval-rmse:0.104457   train-rmspe:0.108941
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[410]   train-rmse:0.104407   eval-rmse:0.104407   train-rmspe:0.108886
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[411]   train-rmse:0.104217   eval-rmse:0.104217   train-rmspe:0.108689
eval-rmspe:0.108689
[412]   train-rmse:0.103893   eval-rmse:0.103893   train-rmspe:0.108352
eval-rmspe:0.108352
[413]   train-rmse:0.103716   eval-rmse:0.103716   train-rmspe:0.108179
eval-rmspe:0.108179
[414]   train-rmse:0.10345   eval-rmse:0.10345   train-rmspe:0.107885
eval-rmspe:0.107885
[415]   train-rmse:0.103398   eval-rmse:0.103398   train-rmspe:0.107829
eval-rmspe:0.107829
[416]   train-rmse:0.103324   eval-rmse:0.103324   train-rmspe:0.107748
eval-rmspe:0.107748
[417]   train-rmse:0.103109   eval-rmse:0.103109   train-rmspe:0.107522
eval-rmspe:0.107522
[418]   train-rmse:0.102872   eval-rmse:0.102872   train-rmspe:0.107223
eval-rmspe:0.107223
[419]   train-rmse:0.102666   eval-rmse:0.102666   train-rmspe:0.106983
eval-rmspe:0.106983
[420]   train-rmse:0.102482   eval-rmse:0.102482   train-rmspe:0.106799
eval-rmspe:0.106799
[421]   train-rmse:0.102409   eval-rmse:0.102409   train-rmspe:0.106725
eval-rmspe:0.106725
[422]   train-rmse:0.102342   eval-rmse:0.102342   train-rmspe:0.106655
eval-rmspe:0.106655
[423]   train-rmse:0.102304   eval-rmse:0.102304   train-rmspe:0.106616
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[424]   train-rmse:0.102116   eval-rmse:0.102116   train-rmspe:0.106428
eval-rmspe:0.106428
[425]   train-rmse:0.101963   eval-rmse:0.101963   train-rmspe:0.106265
eval-rmspe:0.106265
[426]   train-rmse:0.101726   eval-rmse:0.101726   train-rmspe:0.106019
eval-rmspe:0.106019
[427]   train-rmse:0.101488   eval-rmse:0.101488   train-rmspe:0.105717
eval-rmspe:0.105717
[428]   train-rmse:0.101319   eval-rmse:0.101319   train-rmspe:0.105539
eval-rmspe:0.105539
[429]   train-rmse:0.101012   eval-rmse:0.101012   train-rmspe:0.105216
eval-rmspe:0.105216
[430]   train-rmse:0.100869   eval-rmse:0.100869   train-rmspe:0.105076
eval-rmspe:0.105076
[431]   train-rmse:0.100646   eval-rmse:0.100646   train-rmspe:0.104826

eval-rmspe:0.104826
[432]   train-rmse:0.100431   eval-rmse:0.100431   train-rmspe:0.104608
eval-rmspe:0.104608
[433]   train-rmse:0.100266   eval-rmse:0.100266   train-rmspe:0.104387
eval-rmspe:0.104387
[434]   train-rmse:0.100223   eval-rmse:0.100223   train-rmspe:0.104345
eval-rmspe:0.104345
[435]   train-rmse:0.10005   eval-rmse:0.10005   train-rmspe:0.104103
eval-rmspe:0.104103
[436]   train-rmse:0.099788   eval-rmse:0.099788   train-rmspe:0.103806
eval-rmspe:0.103806
[437]   train-rmse:0.099581   eval-rmse:0.099581   train-rmspe:0.103592
eval-rmspe:0.103592
[438]   train-rmse:0.099485   eval-rmse:0.099485   train-rmspe:0.103494
eval-rmspe:0.103494
[439]   train-rmse:0.099403   eval-rmse:0.099403   train-rmspe:0.103412
eval-rmspe:0.103412
[440]   train-rmse:0.099202   eval-rmse:0.099202   train-rmspe:0.103198
eval-rmspe:0.103198
[441]   train-rmse:0.099051   eval-rmse:0.099051   train-rmspe:0.10304
eval-rmspe:0.10304
[442]   train-rmse:0.098831   eval-rmse:0.098831   train-rmspe:0.102804
eval-rmspe:0.102804
[443]   train-rmse:0.098531   eval-rmse:0.098531   train-rmspe:0.102481
eval-rmspe:0.102481
[444]   train-rmse:0.098416   eval-rmse:0.098416   train-rmspe:0.102365
eval-rmspe:0.102365
[445]   train-rmse:0.098307   eval-rmse:0.098307   train-rmspe:0.102251
eval-rmspe:0.102251
[446]   train-rmse:0.098236   eval-rmse:0.098236   train-rmspe:0.102179
eval-rmspe:0.102179
[447]   train-rmse:0.098058   eval-rmse:0.098058   train-rmspe:0.101977
eval-rmspe:0.101977
[448]   train-rmse:0.097817   eval-rmse:0.097817   train-rmspe:0.101708
eval-rmspe:0.101708
[449]   train-rmse:0.097733   eval-rmse:0.097733   train-rmspe:0.101623
eval-rmspe:0.101623
[450]   train-rmse:0.097538   eval-rmse:0.097538   train-rmspe:0.101414
eval-rmspe:0.101414
[451]   train-rmse:0.097341   eval-rmse:0.097341   train-rmspe:0.101201
eval-rmspe:0.101201
[452]   train-rmse:0.097195   eval-rmse:0.097195   train-rmspe:0.101043
eval-rmspe:0.101043
[453]   train-rmse:0.097104   eval-rmse:0.097104   train-rmspe:0.100942
eval-rmspe:0.100942
[454]   train-rmse:0.096939   eval-rmse:0.096939   train-rmspe:0.100774
eval-rmspe:0.100774
[455]   train-rmse:0.09666   eval-rmse:0.09666   train-rmspe:0.100429

eval-rmspe:0.100429

[456]   train-rmse:0.096604   eval-rmse:0.096604   train-rmspe:0.100365
eval-rmspe:0.100365

[457]   train-rmse:0.096429   eval-rmse:0.096429   train-rmspe:0.10017
eval-rmspe:0.10017

[458]   train-rmse:0.096374   eval-rmse:0.096374   train-rmspe:0.100116
eval-rmspe:0.100116

[459]   train-rmse:0.096249   eval-rmse:0.096249   train-rmspe:0.099989
eval-rmspe:0.099989

[460]   train-rmse:0.096118   eval-rmse:0.096118   train-rmspe:0.099839
eval-rmspe:0.099839

[461]   train-rmse:0.09592   eval-rmse:0.09592   train-rmspe:0.099625
eval-rmspe:0.099625

[462]   train-rmse:0.095825   eval-rmse:0.095825   train-rmspe:0.099527
eval-rmspe:0.099527

[463]   train-rmse:0.095619   eval-rmse:0.095619   train-rmspe:0.099307
eval-rmspe:0.099307

[464]   train-rmse:0.095479   eval-rmse:0.095479   train-rmspe:0.099157
eval-rmspe:0.099157

[465]   train-rmse:0.095227   eval-rmse:0.095227   train-rmspe:0.098877
eval-rmspe:0.098877

[466]   train-rmse:0.095076   eval-rmse:0.095076   train-rmspe:0.098725
eval-rmspe:0.098725

[467]   train-rmse:0.094903   eval-rmse:0.094903   train-rmspe:0.09854
eval-rmspe:0.09854

[468]   train-rmse:0.094685   eval-rmse:0.094685   train-rmspe:0.09832
eval-rmspe:0.09832

[469]   train-rmse:0.094576   eval-rmse:0.094576   train-rmspe:0.098209
eval-rmspe:0.098209

[470]   train-rmse:0.094401   eval-rmse:0.094401   train-rmspe:0.098025
eval-rmspe:0.098025

[471]   train-rmse:0.094254   eval-rmse:0.094254   train-rmspe:0.097867
eval-rmspe:0.097867

[472]   train-rmse:0.094185   eval-rmse:0.094185   train-rmspe:0.097793
eval-rmspe:0.097793

[473]   train-rmse:0.093964   eval-rmse:0.093964   train-rmspe:0.097557
eval-rmspe:0.097557

[474]   train-rmse:0.093747   eval-rmse:0.093747   train-rmspe:0.097307
eval-rmspe:0.097307

[475]   train-rmse:0.093595   eval-rmse:0.093595   train-rmspe:0.097152
eval-rmspe:0.097152

[476]   train-rmse:0.093383   eval-rmse:0.093383   train-rmspe:0.096929
eval-rmspe:0.096929

[477]   train-rmse:0.093332   eval-rmse:0.093332   train-rmspe:0.096878
eval-rmspe:0.096878

[478]   train-rmse:0.093157   eval-rmse:0.093157   train-rmspe:0.096694
eval-rmspe:0.096694

[479]   train-rmse:0.092916   eval-rmse:0.092916   train-rmspe:0.096422

eval-rmspe:0.096422

[480]   train-rmse:0.092817   eval-rmse:0.092817   train-rmspe:0.096318
eval-rmspe:0.096318

[481]   train-rmse:0.092694   eval-rmse:0.092694   train-rmspe:0.096192
eval-rmspe:0.096192

[482]   train-rmse:0.092637   eval-rmse:0.092637   train-rmspe:0.096131
eval-rmspe:0.096131

[483]   train-rmse:0.092453   eval-rmse:0.092453   train-rmspe:0.095929
eval-rmspe:0.095929

[484]   train-rmse:0.092338   eval-rmse:0.092338   train-rmspe:0.095809
eval-rmspe:0.095809

[485]   train-rmse:0.092201   eval-rmse:0.092201   train-rmspe:0.095657
eval-rmspe:0.095657

[486]   train-rmse:0.09208   eval-rmse:0.09208   train-rmspe:0.095524
eval-rmspe:0.095524

[487]   train-rmse:0.09187   eval-rmse:0.09187   train-rmspe:0.095297
eval-rmspe:0.095297

[488]   train-rmse:0.091713   eval-rmse:0.091713   train-rmspe:0.09513
eval-rmspe:0.09513

[489]   train-rmse:0.091521   eval-rmse:0.091521   train-rmspe:0.094873
eval-rmspe:0.094873

[490]   train-rmse:0.091464   eval-rmse:0.091464   train-rmspe:0.094813
eval-rmspe:0.094813

[491]   train-rmse:0.091381   eval-rmse:0.091381   train-rmspe:0.094718
eval-rmspe:0.094718

[492]   train-rmse:0.091162   eval-rmse:0.091162   train-rmspe:0.094442
eval-rmspe:0.094442

[493]   train-rmse:0.091006   eval-rmse:0.091006   train-rmspe:0.094274
eval-rmspe:0.094274

[494]   train-rmse:0.090969   eval-rmse:0.090969   train-rmspe:0.094237
eval-rmspe:0.094237

[495]   train-rmse:0.090919   eval-rmse:0.090919   train-rmspe:0.094185
eval-rmspe:0.094185

[496]   train-rmse:0.090721   eval-rmse:0.090721   train-rmspe:0.093978
eval-rmspe:0.093978

[497]   train-rmse:0.090601   eval-rmse:0.090601   train-rmspe:0.093851
eval-rmspe:0.093851

[498]   train-rmse:0.090453   eval-rmse:0.090453   train-rmspe:0.093647
eval-rmspe:0.093647

[499]   train-rmse:0.0904   eval-rmse:0.0904   train-rmspe:0.093591
eval-rmspe:0.093591

[500]   train-rmse:0.090322   eval-rmse:0.090322   train-rmspe:0.093511
eval-rmspe:0.093511

[501]   train-rmse:0.090142   eval-rmse:0.090142   train-rmspe:0.093323
eval-rmspe:0.093323

[502]   train-rmse:0.089909   eval-rmse:0.089909   train-rmspe:0.093081
eval-rmspe:0.093081

[503]   train-rmse:0.089691   eval-rmse:0.089691   train-rmspe:0.092833

eval-rmspe:0.092833
[504]   train-rmse:0.089497   eval-rmse:0.089497   train-rmspe:0.092629
eval-rmspe:0.092629
[505]   train-rmse:0.089367   eval-rmse:0.089367   train-rmspe:0.092462
eval-rmspe:0.092462
[506]   train-rmse:0.08933   eval-rmse:0.08933   train-rmspe:0.092424
eval-rmspe:0.092424
[507]   train-rmse:0.089304   eval-rmse:0.089304   train-rmspe:0.092397
eval-rmspe:0.092397
[508]   train-rmse:0.089232   eval-rmse:0.089232   train-rmspe:0.092323
eval-rmspe:0.092323
[509]   train-rmse:0.089098   eval-rmse:0.089098   train-rmspe:0.092185
eval-rmspe:0.092185
[510]   train-rmse:0.088954   eval-rmse:0.088954   train-rmspe:0.092035
eval-rmspe:0.092035
[511]   train-rmse:0.088814   eval-rmse:0.088814   train-rmspe:0.091888
eval-rmspe:0.091888
[512]   train-rmse:0.08865   eval-rmse:0.08865   train-rmspe:0.0917
eval-rmspe:0.0917
[513]   train-rmse:0.088521   eval-rmse:0.088521   train-rmspe:0.091567
eval-rmspe:0.091567
[514]   train-rmse:0.088352   eval-rmse:0.088352   train-rmspe:0.091396
eval-rmspe:0.091396
[515]   train-rmse:0.088187   eval-rmse:0.088187   train-rmspe:0.091222
eval-rmspe:0.091222
[516]   train-rmse:0.088016   eval-rmse:0.088016   train-rmspe:0.091029
eval-rmspe:0.091029
[517]   train-rmse:0.087961   eval-rmse:0.087961   train-rmspe:0.090971
eval-rmspe:0.090971
[518]   train-rmse:0.087799   eval-rmse:0.087799   train-rmspe:0.090795
eval-rmspe:0.090795
[519]   train-rmse:0.087767   eval-rmse:0.087767   train-rmspe:0.090764
eval-rmspe:0.090764
[520]   train-rmse:0.087604   eval-rmse:0.087604   train-rmspe:0.090566
eval-rmspe:0.090566
[521]   train-rmse:0.087539   eval-rmse:0.087539   train-rmspe:0.090502
eval-rmspe:0.090502
[522]   train-rmse:0.0874   eval-rmse:0.0874   train-rmspe:0.090357
eval-rmspe:0.090357
[523]   train-rmse:0.087234   eval-rmse:0.087234   train-rmspe:0.090181
eval-rmspe:0.090181
[524]   train-rmse:0.087126   eval-rmse:0.087126   train-rmspe:0.090066
eval-rmspe:0.090066
[525]   train-rmse:0.086938   eval-rmse:0.086938   train-rmspe:0.089867
eval-rmspe:0.089867
[526]   train-rmse:0.086855   eval-rmse:0.086855   train-rmspe:0.089782
eval-rmspe:0.089782
[527]   train-rmse:0.086757   eval-rmse:0.086757   train-rmspe:0.089684

eval-rmspe:0.089684

[528]   train-rmse:0.086676   eval-rmse:0.086676   train-rmspe:0.089601
eval-rmspe:0.089601

[529]   train-rmse:0.086494   eval-rmse:0.086494   train-rmspe:0.089381
eval-rmspe:0.089381

[530]   train-rmse:0.086322   eval-rmse:0.086322   train-rmspe:0.089203
eval-rmspe:0.089203

[531]   train-rmse:0.086292   eval-rmse:0.086292   train-rmspe:0.089173
eval-rmspe:0.089173

[532]   train-rmse:0.086197   eval-rmse:0.086197   train-rmspe:0.089073
eval-rmspe:0.089073

[533]   train-rmse:0.086149   eval-rmse:0.086149   train-rmspe:0.089027
eval-rmspe:0.089027

[534]   train-rmse:0.08593   eval-rmse:0.08593   train-rmspe:0.088777
eval-rmspe:0.088777

[535]   train-rmse:0.085831   eval-rmse:0.085831   train-rmspe:0.088676
eval-rmspe:0.088676

[536]   train-rmse:0.085614   eval-rmse:0.085614   train-rmspe:0.088433
eval-rmspe:0.088433

[537]   train-rmse:0.085451   eval-rmse:0.085451   train-rmspe:0.088265
eval-rmspe:0.088265

[538]   train-rmse:0.085362   eval-rmse:0.085362   train-rmspe:0.088154
eval-rmspe:0.088154

[539]   train-rmse:0.085166   eval-rmse:0.085166   train-rmspe:0.087946
eval-rmspe:0.087946

[540]   train-rmse:0.085087   eval-rmse:0.085087   train-rmspe:0.087869
eval-rmspe:0.087869

[541]   train-rmse:0.084833   eval-rmse:0.084833   train-rmspe:0.087593
eval-rmspe:0.087593

[542]   train-rmse:0.084712   eval-rmse:0.084712   train-rmspe:0.087463
eval-rmspe:0.087463

[543]   train-rmse:0.084574   eval-rmse:0.084574   train-rmspe:0.087315
eval-rmspe:0.087315

[544]   train-rmse:0.084472   eval-rmse:0.084472   train-rmspe:0.087209
eval-rmspe:0.087209

[545]   train-rmse:0.084393   eval-rmse:0.084393   train-rmspe:0.087128
eval-rmspe:0.087128

[546]   train-rmse:0.084246   eval-rmse:0.084246   train-rmspe:0.086974
eval-rmspe:0.086974

[547]   train-rmse:0.084059   eval-rmse:0.084059   train-rmspe:0.086778
eval-rmspe:0.086778

[548]   train-rmse:0.084032   eval-rmse:0.084032   train-rmspe:0.086753
eval-rmspe:0.086753

[549]   train-rmse:0.08395   eval-rmse:0.08395   train-rmspe:0.08665
eval-rmspe:0.08665

[550]   train-rmse:0.083909   eval-rmse:0.083909   train-rmspe:0.08661
eval-rmspe:0.08661

[551]   train-rmse:0.083799   eval-rmse:0.083799   train-rmspe:0.086496

eval-rmspe:0.086496
[552]   train-rmse:0.083726   eval-rmse:0.083726   train-rmspe:0.08642
eval-rmspe:0.08642
[553]   train-rmse:0.083548   eval-rmse:0.083548   train-rmspe:0.086233
eval-rmspe:0.086233
[554]   train-rmse:0.083386   eval-rmse:0.083386   train-rmspe:0.086023
eval-rmspe:0.086023
[555]   train-rmse:0.083265   eval-rmse:0.083265   train-rmspe:0.085893
eval-rmspe:0.085893
[556]   train-rmse:0.083141   eval-rmse:0.083141   train-rmspe:0.085756
eval-rmspe:0.085756
[557]   train-rmse:0.083048   eval-rmse:0.083048   train-rmspe:0.085634
eval-rmspe:0.085634
[558]   train-rmse:0.082997   eval-rmse:0.082997   train-rmspe:0.085579
eval-rmspe:0.085579
[559]   train-rmse:0.082861   eval-rmse:0.082861   train-rmspe:0.085428
eval-rmspe:0.085428
[560]   train-rmse:0.082766   eval-rmse:0.082766   train-rmspe:0.085329
eval-rmspe:0.085329
[561]   train-rmse:0.082665   eval-rmse:0.082665   train-rmspe:0.085218
eval-rmspe:0.085218
[562]   train-rmse:0.082458   eval-rmse:0.082458   train-rmspe:0.084978
eval-rmspe:0.084978
[563]   train-rmse:0.082351   eval-rmse:0.082351   train-rmspe:0.08487
eval-rmspe:0.08487
[564]   train-rmse:0.082255   eval-rmse:0.082255   train-rmspe:0.084761
eval-rmspe:0.084761
[565]   train-rmse:0.081951   eval-rmse:0.081951   train-rmspe:0.084421
eval-rmspe:0.084421
[566]   train-rmse:0.08188   eval-rmse:0.08188   train-rmspe:0.084348
eval-rmspe:0.084348
[567]   train-rmse:0.08175   eval-rmse:0.08175   train-rmspe:0.084207
eval-rmspe:0.084207
[568]   train-rmse:0.081485   eval-rmse:0.081485   train-rmspe:0.083874
eval-rmspe:0.083874
[569]   train-rmse:0.081444   eval-rmse:0.081444   train-rmspe:0.083831
eval-rmspe:0.083831
[570]   train-rmse:0.081278   eval-rmse:0.081278   train-rmspe:0.083641
eval-rmspe:0.083641
[571]   train-rmse:0.081169   eval-rmse:0.081169   train-rmspe:0.083522
eval-rmspe:0.083522
[572]   train-rmse:0.081108   eval-rmse:0.081108   train-rmspe:0.083455
eval-rmspe:0.083455
[573]   train-rmse:0.081039   eval-rmse:0.081039   train-rmspe:0.083384
eval-rmspe:0.083384
[574]   train-rmse:0.080951   eval-rmse:0.080951   train-rmspe:0.083295
eval-rmspe:0.083295
[575]   train-rmse:0.080864   eval-rmse:0.080864   train-rmspe:0.083202

eval-rmspe:0.083202
[576]   train-rmse:0.080753   eval-rmse:0.080753   train-rmspe:0.083056
eval-rmspe:0.083056
[577]   train-rmse:0.080651   eval-rmse:0.080651   train-rmspe:0.082919
eval-rmspe:0.082919
[578]   train-rmse:0.080501   eval-rmse:0.080501   train-rmspe:0.082758
eval-rmspe:0.082758
[579]   train-rmse:0.080347   eval-rmse:0.080347   train-rmspe:0.082597
eval-rmspe:0.082597
[580]   train-rmse:0.080297   eval-rmse:0.080297   train-rmspe:0.082541
eval-rmspe:0.082541
[581]   train-rmse:0.080251   eval-rmse:0.080251   train-rmspe:0.082495
eval-rmspe:0.082495
[582]   train-rmse:0.080158   eval-rmse:0.080158   train-rmspe:0.082397
eval-rmspe:0.082397
[583]   train-rmse:0.080089   eval-rmse:0.080089   train-rmspe:0.082327
eval-rmspe:0.082327
[584]   train-rmse:0.080001   eval-rmse:0.080001   train-rmspe:0.082237
eval-rmspe:0.082237
[585]   train-rmse:0.079965   eval-rmse:0.079965   train-rmspe:0.082201
eval-rmspe:0.082201
[586]   train-rmse:0.079818   eval-rmse:0.079818   train-rmspe:0.082034
eval-rmspe:0.082034
[587]   train-rmse:0.079688   eval-rmse:0.079688   train-rmspe:0.081903
eval-rmspe:0.081903
[588]   train-rmse:0.079577   eval-rmse:0.079577   train-rmspe:0.081783
eval-rmspe:0.081783
[589]   train-rmse:0.079463   eval-rmse:0.079463   train-rmspe:0.08166
eval-rmspe:0.08166
[590]   train-rmse:0.079253   eval-rmse:0.079253   train-rmspe:0.081425
eval-rmspe:0.081425
[591]   train-rmse:0.079165   eval-rmse:0.079165   train-rmspe:0.081329
eval-rmspe:0.081329
[592]   train-rmse:0.079113   eval-rmse:0.079113   train-rmspe:0.081272
eval-rmspe:0.081272
[593]   train-rmse:0.078824   eval-rmse:0.078824   train-rmspe:0.080924
eval-rmspe:0.080924
[594]   train-rmse:0.078775   eval-rmse:0.078775   train-rmspe:0.080869
eval-rmspe:0.080869
[595]   train-rmse:0.078695   eval-rmse:0.078695   train-rmspe:0.080787
eval-rmspe:0.080787
[596]   train-rmse:0.078633   eval-rmse:0.078633   train-rmspe:0.080723
eval-rmspe:0.080723
[597]   train-rmse:0.07851   eval-rmse:0.07851   train-rmspe:0.080587
eval-rmspe:0.080587
[598]   train-rmse:0.078496   eval-rmse:0.078496   train-rmspe:0.080573
eval-rmspe:0.080573
[599]   train-rmse:0.078414   eval-rmse:0.078414   train-rmspe:0.080491

```
eval-rmspe:0.080491
Training time is 72.450142 s.
```

[39]:
```python
#
print("validating")
ho_xtest.sort_index(inplace=True)
ho_ytest.sort_index(inplace=True)
yhat = gbm.predict(xgb.DMatrix(ho_xtest))
error = rmspe(np.expm1(ho_ytest), np.expm1(yhat))

print("RMSPE: {:.6f}".format(error))
```

```
validating
RMSPE: 0.080491
```

11

[40]:
```python
#
res = pd.DataFrame(data = ho_ytest)
res['Prediction']=yhat
res = pd.merge(ho_xtest,res, left_index= True, right_index=True)
res['Ratio'] = res.Prediction/res.Sales
res['Error'] =abs(res.Ratio-1)
res['Weight'] = res.Sales/res.Prediction
res.head()
```

[40]:

	Store	DayOfWeek	Promo	StateHoliday	SchoolHoliday	StoreType	\
0	1	4	1	0	1	3	
1	1	3	1	0	1	3	
2	1	2	1	0	1	3	
3	1	1	1	0	1	3	
4	1	0	1	0	1	3	

	Assortment	CompetitionDistance	CompetitionOpenSinceMonth	\
0	1	1270.0	9.0	
1	1	1270.0	9.0	
2	1	1270.0	9.0	
3	1	1270.0	9.0	
4	1	1270.0	9.0	

	CompetitionOpenSinceYear	...	Day	WeekOfYear	CompetitionOpen	PromoOpen	\
0	2008.0	...	31	31	82.0	24187.75	
1	2008.0	...	30	31	82.0	24187.75	
2	2008.0	...	29	31	82.0	24187.75	
3	2008.0	...	28	31	82.0	24187.75	
4	2008.0	...	27	31	82.0	24187.75	

```
    IsPromoMonth     Sales  Prediction     Ratio     Error    Weight
0             1.0  8.568646    8.579742  1.001295  0.001295  0.998707
1             1.0  8.521384    8.489620  0.996272  0.003728  1.003742
2             1.0  8.472823    8.479414  1.000778  0.000778  0.999223
3             1.0  8.519590    8.549173  1.003472  0.003472  0.996540
4             1.0  8.716536    8.645967  0.991904  0.008096  1.008162

[5 rows x 25 columns]
```

[41]:
```python
#
col_1 = ['Sales', 'Prediction']
col_2 = ['Ratio']
L = np.random.randint(low=1, high=1115, size=3)
print("Mean Ratio of prediction and real sales data is {}: store all"
      .format(res['Ratio'].mean()))

for i in L:
    s1 = pd.DataFrame(res[res['Store'] == i], columns=col_1)
    s2 = pd.DataFrame(res[res['Store'] == i], columns=col_2)
    s1.plot(title='Comparation of prediction and real sales: store {}'
            .format(i), figsize=(12, 4))
    s1.plot(title='Ratio of predition and real sales data: store {}'
            .format(i), figsize=(12, 4))
    print('Mean Ratio of predition and real sales data is {}: store {}'
          .format(s2['Ratio'].mean(), i))
```

```
Mean Ratio of prediction and real sales data is 1.000200092018882: store all
Mean Ratio of predition and real sales data is 1.0004151293569692: store 111
Mean Ratio of predition and real sales data is 0.997125945045729: store 606
Mean Ratio of predition and real sales data is 1.000501241455753: store 716
```


Comparation of prediction and real sales: store 111

Ratio of predition and real sales data: store 111

Comparation of prediction and real sales: store 606

Ratio of predition and real sales data: store 606

Comparation of prediction and real sales: store 716

Ratio of predition and real sales data: store 716
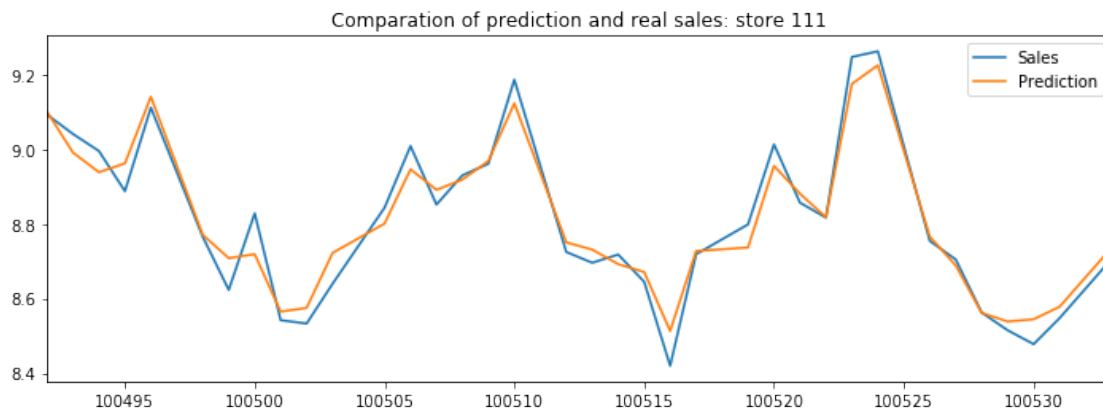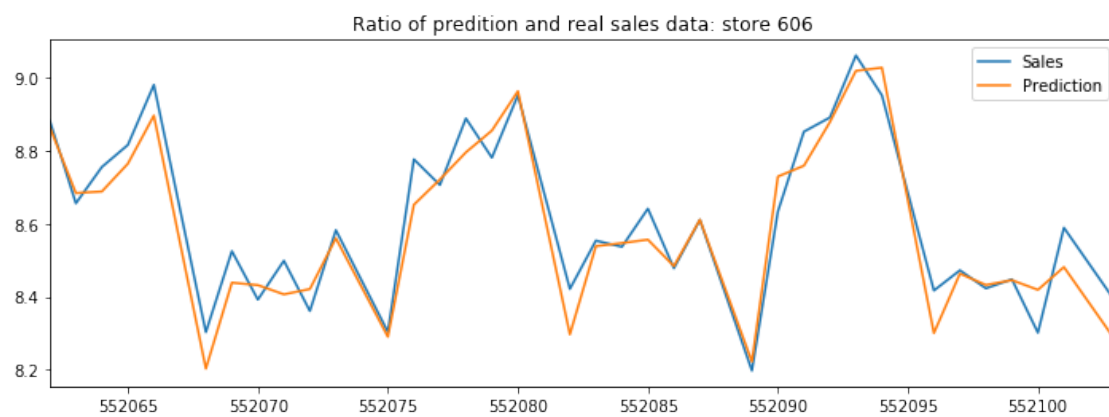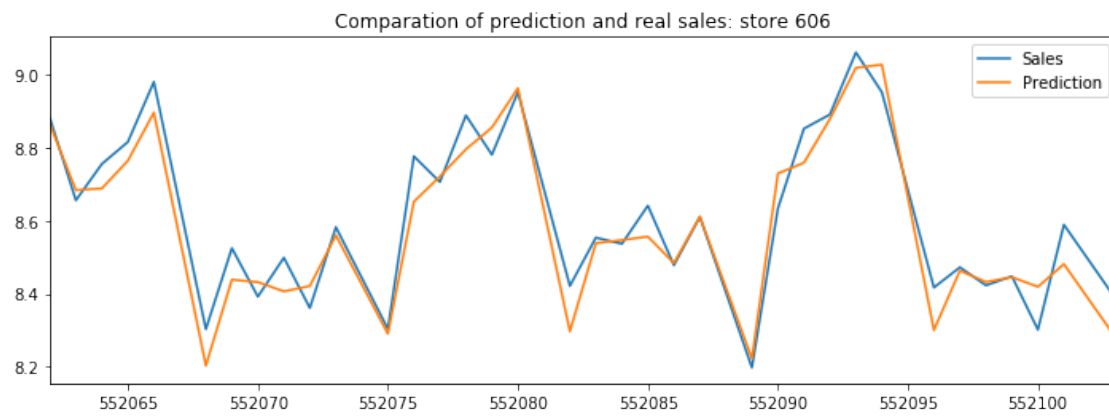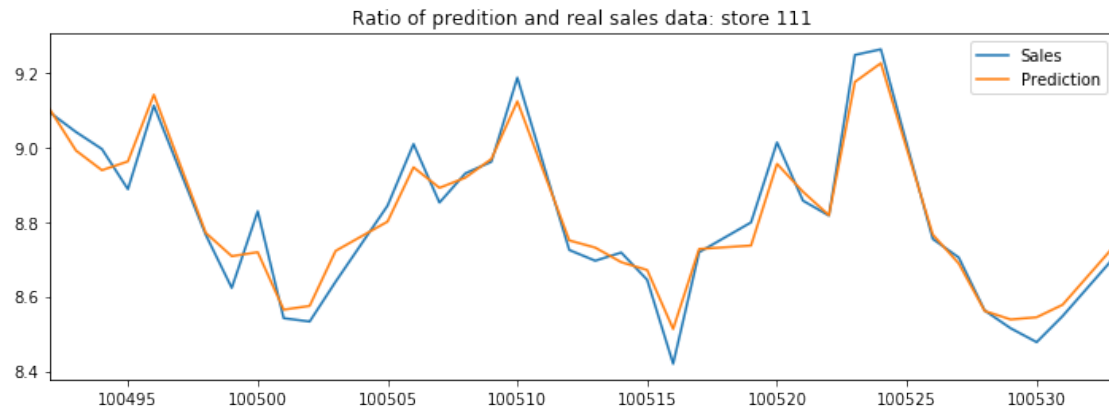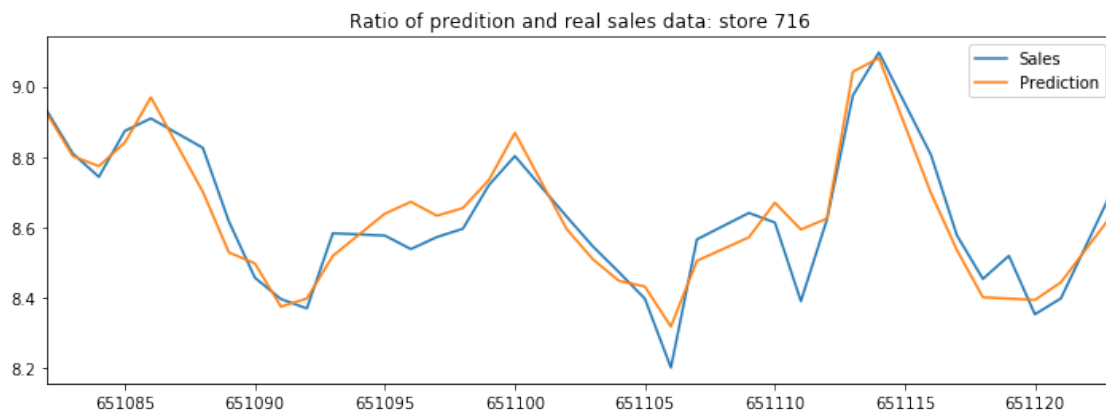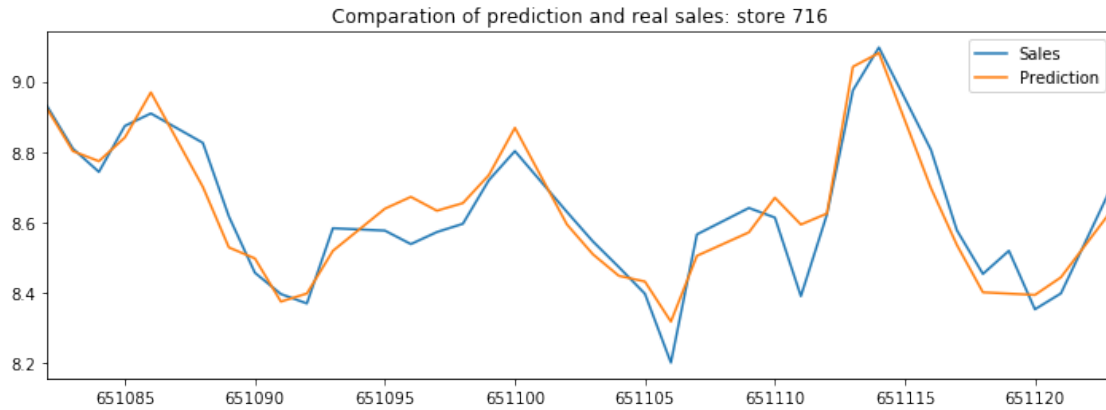
```
[42]:  #10
       res.sort_values(['Error'], ascending=False, inplace=True)
       res[:10]
```

```
[42]:          Store  DayOfWeek  Promo  StateHoliday  SchoolHoliday  StoreType  \
       264207    292          4      0             0              0          1
       711449    782          4      0             0              0          3
       264213    292          5      0             0              0          1
       456286    501          5      0             0              0          1
       937688   1029          5      0             0              0          1
       937667   1029          5      0             0              0          1
       165039    183          4      0             0              0          1
       818909    899          5      0             0              0          4
       440257    483          5      0             0              0          1
       264218    292          0      1             0              0          1


               Assortment  CompetitionDistance  CompetitionOpenSinceMonth  \
       264207           1               1100.0                        6.0
```

711449	3	5390.0	8.0
264213	1	1100.0	6.0
456286	3	1620.0	9.0
937688	1	1590.0	3.0
937667	1	1590.0	3.0
165039	1	9670.0	0.0
818909	1	2590.0	0.0
440257	3	2310.0	9.0
264218	1	1100.0	6.0

	CompetitionOpenSinceYear	...	Day	WeekOfYear	CompetitionOpen \
264207	2009.0	...	10	28	73.0
711449	2003.0	...	26	26	142.0
264213	2009.0	...	4	27	73.0
456286	2006.0	...	25	30	106.0
937688	2006.0	...	20	25	111.0
937667	2006.0	...	11	28	112.0
165039	0.0	...	26	26	24186.0
818909	0.0	...	20	25	24186.0
440257	2011.0	...	18	29	46.0
264218	2009.0	...	29	27	72.0

	PromoOpen	IsPromoMonth	Sales	Prediction	Ratio	Error \
264207	24187.00	1.0	6.920672	8.044688	1.162414	0.162414
711449	42.25	1.0	7.260523	8.007283	1.102852	0.102852
264213	24186.75	1.0	7.406711	8.004181	1.080666	0.080666
456286	24187.50	1.0	7.360104	7.943919	1.079322	0.079322
937688	24186.25	1.0	7.338888	7.916481	1.078703	0.078703
937667	24187.00	1.0	7.325149	7.883104	1.076170	0.076170
165039	24186.50	1.0	9.579418	8.850098	0.923866	0.076134
818909	63.00	1.0	7.521318	8.066490	1.072484	0.072484
440257	64.00	1.0	7.310550	7.819795	1.069659	0.069659
264218	24186.75	1.0	10.280622	9.602065	0.933997	0.066003

	Weight
264207	0.860278
711449	0.906740
264213	0.925355
456286	0.926508
937688	0.927039
937667	0.929221
165039	1.082408
818909	0.932415
440257	0.934878
264218	1.070668

[10 rows x 25 columns]

12

```
[43]: #hold_out
      #
      #
      #hold_out
```

7.1

```
[44]: print("Weight correction")
      W = [(0.990+(i/1000)) for i in range(20)]
      S = []
      for w in W:
          error = rmspe(np.expm1(ho_ytest), np.expm1(yhat*w))
          print('RMSPE for {:.3f}:{:.6f}'.format(w, error))
          S.append(error)

      Score = pd.Series(S, index=W)
      Score.plot()
      BS = Score[Score.values == Score.values.min()]
      print('Best weight for Score:{}'.format(BS))
```

```
Weight correction
RMSPE for 0.990:0.110329
RMSPE for 0.991:0.104919
RMSPE for 0.992:0.099831
RMSPE for 0.993:0.095135
RMSPE for 0.994:0.090911
RMSPE for 0.995:0.087248
RMSPE for 0.996:0.084241
RMSPE for 0.997:0.081985
RMSPE for 0.998:0.080566
RMSPE for 0.999:0.080054
RMSPE for 1.000:0.080491
RMSPE for 1.001:0.081886
RMSPE for 1.002:0.084216
RMSPE for 1.003:0.087431
RMSPE for 1.004:0.091461
RMSPE for 1.005:0.096226
RMSPE for 1.006:0.101645
RMSPE for 1.007:0.107641
RMSPE for 1.008:0.114143
RMSPE for 1.009:0.121090
Best weight for Score:0.999    0.080054
dtype: float64
```
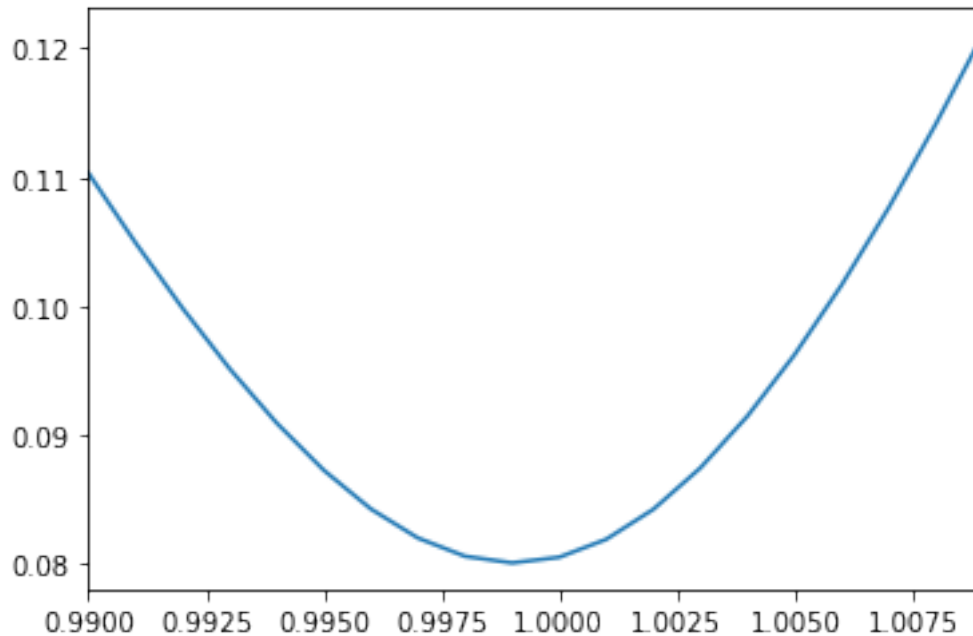
```
[45]: #0.999hold_outRMSPE:0.080054
```

7.2

```
[46]: #RMSPE
      L=range(1115)
      W_ho=[]
      W_test=[]
      for i in L:
          s1 = pd.DataFrame(res[res['Store']==i+1],columns = col_1)
          s2 = pd.DataFrame(xtest[xtest['Store']==i+1])
          W1=[(0.990+(i/1000)) for i in range(20)]
          S =[]
          for w in W1:
              error = rmspe(np.expm1(s1.Sales), np.expm1(s1.Prediction*w))
              S.append(error)
          Score = pd.Series(S,index=W1)
          BS = Score[Score.values == Score.values.min()]
          a=np.array(BS.index.values)
          b_ho=a.repeat(len(s1))
          b_test=a.repeat(len(s2))
          W_ho.extend(b_ho.tolist())
          W_test.extend(b_test.tolist())
```

```
[47]: #RMSPE
      yhat_new = yhat*W_ho
      error = rmspe(np.expm1(ho_ytest), np.expm1(yhat_new))
      print ('RMSPE for weight corretion {:6f}'.format(error))
```

```
error
```

RMSPE for weight corretion 0.074398

[47]: 0.07439820100243298

[48]:
```python
#
print("Make predictions on the test set")
dtest = xgb.DMatrix(xtest)
test_probs = gbm.predict(dtest)

#
result = pd.DataFrame({"Id": test['Id'], 'Sales': np.expm1(test_probs)})
result.to_csv("origin.csv", index=False)

#
result = pd.DataFrame({"Id": test['Id'], 'Sales': np.expm1(test_probs*0.995)})
result.to_csv("general.csv", index=False)

#
result = pd.DataFrame({"Id": test['Id'], 'Sales': np.expm1(test_probs*W_test)})
result.to_csv("detail.csv", index=False)
```

Make predictions on the test set

[49]:
```python
#ho_test:67
#test:89

print("Train an new ensemble XGBoost model")
start = time()
rounds = 10
preds_ho = np.zeros((len(ho_xtest.index), rounds))
preds_test = np.zeros((len(test.index), rounds))
B=[]
for r in range(rounds):
    print('round {}:'.format(r+1))

    params = {"objective": "reg:linear",
            "booster" : "gbtree",
            "eta": 0.03,
            "max_depth": 10,
            "subsample": 0.9,
            "colsample_bytree": 0.7,
            "silent": 1,
            "seed": r+1
            }
    num_boost_round = 600
```

```
    gbm = xgb.train(params, dtrain, num_boost_round, evals=watchlist,
                    early_stopping_rounds=100, feval=rmspe_xg,␣
 →verbose_eval=True)


    yhat = gbm.predict(xgb.DMatrix(ho_xtest))

    L=range(1115)
    W_ho=[]
    W_test=[]
    for i in L:
        s1 = pd.DataFrame(res[res['Store']==i+1],columns = col_1)
        s2 = pd.DataFrame(xtest[xtest['Store']==i+1])
        W1=[(0.990+(i/1000)) for i in range(20)]
        S =[]
        for w in W1:
            error = rmspe(np.expm1(s1.Sales), np.expm1(s1.Prediction*w))
            S.append(error)
        Score = pd.Series(S,index=W1)
        BS = Score[Score.values == Score.values.min()]
        a=np.array(BS.index.values)
        b_ho=a.repeat(len(s1))
        b_test=a.repeat(len(s2))
        W_ho.extend(b_ho.tolist())
        W_test.extend(b_test.tolist())



    yhat_ho = yhat*W_ho
    yhat_test =gbm.predict(xgb.DMatrix(xtest))*W_test
    error = rmspe(np.expm1(ho_ytest), np.expm1(yhat_ho))
    B.append(error)
    preds_ho[:, r] = yhat_ho
    preds_test[:, r] = yhat_test
    print('round {} end'.format(r+1))

end = time()
time_elapsed = end-start
print('Training is end')
print('Training time is {} h.'.format(time_elapsed/3600))
```

```
Train an new ensemble XGBoost model
round 1:
[0]     train-rmse:8.02734      eval-rmse:8.02734       train-rmspe:0.999811
eval-rmspe:0.999811
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
```

```
[1]     train-rmse:7.78705      eval-rmse:7.78705       train-rmspe:0.999713
eval-rmspe:0.999713
[2]     train-rmse:7.55398      eval-rmse:7.55398       train-rmspe:0.999594
eval-rmspe:0.999594
[3]     train-rmse:7.32792      eval-rmse:7.32792       train-rmspe:0.999448
eval-rmspe:0.999448
[4]     train-rmse:7.10867      eval-rmse:7.10867       train-rmspe:0.999272
eval-rmspe:0.999272
[5]     train-rmse:6.89601      eval-rmse:6.89601       train-rmspe:0.999059
eval-rmspe:0.999059
[6]     train-rmse:6.68973      eval-rmse:6.68973       train-rmspe:0.998806
eval-rmspe:0.998806
[7]     train-rmse:6.48967      eval-rmse:6.48967       train-rmspe:0.998505
eval-rmspe:0.998505
[8]     train-rmse:6.29565      eval-rmse:6.29565       train-rmspe:0.998149
eval-rmspe:0.998149
[9]     train-rmse:6.10743      eval-rmse:6.10743       train-rmspe:0.997732
eval-rmspe:0.997732
[10]    train-rmse:5.92484      eval-rmse:5.92484       train-rmspe:0.997246
eval-rmspe:0.997246
[11]    train-rmse:5.74779      eval-rmse:5.74779       train-rmspe:0.996681
eval-rmspe:0.996681
[12]    train-rmse:5.57605      eval-rmse:5.57605       train-rmspe:0.99603
eval-rmspe:0.99603
[13]    train-rmse:5.40948      eval-rmse:5.40948       train-rmspe:0.995282
eval-rmspe:0.995282
[14]    train-rmse:5.24794      eval-rmse:5.24794       train-rmspe:0.994427
eval-rmspe:0.994427
[15]    train-rmse:5.09125      eval-rmse:5.09125       train-rmspe:0.993456
eval-rmspe:0.993456
[16]    train-rmse:4.93927      eval-rmse:4.93927       train-rmspe:0.992359
eval-rmspe:0.992359
[17]    train-rmse:4.79191      eval-rmse:4.79191       train-rmspe:0.991121
eval-rmspe:0.991121
[18]    train-rmse:4.64901      eval-rmse:4.64901       train-rmspe:0.989735
eval-rmspe:0.989735
[19]    train-rmse:4.51037      eval-rmse:4.51037       train-rmspe:0.988188
eval-rmspe:0.988188
[20]    train-rmse:4.37589      eval-rmse:4.37589       train-rmspe:0.986469
eval-rmspe:0.986469
[21]    train-rmse:4.24548      eval-rmse:4.24548       train-rmspe:0.984565
eval-rmspe:0.984565
[22]    train-rmse:4.11907      eval-rmse:4.11907       train-rmspe:0.982467
eval-rmspe:0.982467
[23]    train-rmse:3.99641      eval-rmse:3.99641       train-rmspe:0.980169
eval-rmspe:0.980169
[24]    train-rmse:3.87745      eval-rmse:3.87745       train-rmspe:0.977654
eval-rmspe:0.977654
```

```
[25]     train-rmse:3.76212     eval-rmse:3.76212     train-rmspe:0.974905
eval-rmspe:0.974905
[26]     train-rmse:3.65024     eval-rmse:3.65024     train-rmspe:0.971928
eval-rmspe:0.971928
[27]     train-rmse:3.54174     eval-rmse:3.54174     train-rmspe:0.968704
eval-rmspe:0.968704
[28]     train-rmse:3.43651     eval-rmse:3.43651     train-rmspe:0.965221
eval-rmspe:0.965221
[29]     train-rmse:3.33447     eval-rmse:3.33447     train-rmspe:0.961478
eval-rmspe:0.961478
[30]     train-rmse:3.23552     eval-rmse:3.23552     train-rmspe:0.957474
eval-rmspe:0.957474
[31]     train-rmse:3.13959     eval-rmse:3.13959     train-rmspe:0.953186
eval-rmspe:0.953186
[32]     train-rmse:3.04655     eval-rmse:3.04655     train-rmspe:0.948626
eval-rmspe:0.948626
[33]     train-rmse:2.95629     eval-rmse:2.95629     train-rmspe:0.943782
eval-rmspe:0.943782
[34]     train-rmse:2.86879     eval-rmse:2.86879     train-rmspe:0.938655
eval-rmspe:0.938655
[35]     train-rmse:2.78392     eval-rmse:2.78392     train-rmspe:0.933235
eval-rmspe:0.933235
[36]     train-rmse:2.70161     eval-rmse:2.70161     train-rmspe:0.927555
eval-rmspe:0.927555
[37]     train-rmse:2.62181     eval-rmse:2.62181     train-rmspe:0.921557
eval-rmspe:0.921557
[38]     train-rmse:2.54441     eval-rmse:2.54441     train-rmspe:0.915295
eval-rmspe:0.915295
[39]     train-rmse:2.46941     eval-rmse:2.46941     train-rmspe:0.908702
eval-rmspe:0.908702
[40]     train-rmse:2.39668     eval-rmse:2.39668     train-rmspe:0.901861
eval-rmspe:0.901861
[41]     train-rmse:2.32618     eval-rmse:2.32618     train-rmspe:0.894724
eval-rmspe:0.894724
[42]     train-rmse:2.25772     eval-rmse:2.25772     train-rmspe:0.887354
eval-rmspe:0.887354
[43]     train-rmse:2.19139     eval-rmse:2.19139     train-rmspe:0.879682
eval-rmspe:0.879682
[44]     train-rmse:2.12714     eval-rmse:2.12714     train-rmspe:0.871736
eval-rmspe:0.871736
[45]     train-rmse:2.0648      eval-rmse:2.0648      train-rmspe:0.863555
eval-rmspe:0.863555
[46]     train-rmse:2.00441     eval-rmse:2.00441     train-rmspe:0.855128
eval-rmspe:0.855128
[47]     train-rmse:1.94586     eval-rmse:1.94586     train-rmspe:0.84644
eval-rmspe:0.84644
[48]     train-rmse:1.88902     eval-rmse:1.88902     train-rmspe:0.83756
eval-rmspe:0.83756
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[49]    train-rmse:1.83396      eval-rmse:1.83396       train-rmspe:0.82845
eval-rmspe:0.82845
[50]    train-rmse:1.78055      eval-rmse:1.78055       train-rmspe:0.819139
eval-rmspe:0.819139
[51]    train-rmse:1.72887      eval-rmse:1.72887       train-rmspe:0.809598
eval-rmspe:0.809598
[52]    train-rmse:1.67854      eval-rmse:1.67854       train-rmspe:0.800003
eval-rmspe:0.800003
[53]    train-rmse:1.62987      eval-rmse:1.62987       train-rmspe:0.790172
eval-rmspe:0.790172
[54]    train-rmse:1.58277      eval-rmse:1.58277       train-rmspe:0.780159
eval-rmspe:0.780159
[55]    train-rmse:1.53708      eval-rmse:1.53708       train-rmspe:0.77002
eval-rmspe:0.77002
[56]    train-rmse:1.49277      eval-rmse:1.49277       train-rmspe:0.759766
eval-rmspe:0.759766
[57]    train-rmse:1.44978      eval-rmse:1.44978       train-rmspe:0.749385
eval-rmspe:0.749385
[58]    train-rmse:1.4082       eval-rmse:1.4082        train-rmspe:0.738885
eval-rmspe:0.738885
[59]    train-rmse:1.36793      eval-rmse:1.36793       train-rmspe:0.728275
eval-rmspe:0.728275
[60]    train-rmse:1.32864      eval-rmse:1.32864       train-rmspe:0.717692
eval-rmspe:0.717692
[61]    train-rmse:1.29073      eval-rmse:1.29073       train-rmspe:0.706973
eval-rmspe:0.706973
[62]    train-rmse:1.254        eval-rmse:1.254 train-rmspe:0.696241    eval-
rmspe:0.696241
[63]    train-rmse:1.21843      eval-rmse:1.21843       train-rmspe:0.685434
eval-rmspe:0.685434
[64]    train-rmse:1.18367      eval-rmse:1.18367       train-rmspe:0.674692
eval-rmspe:0.674692
[65]    train-rmse:1.15008      eval-rmse:1.15008       train-rmspe:0.663947
eval-rmspe:0.663947
[66]    train-rmse:1.11782      eval-rmse:1.11782       train-rmspe:0.653096
eval-rmspe:0.653096
[67]    train-rmse:1.08641      eval-rmse:1.08641       train-rmspe:0.642304
eval-rmspe:0.642304
[68]    train-rmse:1.05575      eval-rmse:1.05575       train-rmspe:0.631547
eval-rmspe:0.631547
[69]    train-rmse:1.02591      eval-rmse:1.02591       train-rmspe:0.620894
eval-rmspe:0.620894
[70]    train-rmse:0.997023     eval-rmse:0.997023      train-rmspe:0.610232
eval-rmspe:0.610232
[71]    train-rmse:0.969291     eval-rmse:0.969291      train-rmspe:0.599609
eval-rmspe:0.599609
[72]    train-rmse:0.942573     eval-rmse:0.942573      train-rmspe:0.589032
eval-rmspe:0.589032
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[73]     train-rmse:0.916465     eval-rmse:0.916465     train-rmspe:0.578546
eval-rmspe:0.578546
[74]     train-rmse:0.891363     eval-rmse:0.891363     train-rmspe:0.568118
eval-rmspe:0.568118
[75]     train-rmse:0.866957     eval-rmse:0.866957     train-rmspe:0.557812
eval-rmspe:0.557812
[76]     train-rmse:0.843446     eval-rmse:0.843446     train-rmspe:0.547601
eval-rmspe:0.547601
[77]     train-rmse:0.820444     eval-rmse:0.820444     train-rmspe:0.537506
eval-rmspe:0.537506
[78]     train-rmse:0.798339     eval-rmse:0.798339     train-rmspe:0.527531
eval-rmspe:0.527531
[79]     train-rmse:0.777117     eval-rmse:0.777117     train-rmspe:0.517655
eval-rmspe:0.517655
[80]     train-rmse:0.756426     eval-rmse:0.756426     train-rmspe:0.50794
eval-rmspe:0.50794
[81]     train-rmse:0.736397     eval-rmse:0.736397     train-rmspe:0.498348
eval-rmspe:0.498348
[82]     train-rmse:0.716907     eval-rmse:0.716907     train-rmspe:0.488912
eval-rmspe:0.488912
[83]     train-rmse:0.69833      eval-rmse:0.69833      train-rmspe:0.479645
eval-rmspe:0.479645
[84]     train-rmse:0.680358     eval-rmse:0.680358     train-rmspe:0.470552
eval-rmspe:0.470552
[85]     train-rmse:0.663014     eval-rmse:0.663014     train-rmspe:0.461638
eval-rmspe:0.461638
[86]     train-rmse:0.645834     eval-rmse:0.645834     train-rmspe:0.452812
eval-rmspe:0.452812
[87]     train-rmse:0.629236     eval-rmse:0.629236     train-rmspe:0.444177
eval-rmspe:0.444177
[88]     train-rmse:0.613323     eval-rmse:0.613323     train-rmspe:0.435745
eval-rmspe:0.435745
[89]     train-rmse:0.598218     eval-rmse:0.598218     train-rmspe:0.427519
eval-rmspe:0.427519
[90]     train-rmse:0.583274     eval-rmse:0.583274     train-rmspe:0.419409
eval-rmspe:0.419409
[91]     train-rmse:0.56845      eval-rmse:0.56845      train-rmspe:0.411362
eval-rmspe:0.411362
[92]     train-rmse:0.554504     eval-rmse:0.554504     train-rmspe:0.403615
eval-rmspe:0.403615
[93]     train-rmse:0.540783     eval-rmse:0.540783     train-rmspe:0.395962
eval-rmspe:0.395962
[94]     train-rmse:0.527793     eval-rmse:0.527793     train-rmspe:0.388609
eval-rmspe:0.388609
[95]     train-rmse:0.515338     eval-rmse:0.515338     train-rmspe:0.381431
eval-rmspe:0.381431
[96]     train-rmse:0.503429     eval-rmse:0.503429     train-rmspe:0.374515
eval-rmspe:0.374515
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[97]     train-rmse:0.491813    eval-rmse:0.491813    train-rmspe:0.367767
eval-rmspe:0.367767
[98]     train-rmse:0.480103    eval-rmse:0.480103    train-rmspe:0.360981
eval-rmspe:0.360981
[99]     train-rmse:0.469486    eval-rmse:0.469486    train-rmspe:0.35468
eval-rmspe:0.35468
[100]    train-rmse:0.4589      eval-rmse:0.4589      train-rmspe:0.348375
eval-rmspe:0.348375
[101]    train-rmse:0.448976    eval-rmse:0.448976    train-rmspe:0.342424
eval-rmspe:0.342424
[102]    train-rmse:0.439494    eval-rmse:0.439494    train-rmspe:0.336707
eval-rmspe:0.336707
[103]    train-rmse:0.430034    eval-rmse:0.430034    train-rmspe:0.331024
eval-rmspe:0.331024
[104]    train-rmse:0.421251    eval-rmse:0.421251    train-rmspe:0.325717
eval-rmspe:0.325717
[105]    train-rmse:0.41247     eval-rmse:0.41247     train-rmspe:0.320427
eval-rmspe:0.320427
[106]    train-rmse:0.4042      eval-rmse:0.4042      train-rmspe:0.315399
eval-rmspe:0.315399
[107]    train-rmse:0.395858    eval-rmse:0.395858    train-rmspe:0.310371
eval-rmspe:0.310371
[108]    train-rmse:0.388215    eval-rmse:0.388215    train-rmspe:0.305732
eval-rmspe:0.305732
[109]    train-rmse:0.380423    eval-rmse:0.380423    train-rmspe:0.301047
eval-rmspe:0.301047
[110]    train-rmse:0.373419    eval-rmse:0.373419    train-rmspe:0.296793
eval-rmspe:0.296793
[111]    train-rmse:0.365467    eval-rmse:0.365467    train-rmspe:0.29195
eval-rmspe:0.29195
[112]    train-rmse:0.358498    eval-rmse:0.358498    train-rmspe:0.28768
eval-rmspe:0.28768
[113]    train-rmse:0.351992    eval-rmse:0.351992    train-rmspe:0.283666
eval-rmspe:0.283666
[114]    train-rmse:0.3456      eval-rmse:0.3456      train-rmspe:0.27979
eval-rmspe:0.27979
[115]    train-rmse:0.339658    eval-rmse:0.339658    train-rmspe:0.276176
eval-rmspe:0.276176
[116]    train-rmse:0.333767    eval-rmse:0.333767    train-rmspe:0.272619
eval-rmspe:0.272619
[117]    train-rmse:0.32796     eval-rmse:0.32796     train-rmspe:0.269102
eval-rmspe:0.269102
[118]    train-rmse:0.322789    eval-rmse:0.322789    train-rmspe:0.266031
eval-rmspe:0.266031
[119]    train-rmse:0.31749     eval-rmse:0.31749     train-rmspe:0.262814
eval-rmspe:0.262814
[120]    train-rmse:0.312718    eval-rmse:0.312718    train-rmspe:0.259991
eval-rmspe:0.259991
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[121]    train-rmse:0.308019    eval-rmse:0.308019    train-rmspe:0.257158
eval-rmspe:0.257158
[122]    train-rmse:0.303352    eval-rmse:0.303352    train-rmspe:0.254394
eval-rmspe:0.254394
[123]    train-rmse:0.298544    eval-rmse:0.298544    train-rmspe:0.251506
eval-rmspe:0.251506
[124]    train-rmse:0.294279    eval-rmse:0.294279    train-rmspe:0.249056
eval-rmspe:0.249056
[125]    train-rmse:0.289984    eval-rmse:0.289984    train-rmspe:0.246495
eval-rmspe:0.246495
[126]    train-rmse:0.285946    eval-rmse:0.285946    train-rmspe:0.244166
eval-rmspe:0.244166
[127]    train-rmse:0.28214     eval-rmse:0.28214     train-rmspe:0.241982
eval-rmspe:0.241982
[128]    train-rmse:0.27842     eval-rmse:0.27842     train-rmspe:0.239859
eval-rmspe:0.239859
[129]    train-rmse:0.274904    eval-rmse:0.274904    train-rmspe:0.237868
eval-rmspe:0.237868
[130]    train-rmse:0.2708      eval-rmse:0.2708      train-rmspe:0.235272
eval-rmspe:0.235272
[131]    train-rmse:0.26728     eval-rmse:0.26728     train-rmspe:0.233184
eval-rmspe:0.233184
[132]    train-rmse:0.263923    eval-rmse:0.263923    train-rmspe:0.231259
eval-rmspe:0.231259
[133]    train-rmse:0.260642    eval-rmse:0.260642    train-rmspe:0.229374
eval-rmspe:0.229374
[134]    train-rmse:0.257457    eval-rmse:0.257457    train-rmspe:0.227531
eval-rmspe:0.227531
[135]    train-rmse:0.254711    eval-rmse:0.254711    train-rmspe:0.226031
eval-rmspe:0.226031
[136]    train-rmse:0.25199     eval-rmse:0.25199     train-rmspe:0.224557
eval-rmspe:0.224557
[137]    train-rmse:0.248722    eval-rmse:0.248722    train-rmspe:0.222557
eval-rmspe:0.222557
[138]    train-rmse:0.246125    eval-rmse:0.246125    train-rmspe:0.221116
eval-rmspe:0.221116
[139]    train-rmse:0.243796    eval-rmse:0.243796    train-rmspe:0.219854
eval-rmspe:0.219854
[140]    train-rmse:0.24162     eval-rmse:0.24162     train-rmspe:0.218685
eval-rmspe:0.218685
[141]    train-rmse:0.23923     eval-rmse:0.23923     train-rmspe:0.217394
eval-rmspe:0.217394
[142]    train-rmse:0.237184    eval-rmse:0.237184    train-rmspe:0.216359
eval-rmspe:0.216359
[143]    train-rmse:0.235153    eval-rmse:0.235153    train-rmspe:0.215314
eval-rmspe:0.215314
[144]    train-rmse:0.233178    eval-rmse:0.233178    train-rmspe:0.21431
eval-rmspe:0.21431
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[145]    train-rmse:0.23143       eval-rmse:0.23143        train-rmspe:0.213453
eval-rmspe:0.213453
[146]    train-rmse:0.229314      eval-rmse:0.229314       train-rmspe:0.212258
eval-rmspe:0.212258
[147]    train-rmse:0.227702      eval-rmse:0.227702       train-rmspe:0.211476
eval-rmspe:0.211476
[148]    train-rmse:0.226156      eval-rmse:0.226156       train-rmspe:0.210722
eval-rmspe:0.210722
[149]    train-rmse:0.224718      eval-rmse:0.224718       train-rmspe:0.210137
eval-rmspe:0.210137
[150]    train-rmse:0.223174      eval-rmse:0.223174       train-rmspe:0.209364
eval-rmspe:0.209364
[151]    train-rmse:0.221689      eval-rmse:0.221689       train-rmspe:0.208666
eval-rmspe:0.208666
[152]    train-rmse:0.220368      eval-rmse:0.220368       train-rmspe:0.208057
eval-rmspe:0.208057
[153]    train-rmse:0.218947      eval-rmse:0.218947       train-rmspe:0.207381
eval-rmspe:0.207381
[154]    train-rmse:0.217448      eval-rmse:0.217448       train-rmspe:0.206608
eval-rmspe:0.206608
[155]    train-rmse:0.216135      eval-rmse:0.216135       train-rmspe:0.20594
eval-rmspe:0.20594
[156]    train-rmse:0.214039      eval-rmse:0.214039       train-rmspe:0.204495
eval-rmspe:0.204495
[157]    train-rmse:0.213009      eval-rmse:0.213009       train-rmspe:0.204072
eval-rmspe:0.204072
[158]    train-rmse:0.21217       eval-rmse:0.21217        train-rmspe:0.203831
eval-rmspe:0.203831
[159]    train-rmse:0.21097       eval-rmse:0.21097        train-rmspe:0.203237
eval-rmspe:0.203237
[160]    train-rmse:0.210031      eval-rmse:0.210031       train-rmspe:0.202924
eval-rmspe:0.202924
[161]    train-rmse:0.208327      eval-rmse:0.208327       train-rmspe:0.201748
eval-rmspe:0.201748
[162]    train-rmse:0.206905      eval-rmse:0.206905       train-rmspe:0.200792
eval-rmspe:0.200792
[163]    train-rmse:0.205592      eval-rmse:0.205592       train-rmspe:0.19998
eval-rmspe:0.19998
[164]    train-rmse:0.204792      eval-rmse:0.204792       train-rmspe:0.199653
eval-rmspe:0.199653
[165]    train-rmse:0.203091      eval-rmse:0.203091       train-rmspe:0.198387
eval-rmspe:0.198387
[166]    train-rmse:0.201948      eval-rmse:0.201948       train-rmspe:0.197719
eval-rmspe:0.197719
[167]    train-rmse:0.201068      eval-rmse:0.201068       train-rmspe:0.197291
eval-rmspe:0.197291
[168]    train-rmse:0.200305      eval-rmse:0.200305       train-rmspe:0.196958
eval-rmspe:0.196958
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[169]    train-rmse:0.199354    eval-rmse:0.199354    train-rmspe:0.196411
eval-rmspe:0.196411
[170]    train-rmse:0.197669    eval-rmse:0.197669    train-rmspe:0.195076
eval-rmspe:0.195076
[171]    train-rmse:0.196874    eval-rmse:0.196874    train-rmspe:0.194677
eval-rmspe:0.194677
[172]    train-rmse:0.196179    eval-rmse:0.196179    train-rmspe:0.19435
eval-rmspe:0.19435
[173]    train-rmse:0.195566    eval-rmse:0.195566    train-rmspe:0.194095
eval-rmspe:0.194095
[174]    train-rmse:0.194424    eval-rmse:0.194424    train-rmspe:0.193312
eval-rmspe:0.193312
[175]    train-rmse:0.193853    eval-rmse:0.193853    train-rmspe:0.193049
eval-rmspe:0.193049
[176]    train-rmse:0.193454    eval-rmse:0.193454    train-rmspe:0.192983
eval-rmspe:0.192983
[177]    train-rmse:0.192618    eval-rmse:0.192618    train-rmspe:0.192477
eval-rmspe:0.192477
[178]    train-rmse:0.191933    eval-rmse:0.191933    train-rmspe:0.192073
eval-rmspe:0.192073
[179]    train-rmse:0.191206    eval-rmse:0.191206    train-rmspe:0.191618
eval-rmspe:0.191618
[180]    train-rmse:0.190188    eval-rmse:0.190188    train-rmspe:0.190874
eval-rmspe:0.190874
[181]    train-rmse:0.189589    eval-rmse:0.189589    train-rmspe:0.190551
eval-rmspe:0.190551
[182]    train-rmse:0.188052    eval-rmse:0.188052    train-rmspe:0.189244
eval-rmspe:0.189244
[183]    train-rmse:0.187257    eval-rmse:0.187257    train-rmspe:0.188769
eval-rmspe:0.188769
[184]    train-rmse:0.186624    eval-rmse:0.186624    train-rmspe:0.188344
eval-rmspe:0.188344
[185]    train-rmse:0.185952    eval-rmse:0.185952    train-rmspe:0.187945
eval-rmspe:0.187945
[186]    train-rmse:0.185307    eval-rmse:0.185307    train-rmspe:0.187548
eval-rmspe:0.187548
[187]    train-rmse:0.184579    eval-rmse:0.184579    train-rmspe:0.187038
eval-rmspe:0.187038
[188]    train-rmse:0.184013    eval-rmse:0.184013    train-rmspe:0.186684
eval-rmspe:0.186684
[189]    train-rmse:0.183363    eval-rmse:0.183363    train-rmspe:0.186257
eval-rmspe:0.186257
[190]    train-rmse:0.182878    eval-rmse:0.182878    train-rmspe:0.185955
eval-rmspe:0.185955
[191]    train-rmse:0.182413    eval-rmse:0.182413    train-rmspe:0.185676
eval-rmspe:0.185676
[192]    train-rmse:0.181885    eval-rmse:0.181885    train-rmspe:0.185334
eval-rmspe:0.185334
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[193]    train-rmse:0.181041    eval-rmse:0.181041    train-rmspe:0.184679
eval-rmspe:0.184679
[194]    train-rmse:0.180758    eval-rmse:0.180758    train-rmspe:0.184575
eval-rmspe:0.184575
[195]    train-rmse:0.179827    eval-rmse:0.179827    train-rmspe:0.183778
eval-rmspe:0.183778
[196]    train-rmse:0.179405    eval-rmse:0.179405    train-rmspe:0.183506
eval-rmspe:0.183506
[197]    train-rmse:0.178665    eval-rmse:0.178665    train-rmspe:0.182932
eval-rmspe:0.182932
[198]    train-rmse:0.177574    eval-rmse:0.177574    train-rmspe:0.181962
eval-rmspe:0.181962
[199]    train-rmse:0.177131    eval-rmse:0.177131    train-rmspe:0.181649
eval-rmspe:0.181649
[200]    train-rmse:0.176673    eval-rmse:0.176673    train-rmspe:0.181327
eval-rmspe:0.181327
[201]    train-rmse:0.175898    eval-rmse:0.175898    train-rmspe:0.180705
eval-rmspe:0.180705
[202]    train-rmse:0.175589    eval-rmse:0.175589    train-rmspe:0.180515
eval-rmspe:0.180515
[203]    train-rmse:0.174746    eval-rmse:0.174746    train-rmspe:0.179778
eval-rmspe:0.179778
[204]    train-rmse:0.174306    eval-rmse:0.174306    train-rmspe:0.179475
eval-rmspe:0.179475
[205]    train-rmse:0.173561    eval-rmse:0.173561    train-rmspe:0.17887
eval-rmspe:0.17887
[206]    train-rmse:0.173245    eval-rmse:0.173245    train-rmspe:0.178695
eval-rmspe:0.178695
[207]    train-rmse:0.172757    eval-rmse:0.172757    train-rmspe:0.178293
eval-rmspe:0.178293
[208]    train-rmse:0.171923    eval-rmse:0.171923    train-rmspe:0.177477
eval-rmspe:0.177477
[209]    train-rmse:0.171545    eval-rmse:0.171545    train-rmspe:0.177176
eval-rmspe:0.177176
[210]    train-rmse:0.17081     eval-rmse:0.17081     train-rmspe:0.176523
eval-rmspe:0.176523
[211]    train-rmse:0.170189    eval-rmse:0.170189    train-rmspe:0.176007
eval-rmspe:0.176007
[212]    train-rmse:0.169475    eval-rmse:0.169475    train-rmspe:0.175341
eval-rmspe:0.175341
[213]    train-rmse:0.168752    eval-rmse:0.168752    train-rmspe:0.174697
eval-rmspe:0.174697
[214]    train-rmse:0.168139    eval-rmse:0.168139    train-rmspe:0.174154
eval-rmspe:0.174154
[215]    train-rmse:0.167374    eval-rmse:0.167374    train-rmspe:0.173412
eval-rmspe:0.173412
[216]    train-rmse:0.166855    eval-rmse:0.166855    train-rmspe:0.17297
eval-rmspe:0.17297
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[217]   train-rmse:0.166418   eval-rmse:0.166418   train-rmspe:0.172583
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[218]   train-rmse:0.165918   eval-rmse:0.165918   train-rmspe:0.172111
eval-rmspe:0.172111
[219]   train-rmse:0.165299   eval-rmse:0.165299   train-rmspe:0.171561
eval-rmspe:0.171561
[220]   train-rmse:0.164659   eval-rmse:0.164659   train-rmspe:0.170981
eval-rmspe:0.170981
[221]   train-rmse:0.16381   eval-rmse:0.16381   train-rmspe:0.170138
eval-rmspe:0.170138
[222]   train-rmse:0.16337   eval-rmse:0.16337   train-rmspe:0.169756
eval-rmspe:0.169756
[223]   train-rmse:0.16316   eval-rmse:0.16316   train-rmspe:0.169591
eval-rmspe:0.169591
[224]   train-rmse:0.162917   eval-rmse:0.162917   train-rmspe:0.169403
eval-rmspe:0.169403
[225]   train-rmse:0.162356   eval-rmse:0.162356   train-rmspe:0.168922
eval-rmspe:0.168922
[226]   train-rmse:0.162231   eval-rmse:0.162231   train-rmspe:0.168853
eval-rmspe:0.168853
[227]   train-rmse:0.161835   eval-rmse:0.161835   train-rmspe:0.168492
eval-rmspe:0.168492
[228]   train-rmse:0.161525   eval-rmse:0.161525   train-rmspe:0.168206
eval-rmspe:0.168206
[229]   train-rmse:0.161174   eval-rmse:0.161174   train-rmspe:0.167888
eval-rmspe:0.167888
[230]   train-rmse:0.160271   eval-rmse:0.160271   train-rmspe:0.166941
eval-rmspe:0.166941
[231]   train-rmse:0.159918   eval-rmse:0.159918   train-rmspe:0.166617
eval-rmspe:0.166617
[232]   train-rmse:0.15956   eval-rmse:0.15956   train-rmspe:0.166326
eval-rmspe:0.166326
[233]   train-rmse:0.159197   eval-rmse:0.159197   train-rmspe:0.165973
eval-rmspe:0.165973
[234]   train-rmse:0.158694   eval-rmse:0.158694   train-rmspe:0.165525
eval-rmspe:0.165525
[235]   train-rmse:0.157759   eval-rmse:0.157759   train-rmspe:0.164525
eval-rmspe:0.164525
[236]   train-rmse:0.157709   eval-rmse:0.157709   train-rmspe:0.164521
eval-rmspe:0.164521
[237]   train-rmse:0.15713   eval-rmse:0.15713   train-rmspe:0.163964
eval-rmspe:0.163964
[238]   train-rmse:0.156803   eval-rmse:0.156803   train-rmspe:0.163661
eval-rmspe:0.163661
[239]   train-rmse:0.156529   eval-rmse:0.156529   train-rmspe:0.16342
eval-rmspe:0.16342
[240]   train-rmse:0.156307   eval-rmse:0.156307   train-rmspe:0.163225
eval-rmspe:0.163225

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[241]    train-rmse:0.155762      eval-rmse:0.155762      train-rmspe:0.162659
eval-rmspe:0.162659
[242]    train-rmse:0.155337      eval-rmse:0.155337      train-rmspe:0.162213
eval-rmspe:0.162213
[243]    train-rmse:0.154758      eval-rmse:0.154758      train-rmspe:0.161632
eval-rmspe:0.161632
[244]    train-rmse:0.154638      eval-rmse:0.154638      train-rmspe:0.16155
eval-rmspe:0.16155
[245]    train-rmse:0.154276      eval-rmse:0.154276      train-rmspe:0.161237
eval-rmspe:0.161237
[246]    train-rmse:0.153961      eval-rmse:0.153961      train-rmspe:0.160978
eval-rmspe:0.160978
[247]    train-rmse:0.153273      eval-rmse:0.153273      train-rmspe:0.160247
eval-rmspe:0.160247
[248]    train-rmse:0.152966      eval-rmse:0.152966      train-rmspe:0.15994
eval-rmspe:0.15994
[249]    train-rmse:0.152669      eval-rmse:0.152669      train-rmspe:0.159657
eval-rmspe:0.159657
[250]    train-rmse:0.152413      eval-rmse:0.152413      train-rmspe:0.159413
eval-rmspe:0.159413
[251]    train-rmse:0.152183      eval-rmse:0.152183      train-rmspe:0.15918
eval-rmspe:0.15918
[252]    train-rmse:0.151756      eval-rmse:0.151756      train-rmspe:0.158741
eval-rmspe:0.158741
[253]    train-rmse:0.151508      eval-rmse:0.151508      train-rmspe:0.15849
eval-rmspe:0.15849
[254]    train-rmse:0.151263      eval-rmse:0.151263      train-rmspe:0.158252
eval-rmspe:0.158252
[255]    train-rmse:0.150939      eval-rmse:0.150939      train-rmspe:0.157913
eval-rmspe:0.157913
[256]    train-rmse:0.14997       eval-rmse:0.14997       train-rmspe:0.156852
eval-rmspe:0.156852
[257]    train-rmse:0.149538      eval-rmse:0.149538      train-rmspe:0.156417
eval-rmspe:0.156417
[258]    train-rmse:0.149429      eval-rmse:0.149429      train-rmspe:0.156331
eval-rmspe:0.156331
[259]    train-rmse:0.148774      eval-rmse:0.148774      train-rmspe:0.155671
eval-rmspe:0.155671
[260]    train-rmse:0.148264      eval-rmse:0.148264      train-rmspe:0.155092
eval-rmspe:0.155092
[261]    train-rmse:0.14818       eval-rmse:0.14818       train-rmspe:0.155028
eval-rmspe:0.155028
[262]    train-rmse:0.147624      eval-rmse:0.147624      train-rmspe:0.15451
eval-rmspe:0.15451
[263]    train-rmse:0.147228      eval-rmse:0.147228      train-rmspe:0.154128
eval-rmspe:0.154128
[264]    train-rmse:0.146889      eval-rmse:0.146889      train-rmspe:0.153818
eval-rmspe:0.153818
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[265]    train-rmse:0.146419    eval-rmse:0.146419    train-rmspe:0.15331
eval-rmspe:0.15331
[266]    train-rmse:0.145859    eval-rmse:0.145859    train-rmspe:0.152676
eval-rmspe:0.152676
[267]    train-rmse:0.145603    eval-rmse:0.145603    train-rmspe:0.152421
eval-rmspe:0.152421
[268]    train-rmse:0.145081    eval-rmse:0.145081    train-rmspe:0.15186
eval-rmspe:0.15186
[269]    train-rmse:0.144166    eval-rmse:0.144166    train-rmspe:0.150868
eval-rmspe:0.150868
[270]    train-rmse:0.143777    eval-rmse:0.143777    train-rmspe:0.150468
eval-rmspe:0.150468
[271]    train-rmse:0.143351    eval-rmse:0.143351    train-rmspe:0.150053
eval-rmspe:0.150053
[272]    train-rmse:0.143305    eval-rmse:0.143305    train-rmspe:0.150017
eval-rmspe:0.150017
[273]    train-rmse:0.142782    eval-rmse:0.142782    train-rmspe:0.149482
eval-rmspe:0.149482
[274]    train-rmse:0.141914    eval-rmse:0.141914    train-rmspe:0.148598
eval-rmspe:0.148598
[275]    train-rmse:0.141655    eval-rmse:0.141655    train-rmspe:0.148328
eval-rmspe:0.148328
[276]    train-rmse:0.141501    eval-rmse:0.141501    train-rmspe:0.148169
eval-rmspe:0.148169
[277]    train-rmse:0.141166    eval-rmse:0.141166    train-rmspe:0.147826
eval-rmspe:0.147826
[278]    train-rmse:0.140962    eval-rmse:0.140962    train-rmspe:0.147631
eval-rmspe:0.147631
[279]    train-rmse:0.140737    eval-rmse:0.140737    train-rmspe:0.14741
eval-rmspe:0.14741
[280]    train-rmse:0.139999    eval-rmse:0.139999    train-rmspe:0.146603
eval-rmspe:0.146603
[281]    train-rmse:0.139611    eval-rmse:0.139611    train-rmspe:0.146216
eval-rmspe:0.146216
[282]    train-rmse:0.13918     eval-rmse:0.13918     train-rmspe:0.145772
eval-rmspe:0.145772
[283]    train-rmse:0.138954    eval-rmse:0.138954    train-rmspe:0.145545
eval-rmspe:0.145545
[284]    train-rmse:0.138343    eval-rmse:0.138343    train-rmspe:0.144892
eval-rmspe:0.144892
[285]    train-rmse:0.138117    eval-rmse:0.138117    train-rmspe:0.144668
eval-rmspe:0.144668
[286]    train-rmse:0.137955    eval-rmse:0.137955    train-rmspe:0.144522
eval-rmspe:0.144522
[287]    train-rmse:0.137497    eval-rmse:0.137497    train-rmspe:0.14405
eval-rmspe:0.14405
[288]    train-rmse:0.137054    eval-rmse:0.137054    train-rmspe:0.143602
eval-rmspe:0.143602
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[289]    train-rmse:0.136788    eval-rmse:0.136788    train-rmspe:0.143318
eval-rmspe:0.143318
[290]    train-rmse:0.136622    eval-rmse:0.136622    train-rmspe:0.143157
eval-rmspe:0.143157
[291]    train-rmse:0.136041    eval-rmse:0.136041    train-rmspe:0.142515
eval-rmspe:0.142515
[292]    train-rmse:0.135644    eval-rmse:0.135644    train-rmspe:0.142123
eval-rmspe:0.142123
[293]    train-rmse:0.135432    eval-rmse:0.135432    train-rmspe:0.141903
eval-rmspe:0.141903
[294]    train-rmse:0.134957    eval-rmse:0.134957    train-rmspe:0.141392
eval-rmspe:0.141392
[295]    train-rmse:0.134854    eval-rmse:0.134854    train-rmspe:0.141284
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[296]    train-rmse:0.134572    eval-rmse:0.134572    train-rmspe:0.14098
eval-rmspe:0.14098
[297]    train-rmse:0.134141    eval-rmse:0.134141    train-rmspe:0.140527
eval-rmspe:0.140527
[298]    train-rmse:0.133625    eval-rmse:0.133625    train-rmspe:0.140002
eval-rmspe:0.140002
[299]    train-rmse:0.133315    eval-rmse:0.133315    train-rmspe:0.139682
eval-rmspe:0.139682
[300]    train-rmse:0.133242    eval-rmse:0.133242    train-rmspe:0.139613
eval-rmspe:0.139613
[301]    train-rmse:0.133082    eval-rmse:0.133082    train-rmspe:0.139459
eval-rmspe:0.139459
[302]    train-rmse:0.132952    eval-rmse:0.132952    train-rmspe:0.139317
eval-rmspe:0.139317
[303]    train-rmse:0.132566    eval-rmse:0.132566    train-rmspe:0.13891
eval-rmspe:0.13891
[304]    train-rmse:0.132175    eval-rmse:0.132175    train-rmspe:0.138434
eval-rmspe:0.138434
[305]    train-rmse:0.131848    eval-rmse:0.131848    train-rmspe:0.138113
eval-rmspe:0.138113
[306]    train-rmse:0.131663    eval-rmse:0.131663    train-rmspe:0.137928
eval-rmspe:0.137928
[307]    train-rmse:0.131003    eval-rmse:0.131003    train-rmspe:0.137242
eval-rmspe:0.137242
[308]    train-rmse:0.130729    eval-rmse:0.130729    train-rmspe:0.136948
eval-rmspe:0.136948
[309]    train-rmse:0.130117    eval-rmse:0.130117    train-rmspe:0.136293
eval-rmspe:0.136293
[310]    train-rmse:0.129684    eval-rmse:0.129684    train-rmspe:0.135832
eval-rmspe:0.135832
[311]    train-rmse:0.129168    eval-rmse:0.129168    train-rmspe:0.135266
eval-rmspe:0.135266
[312]    train-rmse:0.128544    eval-rmse:0.128544    train-rmspe:0.134604
eval-rmspe:0.134604
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[313]    train-rmse:0.128338    eval-rmse:0.128338    train-rmspe:0.134404
eval-rmspe:0.134404
[314]    train-rmse:0.127907    eval-rmse:0.127907    train-rmspe:0.133951
eval-rmspe:0.133951
[315]    train-rmse:0.127704    eval-rmse:0.127704    train-rmspe:0.133744
eval-rmspe:0.133744
[316]    train-rmse:0.127312    eval-rmse:0.127312    train-rmspe:0.133335
eval-rmspe:0.133335
[317]    train-rmse:0.126892    eval-rmse:0.126892    train-rmspe:0.132887
eval-rmspe:0.132887
[318]    train-rmse:0.126524    eval-rmse:0.126524    train-rmspe:0.132496
eval-rmspe:0.132496
[319]    train-rmse:0.126061    eval-rmse:0.126061    train-rmspe:0.131966
eval-rmspe:0.131966
[320]    train-rmse:0.125874    eval-rmse:0.125874    train-rmspe:0.131781
eval-rmspe:0.131781
[321]    train-rmse:0.125622    eval-rmse:0.125622    train-rmspe:0.131499
eval-rmspe:0.131499
[322]    train-rmse:0.125326    eval-rmse:0.125326    train-rmspe:0.131211
eval-rmspe:0.131211
[323]    train-rmse:0.125037    eval-rmse:0.125037    train-rmspe:0.130902
eval-rmspe:0.130902
[324]    train-rmse:0.124799    eval-rmse:0.124799    train-rmspe:0.130636
eval-rmspe:0.130636
[325]    train-rmse:0.124318    eval-rmse:0.124318    train-rmspe:0.130051
eval-rmspe:0.130051
[326]    train-rmse:0.124155    eval-rmse:0.124155    train-rmspe:0.129886
eval-rmspe:0.129886
[327]    train-rmse:0.123463    eval-rmse:0.123463    train-rmspe:0.129109
eval-rmspe:0.129109
[328]    train-rmse:0.123379    eval-rmse:0.123379    train-rmspe:0.12902
eval-rmspe:0.12902
[329]    train-rmse:0.123317    eval-rmse:0.123317    train-rmspe:0.128954
eval-rmspe:0.128954
[330]    train-rmse:0.122782    eval-rmse:0.122782    train-rmspe:0.128324
eval-rmspe:0.128324
[331]    train-rmse:0.12264    eval-rmse:0.12264    train-rmspe:0.128163
eval-rmspe:0.128163
[332]    train-rmse:0.122513    eval-rmse:0.122513    train-rmspe:0.128031
eval-rmspe:0.128031
[333]    train-rmse:0.122078    eval-rmse:0.122078    train-rmspe:0.127585
eval-rmspe:0.127585
[334]    train-rmse:0.121865    eval-rmse:0.121865    train-rmspe:0.1273
eval-rmspe:0.1273
[335]    train-rmse:0.121695    eval-rmse:0.121695    train-rmspe:0.127121
eval-rmspe:0.127121
[336]    train-rmse:0.12146    eval-rmse:0.12146    train-rmspe:0.12689
eval-rmspe:0.12689
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[337]   train-rmse:0.121182   eval-rmse:0.121182   train-rmspe:0.126551
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[338]   train-rmse:0.120834   eval-rmse:0.120834   train-rmspe:0.126173
eval-rmspe:0.126173
[339]   train-rmse:0.120656   eval-rmse:0.120656   train-rmspe:0.125986
eval-rmspe:0.125986
[340]   train-rmse:0.120448   eval-rmse:0.120448   train-rmspe:0.125776
eval-rmspe:0.125776
[341]   train-rmse:0.120151   eval-rmse:0.120151   train-rmspe:0.125486
eval-rmspe:0.125486
[342]   train-rmse:0.119855   eval-rmse:0.119855   train-rmspe:0.125168
eval-rmspe:0.125168
[343]   train-rmse:0.119665   eval-rmse:0.119665   train-rmspe:0.124966
eval-rmspe:0.124966
[344]   train-rmse:0.119395   eval-rmse:0.119395   train-rmspe:0.124675
eval-rmspe:0.124675
[345]   train-rmse:0.118803   eval-rmse:0.118803   train-rmspe:0.124049
eval-rmspe:0.124049
[346]   train-rmse:0.11839   eval-rmse:0.11839   train-rmspe:0.123588
eval-rmspe:0.123588
[347]   train-rmse:0.117748   eval-rmse:0.117748   train-rmspe:0.122797
eval-rmspe:0.122797
[348]   train-rmse:0.117606   eval-rmse:0.117606   train-rmspe:0.122643
eval-rmspe:0.122643
[349]   train-rmse:0.11738   eval-rmse:0.11738   train-rmspe:0.122329
eval-rmspe:0.122329
[350]   train-rmse:0.117217   eval-rmse:0.117217   train-rmspe:0.122158
eval-rmspe:0.122158
[351]   train-rmse:0.116833   eval-rmse:0.116833   train-rmspe:0.12175
eval-rmspe:0.12175
[352]   train-rmse:0.116644   eval-rmse:0.116644   train-rmspe:0.121548
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[355]   train-rmse:0.116032   eval-rmse:0.116032   train-rmspe:0.120899
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[356]   train-rmse:0.115891   eval-rmse:0.115891   train-rmspe:0.120755
eval-rmspe:0.120755
[357]   train-rmse:0.11569   eval-rmse:0.11569   train-rmspe:0.120535
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[358]   train-rmse:0.115482   eval-rmse:0.115482   train-rmspe:0.120304
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[359]   train-rmse:0.115037   eval-rmse:0.115037   train-rmspe:0.119846
eval-rmspe:0.119846
[360]   train-rmse:0.114527   eval-rmse:0.114527   train-rmspe:0.119317
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[361]   train-rmse:0.114002   eval-rmse:0.114002   train-rmspe:0.118735
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[362]   train-rmse:0.113849   eval-rmse:0.113849   train-rmspe:0.11856
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[363]   train-rmse:0.113712   eval-rmse:0.113712   train-rmspe:0.11842
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[364]   train-rmse:0.113395   eval-rmse:0.113395   train-rmspe:0.1181
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[365]   train-rmse:0.112836   eval-rmse:0.112836   train-rmspe:0.117513
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[366]   train-rmse:0.11271   eval-rmse:0.11271   train-rmspe:0.117375
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[367]   train-rmse:0.112616   eval-rmse:0.112616   train-rmspe:0.117283
eval-rmspe:0.117283
[368]   train-rmse:0.112495   eval-rmse:0.112495   train-rmspe:0.117157
eval-rmspe:0.117157
[369]   train-rmse:0.112224   eval-rmse:0.112224   train-rmspe:0.116843
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[370]   train-rmse:0.112043   eval-rmse:0.112043   train-rmspe:0.116651
eval-rmspe:0.116651
[371]   train-rmse:0.111967   eval-rmse:0.111967   train-rmspe:0.116572
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[372]   train-rmse:0.111916   eval-rmse:0.111916   train-rmspe:0.116517
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[373]   train-rmse:0.11152   eval-rmse:0.11152   train-rmspe:0.116073
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[374]   train-rmse:0.111099   eval-rmse:0.111099   train-rmspe:0.115626
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[375]   train-rmse:0.110925   eval-rmse:0.110925   train-rmspe:0.11543
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[376]   train-rmse:0.110702   eval-rmse:0.110702   train-rmspe:0.115188
eval-rmspe:0.115188
[377]   train-rmse:0.110418   eval-rmse:0.110418   train-rmspe:0.114892
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[378]   train-rmse:0.110116   eval-rmse:0.110116   train-rmspe:0.11459
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[379]   train-rmse:0.109991   eval-rmse:0.109991   train-rmspe:0.114465
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[380]   train-rmse:0.109826   eval-rmse:0.109826   train-rmspe:0.114303
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[381]   train-rmse:0.109761   eval-rmse:0.109761   train-rmspe:0.114236
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[382]   train-rmse:0.109703   eval-rmse:0.109703   train-rmspe:0.114173
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[383]   train-rmse:0.109379   eval-rmse:0.109379   train-rmspe:0.11384
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[384]   train-rmse:0.109337   eval-rmse:0.109337   train-rmspe:0.113799
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[385]   train-rmse:0.109155   eval-rmse:0.109155   train-rmspe:0.113593
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[386]   train-rmse:0.10888   eval-rmse:0.10888   train-rmspe:0.113302
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[387]   train-rmse:0.108719   eval-rmse:0.108719   train-rmspe:0.113131
eval-rmspe:0.113131
[388]   train-rmse:0.108408   eval-rmse:0.108408   train-rmspe:0.112788
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[389]   train-rmse:0.108301   eval-rmse:0.108301   train-rmspe:0.112679
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[390]   train-rmse:0.108163   eval-rmse:0.108163   train-rmspe:0.11253
eval-rmspe:0.11253
[391]   train-rmse:0.107848   eval-rmse:0.107848   train-rmspe:0.112187
eval-rmspe:0.112187
[392]   train-rmse:0.107469   eval-rmse:0.107469   train-rmspe:0.111759
eval-rmspe:0.111759
[393]   train-rmse:0.107209   eval-rmse:0.107209   train-rmspe:0.111482
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[394]   train-rmse:0.106979   eval-rmse:0.106979   train-rmspe:0.111242
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[395]   train-rmse:0.106854   eval-rmse:0.106854   train-rmspe:0.111121
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[396]   train-rmse:0.10663   eval-rmse:0.10663   train-rmspe:0.110895
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[397]   train-rmse:0.106493   eval-rmse:0.106493   train-rmspe:0.110747
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[398]   train-rmse:0.106033   eval-rmse:0.106033   train-rmspe:0.11026
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[401]   train-rmse:0.105675   eval-rmse:0.105675   train-rmspe:0.109887
eval-rmspe:0.109887
[402]   train-rmse:0.105371   eval-rmse:0.105371   train-rmspe:0.109577
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[403]   train-rmse:0.105205   eval-rmse:0.105205   train-rmspe:0.109404
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[404]   train-rmse:0.104998   eval-rmse:0.104998   train-rmspe:0.109184
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[405]   train-rmse:0.10486   eval-rmse:0.10486   train-rmspe:0.109037
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[406]   train-rmse:0.104646   eval-rmse:0.104646   train-rmspe:0.10883
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[407]   train-rmse:0.10449   eval-rmse:0.10449   train-rmspe:0.108666
eval-rmspe:0.108666
[408]   train-rmse:0.104238   eval-rmse:0.104238   train-rmspe:0.108401
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[409]   train-rmse:0.104051   eval-rmse:0.104051   train-rmspe:0.108206
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[410]   train-rmse:0.10387   eval-rmse:0.10387   train-rmspe:0.108016
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[411]   train-rmse:0.10378   eval-rmse:0.10378   train-rmspe:0.107927
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[412]   train-rmse:0.103657   eval-rmse:0.103657   train-rmspe:0.107791
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[413]   train-rmse:0.103542   eval-rmse:0.103542   train-rmspe:0.107677
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[414]   train-rmse:0.103357   eval-rmse:0.103357   train-rmspe:0.107485
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[415]   train-rmse:0.103058   eval-rmse:0.103058   train-rmspe:0.107164
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[416]   train-rmse:0.102763   eval-rmse:0.102763   train-rmspe:0.106839
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[417]   train-rmse:0.102429   eval-rmse:0.102429   train-rmspe:0.106486
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[418]   train-rmse:0.102351   eval-rmse:0.102351   train-rmspe:0.106407
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[419]   train-rmse:0.102314   eval-rmse:0.102314   train-rmspe:0.10637
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[420]   train-rmse:0.102003   eval-rmse:0.102003   train-rmspe:0.10605
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[421]   train-rmse:0.101917   eval-rmse:0.101917   train-rmspe:0.105963
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[422]   train-rmse:0.101647   eval-rmse:0.101647   train-rmspe:0.105679
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[423]   train-rmse:0.101519   eval-rmse:0.101519   train-rmspe:0.105536
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[424]   train-rmse:0.101336   eval-rmse:0.101336   train-rmspe:0.105345
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[425]   train-rmse:0.101273   eval-rmse:0.101273   train-rmspe:0.105283
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[426]   train-rmse:0.101031   eval-rmse:0.101031   train-rmspe:0.105028
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[427]   train-rmse:0.100887   eval-rmse:0.100887   train-rmspe:0.10488
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[428]   train-rmse:0.100777   eval-rmse:0.100777   train-rmspe:0.104759
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[429]   train-rmse:0.100548   eval-rmse:0.100548   train-rmspe:0.104502
eval-rmspe:0.104502
[430]   train-rmse:0.100477   eval-rmse:0.100477   train-rmspe:0.104415
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[431]   train-rmse:0.100219   eval-rmse:0.100219   train-rmspe:0.104143
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[432]   train-rmse:0.100001   eval-rmse:0.100001   train-rmspe:0.103879
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[434]   train-rmse:0.099584   eval-rmse:0.099584   train-rmspe:0.103417
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[435]   train-rmse:0.099465   eval-rmse:0.099465   train-rmspe:0.103288
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[437]   train-rmse:0.099006   eval-rmse:0.099006   train-rmspe:0.102752
eval-rmspe:0.102752
[438]   train-rmse:0.098814   eval-rmse:0.098814   train-rmspe:0.102552
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[439]   train-rmse:0.098724   eval-rmse:0.098724   train-rmspe:0.102458
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[440]   train-rmse:0.098629   eval-rmse:0.098629   train-rmspe:0.102361
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[441]   train-rmse:0.098538   eval-rmse:0.098538   train-rmspe:0.102263
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[442]   train-rmse:0.098453   eval-rmse:0.098453   train-rmspe:0.102171
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[443]   train-rmse:0.098412   eval-rmse:0.098412   train-rmspe:0.102128
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[444]   train-rmse:0.098167   eval-rmse:0.098167   train-rmspe:0.101871
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[445]   train-rmse:0.098063   eval-rmse:0.098063   train-rmspe:0.101763
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[446]   train-rmse:0.09785   eval-rmse:0.09785   train-rmspe:0.101518
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[447]   train-rmse:0.097451   eval-rmse:0.097451   train-rmspe:0.101089
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[448]   train-rmse:0.097338   eval-rmse:0.097338   train-rmspe:0.100977
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[449]   train-rmse:0.097143   eval-rmse:0.097143   train-rmspe:0.100778
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[451]   train-rmse:0.096916   eval-rmse:0.096916   train-rmspe:0.100546
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[452]   train-rmse:0.096714   eval-rmse:0.096714   train-rmspe:0.100338
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[453]   train-rmse:0.096609   eval-rmse:0.096609   train-rmspe:0.100232
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[455]   train-rmse:0.096178   eval-rmse:0.096178   train-rmspe:0.099726
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[456]   train-rmse:0.096117   eval-rmse:0.096117   train-rmspe:0.099665
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[459]   train-rmse:0.095701   eval-rmse:0.095701   train-rmspe:0.099235
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[460]   train-rmse:0.095375   eval-rmse:0.095375   train-rmspe:0.098884
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[461]   train-rmse:0.095159   eval-rmse:0.095159   train-rmspe:0.09866
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[462]   train-rmse:0.094935   eval-rmse:0.094935   train-rmspe:0.09841
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[463]   train-rmse:0.094563   eval-rmse:0.094563   train-rmspe:0.098
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[467]   train-rmse:0.094052   eval-rmse:0.094052   train-rmspe:0.097414
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[468]   train-rmse:0.093961   eval-rmse:0.093961   train-rmspe:0.097284
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[469]   train-rmse:0.09386   eval-rmse:0.09386   train-rmspe:0.097178
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[470]   train-rmse:0.093729   eval-rmse:0.093729   train-rmspe:0.097042
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[471]   train-rmse:0.093499   eval-rmse:0.093499   train-rmspe:0.096796
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[472]   train-rmse:0.093406   eval-rmse:0.093406   train-rmspe:0.096701
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[474]   train-rmse:0.093169   eval-rmse:0.093169   train-rmspe:0.096406
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[475]   train-rmse:0.093092   eval-rmse:0.093092   train-rmspe:0.096327
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[476]   train-rmse:0.092793   eval-rmse:0.092793   train-rmspe:0.095992
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[477]   train-rmse:0.09265   eval-rmse:0.09265   train-rmspe:0.095844
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[478]   train-rmse:0.092462   eval-rmse:0.092462   train-rmspe:0.095635
eval-rmspe:0.095635
[479]   train-rmse:0.092404   eval-rmse:0.092404   train-rmspe:0.095573
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[480]   train-rmse:0.092367   eval-rmse:0.092367   train-rmspe:0.095536
eval-rmspe:0.095536

[481]   train-rmse:0.092238   eval-rmse:0.092238   train-rmspe:0.095405
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[482]   train-rmse:0.092118   eval-rmse:0.092118   train-rmspe:0.095278
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[483]   train-rmse:0.091893   eval-rmse:0.091893   train-rmspe:0.09504
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[484]   train-rmse:0.091752   eval-rmse:0.091752   train-rmspe:0.094889
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[487]   train-rmse:0.091293   eval-rmse:0.091293   train-rmspe:0.094402
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[488]   train-rmse:0.091153   eval-rmse:0.091153   train-rmspe:0.094259
eval-rmspe:0.094259
[489]   train-rmse:0.090817   eval-rmse:0.090817   train-rmspe:0.093875
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[490]   train-rmse:0.090685   eval-rmse:0.090685   train-rmspe:0.09374
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[491]   train-rmse:0.090613   eval-rmse:0.090613   train-rmspe:0.093667
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[494]   train-rmse:0.090317   eval-rmse:0.090317   train-rmspe:0.093363
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[496]   train-rmse:0.090031   eval-rmse:0.090031   train-rmspe:0.09305
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eval-rmspe:0.092223
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eval-rmspe:0.092086

[505]   train-rmse:0.089071   eval-rmse:0.089071   train-rmspe:0.092032
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[509]   train-rmse:0.088483   eval-rmse:0.088483   train-rmspe:0.091396
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[511]   train-rmse:0.088228   eval-rmse:0.088228   train-rmspe:0.091131
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[514]   train-rmse:0.087788   eval-rmse:0.087788   train-rmspe:0.090662
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[515]   train-rmse:0.087703   eval-rmse:0.087703   train-rmspe:0.090577
eval-rmspe:0.090577
[516]   train-rmse:0.087558   eval-rmse:0.087558   train-rmspe:0.090423
eval-rmspe:0.090423
[517]   train-rmse:0.087454   eval-rmse:0.087454   train-rmspe:0.090271
eval-rmspe:0.090271
[518]   train-rmse:0.087322   eval-rmse:0.087322   train-rmspe:0.09012
eval-rmspe:0.09012
[519]   train-rmse:0.087109   eval-rmse:0.087109   train-rmspe:0.089897
eval-rmspe:0.089897
[520]   train-rmse:0.086991   eval-rmse:0.086991   train-rmspe:0.089767
eval-rmspe:0.089767
[521]   train-rmse:0.086871   eval-rmse:0.086871   train-rmspe:0.089645
eval-rmspe:0.089645
[522]   train-rmse:0.086764   eval-rmse:0.086764   train-rmspe:0.089529
eval-rmspe:0.089529
[523]   train-rmse:0.086657   eval-rmse:0.086657   train-rmspe:0.089378
eval-rmspe:0.089378
[524]   train-rmse:0.086512   eval-rmse:0.086512   train-rmspe:0.089213
eval-rmspe:0.089213
[525]   train-rmse:0.086348   eval-rmse:0.086348   train-rmspe:0.088999
eval-rmspe:0.088999
[526]   train-rmse:0.086231   eval-rmse:0.086231   train-rmspe:0.088877
eval-rmspe:0.088877
[527]   train-rmse:0.08617   eval-rmse:0.08617   train-rmspe:0.088814
eval-rmspe:0.088814
[528]   train-rmse:0.086021   eval-rmse:0.086021   train-rmspe:0.088658
eval-rmspe:0.088658

[529]   train-rmse:0.0859   eval-rmse:0.0859   train-rmspe:0.08853
eval-rmspe:0.08853
[530]   train-rmse:0.085775   eval-rmse:0.085775   train-rmspe:0.088404
eval-rmspe:0.088404
[531]   train-rmse:0.085612   eval-rmse:0.085612   train-rmspe:0.088233
eval-rmspe:0.088233
[532]   train-rmse:0.085464   eval-rmse:0.085464   train-rmspe:0.088079
eval-rmspe:0.088079
[533]   train-rmse:0.085375   eval-rmse:0.085375   train-rmspe:0.087975
eval-rmspe:0.087975
[534]   train-rmse:0.085301   eval-rmse:0.085301   train-rmspe:0.087891
eval-rmspe:0.087891
[535]   train-rmse:0.085229   eval-rmse:0.085229   train-rmspe:0.087815
eval-rmspe:0.087815
[536]   train-rmse:0.085123   eval-rmse:0.085123   train-rmspe:0.08771
eval-rmspe:0.08771
[537]   train-rmse:0.08498   eval-rmse:0.08498   train-rmspe:0.087559
eval-rmspe:0.087559
[538]   train-rmse:0.084859   eval-rmse:0.084859   train-rmspe:0.087432
eval-rmspe:0.087432
[539]   train-rmse:0.084747   eval-rmse:0.084747   train-rmspe:0.087311
eval-rmspe:0.087311
[540]   train-rmse:0.084631   eval-rmse:0.084631   train-rmspe:0.087183
eval-rmspe:0.087183
[541]   train-rmse:0.084413   eval-rmse:0.084413   train-rmspe:0.086938
eval-rmspe:0.086938
[542]   train-rmse:0.084259   eval-rmse:0.084259   train-rmspe:0.086765
eval-rmspe:0.086765
[543]   train-rmse:0.084213   eval-rmse:0.084213   train-rmspe:0.086717
eval-rmspe:0.086717
[544]   train-rmse:0.08412   eval-rmse:0.08412   train-rmspe:0.086582
eval-rmspe:0.086582
[545]   train-rmse:0.083983   eval-rmse:0.083983   train-rmspe:0.086435
eval-rmspe:0.086435
[546]   train-rmse:0.083843   eval-rmse:0.083843   train-rmspe:0.086288
eval-rmspe:0.086288
[547]   train-rmse:0.083669   eval-rmse:0.083669   train-rmspe:0.086072
eval-rmspe:0.086072
[548]   train-rmse:0.08358   eval-rmse:0.08358   train-rmspe:0.085978
eval-rmspe:0.085978
[549]   train-rmse:0.083537   eval-rmse:0.083537   train-rmspe:0.085936
eval-rmspe:0.085936
[550]   train-rmse:0.083414   eval-rmse:0.083414   train-rmspe:0.085782
eval-rmspe:0.085782
[551]   train-rmse:0.083315   eval-rmse:0.083315   train-rmspe:0.085676
eval-rmspe:0.085676
[552]   train-rmse:0.083239   eval-rmse:0.083239   train-rmspe:0.085575
eval-rmspe:0.085575

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[553]    train-rmse:0.083117    eval-rmse:0.083117    train-rmspe:0.085449
eval-rmspe:0.085449
[554]    train-rmse:0.083021    eval-rmse:0.083021    train-rmspe:0.085348
eval-rmspe:0.085348
[555]    train-rmse:0.082839    eval-rmse:0.082839    train-rmspe:0.08515
eval-rmspe:0.08515
[556]    train-rmse:0.082668    eval-rmse:0.082668    train-rmspe:0.084968
eval-rmspe:0.084968
[557]    train-rmse:0.082533    eval-rmse:0.082533    train-rmspe:0.084793
eval-rmspe:0.084793
[558]    train-rmse:0.082485    eval-rmse:0.082485    train-rmspe:0.084741
eval-rmspe:0.084741
[559]    train-rmse:0.082401    eval-rmse:0.082401    train-rmspe:0.084656
eval-rmspe:0.084656
[560]    train-rmse:0.082246    eval-rmse:0.082246    train-rmspe:0.084483
eval-rmspe:0.084483
[561]    train-rmse:0.082222    eval-rmse:0.082222    train-rmspe:0.084459
eval-rmspe:0.084459
[562]    train-rmse:0.082145    eval-rmse:0.082145    train-rmspe:0.084376
eval-rmspe:0.084376
[563]    train-rmse:0.08204    eval-rmse:0.08204    train-rmspe:0.084267
eval-rmspe:0.084267
[564]    train-rmse:0.081934    eval-rmse:0.081934    train-rmspe:0.084123
eval-rmspe:0.084123
[565]    train-rmse:0.081805    eval-rmse:0.081805    train-rmspe:0.083989
eval-rmspe:0.083989
[566]    train-rmse:0.081743    eval-rmse:0.081743    train-rmspe:0.083926
eval-rmspe:0.083926
[567]    train-rmse:0.081658    eval-rmse:0.081658    train-rmspe:0.083808
eval-rmspe:0.083808
[568]    train-rmse:0.081558    eval-rmse:0.081558    train-rmspe:0.083704
eval-rmspe:0.083704
[569]    train-rmse:0.081477    eval-rmse:0.081477    train-rmspe:0.083621
eval-rmspe:0.083621
[570]    train-rmse:0.081442    eval-rmse:0.081442    train-rmspe:0.083584
eval-rmspe:0.083584
[571]    train-rmse:0.081227    eval-rmse:0.081227    train-rmspe:0.083344
eval-rmspe:0.083344
[572]    train-rmse:0.081142    eval-rmse:0.081142    train-rmspe:0.083251
eval-rmspe:0.083251
[573]    train-rmse:0.081024    eval-rmse:0.081024    train-rmspe:0.083129
eval-rmspe:0.083129
[574]    train-rmse:0.080909    eval-rmse:0.080909    train-rmspe:0.083001
eval-rmspe:0.083001
[575]    train-rmse:0.080798    eval-rmse:0.080798    train-rmspe:0.082887
eval-rmspe:0.082887
[576]    train-rmse:0.0805    eval-rmse:0.0805    train-rmspe:0.082559
eval-rmspe:0.082559
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[577]   train-rmse:0.080454   eval-rmse:0.080454   train-rmspe:0.082506
eval-rmspe:0.082506
[578]   train-rmse:0.080355   eval-rmse:0.080355   train-rmspe:0.082405
eval-rmspe:0.082405
[579]   train-rmse:0.080273   eval-rmse:0.080273   train-rmspe:0.082317
eval-rmspe:0.082317
[580]   train-rmse:0.080068   eval-rmse:0.080068   train-rmspe:0.082079
eval-rmspe:0.082079
[581]   train-rmse:0.079916   eval-rmse:0.079916   train-rmspe:0.081894
eval-rmspe:0.081894
[582]   train-rmse:0.079747   eval-rmse:0.079747   train-rmspe:0.081705
eval-rmspe:0.081705
[583]   train-rmse:0.079514   eval-rmse:0.079514   train-rmspe:0.081458
eval-rmspe:0.081458
[584]   train-rmse:0.079397   eval-rmse:0.079397   train-rmspe:0.081334
eval-rmspe:0.081334
[585]   train-rmse:0.079265   eval-rmse:0.079265   train-rmspe:0.081199
eval-rmspe:0.081199
[586]   train-rmse:0.079153   eval-rmse:0.079153   train-rmspe:0.081074
eval-rmspe:0.081074
[587]   train-rmse:0.079106   eval-rmse:0.079106   train-rmspe:0.081027
eval-rmspe:0.081027
[588]   train-rmse:0.078993   eval-rmse:0.078993   train-rmspe:0.0809
eval-rmspe:0.0809
[589]   train-rmse:0.078904   eval-rmse:0.078904   train-rmspe:0.080805
eval-rmspe:0.080805
[590]   train-rmse:0.078779   eval-rmse:0.078779   train-rmspe:0.080656
eval-rmspe:0.080656
[591]   train-rmse:0.078663   eval-rmse:0.078663   train-rmspe:0.080538
eval-rmspe:0.080538
[592]   train-rmse:0.078573   eval-rmse:0.078573   train-rmspe:0.080442
eval-rmspe:0.080442
[593]   train-rmse:0.078489   eval-rmse:0.078489   train-rmspe:0.080352
eval-rmspe:0.080352
[594]   train-rmse:0.078365   eval-rmse:0.078365   train-rmspe:0.080217
eval-rmspe:0.080217
[595]   train-rmse:0.078265   eval-rmse:0.078265   train-rmspe:0.080113
eval-rmspe:0.080113
[596]   train-rmse:0.078243   eval-rmse:0.078243   train-rmspe:0.080087
eval-rmspe:0.080087
[597]   train-rmse:0.078209   eval-rmse:0.078209   train-rmspe:0.080053
eval-rmspe:0.080053
[598]   train-rmse:0.078135   eval-rmse:0.078135   train-rmspe:0.079975
eval-rmspe:0.079975
[599]   train-rmse:0.078043   eval-rmse:0.078043   train-rmspe:0.079879
eval-rmspe:0.079879
round 1 end
round 2:

```
[0]     train-rmse:8.02739      eval-rmse:8.02739       train-rmspe:0.99981
eval-rmspe:0.99981
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
[1]     train-rmse:7.7871       eval-rmse:7.7871        train-rmspe:0.999713
eval-rmspe:0.999713
[2]     train-rmse:7.55398      eval-rmse:7.55398       train-rmspe:0.999593
eval-rmspe:0.999593
[3]     train-rmse:7.3279       eval-rmse:7.3279        train-rmspe:0.999448
eval-rmspe:0.999448
[4]     train-rmse:7.10866      eval-rmse:7.10866       train-rmspe:0.999271
eval-rmspe:0.999271
[5]     train-rmse:6.89598      eval-rmse:6.89598       train-rmspe:0.999059
eval-rmspe:0.999059
[6]     train-rmse:6.68976      eval-rmse:6.68976       train-rmspe:0.998805
eval-rmspe:0.998805
[7]     train-rmse:6.4897       eval-rmse:6.4897        train-rmspe:0.998504
eval-rmspe:0.998504
[8]     train-rmse:6.29562      eval-rmse:6.29562       train-rmspe:0.998149
eval-rmspe:0.998149
[9]     train-rmse:6.10742      eval-rmse:6.10742       train-rmspe:0.997731
eval-rmspe:0.997731
[10]    train-rmse:5.92486      eval-rmse:5.92486       train-rmspe:0.997244
eval-rmspe:0.997244
[11]    train-rmse:5.74778      eval-rmse:5.74778       train-rmspe:0.996679
eval-rmspe:0.996679
[12]    train-rmse:5.57606      eval-rmse:5.57606       train-rmspe:0.996027
eval-rmspe:0.996027
[13]    train-rmse:5.40952      eval-rmse:5.40952       train-rmspe:0.995279
eval-rmspe:0.995279
[14]    train-rmse:5.24793      eval-rmse:5.24793       train-rmspe:0.994423
eval-rmspe:0.994423
[15]    train-rmse:5.09122      eval-rmse:5.09122       train-rmspe:0.99345
eval-rmspe:0.99345
[16]    train-rmse:4.93929      eval-rmse:4.93929       train-rmspe:0.992351
eval-rmspe:0.992351
[17]    train-rmse:4.79189      eval-rmse:4.79189       train-rmspe:0.991114
eval-rmspe:0.991114
[18]    train-rmse:4.64895      eval-rmse:4.64895       train-rmspe:0.989728
eval-rmspe:0.989728
[19]    train-rmse:4.51032      eval-rmse:4.51032       train-rmspe:0.988182
eval-rmspe:0.988182
[20]    train-rmse:4.37587      eval-rmse:4.37587       train-rmspe:0.986463
eval-rmspe:0.986463
[21]    train-rmse:4.2455       eval-rmse:4.2455        train-rmspe:0.984559
eval-rmspe:0.984559
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[22]    train-rmse:4.11903    eval-rmse:4.11903    train-rmspe:0.982463
eval-rmspe:0.982463
[23]    train-rmse:3.99639    eval-rmse:3.99639    train-rmspe:0.980159
eval-rmspe:0.980159
[24]    train-rmse:3.87742    eval-rmse:3.87742    train-rmspe:0.977643
eval-rmspe:0.977643
[25]    train-rmse:3.76207    eval-rmse:3.76207    train-rmspe:0.974903
eval-rmspe:0.974903
[26]    train-rmse:3.65017    eval-rmse:3.65017    train-rmspe:0.971927
eval-rmspe:0.971927
[27]    train-rmse:3.54166    eval-rmse:3.54166    train-rmspe:0.968702
eval-rmspe:0.968702
[28]    train-rmse:3.43647    eval-rmse:3.43647    train-rmspe:0.965218
eval-rmspe:0.965218
[29]    train-rmse:3.3344     eval-rmse:3.3344     train-rmspe:0.961484
eval-rmspe:0.961484
[30]    train-rmse:3.23543    eval-rmse:3.23543    train-rmspe:0.957482
eval-rmspe:0.957482
[31]    train-rmse:3.13952    eval-rmse:3.13952    train-rmspe:0.953192
eval-rmspe:0.953192
[32]    train-rmse:3.04646    eval-rmse:3.04646    train-rmspe:0.948633
eval-rmspe:0.948633
[33]    train-rmse:2.95617    eval-rmse:2.95617    train-rmspe:0.943797
eval-rmspe:0.943797
[34]    train-rmse:2.86867    eval-rmse:2.86867    train-rmspe:0.938659
eval-rmspe:0.938659
[35]    train-rmse:2.78381    eval-rmse:2.78381    train-rmspe:0.933248
eval-rmspe:0.933248
[36]    train-rmse:2.70153    eval-rmse:2.70153    train-rmspe:0.927538
eval-rmspe:0.927538
[37]    train-rmse:2.62175    eval-rmse:2.62175    train-rmspe:0.92154
eval-rmspe:0.92154
[38]    train-rmse:2.54436    eval-rmse:2.54436    train-rmspe:0.915269
eval-rmspe:0.915269
[39]    train-rmse:2.46939    eval-rmse:2.46939    train-rmspe:0.908692
eval-rmspe:0.908692
[40]    train-rmse:2.39669    eval-rmse:2.39669    train-rmspe:0.901819
eval-rmspe:0.901819
[41]    train-rmse:2.3262     eval-rmse:2.3262     train-rmspe:0.894686
eval-rmspe:0.894686
[42]    train-rmse:2.25777    eval-rmse:2.25777    train-rmspe:0.887305
eval-rmspe:0.887305
[43]    train-rmse:2.19147    eval-rmse:2.19147    train-rmspe:0.879617
eval-rmspe:0.879617
[44]    train-rmse:2.12711    eval-rmse:2.12711    train-rmspe:0.871736
eval-rmspe:0.871736
[45]    train-rmse:2.06475    eval-rmse:2.06475    train-rmspe:0.863559
eval-rmspe:0.863559
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[46]    train-rmse:2.00422    eval-rmse:2.00422    train-rmspe:0.855171
eval-rmspe:0.855171
[47]    train-rmse:1.94566    eval-rmse:1.94566    train-rmspe:0.846485
eval-rmspe:0.846485
[48]    train-rmse:1.88889    eval-rmse:1.88889    train-rmspe:0.83758
eval-rmspe:0.83758
[49]    train-rmse:1.8336     eval-rmse:1.8336     train-rmspe:0.828568
eval-rmspe:0.828568
[50]    train-rmse:1.78015    eval-rmse:1.78015    train-rmspe:0.819299
eval-rmspe:0.819299
[51]    train-rmse:1.72833    eval-rmse:1.72833    train-rmspe:0.809822
eval-rmspe:0.809822
[52]    train-rmse:1.67811    eval-rmse:1.67811    train-rmspe:0.800161
eval-rmspe:0.800161
[53]    train-rmse:1.62928    eval-rmse:1.62928    train-rmspe:0.790388
eval-rmspe:0.790388
[54]    train-rmse:1.58204    eval-rmse:1.58204    train-rmspe:0.780407
eval-rmspe:0.780407
[55]    train-rmse:1.53616    eval-rmse:1.53616    train-rmspe:0.770335
eval-rmspe:0.770335
[56]    train-rmse:1.49178    eval-rmse:1.49178    train-rmspe:0.760082
eval-rmspe:0.760082
[57]    train-rmse:1.44885    eval-rmse:1.44885    train-rmspe:0.749682
eval-rmspe:0.749682
[58]    train-rmse:1.40721    eval-rmse:1.40721    train-rmspe:0.739202
eval-rmspe:0.739202
[59]    train-rmse:1.36685    eval-rmse:1.36685    train-rmspe:0.728603
eval-rmspe:0.728603
[60]    train-rmse:1.32777    eval-rmse:1.32777    train-rmspe:0.717917
eval-rmspe:0.717917
[61]    train-rmse:1.28987    eval-rmse:1.28987    train-rmse:0.7072
eval-rmspe:0.7072
[62]    train-rmse:1.25278    eval-rmse:1.25278    train-rmspe:0.69653
eval-rmspe:0.69653
[63]    train-rmse:1.21685    eval-rmse:1.21685    train-rmspe:0.685822
eval-rmspe:0.685822
[64]    train-rmse:1.18236    eval-rmse:1.18236    train-rmspe:0.674984
eval-rmspe:0.674984
[65]    train-rmse:1.14907    eval-rmse:1.14907    train-rmspe:0.664103
eval-rmspe:0.664103
[66]    train-rmse:1.11663    eval-rmse:1.11663    train-rmspe:0.653269
eval-rmspe:0.653269
[67]    train-rmse:1.08525    eval-rmse:1.08525    train-rmspe:0.642433
eval-rmspe:0.642433
[68]    train-rmse:1.05484    eval-rmse:1.05484    train-rmspe:0.63163
eval-rmspe:0.63163
[69]    train-rmse:1.02549    eval-rmse:1.02549    train-rmspe:0.620868
eval-rmspe:0.620868
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[70]   train-rmse:0.996614   eval-rmse:0.996614   train-rmspe:0.610229
eval-rmspe:0.610229
[71]   train-rmse:0.968902   eval-rmse:0.968902   train-rmspe:0.5996
eval-rmspe:0.5996
[72]   train-rmse:0.942146   eval-rmse:0.942146   train-rmspe:0.58901
eval-rmspe:0.58901
[73]   train-rmse:0.916159   eval-rmse:0.916159   train-rmspe:0.578537
eval-rmspe:0.578537
[74]   train-rmse:0.891074   eval-rmse:0.891074   train-rmspe:0.568108
eval-rmspe:0.568108
[75]   train-rmse:0.866723   eval-rmse:0.866723   train-rmspe:0.557787
eval-rmspe:0.557787
[76]   train-rmse:0.843327   eval-rmse:0.843327   train-rmspe:0.547556
eval-rmspe:0.547556
[77]   train-rmse:0.820705   eval-rmse:0.820705   train-rmspe:0.537444
eval-rmspe:0.537444
[78]   train-rmse:0.798699   eval-rmse:0.798699   train-rmspe:0.527454
eval-rmspe:0.527454
[79]   train-rmse:0.777395   eval-rmse:0.777395   train-rmspe:0.517611
eval-rmspe:0.517611
[80]   train-rmse:0.756428   eval-rmse:0.756428   train-rmspe:0.507894
eval-rmspe:0.507894
[81]   train-rmse:0.736029   eval-rmse:0.736029   train-rmspe:0.498306
eval-rmspe:0.498306
[82]   train-rmse:0.716604   eval-rmse:0.716604   train-rmspe:0.488884
eval-rmspe:0.488884
[83]   train-rmse:0.69791   eval-rmse:0.69791   train-rmspe:0.479615
eval-rmspe:0.479615
[84]   train-rmse:0.67989   eval-rmse:0.67989   train-rmspe:0.470537
eval-rmspe:0.470537
[85]   train-rmse:0.662306   eval-rmse:0.662306   train-rmspe:0.461553
eval-rmspe:0.461553
[86]   train-rmse:0.645498   eval-rmse:0.645498   train-rmspe:0.45278
eval-rmspe:0.45278
[87]   train-rmse:0.62908   eval-rmse:0.62908   train-rmspe:0.444183
eval-rmspe:0.444183
[88]   train-rmse:0.612993   eval-rmse:0.612993   train-rmspe:0.43567
eval-rmspe:0.43567
[89]   train-rmse:0.597711   eval-rmse:0.597711   train-rmspe:0.427412
eval-rmspe:0.427412
[90]   train-rmse:0.583125   eval-rmse:0.583125   train-rmspe:0.419398
eval-rmspe:0.419398
[91]   train-rmse:0.568637   eval-rmse:0.568637   train-rmspe:0.411467
eval-rmspe:0.411467
[92]   train-rmse:0.554653   eval-rmse:0.554653   train-rmspe:0.403714
eval-rmspe:0.403714
[93]   train-rmse:0.540876   eval-rmse:0.540876   train-rmspe:0.396032
eval-rmspe:0.396032

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[94]     train-rmse:0.528034     eval-rmse:0.528034     train-rmspe:0.388703
eval-rmspe:0.388703
[95]     train-rmse:0.515631     eval-rmse:0.515631     train-rmspe:0.381572
eval-rmspe:0.381572
[96]     train-rmse:0.503625     eval-rmse:0.503625     train-rmspe:0.374626
eval-rmspe:0.374626
[97]     train-rmse:0.491914     eval-rmse:0.491914     train-rmspe:0.367798
eval-rmspe:0.367798
[98]     train-rmse:0.480638     eval-rmse:0.480638     train-rmspe:0.361206
eval-rmspe:0.361206
[99]     train-rmse:0.469743     eval-rmse:0.469743     train-rmspe:0.354818
eval-rmspe:0.354818
[100]    train-rmse:0.459541     eval-rmse:0.459541     train-rmspe:0.348713
eval-rmspe:0.348713
[101]    train-rmse:0.449277     eval-rmse:0.449277     train-rmspe:0.342618
eval-rmspe:0.342618
[102]    train-rmse:0.439593     eval-rmse:0.439593     train-rmspe:0.336799
eval-rmspe:0.336799
[103]    train-rmse:0.430301     eval-rmse:0.430301     train-rmspe:0.331188
eval-rmspe:0.331188
[104]    train-rmse:0.421145     eval-rmse:0.421145     train-rmspe:0.325675
eval-rmspe:0.325675
[105]    train-rmse:0.412361     eval-rmse:0.412361     train-rmspe:0.320352
eval-rmspe:0.320352
[106]    train-rmse:0.403909     eval-rmse:0.403909     train-rmspe:0.315187
eval-rmspe:0.315187
[107]    train-rmse:0.395924     eval-rmse:0.395924     train-rmspe:0.310314
eval-rmspe:0.310314
[108]    train-rmse:0.388046     eval-rmse:0.388046     train-rmspe:0.305542
eval-rmspe:0.305542
[109]    train-rmse:0.380426     eval-rmse:0.380426     train-rmspe:0.300918
eval-rmspe:0.300918
[110]    train-rmse:0.373041     eval-rmse:0.373041     train-rmspe:0.296387
eval-rmspe:0.296387
[111]    train-rmse:0.366064     eval-rmse:0.366064     train-rmspe:0.292155
eval-rmspe:0.292155
[112]    train-rmse:0.359063     eval-rmse:0.359063     train-rmspe:0.287867
eval-rmspe:0.287867
[113]    train-rmse:0.352421     eval-rmse:0.352421     train-rmspe:0.283779
eval-rmspe:0.283779
[114]    train-rmse:0.346391     eval-rmse:0.346391     train-rmspe:0.280124
eval-rmspe:0.280124
[115]    train-rmse:0.340482     eval-rmse:0.340482     train-rmspe:0.27655
eval-rmspe:0.27655
[116]    train-rmse:0.334831     eval-rmse:0.334831     train-rmspe:0.273132
eval-rmspe:0.273132
[117]    train-rmse:0.329039     eval-rmse:0.329039     train-rmspe:0.269672
eval-rmspe:0.269672
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[118]    train-rmse:0.323651    eval-rmse:0.323651    train-rmspe:0.266431
eval-rmspe:0.266431
[119]    train-rmse:0.317925    eval-rmse:0.317925    train-rmspe:0.262952
eval-rmspe:0.262952
[120]    train-rmse:0.312953    eval-rmse:0.312953    train-rmspe:0.259977
eval-rmspe:0.259977
[121]    train-rmse:0.308117    eval-rmse:0.308117    train-rmspe:0.257124
eval-rmspe:0.257124
[122]    train-rmse:0.303355    eval-rmse:0.303355    train-rmspe:0.254244
eval-rmspe:0.254244
[123]    train-rmse:0.299023    eval-rmse:0.299023    train-rmspe:0.251705
eval-rmspe:0.251705
[124]    train-rmse:0.294924    eval-rmse:0.294924    train-rmspe:0.249348
eval-rmspe:0.249348
[125]    train-rmse:0.291082    eval-rmse:0.291082    train-rmspe:0.247175
eval-rmspe:0.247175
[126]    train-rmse:0.287238    eval-rmse:0.287238    train-rmspe:0.244969
eval-rmspe:0.244969
[127]    train-rmse:0.283581    eval-rmse:0.283581    train-rmspe:0.24293
eval-rmspe:0.24293
[128]    train-rmse:0.279972    eval-rmse:0.279972    train-rmspe:0.240935
eval-rmspe:0.240935
[129]    train-rmse:0.276389    eval-rmse:0.276389    train-rmspe:0.238973
eval-rmspe:0.238973
[130]    train-rmse:0.273039    eval-rmse:0.273039    train-rmspe:0.237099
eval-rmspe:0.237099
[131]    train-rmse:0.269568    eval-rmse:0.269568    train-rmspe:0.235118
eval-rmspe:0.235118
[132]    train-rmse:0.266191    eval-rmse:0.266191    train-rmspe:0.233192
eval-rmspe:0.233192
[133]    train-rmse:0.263314    eval-rmse:0.263314    train-rmspe:0.231684
eval-rmspe:0.231684
[134]    train-rmse:0.260065    eval-rmse:0.260065    train-rmspe:0.229754
eval-rmspe:0.229754
[135]    train-rmse:0.256605    eval-rmse:0.256605    train-rmspe:0.227736
eval-rmspe:0.227736
[136]    train-rmse:0.253641    eval-rmse:0.253641    train-rmspe:0.225975
eval-rmspe:0.225975
[137]    train-rmse:0.251017    eval-rmse:0.251017    train-rmspe:0.22454
eval-rmspe:0.22454
[138]    train-rmse:0.248457    eval-rmse:0.248457    train-rmspe:0.223176
eval-rmspe:0.223176
[139]    train-rmse:0.246236    eval-rmse:0.246236    train-rmspe:0.222036
eval-rmspe:0.222036
[140]    train-rmse:0.244044    eval-rmse:0.244044    train-rmspe:0.220924
eval-rmspe:0.220924
[141]    train-rmse:0.24217     eval-rmse:0.24217     train-rmspe:0.220058
eval-rmspe:0.220058
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[142]    train-rmse:0.240036    eval-rmse:0.240036    train-rmspe:0.218972
eval-rmspe:0.218972
[143]    train-rmse:0.238257    eval-rmse:0.238257    train-rmspe:0.218197
eval-rmspe:0.218197
[144]    train-rmse:0.236316    eval-rmse:0.236316    train-rmspe:0.217185
eval-rmspe:0.217185
[145]    train-rmse:0.234654    eval-rmse:0.234654    train-rmspe:0.216444
eval-rmspe:0.216444
[146]    train-rmse:0.232841    eval-rmse:0.232841    train-rmspe:0.215557
eval-rmspe:0.215557
[147]    train-rmse:0.231399    eval-rmse:0.231399    train-rmspe:0.215019
eval-rmspe:0.215019
[148]    train-rmse:0.229889    eval-rmse:0.229889    train-rmspe:0.21438
eval-rmspe:0.21438
[149]    train-rmse:0.228441    eval-rmse:0.228441    train-rmspe:0.213734
eval-rmspe:0.213734
[150]    train-rmse:0.226966    eval-rmse:0.226966    train-rmspe:0.213036
eval-rmspe:0.213036
[151]    train-rmse:0.225581    eval-rmse:0.225581    train-rmspe:0.212431
eval-rmspe:0.212431
[152]    train-rmse:0.223787    eval-rmse:0.223787    train-rmspe:0.211401
eval-rmspe:0.211401
[153]    train-rmse:0.22207     eval-rmse:0.22207     train-rmspe:0.210435
eval-rmspe:0.210435
[154]    train-rmse:0.220006    eval-rmse:0.220006    train-rmspe:0.209122
eval-rmspe:0.209122
[155]    train-rmse:0.218723    eval-rmse:0.218723    train-rmspe:0.208563
eval-rmspe:0.208563
[156]    train-rmse:0.216532    eval-rmse:0.216532    train-rmspe:0.206986
eval-rmspe:0.206986
[157]    train-rmse:0.215369    eval-rmse:0.215369    train-rmspe:0.206494
eval-rmspe:0.206494
[158]    train-rmse:0.214414    eval-rmse:0.214414    train-rmspe:0.206111
eval-rmspe:0.206111
[159]    train-rmse:0.213004    eval-rmse:0.213004    train-rmspe:0.205325
eval-rmspe:0.205325
[160]    train-rmse:0.21134     eval-rmse:0.21134     train-rmspe:0.204265
eval-rmspe:0.204265
[161]    train-rmse:0.210232    eval-rmse:0.210232    train-rmspe:0.203675
eval-rmspe:0.203675
[162]    train-rmse:0.209373    eval-rmse:0.209373    train-rmspe:0.203372
eval-rmspe:0.203372
[163]    train-rmse:0.208269    eval-rmse:0.208269    train-rmspe:0.202765
eval-rmspe:0.202765
[164]    train-rmse:0.207327    eval-rmse:0.207327    train-rmspe:0.202361
eval-rmspe:0.202361
[165]    train-rmse:0.206401    eval-rmse:0.206401    train-rmspe:0.201934
eval-rmspe:0.201934
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[166]   train-rmse:0.205282   eval-rmse:0.205282   train-rmspe:0.201276
eval-rmspe:0.201276
[167]   train-rmse:0.204093   eval-rmse:0.204093   train-rmspe:0.200539
eval-rmspe:0.200539
[168]   train-rmse:0.203183   eval-rmse:0.203183   train-rmspe:0.200096
eval-rmspe:0.200096
[169]   train-rmse:0.201736   eval-rmse:0.201736   train-rmspe:0.19907
eval-rmspe:0.19907
[170]   train-rmse:0.200335   eval-rmse:0.200335   train-rmspe:0.197985
eval-rmspe:0.197985
[171]   train-rmse:0.19949   eval-rmse:0.19949   train-rmspe:0.197539
eval-rmspe:0.197539
[172]   train-rmse:0.198709   eval-rmse:0.198709   train-rmspe:0.197135
eval-rmspe:0.197135
[173]   train-rmse:0.197815   eval-rmse:0.197815   train-rmspe:0.196595
eval-rmspe:0.196595
[174]   train-rmse:0.196979   eval-rmse:0.196979   train-rmspe:0.196138
eval-rmspe:0.196138
[175]   train-rmse:0.196303   eval-rmse:0.196303   train-rmspe:0.195796
eval-rmspe:0.195796
[176]   train-rmse:0.195672   eval-rmse:0.195672   train-rmspe:0.1955
eval-rmspe:0.1955
[177]   train-rmse:0.195161   eval-rmse:0.195161   train-rmspe:0.195315
eval-rmspe:0.195315
[178]   train-rmse:0.193395   eval-rmse:0.193395   train-rmspe:0.19382
eval-rmspe:0.19382
[179]   train-rmse:0.192491   eval-rmse:0.192491   train-rmspe:0.193195
eval-rmspe:0.193195
[180]   train-rmse:0.191777   eval-rmse:0.191777   train-rmspe:0.192737
eval-rmspe:0.192737
[181]   train-rmse:0.191176   eval-rmse:0.191176   train-rmspe:0.1924
eval-rmspe:0.1924
[182]   train-rmse:0.190711   eval-rmse:0.190711   train-rmspe:0.192217
eval-rmspe:0.192217
[183]   train-rmse:0.190084   eval-rmse:0.190084   train-rmspe:0.191819
eval-rmspe:0.191819
[184]   train-rmse:0.189525   eval-rmse:0.189525   train-rmspe:0.191568
eval-rmspe:0.191568
[185]   train-rmse:0.188329   eval-rmse:0.188329   train-rmspe:0.190593
eval-rmspe:0.190593
[186]   train-rmse:0.187374   eval-rmse:0.187374   train-rmspe:0.18986
eval-rmspe:0.18986
[187]   train-rmse:0.186516   eval-rmse:0.186516   train-rmspe:0.189249
eval-rmspe:0.189249
[188]   train-rmse:0.185444   eval-rmse:0.185444   train-rmspe:0.18832
eval-rmspe:0.18832
[189]   train-rmse:0.184696   eval-rmse:0.184696   train-rmspe:0.187795
eval-rmspe:0.187795

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[190]    train-rmse:0.184231    eval-rmse:0.184231    train-rmspe:0.187529
eval-rmspe:0.187529
[191]    train-rmse:0.183645    eval-rmse:0.183645    train-rmspe:0.187099
eval-rmspe:0.187099
[192]    train-rmse:0.183081    eval-rmse:0.183081    train-rmspe:0.186696
eval-rmspe:0.186696
[193]    train-rmse:0.181833    eval-rmse:0.181833    train-rmspe:0.185564
eval-rmspe:0.185564
[194]    train-rmse:0.180714    eval-rmse:0.180714    train-rmspe:0.184554
eval-rmspe:0.184554
[195]    train-rmse:0.179305    eval-rmse:0.179305    train-rmspe:0.183234
eval-rmspe:0.183234
[196]    train-rmse:0.178673    eval-rmse:0.178673    train-rmspe:0.182738
eval-rmspe:0.182738
[197]    train-rmse:0.17802     eval-rmse:0.17802     train-rmspe:0.182234
eval-rmspe:0.182234
[198]    train-rmse:0.177587    eval-rmse:0.177587    train-rmspe:0.181924
eval-rmspe:0.181924
[199]    train-rmse:0.177231    eval-rmse:0.177231    train-rmspe:0.181732
eval-rmspe:0.181732
[200]    train-rmse:0.17665     eval-rmse:0.17665     train-rmspe:0.181252
eval-rmspe:0.181252
[201]    train-rmse:0.175584    eval-rmse:0.175584    train-rmspe:0.180304
eval-rmspe:0.180304
[202]    train-rmse:0.174809    eval-rmse:0.174809    train-rmspe:0.179604
eval-rmspe:0.179604
[203]    train-rmse:0.173709    eval-rmse:0.173709    train-rmspe:0.178495
eval-rmspe:0.178495
[204]    train-rmse:0.17335     eval-rmse:0.17335     train-rmspe:0.178257
eval-rmspe:0.178257
[205]    train-rmse:0.172815    eval-rmse:0.172815    train-rmspe:0.177812
eval-rmspe:0.177812
[206]    train-rmse:0.172077    eval-rmse:0.172077    train-rmspe:0.177207
eval-rmspe:0.177207
[207]    train-rmse:0.17129     eval-rmse:0.17129     train-rmspe:0.176492
eval-rmspe:0.176492
[208]    train-rmse:0.170907    eval-rmse:0.170907    train-rmspe:0.176189
eval-rmspe:0.176189
[209]    train-rmse:0.169954    eval-rmse:0.169954    train-rmspe:0.175322
eval-rmspe:0.175322
[210]    train-rmse:0.169362    eval-rmse:0.169362    train-rmspe:0.174814
eval-rmspe:0.174814
[211]    train-rmse:0.168901    eval-rmse:0.168901    train-rmspe:0.17444
eval-rmspe:0.17444
[212]    train-rmse:0.167968    eval-rmse:0.167968    train-rmspe:0.173571
eval-rmspe:0.173571
[213]    train-rmse:0.16768     eval-rmse:0.16768     train-rmspe:0.173358
eval-rmspe:0.173358
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[214]    train-rmse:0.167385    eval-rmse:0.167385    train-rmspe:0.173148
eval-rmspe:0.173148
[215]    train-rmse:0.166889    eval-rmse:0.166889    train-rmspe:0.172692
eval-rmspe:0.172692
[216]    train-rmse:0.165832    eval-rmse:0.165832    train-rmspe:0.171615
eval-rmspe:0.171615
[217]    train-rmse:0.165407    eval-rmse:0.165407    train-rmspe:0.171277
eval-rmspe:0.171277
[218]    train-rmse:0.165207    eval-rmse:0.165207    train-rmspe:0.171156
eval-rmspe:0.171156
[219]    train-rmse:0.164996    eval-rmse:0.164996    train-rmspe:0.171022
eval-rmspe:0.171022
[220]    train-rmse:0.164082    eval-rmse:0.164082    train-rmspe:0.170157
eval-rmspe:0.170157
[221]    train-rmse:0.163711    eval-rmse:0.163711    train-rmspe:0.169826
eval-rmspe:0.169826
[222]    train-rmse:0.163339    eval-rmse:0.163339    train-rmspe:0.169487
eval-rmspe:0.169487
[223]    train-rmse:0.162952    eval-rmse:0.162952    train-rmspe:0.169159
eval-rmspe:0.169159
[224]    train-rmse:0.162286    eval-rmse:0.162286    train-rmspe:0.16851
eval-rmspe:0.16851
[225]    train-rmse:0.162096    eval-rmse:0.162096    train-rmspe:0.168395
eval-rmspe:0.168395
[226]    train-rmse:0.161332    eval-rmse:0.161332    train-rmspe:0.167664
eval-rmspe:0.167664
[227]    train-rmse:0.160942    eval-rmse:0.160942    train-rmspe:0.16731
eval-rmspe:0.16731
[228]    train-rmse:0.160288    eval-rmse:0.160288    train-rmspe:0.166703
eval-rmspe:0.166703
[229]    train-rmse:0.160067    eval-rmse:0.160067    train-rmspe:0.166527
eval-rmspe:0.166527
[230]    train-rmse:0.159582    eval-rmse:0.159582    train-rmspe:0.166076
eval-rmspe:0.166076
[231]    train-rmse:0.158832    eval-rmse:0.158832    train-rmspe:0.165318
eval-rmspe:0.165318
[232]    train-rmse:0.157838    eval-rmse:0.157838    train-rmspe:0.164327
eval-rmspe:0.164327
[233]    train-rmse:0.157205    eval-rmse:0.157205    train-rmspe:0.163654
eval-rmspe:0.163654
[234]    train-rmse:0.15635     eval-rmse:0.15635     train-rmspe:0.162678
eval-rmspe:0.162678
[235]    train-rmse:0.156066    eval-rmse:0.156066    train-rmspe:0.162441
eval-rmspe:0.162441
[236]    train-rmse:0.155358    eval-rmse:0.155358    train-rmspe:0.16174
eval-rmspe:0.16174
[237]    train-rmse:0.15506     eval-rmse:0.15506     train-rmspe:0.161424
eval-rmspe:0.161424
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eval-rmspe:0.109027
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eval-rmspe:0.108874
[402]   train-rmse:0.104584      eval-rmse:0.104584      train-rmspe:0.108503
eval-rmspe:0.108503
[403]   train-rmse:0.104457      eval-rmse:0.104457      train-rmspe:0.108371
eval-rmspe:0.108371
[404]   train-rmse:0.104304      eval-rmse:0.104304      train-rmspe:0.10821
eval-rmspe:0.10821
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eval-rmspe:0.107944
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eval-rmspe:0.107806
[407]    train-rmse:0.103717      eval-rmse:0.103717      train-rmspe:0.107592
eval-rmspe:0.107592
[408]    train-rmse:0.103636      eval-rmse:0.103636      train-rmspe:0.107509
eval-rmspe:0.107509
[409]    train-rmse:0.103586      eval-rmse:0.103586      train-rmspe:0.107456
eval-rmspe:0.107456
[410]    train-rmse:0.103495      eval-rmse:0.103495      train-rmspe:0.107365
eval-rmspe:0.107365
[411]    train-rmse:0.10333       eval-rmse:0.10333       train-rmspe:0.107196
eval-rmspe:0.107196
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eval-rmspe:0.106899
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[414]    train-rmse:0.10274       eval-rmse:0.10274       train-rmspe:0.106507
eval-rmspe:0.106507
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[416]    train-rmse:0.102398      eval-rmse:0.102398      train-rmspe:0.106149
eval-rmspe:0.106149
[417]    train-rmse:0.102232      eval-rmse:0.102232      train-rmspe:0.105977
eval-rmspe:0.105977
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eval-rmspe:0.105733
[419]    train-rmse:0.101888      eval-rmse:0.101888      train-rmspe:0.105617
eval-rmspe:0.105617
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eval-rmspe:0.105487
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eval-rmspe:0.105225
[422]    train-rmse:0.101355      eval-rmse:0.101355      train-rmspe:0.105051
eval-rmspe:0.105051
[423]    train-rmse:0.101221      eval-rmse:0.101221      train-rmspe:0.104913
eval-rmspe:0.104913
[424]    train-rmse:0.101078      eval-rmse:0.101078      train-rmspe:0.104763
eval-rmspe:0.104763
[425]    train-rmse:0.100929      eval-rmse:0.100929      train-rmspe:0.1046
eval-rmspe:0.1046
[426]    train-rmse:0.100815      eval-rmse:0.100815      train-rmspe:0.104478
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[427]    train-rmse:0.100625      eval-rmse:0.100625      train-rmspe:0.104292
eval-rmspe:0.104292
[428]    train-rmse:0.100537      eval-rmse:0.100537      train-rmspe:0.104195
eval-rmspe:0.104195
[429]    train-rmse:0.100287      eval-rmse:0.100287      train-rmspe:0.103936
eval-rmspe:0.103936
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[432]   train-rmse:0.099876   eval-rmse:0.099876   train-rmspe:0.1035
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[433]   train-rmse:0.099514   eval-rmse:0.099514   train-rmspe:0.103107
eval-rmspe:0.103107
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[435]   train-rmse:0.098987   eval-rmse:0.098987   train-rmspe:0.102526
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[436]   train-rmse:0.098712   eval-rmse:0.098712   train-rmspe:0.102239
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[437]   train-rmse:0.098289   eval-rmse:0.098289   train-rmspe:0.101767
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[438]   train-rmse:0.098135   eval-rmse:0.098135   train-rmspe:0.10161
eval-rmspe:0.10161
[439]   train-rmse:0.097981   eval-rmse:0.097981   train-rmspe:0.10141
eval-rmspe:0.10141
[440]   train-rmse:0.097819   eval-rmse:0.097819   train-rmspe:0.101237
eval-rmspe:0.101237
[441]   train-rmse:0.097727   eval-rmse:0.097727   train-rmspe:0.101141
eval-rmspe:0.101141
[442]   train-rmse:0.097624   eval-rmse:0.097624   train-rmspe:0.101037
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eval-rmspe:0.100864
[444]   train-rmse:0.097284   eval-rmse:0.097284   train-rmspe:0.100685
eval-rmspe:0.100685
[445]   train-rmse:0.097205   eval-rmse:0.097205   train-rmspe:0.100605
eval-rmspe:0.100605
[446]   train-rmse:0.096982   eval-rmse:0.096982   train-rmspe:0.100322
eval-rmspe:0.100322
[447]   train-rmse:0.096767   eval-rmse:0.096767   train-rmspe:0.100106
eval-rmspe:0.100106
[448]   train-rmse:0.096707   eval-rmse:0.096707   train-rmspe:0.10004
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[449]   train-rmse:0.09652   eval-rmse:0.09652   train-rmspe:0.099786
eval-rmspe:0.099786
[450]   train-rmse:0.09636   eval-rmse:0.09636   train-rmspe:0.09962
eval-rmspe:0.09962
[451]   train-rmse:0.096164   eval-rmse:0.096164   train-rmspe:0.099408
eval-rmspe:0.099408
[452]   train-rmse:0.096006   eval-rmse:0.096006   train-rmspe:0.099238
eval-rmspe:0.099238
[453]   train-rmse:0.095767   eval-rmse:0.095767   train-rmspe:0.098967
eval-rmspe:0.098967

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[455]   train-rmse:0.095449   eval-rmse:0.095449   train-rmspe:0.098634
eval-rmspe:0.098634
[456]   train-rmse:0.095327   eval-rmse:0.095327   train-rmspe:0.098518
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[457]   train-rmse:0.095198   eval-rmse:0.095198   train-rmspe:0.098378
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[458]   train-rmse:0.095094   eval-rmse:0.095094   train-rmspe:0.09827
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[462]   train-rmse:0.094537   eval-rmse:0.094537   train-rmspe:0.097682
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[463]   train-rmse:0.094311   eval-rmse:0.094311   train-rmspe:0.097434
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[466]   train-rmse:0.093926   eval-rmse:0.093926   train-rmspe:0.097038
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[467]   train-rmse:0.093877   eval-rmse:0.093877   train-rmspe:0.096986
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[468]   train-rmse:0.093746   eval-rmse:0.093746   train-rmspe:0.096852
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[469]   train-rmse:0.093563   eval-rmse:0.093563   train-rmspe:0.096668
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[470]   train-rmse:0.093317   eval-rmse:0.093317   train-rmspe:0.096415
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[471]   train-rmse:0.093187   eval-rmse:0.093187   train-rmspe:0.096277
eval-rmspe:0.096277
[472]   train-rmse:0.092996   eval-rmse:0.092996   train-rmspe:0.096087
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[473]   train-rmse:0.092885   eval-rmse:0.092885   train-rmspe:0.095913
eval-rmspe:0.095913
[474]   train-rmse:0.092732   eval-rmse:0.092732   train-rmspe:0.095759
eval-rmspe:0.095759
[475]   train-rmse:0.092652   eval-rmse:0.092652   train-rmspe:0.095676
eval-rmspe:0.095676
[476]   train-rmse:0.09259   eval-rmse:0.09259   train-rmspe:0.095607
eval-rmspe:0.095607
[477]   train-rmse:0.092511   eval-rmse:0.092511   train-rmspe:0.095526
eval-rmspe:0.095526

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[478]    train-rmse:0.092331    eval-rmse:0.092331    train-rmspe:0.095342
eval-rmspe:0.095342
[479]    train-rmse:0.092268    eval-rmse:0.092268    train-rmspe:0.095276
eval-rmspe:0.095276
[480]    train-rmse:0.092222    eval-rmse:0.092222    train-rmspe:0.095228
eval-rmspe:0.095228
[481]    train-rmse:0.091937    eval-rmse:0.091937    train-rmspe:0.094933
eval-rmspe:0.094933
[482]    train-rmse:0.091745    eval-rmse:0.091745    train-rmspe:0.094733
eval-rmspe:0.094733
[483]    train-rmse:0.091649    eval-rmse:0.091649    train-rmspe:0.094632
eval-rmspe:0.094632
[484]    train-rmse:0.091531    eval-rmse:0.091531    train-rmspe:0.094456
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[487]    train-rmse:0.091046    eval-rmse:0.091046    train-rmspe:0.093946
eval-rmspe:0.093946
[488]    train-rmse:0.09092     eval-rmse:0.09092     train-rmspe:0.093817
eval-rmspe:0.093817
[489]    train-rmse:0.09079     eval-rmse:0.09079     train-rmspe:0.093685
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[492]    train-rmse:0.090444    eval-rmse:0.090444    train-rmspe:0.09332
eval-rmspe:0.09332
[493]    train-rmse:0.090213    eval-rmse:0.090213    train-rmspe:0.093041
eval-rmspe:0.093041
[494]    train-rmse:0.090115    eval-rmse:0.090115    train-rmspe:0.09294
eval-rmspe:0.09294
[495]    train-rmse:0.09004     eval-rmse:0.09004     train-rmspe:0.092857
eval-rmspe:0.092857
[496]    train-rmse:0.090017    eval-rmse:0.090017    train-rmspe:0.092834
eval-rmspe:0.092834
[497]    train-rmse:0.089928    eval-rmse:0.089928    train-rmspe:0.092741
eval-rmspe:0.092741
[498]    train-rmse:0.089713    eval-rmse:0.089713    train-rmspe:0.092512
eval-rmspe:0.092512
[499]    train-rmse:0.089658    eval-rmse:0.089658    train-rmspe:0.092458
eval-rmspe:0.092458
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eval-rmspe:0.091651
[507]    train-rmse:0.088733    eval-rmse:0.088733    train-rmspe:0.091483
eval-rmspe:0.091483
[508]    train-rmse:0.088679    eval-rmse:0.088679    train-rmspe:0.091427
eval-rmspe:0.091427
[509]    train-rmse:0.088547    eval-rmse:0.088547    train-rmspe:0.091292
eval-rmspe:0.091292
[510]    train-rmse:0.088496    eval-rmse:0.088496    train-rmspe:0.09124
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[511]    train-rmse:0.08836     eval-rmse:0.08836     train-rmspe:0.091093
eval-rmspe:0.091093
[512]    train-rmse:0.088251    eval-rmse:0.088251    train-rmspe:0.090981
eval-rmspe:0.090981
[513]    train-rmse:0.088156    eval-rmse:0.088156    train-rmspe:0.090883
eval-rmspe:0.090883
[514]    train-rmse:0.088003    eval-rmse:0.088003    train-rmspe:0.090721
eval-rmspe:0.090721
[515]    train-rmse:0.087879    eval-rmse:0.087879    train-rmspe:0.090591
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[517]    train-rmse:0.087584    eval-rmse:0.087584    train-rmspe:0.090276
eval-rmspe:0.090276
[518]    train-rmse:0.087366    eval-rmse:0.087366    train-rmspe:0.090003
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[519]    train-rmse:0.087256    eval-rmse:0.087256    train-rmspe:0.089888
eval-rmspe:0.089888
[520]    train-rmse:0.087141    eval-rmse:0.087141    train-rmspe:0.089769
eval-rmspe:0.089769
[521]    train-rmse:0.087056    eval-rmse:0.087056    train-rmspe:0.08968
eval-rmspe:0.08968
[522]    train-rmse:0.086991    eval-rmse:0.086991    train-rmspe:0.089613
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[523]    train-rmse:0.086855    eval-rmse:0.086855    train-rmspe:0.089459
eval-rmspe:0.089459
[524]    train-rmse:0.086734    eval-rmse:0.086734    train-rmspe:0.089332
eval-rmspe:0.089332
[525]    train-rmse:0.086631    eval-rmse:0.086631    train-rmspe:0.089226
eval-rmspe:0.089226
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[531]   train-rmse:0.085767   eval-rmse:0.085767   train-rmspe:0.088291
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eval-rmspe:0.087052
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eval-rmspe:0.086916
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eval-rmspe:0.086662
[545]   train-rmse:0.084166   eval-rmse:0.084166   train-rmspe:0.086587
eval-rmspe:0.086587
[546]   train-rmse:0.084098   eval-rmse:0.084098   train-rmspe:0.086516
eval-rmspe:0.086516
[547]   train-rmse:0.083984   eval-rmse:0.083984   train-rmspe:0.086397
eval-rmspe:0.086397
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eval-rmspe:0.085961

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[555]   train-rmse:0.08309   eval-rmse:0.08309   train-rmspe:0.085436
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[561]   train-rmse:0.082503   eval-rmse:0.082503   train-rmspe:0.084787
eval-rmspe:0.084787
[562]   train-rmse:0.082347   eval-rmse:0.082347   train-rmspe:0.084622
eval-rmspe:0.084622
[563]   train-rmse:0.082245   eval-rmse:0.082245   train-rmspe:0.084519
eval-rmspe:0.084519
[564]   train-rmse:0.082064   eval-rmse:0.082064   train-rmspe:0.084321
eval-rmspe:0.084321
[565]   train-rmse:0.081953   eval-rmse:0.081953   train-rmspe:0.084206
eval-rmspe:0.084206
[566]   train-rmse:0.081886   eval-rmse:0.081886   train-rmspe:0.084139
eval-rmspe:0.084139
[567]   train-rmse:0.081798   eval-rmse:0.081798   train-rmspe:0.084046
eval-rmspe:0.084046
[568]   train-rmse:0.081587   eval-rmse:0.081587   train-rmspe:0.083819
eval-rmspe:0.083819
[569]   train-rmse:0.081457   eval-rmse:0.081457   train-rmspe:0.083681
eval-rmspe:0.083681
[570]   train-rmse:0.081351   eval-rmse:0.081351   train-rmspe:0.083573
eval-rmspe:0.083573
[571]   train-rmse:0.081219   eval-rmse:0.081219   train-rmspe:0.08344
eval-rmspe:0.08344
[572]   train-rmse:0.081056   eval-rmse:0.081056   train-rmspe:0.083273
eval-rmspe:0.083273
[573]   train-rmse:0.080999   eval-rmse:0.080999   train-rmspe:0.083213
eval-rmspe:0.083213

[574]	train-rmse:0.080913	eval-rmse:0.080913	train-rmspe:0.083126
eval-rmspe:0.083126
[575]	train-rmse:0.080829	eval-rmse:0.080829	train-rmspe:0.083035
eval-rmspe:0.083035
[576]	train-rmse:0.08072	eval-rmse:0.08072	train-rmspe:0.08292
eval-rmspe:0.08292
[577]	train-rmse:0.080688	eval-rmse:0.080688	train-rmspe:0.082881
eval-rmspe:0.082881
[578]	train-rmse:0.080546	eval-rmse:0.080546	train-rmspe:0.082733
eval-rmspe:0.082733
[579]	train-rmse:0.080446	eval-rmse:0.080446	train-rmspe:0.082614
eval-rmspe:0.082614
[580]	train-rmse:0.080377	eval-rmse:0.080377	train-rmspe:0.082546
eval-rmspe:0.082546
[581]	train-rmse:0.080292	eval-rmse:0.080292	train-rmspe:0.08246
eval-rmspe:0.08246
[582]	train-rmse:0.080246	eval-rmse:0.080246	train-rmspe:0.082412
eval-rmspe:0.082412
[583]	train-rmse:0.080231	eval-rmse:0.080231	train-rmspe:0.082397
eval-rmspe:0.082397
[584]	train-rmse:0.080169	eval-rmse:0.080169	train-rmspe:0.082333
eval-rmspe:0.082333
[585]	train-rmse:0.080033	eval-rmse:0.080033	train-rmspe:0.082186
eval-rmspe:0.082186
[586]	train-rmse:0.079992	eval-rmse:0.079992	train-rmspe:0.082147
eval-rmspe:0.082147
[587]	train-rmse:0.079875	eval-rmse:0.079875	train-rmspe:0.082028
eval-rmspe:0.082028
[588]	train-rmse:0.079751	eval-rmse:0.079751	train-rmspe:0.081901
eval-rmspe:0.081901
[589]	train-rmse:0.07963	eval-rmse:0.07963	train-rmspe:0.081775
eval-rmspe:0.081775
[590]	train-rmse:0.079481	eval-rmse:0.079481	train-rmspe:0.081608
eval-rmspe:0.081608
[591]	train-rmse:0.079425	eval-rmse:0.079425	train-rmspe:0.081551
eval-rmspe:0.081551
[592]	train-rmse:0.079358	eval-rmse:0.079358	train-rmspe:0.081478
eval-rmspe:0.081478
[593]	train-rmse:0.079289	eval-rmse:0.079289	train-rmspe:0.081408
eval-rmspe:0.081408
[594]	train-rmse:0.079129	eval-rmse:0.079129	train-rmspe:0.081241
eval-rmspe:0.081241
[595]	train-rmse:0.078956	eval-rmse:0.078956	train-rmspe:0.081053
eval-rmspe:0.081053
[596]	train-rmse:0.078855	eval-rmse:0.078855	train-rmspe:0.080947
eval-rmspe:0.080947
[597]	train-rmse:0.078786	eval-rmse:0.078786	train-rmspe:0.080871
eval-rmspe:0.080871

[598]   train-rmse:0.078647   eval-rmse:0.078647   train-rmspe:0.080725
eval-rmspe:0.080725
[599]   train-rmse:0.078527   eval-rmse:0.078527   train-rmspe:0.080602
eval-rmspe:0.080602
round 2 end
round 3:
[0]   train-rmse:8.02733   eval-rmse:8.02733   train-rmspe:0.999811
eval-rmspe:0.999811
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
[1]   train-rmse:7.78703   eval-rmse:7.78703   train-rmspe:0.999713
eval-rmspe:0.999713
[2]   train-rmse:7.55401   eval-rmse:7.55401   train-rmspe:0.999594
eval-rmspe:0.999594
[3]   train-rmse:7.32792   eval-rmse:7.32792   train-rmspe:0.999448
eval-rmspe:0.999448
[4]   train-rmse:7.10867   eval-rmse:7.10867   train-rmspe:0.999272
eval-rmspe:0.999272
[5]   train-rmse:6.896   eval-rmse:6.896 train-rmspe:0.99906   eval-
rmspe:0.99906
[6]   train-rmse:6.68973   eval-rmse:6.68973   train-rmspe:0.998806
eval-rmspe:0.998806
[7]   train-rmse:6.48967   eval-rmse:6.48967   train-rmspe:0.998505
eval-rmspe:0.998505
[8]   train-rmse:6.29563   eval-rmse:6.29563   train-rmspe:0.99815
eval-rmspe:0.99815
[9]   train-rmse:6.10739   eval-rmse:6.10739   train-rmspe:0.997733
eval-rmspe:0.997733
[10]   train-rmse:5.92483   eval-rmse:5.92483   train-rmspe:0.997246
eval-rmspe:0.997246
[11]   train-rmse:5.74775   eval-rmse:5.74775   train-rmspe:0.996682
eval-rmspe:0.996682
[12]   train-rmse:5.57601   eval-rmse:5.57601   train-rmspe:0.996031
eval-rmspe:0.996031
[13]   train-rmse:5.40948   eval-rmse:5.40948   train-rmspe:0.995283
eval-rmspe:0.995283
[14]   train-rmse:5.24793   eval-rmse:5.24793   train-rmspe:0.994429
eval-rmspe:0.994429
[15]   train-rmse:5.09128   eval-rmse:5.09128   train-rmspe:0.993457
eval-rmspe:0.993457
[16]   train-rmse:4.9393   eval-rmse:4.9393   train-rmspe:0.99236
eval-rmspe:0.99236
[17]   train-rmse:4.79194   eval-rmse:4.79194   train-rmspe:0.991125
eval-rmspe:0.991125
[18]   train-rmse:4.64902   eval-rmse:4.64902   train-rmspe:0.989741
eval-rmspe:0.989741

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[19]     train-rmse:4.51035        eval-rmse:4.51035          train-rmspe:0.988193
eval-rmspe:0.988193
[20]     train-rmse:4.37595        eval-rmse:4.37595          train-rmspe:0.986474
eval-rmspe:0.986474
[21]     train-rmse:4.24554        eval-rmse:4.24554          train-rmspe:0.98457
eval-rmspe:0.98457
[22]     train-rmse:4.11908        eval-rmse:4.11908          train-rmspe:0.982471
eval-rmspe:0.982471
[23]     train-rmse:3.99642        eval-rmse:3.99642          train-rmspe:0.980172
eval-rmspe:0.980172
[24]     train-rmse:3.8775         eval-rmse:3.8775           train-rmspe:0.97765
eval-rmspe:0.97765
[25]     train-rmse:3.76221        eval-rmse:3.76221          train-rmspe:0.974903
eval-rmspe:0.974903
[26]     train-rmse:3.65031        eval-rmse:3.65031          train-rmspe:0.971924
eval-rmspe:0.971924
[27]     train-rmse:3.54182        eval-rmse:3.54182          train-rmspe:0.968699
eval-rmspe:0.968699
[28]     train-rmse:3.4366         eval-rmse:3.4366           train-rmspe:0.96522
eval-rmspe:0.96522
[29]     train-rmse:3.33454        eval-rmse:3.33454          train-rmspe:0.961487
eval-rmspe:0.961487
[30]     train-rmse:3.2356         eval-rmse:3.2356           train-rmspe:0.957485
eval-rmspe:0.957485
[31]     train-rmse:3.13967        eval-rmse:3.13967          train-rmspe:0.953194
eval-rmspe:0.953194
[32]     train-rmse:3.04662        eval-rmse:3.04662          train-rmspe:0.948624
eval-rmspe:0.948624
[33]     train-rmse:2.95642        eval-rmse:2.95642          train-rmspe:0.943776
eval-rmspe:0.943776
[34]     train-rmse:2.86893        eval-rmse:2.86893          train-rmspe:0.938636
eval-rmspe:0.938636
[35]     train-rmse:2.78411        eval-rmse:2.78411          train-rmspe:0.933228
eval-rmspe:0.933228
[36]     train-rmse:2.70182        eval-rmse:2.70182          train-rmspe:0.927517
eval-rmspe:0.927517
[37]     train-rmse:2.62203        eval-rmse:2.62203          train-rmspe:0.921531
eval-rmspe:0.921531
[38]     train-rmse:2.54464        eval-rmse:2.54464          train-rmspe:0.91524
eval-rmspe:0.91524
[39]     train-rmse:2.46963        eval-rmse:2.46963          train-rmspe:0.908674
eval-rmspe:0.908674
[40]     train-rmse:2.39689        eval-rmse:2.39689          train-rmspe:0.901829
eval-rmspe:0.901829
[41]     train-rmse:2.32634        eval-rmse:2.32634          train-rmspe:0.894729
eval-rmspe:0.894729
[42]     train-rmse:2.25794        eval-rmse:2.25794          train-rmspe:0.887331
eval-rmspe:0.887331
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[43]     train-rmse:2.19167      eval-rmse:2.19167       train-rmspe:0.879644
eval-rmspe:0.879644
[44]     train-rmse:2.12739      eval-rmse:2.12739       train-rmspe:0.871727
eval-rmspe:0.871727
[45]     train-rmse:2.06504      eval-rmse:2.06504       train-rmspe:0.863568
eval-rmspe:0.863568
[46]     train-rmse:2.00465      eval-rmse:2.00465       train-rmspe:0.855116
eval-rmspe:0.855116
[47]     train-rmse:1.94598      eval-rmse:1.94598       train-rmspe:0.846485
eval-rmspe:0.846485
[48]     train-rmse:1.88913      eval-rmse:1.88913       train-rmspe:0.837608
eval-rmspe:0.837608
[49]     train-rmse:1.83408      eval-rmse:1.83408       train-rmspe:0.828505
eval-rmspe:0.828505
[50]     train-rmse:1.78063      eval-rmse:1.78063       train-rmspe:0.819219
eval-rmspe:0.819219
[51]     train-rmse:1.72877      eval-rmse:1.72877       train-rmspe:0.809755
eval-rmspe:0.809755
[52]     train-rmse:1.67854      eval-rmse:1.67854       train-rmspe:0.80011
eval-rmspe:0.80011
[53]     train-rmse:1.6298       eval-rmse:1.6298        train-rmspe:0.790308
eval-rmspe:0.790308
[54]     train-rmse:1.58251      eval-rmse:1.58251       train-rmspe:0.780379
eval-rmspe:0.780379
[55]     train-rmse:1.53682      eval-rmse:1.53682       train-rmspe:0.77021
eval-rmspe:0.77021
[56]     train-rmse:1.49259      eval-rmse:1.49259       train-rmspe:0.759898
eval-rmspe:0.759898
[57]     train-rmse:1.44955      eval-rmse:1.44955       train-rmspe:0.749576
eval-rmspe:0.749576
[58]     train-rmse:1.4079       eval-rmse:1.4079        train-rmspe:0.739093
eval-rmspe:0.739093
[59]     train-rmse:1.36744      eval-rmse:1.36744       train-rmspe:0.728559
eval-rmspe:0.728559
[60]     train-rmse:1.32843      eval-rmse:1.32843       train-rmspe:0.717867
eval-rmspe:0.717867
[61]     train-rmse:1.29058      eval-rmse:1.29058       train-rmspe:0.707165
eval-rmspe:0.707165
[62]     train-rmse:1.25371      eval-rmse:1.25371       train-rmspe:0.696457
eval-rmspe:0.696457
[63]     train-rmse:1.21823      eval-rmse:1.21823       train-rmspe:0.685621
eval-rmspe:0.685621
[64]     train-rmse:1.1837       eval-rmse:1.1837        train-rmspe:0.674838
eval-rmspe:0.674838
[65]     train-rmse:1.15029      eval-rmse:1.15029       train-rmspe:0.664
eval-rmspe:0.664
[66]     train-rmse:1.11776      eval-rmse:1.11776       train-rmspe:0.653208
eval-rmspe:0.653208
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[67]     train-rmse:1.08625      eval-rmse:1.08625      train-rmspe:0.642447
eval-rmspe:0.642447
[68]     train-rmse:1.05594      eval-rmse:1.05594      train-rmspe:0.631625
eval-rmspe:0.631625
[69]     train-rmse:1.0262       eval-rmse:1.0262       train-rmspe:0.620929
eval-rmspe:0.620929
[70]     train-rmse:0.99771      eval-rmse:0.99771      train-rmspe:0.610207
eval-rmspe:0.610207
[71]     train-rmse:0.970088     eval-rmse:0.970088     train-rmspe:0.599563
eval-rmspe:0.599563
[72]     train-rmse:0.943207     eval-rmse:0.943207     train-rmspe:0.589004
eval-rmspe:0.589004
[73]     train-rmse:0.917461     eval-rmse:0.917461     train-rmspe:0.578474
eval-rmspe:0.578474
[74]     train-rmse:0.892274     eval-rmse:0.892274     train-rmspe:0.568039
eval-rmspe:0.568039
[75]     train-rmse:0.867852     eval-rmse:0.867852     train-rmspe:0.557756
eval-rmspe:0.557756
[76]     train-rmse:0.844451     eval-rmse:0.844451     train-rmspe:0.547542
eval-rmspe:0.547542
[77]     train-rmse:0.821682     eval-rmse:0.821682     train-rmspe:0.537461
eval-rmspe:0.537461
[78]     train-rmse:0.799586     eval-rmse:0.799586     train-rmspe:0.527512
eval-rmspe:0.527512
[79]     train-rmse:0.778367     eval-rmse:0.778367     train-rmspe:0.517687
eval-rmspe:0.517687
[80]     train-rmse:0.757305     eval-rmse:0.757305     train-rmspe:0.507964
eval-rmspe:0.507964
[81]     train-rmse:0.73739      eval-rmse:0.73739      train-rmspe:0.498416
eval-rmspe:0.498416
[82]     train-rmse:0.718165     eval-rmse:0.718165     train-rmspe:0.488996
eval-rmspe:0.488996
[83]     train-rmse:0.699291     eval-rmse:0.699291     train-rmspe:0.479745
eval-rmspe:0.479745
[84]     train-rmse:0.681428     eval-rmse:0.681428     train-rmspe:0.470687
eval-rmspe:0.470687
[85]     train-rmse:0.66375      eval-rmse:0.66375      train-rmspe:0.461711
eval-rmspe:0.461711
[86]     train-rmse:0.646807     eval-rmse:0.646807     train-rmspe:0.452949
eval-rmspe:0.452949
[87]     train-rmse:0.630651     eval-rmse:0.630651     train-rmspe:0.444408
eval-rmspe:0.444408
[88]     train-rmse:0.614944     eval-rmse:0.614944     train-rmspe:0.436043
eval-rmspe:0.436043
[89]     train-rmse:0.599796     eval-rmse:0.599796     train-rmspe:0.427851
eval-rmspe:0.427851
[90]     train-rmse:0.585091     eval-rmse:0.585091     train-rmspe:0.419831
eval-rmspe:0.419831
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[91]    train-rmse:0.570794    eval-rmse:0.570794    train-rmspe:0.412006
eval-rmspe:0.412006
[92]    train-rmse:0.557024    eval-rmse:0.557024    train-rmspe:0.404351
eval-rmspe:0.404351
[93]    train-rmse:0.543673    eval-rmse:0.543673    train-rmspe:0.396856
eval-rmspe:0.396856
[94]    train-rmse:0.530887    eval-rmse:0.530887    train-rmspe:0.38961
eval-rmspe:0.38961
[95]    train-rmse:0.518471    eval-rmse:0.518471    train-rmspe:0.382499
eval-rmspe:0.382499
[96]    train-rmse:0.506484    eval-rmse:0.506484    train-rmspe:0.3756
eval-rmspe:0.3756
[97]    train-rmse:0.494446    eval-rmse:0.494446    train-rmspe:0.368688
eval-rmspe:0.368688
[98]    train-rmse:0.483276    eval-rmse:0.483276    train-rmspe:0.362191
eval-rmspe:0.362191
[99]    train-rmse:0.472425    eval-rmse:0.472425    train-rmspe:0.355835
eval-rmspe:0.355835
[100]   train-rmse:0.461932    eval-rmse:0.461932    train-rmspe:0.349675
eval-rmspe:0.349675
[101]   train-rmse:0.451941    eval-rmse:0.451941    train-rmspe:0.343771
eval-rmspe:0.343771
[102]   train-rmse:0.442144    eval-rmse:0.442144    train-rmspe:0.337959
eval-rmspe:0.337959
[103]   train-rmse:0.432655    eval-rmse:0.432655    train-rmspe:0.332299
eval-rmspe:0.332299
[104]   train-rmse:0.423699    eval-rmse:0.423699    train-rmspe:0.326922
eval-rmspe:0.326922
[105]   train-rmse:0.41523     eval-rmse:0.41523     train-rmspe:0.321847
eval-rmspe:0.321847
[106]   train-rmse:0.406666    eval-rmse:0.406666    train-rmspe:0.316745
eval-rmspe:0.316745
[107]   train-rmse:0.39855     eval-rmse:0.39855     train-rmspe:0.311852
eval-rmspe:0.311852
[108]   train-rmse:0.390685    eval-rmse:0.390685    train-rmspe:0.307097
eval-rmspe:0.307097
[109]   train-rmse:0.383249    eval-rmse:0.383249    train-rmspe:0.302612
eval-rmspe:0.302612
[110]   train-rmse:0.375958    eval-rmse:0.375958    train-rmspe:0.298211
eval-rmspe:0.298211
[111]   train-rmse:0.369058    eval-rmse:0.369058    train-rmspe:0.294073
eval-rmspe:0.294073
[112]   train-rmse:0.362567    eval-rmse:0.362567    train-rmspe:0.290167
eval-rmspe:0.290167
[113]   train-rmse:0.356033    eval-rmse:0.356033    train-rmspe:0.286219
eval-rmspe:0.286219
[114]   train-rmse:0.350007    eval-rmse:0.350007    train-rmspe:0.282676
eval-rmspe:0.282676
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[115]    train-rmse:0.344123    eval-rmse:0.344123    train-rmspe:0.279164
eval-rmspe:0.279164
[116]    train-rmse:0.338472    eval-rmse:0.338472    train-rmspe:0.275754
eval-rmspe:0.275754
[117]    train-rmse:0.332498    eval-rmse:0.332498    train-rmspe:0.272161
eval-rmspe:0.272161
[118]    train-rmse:0.32727     eval-rmse:0.32727     train-rmspe:0.269101
eval-rmspe:0.269101
[119]    train-rmse:0.322235    eval-rmse:0.322235    train-rmspe:0.266143
eval-rmspe:0.266143
[120]    train-rmse:0.317287    eval-rmse:0.317287    train-rmspe:0.263264
eval-rmspe:0.263264
[121]    train-rmse:0.312738    eval-rmse:0.312738    train-rmspe:0.260678
eval-rmspe:0.260678
[122]    train-rmse:0.3081      eval-rmse:0.3081      train-rmspe:0.258031
eval-rmspe:0.258031
[123]    train-rmse:0.303827    eval-rmse:0.303827    train-rmspe:0.255669
eval-rmspe:0.255669
[124]    train-rmse:0.299406    eval-rmse:0.299406    train-rmspe:0.253084
eval-rmspe:0.253084
[125]    train-rmse:0.295481    eval-rmse:0.295481    train-rmspe:0.250901
eval-rmspe:0.250901
[126]    train-rmse:0.291687    eval-rmse:0.291687    train-rmspe:0.24877
eval-rmspe:0.24877
[127]    train-rmse:0.28787     eval-rmse:0.28787     train-rmspe:0.246598
eval-rmspe:0.246598
[128]    train-rmse:0.283957    eval-rmse:0.283957    train-rmspe:0.244244
eval-rmspe:0.244244
[129]    train-rmse:0.280523    eval-rmse:0.280523    train-rmspe:0.242372
eval-rmspe:0.242372
[130]    train-rmse:0.277047    eval-rmse:0.277047    train-rmspe:0.240448
eval-rmspe:0.240448
[131]    train-rmse:0.27393     eval-rmse:0.27393     train-rmspe:0.238796
eval-rmspe:0.238796
[132]    train-rmse:0.270893    eval-rmse:0.270893    train-rmspe:0.237213
eval-rmspe:0.237213
[133]    train-rmse:0.268111    eval-rmse:0.268111    train-rmspe:0.23579
eval-rmspe:0.23579
[134]    train-rmse:0.264776    eval-rmse:0.264776    train-rmspe:0.233889
eval-rmspe:0.233889
[135]    train-rmse:0.261878    eval-rmse:0.261878    train-rmspe:0.232241
eval-rmspe:0.232241
[136]    train-rmse:0.259165    eval-rmse:0.259165    train-rmspe:0.230847
eval-rmspe:0.230847
[137]    train-rmse:0.256934    eval-rmse:0.256934    train-rmspe:0.229847
eval-rmspe:0.229847
[138]    train-rmse:0.254453    eval-rmse:0.254453    train-rmspe:0.228595
eval-rmspe:0.228595
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[139]    train-rmse:0.251662    eval-rmse:0.251662    train-rmspe:0.226986
eval-rmspe:0.226986
[140]    train-rmse:0.248718    eval-rmse:0.248718    train-rmspe:0.225264
eval-rmspe:0.225264
[141]    train-rmse:0.246478    eval-rmse:0.246478    train-rmspe:0.224057
eval-rmspe:0.224057
[142]    train-rmse:0.244581    eval-rmse:0.244581    train-rmspe:0.223154
eval-rmspe:0.223154
[143]    train-rmse:0.24218     eval-rmse:0.24218     train-rmspe:0.221818
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[144]    train-rmse:0.240002    eval-rmse:0.240002    train-rmspe:0.220612
eval-rmspe:0.220612
[145]    train-rmse:0.237559    eval-rmse:0.237559    train-rmspe:0.219138
eval-rmspe:0.219138
[146]    train-rmse:0.23587     eval-rmse:0.23587     train-rmspe:0.218391
eval-rmspe:0.218391
[147]    train-rmse:0.234243    eval-rmse:0.234243    train-rmspe:0.217661
eval-rmspe:0.217661
[148]    train-rmse:0.232613    eval-rmse:0.232613    train-rmspe:0.216856
eval-rmspe:0.216856
[149]    train-rmse:0.231141    eval-rmse:0.231141    train-rmspe:0.216193
eval-rmspe:0.216193
[150]    train-rmse:0.229241    eval-rmse:0.229241    train-rmspe:0.215139
eval-rmspe:0.215139
[151]    train-rmse:0.228129    eval-rmse:0.228129    train-rmspe:0.214827
eval-rmspe:0.214827
[152]    train-rmse:0.226754    eval-rmse:0.226754    train-rmspe:0.21427
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[153]    train-rmse:0.225278    eval-rmse:0.225278    train-rmspe:0.213561
eval-rmspe:0.213561
[154]    train-rmse:0.224183    eval-rmse:0.224183    train-rmspe:0.213173
eval-rmspe:0.213173
[155]    train-rmse:0.223103    eval-rmse:0.223103    train-rmspe:0.212793
eval-rmspe:0.212793
[156]    train-rmse:0.221918    eval-rmse:0.221918    train-rmspe:0.212244
eval-rmspe:0.212244
[157]    train-rmse:0.220561    eval-rmse:0.220561    train-rmspe:0.211556
eval-rmspe:0.211556
[158]    train-rmse:0.219365    eval-rmse:0.219365    train-rmspe:0.210971
eval-rmspe:0.210971
[159]    train-rmse:0.217794    eval-rmse:0.217794    train-rmspe:0.209959
eval-rmspe:0.209959
[160]    train-rmse:0.216941    eval-rmse:0.216941    train-rmspe:0.209682
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[161]    train-rmse:0.215911    eval-rmse:0.215911    train-rmspe:0.209237
eval-rmspe:0.209237
[162]    train-rmse:0.214686    eval-rmse:0.214686    train-rmspe:0.208517
eval-rmspe:0.208517
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[163]    train-rmse:0.213433    eval-rmse:0.213433    train-rmspe:0.207828
eval-rmspe:0.207828
[164]    train-rmse:0.211955    eval-rmse:0.211955    train-rmspe:0.206837
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[165]    train-rmse:0.21096     eval-rmse:0.21096     train-rmspe:0.206394
eval-rmspe:0.206394
[166]    train-rmse:0.210317    eval-rmse:0.210317    train-rmspe:0.206237
eval-rmspe:0.206237
[167]    train-rmse:0.209739    eval-rmse:0.209739    train-rmspe:0.206119
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[168]    train-rmse:0.209195    eval-rmse:0.209195    train-rmspe:0.206036
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[169]    train-rmse:0.208479    eval-rmse:0.208479    train-rmspe:0.205768
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[170]    train-rmse:0.207985    eval-rmse:0.207985    train-rmspe:0.205729
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[171]    train-rmse:0.207116    eval-rmse:0.207116    train-rmspe:0.205285
eval-rmspe:0.205285
[172]    train-rmse:0.205972    eval-rmse:0.205972    train-rmspe:0.204535
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[173]    train-rmse:0.205106    eval-rmse:0.205106    train-rmspe:0.204023
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[174]    train-rmse:0.203828    eval-rmse:0.203828    train-rmspe:0.2032
eval-rmspe:0.2032
[175]    train-rmse:0.202283    eval-rmse:0.202283    train-rmspe:0.202001
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[176]    train-rmse:0.201437    eval-rmse:0.201437    train-rmspe:0.2016
eval-rmspe:0.2016
[177]    train-rmse:0.200934    eval-rmse:0.200934    train-rmspe:0.201441
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[178]    train-rmse:0.200284    eval-rmse:0.200284    train-rmspe:0.201075
eval-rmspe:0.201075
[179]    train-rmse:0.199098    eval-rmse:0.199098    train-rmspe:0.200207
eval-rmspe:0.200207
[180]    train-rmse:0.197878    eval-rmse:0.197878    train-rmspe:0.199133
eval-rmspe:0.199133
[181]    train-rmse:0.196871    eval-rmse:0.196871    train-rmspe:0.198355
eval-rmspe:0.198355
[182]    train-rmse:0.196581    eval-rmse:0.196581    train-rmspe:0.198348
eval-rmspe:0.198348
[183]    train-rmse:0.195967    eval-rmse:0.195967    train-rmspe:0.197982
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[184]    train-rmse:0.195105    eval-rmse:0.195105    train-rmspe:0.19724
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[185]    train-rmse:0.194564    eval-rmse:0.194564    train-rmspe:0.19699
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[186]    train-rmse:0.194166    eval-rmse:0.194166    train-rmspe:0.19683
eval-rmspe:0.19683
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[187]    train-rmse:0.193591    eval-rmse:0.193591    train-rmspe:0.196471
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[188]    train-rmse:0.193092    eval-rmse:0.193092    train-rmspe:0.196205
eval-rmspe:0.196205
[189]    train-rmse:0.192546    eval-rmse:0.192546    train-rmspe:0.195833
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[190]    train-rmse:0.192001    eval-rmse:0.192001    train-rmspe:0.195502
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[191]    train-rmse:0.191033    eval-rmse:0.191033    train-rmspe:0.19464
eval-rmspe:0.19464
[192]    train-rmse:0.190422    eval-rmse:0.190422    train-rmspe:0.19425
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[193]    train-rmse:0.189868    eval-rmse:0.189868    train-rmspe:0.193881
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[194]    train-rmse:0.188888    eval-rmse:0.188888    train-rmspe:0.192998
eval-rmspe:0.192998
[195]    train-rmse:0.188464    eval-rmse:0.188464    train-rmspe:0.192733
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[196]    train-rmse:0.187795    eval-rmse:0.187795    train-rmspe:0.192198
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eval-rmspe:0.191994
[198]    train-rmse:0.186361    eval-rmse:0.186361    train-rmspe:0.191098
eval-rmspe:0.191098
[199]    train-rmse:0.185579    eval-rmse:0.185579    train-rmspe:0.190455
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[200]    train-rmse:0.185372    eval-rmse:0.185372    train-rmspe:0.190397
eval-rmspe:0.190397
[201]    train-rmse:0.184935    eval-rmse:0.184935    train-rmspe:0.190139
eval-rmspe:0.190139
[202]    train-rmse:0.18425    eval-rmse:0.18425    train-rmspe:0.189596
eval-rmspe:0.189596
[203]    train-rmse:0.183815    eval-rmse:0.183815    train-rmspe:0.189276
eval-rmspe:0.189276
[204]    train-rmse:0.18298    eval-rmse:0.18298    train-rmspe:0.188592
eval-rmspe:0.188592
[205]    train-rmse:0.182585    eval-rmse:0.182585    train-rmspe:0.188351
eval-rmspe:0.188351
[206]    train-rmse:0.181624    eval-rmse:0.181624    train-rmspe:0.187509
eval-rmspe:0.187509
[207]    train-rmse:0.180622    eval-rmse:0.180622    train-rmspe:0.18652
eval-rmspe:0.18652
[208]    train-rmse:0.179547    eval-rmse:0.179547    train-rmspe:0.185583
eval-rmspe:0.185583
[209]    train-rmse:0.178967    eval-rmse:0.178967    train-rmspe:0.185149
eval-rmspe:0.185149
[210]    train-rmse:0.178494    eval-rmse:0.178494    train-rmspe:0.18478
eval-rmspe:0.18478
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[211]   train-rmse:0.177923   eval-rmse:0.177923   train-rmspe:0.184326
eval-rmspe:0.184326
[212]   train-rmse:0.177458   eval-rmse:0.177458   train-rmspe:0.183918
eval-rmspe:0.183918
[213]   train-rmse:0.177237   eval-rmse:0.177237   train-rmspe:0.183789
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[214]   train-rmse:0.176795   eval-rmse:0.176795   train-rmspe:0.183447
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[216]   train-rmse:0.175997   eval-rmse:0.175997   train-rmspe:0.182771
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eval-rmspe:0.181889
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eval-rmspe:0.181049
[221]   train-rmse:0.172976   eval-rmse:0.172976   train-rmspe:0.180041
eval-rmspe:0.180041
[222]   train-rmse:0.17266   eval-rmse:0.17266   train-rmspe:0.179791
eval-rmspe:0.179791
[223]   train-rmse:0.172398   eval-rmse:0.172398   train-rmspe:0.179609
eval-rmspe:0.179609
[224]   train-rmse:0.171728   eval-rmse:0.171728   train-rmspe:0.178962
eval-rmspe:0.178962
[225]   train-rmse:0.170588   eval-rmse:0.170588   train-rmspe:0.177707
eval-rmspe:0.177707
[226]   train-rmse:0.170391   eval-rmse:0.170391   train-rmspe:0.177601
eval-rmspe:0.177601
[227]   train-rmse:0.170044   eval-rmse:0.170044   train-rmspe:0.177288
eval-rmspe:0.177288
[228]   train-rmse:0.169862   eval-rmse:0.169862   train-rmspe:0.177157
eval-rmspe:0.177157
[229]   train-rmse:0.169158   eval-rmse:0.169158   train-rmspe:0.176417
eval-rmspe:0.176417
[230]   train-rmse:0.168626   eval-rmse:0.168626   train-rmspe:0.175932
eval-rmspe:0.175932
[231]   train-rmse:0.167686   eval-rmse:0.167686   train-rmspe:0.174879
eval-rmspe:0.174879
[232]   train-rmse:0.167223   eval-rmse:0.167223   train-rmspe:0.174423
eval-rmspe:0.174423
[233]   train-rmse:0.166419   eval-rmse:0.166419   train-rmspe:0.173609
eval-rmspe:0.173609
[234]   train-rmse:0.165875   eval-rmse:0.165875   train-rmspe:0.173046
eval-rmspe:0.173046

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[235]    train-rmse:0.164847    eval-rmse:0.164847    train-rmspe:0.17197
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[236]    train-rmse:0.164487    eval-rmse:0.164487    train-rmspe:0.171617
eval-rmspe:0.171617
[237]    train-rmse:0.163774    eval-rmse:0.163774    train-rmspe:0.170877
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[238]    train-rmse:0.163319    eval-rmse:0.163319    train-rmspe:0.170452
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[239]    train-rmse:0.163094    eval-rmse:0.163094    train-rmspe:0.170231
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eval-rmspe:0.169267
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[243]    train-rmse:0.161201    eval-rmse:0.161201    train-rmspe:0.168355
eval-rmspe:0.168355
[244]    train-rmse:0.160074    eval-rmse:0.160074    train-rmspe:0.167213
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eval-rmspe:0.166549
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eval-rmspe:0.165598
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eval-rmspe:0.164794
[252]    train-rmse:0.157034    eval-rmse:0.157034    train-rmspe:0.164255
eval-rmspe:0.164255
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eval-rmspe:0.163739
[254]    train-rmse:0.156209    eval-rmse:0.156209    train-rmspe:0.163407
eval-rmspe:0.163407
[255]    train-rmse:0.155998    eval-rmse:0.155998    train-rmspe:0.163224
eval-rmspe:0.163224
[256]    train-rmse:0.155741    eval-rmse:0.155741    train-rmspe:0.162982
eval-rmspe:0.162982
[257]    train-rmse:0.155233    eval-rmse:0.155233    train-rmspe:0.16247
eval-rmspe:0.16247
[258]    train-rmse:0.154874    eval-rmse:0.154874    train-rmspe:0.162118
eval-rmspe:0.162118
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eval-rmspe:0.160397
[263]   train-rmse:0.152882   eval-rmse:0.152882   train-rmspe:0.160116
eval-rmspe:0.160116
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eval-rmspe:0.159818
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eval-rmspe:0.158926
[266]   train-rmse:0.151567   eval-rmse:0.151567   train-rmspe:0.158668
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[267]   train-rmse:0.151292   eval-rmse:0.151292   train-rmspe:0.158365
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[272]   train-rmse:0.150028   eval-rmse:0.150028   train-rmspe:0.157081
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[273]   train-rmse:0.149346   eval-rmse:0.149346   train-rmspe:0.156305
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[274]   train-rmse:0.148476   eval-rmse:0.148476   train-rmspe:0.155374
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[276]   train-rmse:0.14756   eval-rmse:0.14756   train-rmspe:0.154443
eval-rmspe:0.154443
[277]   train-rmse:0.147181   eval-rmse:0.147181   train-rmspe:0.154059
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[278]   train-rmse:0.146962   eval-rmse:0.146962   train-rmspe:0.15385
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[279]   train-rmse:0.146522   eval-rmse:0.146522   train-rmspe:0.153422
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eval-rmspe:0.151623
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[447]    train-rmse:0.100928    eval-rmse:0.100928    train-rmspe:0.104813
eval-rmspe:0.104813
[448]    train-rmse:0.100733    eval-rmse:0.100733    train-rmspe:0.104587
eval-rmspe:0.104587
[449]    train-rmse:0.10036     eval-rmse:0.10036     train-rmspe:0.104171
eval-rmspe:0.104171
[450]    train-rmse:0.100079    eval-rmse:0.100079    train-rmspe:0.103855
eval-rmspe:0.103855
```

[451]   train-rmse:0.099863   eval-rmse:0.099863   train-rmspe:0.103628
eval-rmspe:0.103628
[452]   train-rmse:0.099469   eval-rmse:0.099469   train-rmspe:0.103203
eval-rmspe:0.103203
[453]   train-rmse:0.099294   eval-rmse:0.099294   train-rmspe:0.103026
eval-rmspe:0.103026
[454]   train-rmse:0.099079   eval-rmse:0.099079   train-rmspe:0.102812
eval-rmspe:0.102812
[455]   train-rmse:0.09897   eval-rmse:0.09897   train-rmspe:0.102691
eval-rmspe:0.102691
[456]   train-rmse:0.098785   eval-rmse:0.098785   train-rmspe:0.102495
eval-rmspe:0.102495
[457]   train-rmse:0.098738   eval-rmse:0.098738   train-rmspe:0.102445
eval-rmspe:0.102445
[458]   train-rmse:0.098509   eval-rmse:0.098509   train-rmspe:0.102207
eval-rmspe:0.102207
[459]   train-rmse:0.098447   eval-rmse:0.098447   train-rmspe:0.102141
eval-rmspe:0.102141
[460]   train-rmse:0.098287   eval-rmse:0.098287   train-rmspe:0.101976
eval-rmspe:0.101976
[461]   train-rmse:0.09824   eval-rmse:0.09824   train-rmspe:0.101928
eval-rmspe:0.101928
[462]   train-rmse:0.097948   eval-rmse:0.097948   train-rmspe:0.101593
eval-rmspe:0.101593
[463]   train-rmse:0.097885   eval-rmse:0.097885   train-rmspe:0.101526
eval-rmspe:0.101526
[464]   train-rmse:0.097799   eval-rmse:0.097799   train-rmspe:0.101435
eval-rmspe:0.101435
[465]   train-rmse:0.097752   eval-rmse:0.097752   train-rmspe:0.101386
eval-rmspe:0.101386
[466]   train-rmse:0.097723   eval-rmse:0.097723   train-rmspe:0.101355
eval-rmspe:0.101355
[467]   train-rmse:0.097583   eval-rmse:0.097583   train-rmspe:0.101208
eval-rmspe:0.101208
[468]   train-rmse:0.097513   eval-rmse:0.097513   train-rmspe:0.101138
eval-rmspe:0.101138
[469]   train-rmse:0.097383   eval-rmse:0.097383   train-rmspe:0.101003
eval-rmspe:0.101003
[470]   train-rmse:0.097274   eval-rmse:0.097274   train-rmspe:0.100899
eval-rmspe:0.100899
[471]   train-rmse:0.097043   eval-rmse:0.097043   train-rmspe:0.100659
eval-rmspe:0.100659
[472]   train-rmse:0.096791   eval-rmse:0.096791   train-rmspe:0.100383
eval-rmspe:0.100383
[473]   train-rmse:0.096763   eval-rmse:0.096763   train-rmspe:0.100354
eval-rmspe:0.100354
[474]   train-rmse:0.096618   eval-rmse:0.096618   train-rmspe:0.100203
eval-rmspe:0.100203

[475]   train-rmse:0.096453   eval-rmse:0.096453   train-rmspe:0.100026
eval-rmspe:0.100026
[476]   train-rmse:0.096305   eval-rmse:0.096305   train-rmspe:0.099872
eval-rmspe:0.099872
[477]   train-rmse:0.096203   eval-rmse:0.096203   train-rmspe:0.099768
eval-rmspe:0.099768
[478]   train-rmse:0.096086   eval-rmse:0.096086   train-rmspe:0.099647
eval-rmspe:0.099647
[479]   train-rmse:0.095865   eval-rmse:0.095865   train-rmspe:0.099406
eval-rmspe:0.099406
[480]   train-rmse:0.095668   eval-rmse:0.095668   train-rmspe:0.099194
eval-rmspe:0.099194
[481]   train-rmse:0.095521   eval-rmse:0.095521   train-rmspe:0.099045
eval-rmspe:0.099045
[482]   train-rmse:0.095205   eval-rmse:0.095205   train-rmspe:0.098696
eval-rmspe:0.098696
[483]   train-rmse:0.094991   eval-rmse:0.094991   train-rmspe:0.098435
eval-rmspe:0.098435
[484]   train-rmse:0.094804   eval-rmse:0.094804   train-rmspe:0.098238
eval-rmspe:0.098238
[485]   train-rmse:0.094734   eval-rmse:0.094734   train-rmspe:0.098165
eval-rmspe:0.098165
[486]   train-rmse:0.094586   eval-rmse:0.094586   train-rmspe:0.098008
eval-rmspe:0.098008
[487]   train-rmse:0.094395   eval-rmse:0.094395   train-rmspe:0.097812
eval-rmspe:0.097812
[488]   train-rmse:0.0943   eval-rmse:0.0943   train-rmspe:0.09771
eval-rmspe:0.09771
[489]   train-rmse:0.09395   eval-rmse:0.09395   train-rmspe:0.097311
eval-rmspe:0.097311
[490]   train-rmse:0.093821   eval-rmse:0.093821   train-rmspe:0.097153
eval-rmspe:0.097153
[491]   train-rmse:0.093745   eval-rmse:0.093745   train-rmspe:0.097073
eval-rmspe:0.097073
[492]   train-rmse:0.093596   eval-rmse:0.093596   train-rmspe:0.096921
eval-rmspe:0.096921
[493]   train-rmse:0.093405   eval-rmse:0.093405   train-rmspe:0.096707
eval-rmspe:0.096707
[494]   train-rmse:0.093223   eval-rmse:0.093223   train-rmspe:0.096513
eval-rmspe:0.096513
[495]   train-rmse:0.093124   eval-rmse:0.093124   train-rmspe:0.096409
eval-rmspe:0.096409
[496]   train-rmse:0.0931   eval-rmse:0.0931   train-rmspe:0.096383
eval-rmspe:0.096383
[497]   train-rmse:0.092808   eval-rmse:0.092808   train-rmspe:0.096064
eval-rmspe:0.096064
[498]   train-rmse:0.092669   eval-rmse:0.092669   train-rmspe:0.095912
eval-rmspe:0.095912

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[499]    train-rmse:0.09254      eval-rmse:0.09254       train-rmspe:0.095762
eval-rmspe:0.095762
[500]    train-rmse:0.092299     eval-rmse:0.092299      train-rmspe:0.095471
eval-rmspe:0.095471
[501]    train-rmse:0.092157     eval-rmse:0.092157      train-rmspe:0.095324
eval-rmspe:0.095324
[502]    train-rmse:0.091937     eval-rmse:0.091937      train-rmspe:0.095087
eval-rmspe:0.095087
[503]    train-rmse:0.091864     eval-rmse:0.091864      train-rmspe:0.095007
eval-rmspe:0.095007
[504]    train-rmse:0.091719     eval-rmse:0.091719      train-rmspe:0.09482
eval-rmspe:0.09482
[505]    train-rmse:0.091612     eval-rmse:0.091612      train-rmspe:0.094705
eval-rmspe:0.094705
[506]    train-rmse:0.091494     eval-rmse:0.091494      train-rmspe:0.094584
eval-rmspe:0.094584
[507]    train-rmse:0.091453     eval-rmse:0.091453      train-rmspe:0.094541
eval-rmspe:0.094541
[508]    train-rmse:0.091211     eval-rmse:0.091211      train-rmspe:0.094287
eval-rmspe:0.094287
[509]    train-rmse:0.091133     eval-rmse:0.091133      train-rmspe:0.094204
eval-rmspe:0.094204
[510]    train-rmse:0.091064     eval-rmse:0.091064      train-rmspe:0.094133
eval-rmspe:0.094133
[511]    train-rmse:0.090869     eval-rmse:0.090869      train-rmspe:0.09393
eval-rmspe:0.09393
[512]    train-rmse:0.090735     eval-rmse:0.090735      train-rmspe:0.093791
eval-rmspe:0.093791
[513]    train-rmse:0.090559     eval-rmse:0.090559      train-rmspe:0.093603
eval-rmspe:0.093603
[514]    train-rmse:0.090399     eval-rmse:0.090399      train-rmspe:0.093429
eval-rmspe:0.093429
[515]    train-rmse:0.09016      eval-rmse:0.09016       train-rmspe:0.093179
eval-rmspe:0.093179
[516]    train-rmse:0.090079     eval-rmse:0.090079      train-rmspe:0.093098
eval-rmspe:0.093098
[517]    train-rmse:0.089959     eval-rmse:0.089959      train-rmspe:0.092957
eval-rmspe:0.092957
[518]    train-rmse:0.089766     eval-rmse:0.089766      train-rmspe:0.092734
eval-rmspe:0.092734
[519]    train-rmse:0.089577     eval-rmse:0.089577      train-rmspe:0.092534
eval-rmspe:0.092534
[520]    train-rmse:0.089492     eval-rmse:0.089492      train-rmspe:0.092449
eval-rmspe:0.092449
[521]    train-rmse:0.089378     eval-rmse:0.089378      train-rmspe:0.092329
eval-rmspe:0.092329
[522]    train-rmse:0.089318     eval-rmse:0.089318      train-rmspe:0.092265
eval-rmspe:0.092265
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[523]	train-rmse:0.089236	eval-rmse:0.089236	train-rmspe:0.092184
eval-rmspe:0.092184
[524]	train-rmse:0.089193	eval-rmse:0.089193	train-rmspe:0.09214
eval-rmspe:0.09214
[525]	train-rmse:0.089154	eval-rmse:0.089154	train-rmspe:0.092101
eval-rmspe:0.092101
[526]	train-rmse:0.089044	eval-rmse:0.089044	train-rmspe:0.091987
eval-rmspe:0.091987
[527]	train-rmse:0.088994	eval-rmse:0.088994	train-rmspe:0.091922
eval-rmspe:0.091922
[528]	train-rmse:0.088843	eval-rmse:0.088843	train-rmspe:0.091767
eval-rmspe:0.091767
[529]	train-rmse:0.088782	eval-rmse:0.088782	train-rmspe:0.091705
eval-rmspe:0.091705
[530]	train-rmse:0.088713	eval-rmse:0.088713	train-rmspe:0.091635
eval-rmspe:0.091635
[531]	train-rmse:0.088653	eval-rmse:0.088653	train-rmspe:0.091576
eval-rmspe:0.091576
[532]	train-rmse:0.088532	eval-rmse:0.088532	train-rmspe:0.091446
eval-rmspe:0.091446
[533]	train-rmse:0.088419	eval-rmse:0.088419	train-rmspe:0.091329
eval-rmspe:0.091329
[534]	train-rmse:0.088355	eval-rmse:0.088355	train-rmspe:0.09126
eval-rmspe:0.09126
[535]	train-rmse:0.088282	eval-rmse:0.088282	train-rmspe:0.091184
eval-rmspe:0.091184
[536]	train-rmse:0.088	eval-rmse:0.088 train-rmspe:0.090867	eval-rmspe:0.090867
[537]	train-rmse:0.087898	eval-rmse:0.087898	train-rmspe:0.090759
eval-rmspe:0.090759
[538]	train-rmse:0.087819	eval-rmse:0.087819	train-rmspe:0.09067
eval-rmspe:0.09067
[539]	train-rmse:0.087658	eval-rmse:0.087658	train-rmspe:0.090484
eval-rmspe:0.090484
[540]	train-rmse:0.087441	eval-rmse:0.087441	train-rmspe:0.090243
eval-rmspe:0.090243
[541]	train-rmse:0.087376	eval-rmse:0.087376	train-rmspe:0.090177
eval-rmspe:0.090177
[542]	train-rmse:0.087325	eval-rmse:0.087325	train-rmspe:0.090124
eval-rmspe:0.090124
[543]	train-rmse:0.087206	eval-rmse:0.087206	train-rmspe:0.089985
eval-rmspe:0.089985
[544]	train-rmse:0.08714	eval-rmse:0.08714	train-rmspe:0.089918
eval-rmspe:0.089918
[545]	train-rmse:0.086977	eval-rmse:0.086977	train-rmspe:0.089744
eval-rmspe:0.089744
[546]	train-rmse:0.086865	eval-rmse:0.086865	train-rmspe:0.089627
eval-rmspe:0.089627

[547]   train-rmse:0.086704   eval-rmse:0.086704   train-rmspe:0.089462
eval-rmspe:0.089462
[548]   train-rmse:0.08659   eval-rmse:0.08659   train-rmspe:0.08934
eval-rmspe:0.08934
[549]   train-rmse:0.086557   eval-rmse:0.086557   train-rmspe:0.089306
eval-rmspe:0.089306
[550]   train-rmse:0.086358   eval-rmse:0.086358   train-rmspe:0.089091
eval-rmspe:0.089091
[551]   train-rmse:0.086247   eval-rmse:0.086247   train-rmspe:0.088974
eval-rmspe:0.088974
[552]   train-rmse:0.086139   eval-rmse:0.086139   train-rmspe:0.088821
eval-rmspe:0.088821
[553]   train-rmse:0.086009   eval-rmse:0.086009   train-rmspe:0.088681
eval-rmspe:0.088681
[554]   train-rmse:0.085899   eval-rmse:0.085899   train-rmspe:0.088565
eval-rmspe:0.088565
[555]   train-rmse:0.085873   eval-rmse:0.085873   train-rmspe:0.08854
eval-rmspe:0.08854
[556]   train-rmse:0.085743   eval-rmse:0.085743   train-rmspe:0.088398
eval-rmspe:0.088398
[557]   train-rmse:0.085711   eval-rmse:0.085711   train-rmspe:0.088366
eval-rmspe:0.088366
[558]   train-rmse:0.085498   eval-rmse:0.085498   train-rmspe:0.088084
eval-rmspe:0.088084
[559]   train-rmse:0.085293   eval-rmse:0.085293   train-rmspe:0.087862
eval-rmspe:0.087862
[560]   train-rmse:0.085057   eval-rmse:0.085057   train-rmspe:0.087603
eval-rmspe:0.087603
[561]   train-rmse:0.084992   eval-rmse:0.084992   train-rmspe:0.087539
eval-rmspe:0.087539
[562]   train-rmse:0.084959   eval-rmse:0.084959   train-rmspe:0.087505
eval-rmspe:0.087505
[563]   train-rmse:0.084869   eval-rmse:0.084869   train-rmspe:0.087411
eval-rmspe:0.087411
[564]   train-rmse:0.084706   eval-rmse:0.084706   train-rmspe:0.08724
eval-rmspe:0.08724
[565]   train-rmse:0.084584   eval-rmse:0.084584   train-rmspe:0.087105
eval-rmspe:0.087105
[566]   train-rmse:0.08454   eval-rmse:0.08454   train-rmspe:0.08706
eval-rmspe:0.08706
[567]   train-rmse:0.084343   eval-rmse:0.084343   train-rmspe:0.08685
eval-rmspe:0.08685
[568]   train-rmse:0.084265   eval-rmse:0.084265   train-rmspe:0.08677
eval-rmspe:0.08677
[569]   train-rmse:0.084229   eval-rmse:0.084229   train-rmspe:0.086735
eval-rmspe:0.086735
[570]   train-rmse:0.084186   eval-rmse:0.084186   train-rmspe:0.08669
eval-rmspe:0.08669

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[571]    train-rmse:0.084109     eval-rmse:0.084109     train-rmspe:0.086607
eval-rmspe:0.086607
[572]    train-rmse:0.083975     eval-rmse:0.083975     train-rmspe:0.086442
eval-rmspe:0.086442
[573]    train-rmse:0.083849     eval-rmse:0.083849     train-rmspe:0.08631
eval-rmspe:0.08631
[574]    train-rmse:0.083759     eval-rmse:0.083759     train-rmspe:0.086214
eval-rmspe:0.086214
[575]    train-rmse:0.083639     eval-rmse:0.083639     train-rmspe:0.086092
eval-rmspe:0.086092
[576]    train-rmse:0.083518     eval-rmse:0.083518     train-rmspe:0.085967
eval-rmspe:0.085967
[577]    train-rmse:0.083368     eval-rmse:0.083368     train-rmspe:0.08578
eval-rmspe:0.08578
[578]    train-rmse:0.083242     eval-rmse:0.083242     train-rmspe:0.085649
eval-rmspe:0.085649
[579]    train-rmse:0.083138     eval-rmse:0.083138     train-rmspe:0.085537
eval-rmspe:0.085537
[580]    train-rmse:0.083063     eval-rmse:0.083063     train-rmspe:0.085457
eval-rmspe:0.085457
[581]    train-rmse:0.082888     eval-rmse:0.082888     train-rmspe:0.085251
eval-rmspe:0.085251
[582]    train-rmse:0.082832     eval-rmse:0.082832     train-rmspe:0.085193
eval-rmspe:0.085193
[583]    train-rmse:0.082717     eval-rmse:0.082717     train-rmspe:0.085055
eval-rmspe:0.085055
[584]    train-rmse:0.08261      eval-rmse:0.08261      train-rmspe:0.084946
eval-rmspe:0.084946
[585]    train-rmse:0.082524     eval-rmse:0.082524     train-rmspe:0.084856
eval-rmspe:0.084856
[586]    train-rmse:0.082378     eval-rmse:0.082378     train-rmspe:0.084702
eval-rmspe:0.084702
[587]    train-rmse:0.082248     eval-rmse:0.082248     train-rmspe:0.08456
eval-rmspe:0.08456
[588]    train-rmse:0.082213     eval-rmse:0.082213     train-rmspe:0.084525
eval-rmspe:0.084525
[589]    train-rmse:0.082092     eval-rmse:0.082092     train-rmspe:0.08439
eval-rmspe:0.08439
[590]    train-rmse:0.081929     eval-rmse:0.081929     train-rmspe:0.084219
eval-rmspe:0.084219
[591]    train-rmse:0.081864     eval-rmse:0.081864     train-rmspe:0.08415
eval-rmspe:0.08415
[592]    train-rmse:0.081782     eval-rmse:0.081782     train-rmspe:0.084062
eval-rmspe:0.084062
[593]    train-rmse:0.08166      eval-rmse:0.08166      train-rmspe:0.083928
eval-rmspe:0.083928
[594]    train-rmse:0.081518     eval-rmse:0.081518     train-rmspe:0.083773
eval-rmspe:0.083773
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[595]   train-rmse:0.081345   eval-rmse:0.081345   train-rmspe:0.083564
eval-rmspe:0.083564
[596]   train-rmse:0.081301   eval-rmse:0.081301   train-rmspe:0.083517
eval-rmspe:0.083517
[597]   train-rmse:0.081233   eval-rmse:0.081233   train-rmspe:0.08345
eval-rmspe:0.08345
[598]   train-rmse:0.081102   eval-rmse:0.081102   train-rmspe:0.083307
eval-rmspe:0.083307
[599]   train-rmse:0.080966   eval-rmse:0.080966   train-rmspe:0.083167
eval-rmspe:0.083167
round 3 end
round 4:
[0]   train-rmse:8.02732   eval-rmse:8.02732   train-rmspe:0.999811
eval-rmspe:0.999811
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
[1]   train-rmse:7.78701   eval-rmse:7.78701   train-rmspe:0.999713
eval-rmspe:0.999713
[2]   train-rmse:7.55398   eval-rmse:7.55398   train-rmspe:0.999594
eval-rmspe:0.999594
[3]   train-rmse:7.32796   eval-rmse:7.32796   train-rmspe:0.999448
eval-rmspe:0.999448
[4]   train-rmse:7.10876   eval-rmse:7.10876   train-rmspe:0.999272
eval-rmspe:0.999272
[5]   train-rmse:6.89608   eval-rmse:6.89608   train-rmspe:0.99906
eval-rmspe:0.99906
[6]   train-rmse:6.68978   eval-rmse:6.68978   train-rmspe:0.998806
eval-rmspe:0.998806
[7]   train-rmse:6.48971   eval-rmse:6.48971   train-rmspe:0.998505
eval-rmspe:0.998505
[8]   train-rmse:6.29562   eval-rmse:6.29562   train-rmspe:0.99815
eval-rmspe:0.99815
[9]   train-rmse:6.10741   eval-rmse:6.10741   train-rmspe:0.997733
eval-rmspe:0.997733
[10]   train-rmse:5.92488   eval-rmse:5.92488   train-rmspe:0.997246
eval-rmspe:0.997246
[11]   train-rmse:5.74783   eval-rmse:5.74783   train-rmspe:0.996681
eval-rmspe:0.996681
[12]   train-rmse:5.57605   eval-rmse:5.57605   train-rmspe:0.99603
eval-rmspe:0.99603
[13]   train-rmse:5.40947   eval-rmse:5.40947   train-rmspe:0.995281
eval-rmspe:0.995281
[14]   train-rmse:5.24794   eval-rmse:5.24794   train-rmspe:0.994426
eval-rmspe:0.994426
[15]   train-rmse:5.09124   eval-rmse:5.09124   train-rmspe:0.993455
eval-rmspe:0.993455

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[16]    train-rmse:4.93929      eval-rmse:4.93929       train-rmspe:0.992356
eval-rmspe:0.992356
[17]    train-rmse:4.79188      eval-rmse:4.79188       train-rmspe:0.99112
eval-rmspe:0.99112
[18]    train-rmse:4.64894      eval-rmse:4.64894       train-rmspe:0.989734
eval-rmspe:0.989734
[19]    train-rmse:4.51029      eval-rmse:4.51029       train-rmspe:0.988188
eval-rmspe:0.988188
[20]    train-rmse:4.37586      eval-rmse:4.37586       train-rmspe:0.986468
eval-rmspe:0.986468
[21]    train-rmse:4.24546      eval-rmse:4.24546       train-rmspe:0.984564
eval-rmspe:0.984564
[22]    train-rmse:4.119        eval-rmse:4.119 train-rmspe:0.982471    eval-
rmspe:0.982471
[23]    train-rmse:3.99635      eval-rmse:3.99635       train-rmspe:0.980169
eval-rmspe:0.980169
[24]    train-rmse:3.87745      eval-rmse:3.87745       train-rmspe:0.977651
eval-rmspe:0.977651
[25]    train-rmse:3.76212      eval-rmse:3.76212       train-rmspe:0.974903
eval-rmspe:0.974903
[26]    train-rmse:3.65024      eval-rmse:3.65024       train-rmspe:0.971923
eval-rmspe:0.971923
[27]    train-rmse:3.54177      eval-rmse:3.54177       train-rmspe:0.968688
eval-rmspe:0.968688
[28]    train-rmse:3.43655      eval-rmse:3.43655       train-rmspe:0.965211
eval-rmspe:0.965211
[29]    train-rmse:3.33448      eval-rmse:3.33448       train-rmspe:0.961478
eval-rmspe:0.961478
[30]    train-rmse:3.23553      eval-rmse:3.23553       train-rmspe:0.957475
eval-rmspe:0.957475
[31]    train-rmse:3.13955      eval-rmse:3.13955       train-rmspe:0.953199
eval-rmspe:0.953199
[32]    train-rmse:3.04648      eval-rmse:3.04648       train-rmspe:0.948638
eval-rmspe:0.948638
[33]    train-rmse:2.95623      eval-rmse:2.95623       train-rmspe:0.943801
eval-rmspe:0.943801
[34]    train-rmse:2.86878      eval-rmse:2.86878       train-rmspe:0.938658
eval-rmspe:0.938658
[35]    train-rmse:2.78392      eval-rmse:2.78392       train-rmspe:0.933236
eval-rmspe:0.933236
[36]    train-rmse:2.70161      eval-rmse:2.70161       train-rmspe:0.927544
eval-rmspe:0.927544
[37]    train-rmse:2.62185      eval-rmse:2.62185       train-rmspe:0.921546
eval-rmspe:0.921546
[38]    train-rmse:2.54447      eval-rmse:2.54447       train-rmspe:0.915261
eval-rmspe:0.915261
[39]    train-rmse:2.46943      eval-rmse:2.46943       train-rmspe:0.908709
eval-rmspe:0.908709
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[40]     train-rmse:2.39671     eval-rmse:2.39671     train-rmspe:0.901846
eval-rmspe:0.901846
[41]     train-rmse:2.32613     eval-rmse:2.32613     train-rmspe:0.894723
eval-rmspe:0.894723
[42]     train-rmse:2.25776     eval-rmse:2.25776     train-rmspe:0.88731
eval-rmspe:0.88731
[43]     train-rmse:2.1915      eval-rmse:2.1915      train-rmspe:0.879644
eval-rmspe:0.879644
[44]     train-rmse:2.12719     eval-rmse:2.12719     train-rmspe:0.871723
eval-rmspe:0.871723
[45]     train-rmse:2.06478     eval-rmse:2.06478     train-rmspe:0.863586
eval-rmspe:0.863586
[46]     train-rmse:2.00439     eval-rmse:2.00439     train-rmspe:0.855145
eval-rmspe:0.855145
[47]     train-rmse:1.94578     eval-rmse:1.94578     train-rmspe:0.84647
eval-rmspe:0.84647
[48]     train-rmse:1.88888     eval-rmse:1.88888     train-rmspe:0.837638
eval-rmspe:0.837638
[49]     train-rmse:1.83382     eval-rmse:1.83382     train-rmspe:0.828537
eval-rmspe:0.828537
[50]     train-rmse:1.78045     eval-rmse:1.78045     train-rmspe:0.819204
eval-rmspe:0.819204
[51]     train-rmse:1.72877     eval-rmse:1.72877     train-rmspe:0.809668
eval-rmspe:0.809668
[52]     train-rmse:1.67847     eval-rmse:1.67847     train-rmspe:0.800034
eval-rmspe:0.800034
[53]     train-rmse:1.62967     eval-rmse:1.62967     train-rmspe:0.790226
eval-rmspe:0.790226
[54]     train-rmse:1.58245     eval-rmse:1.58245     train-rmspe:0.780218
eval-rmspe:0.780218
[55]     train-rmse:1.53665     eval-rmse:1.53665     train-rmspe:0.770133
eval-rmspe:0.770133
[56]     train-rmse:1.49231     eval-rmse:1.49231     train-rmspe:0.759887
eval-rmspe:0.759887
[57]     train-rmse:1.44935     eval-rmse:1.44935     train-rmspe:0.749491
eval-rmspe:0.749491
[58]     train-rmse:1.40758     eval-rmse:1.40758     train-rmspe:0.739051
eval-rmspe:0.739051
[59]     train-rmse:1.36722     eval-rmse:1.36722     train-rmspe:0.728476
eval-rmspe:0.728476
[60]     train-rmse:1.32822     eval-rmse:1.32822     train-rmspe:0.717802
eval-rmspe:0.717802
[61]     train-rmse:1.29038     eval-rmse:1.29038     train-rmspe:0.707077
eval-rmspe:0.707077
[62]     train-rmse:1.25345     eval-rmse:1.25345     train-rmspe:0.696379
eval-rmspe:0.696379
[63]     train-rmse:1.218       eval-rmse:1.218 train-rmspe:0.685529     eval-
rmspe:0.685529
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[64]    train-rmse:1.18363      eval-rmse:1.18363      train-rmspe:0.674695
eval-rmspe:0.674695
[65]    train-rmse:1.15035      eval-rmse:1.15035      train-rmspe:0.66383
eval-rmspe:0.66383
[66]    train-rmse:1.11757      eval-rmse:1.11757      train-rmspe:0.653095
eval-rmspe:0.653095
[67]    train-rmse:1.08629      eval-rmse:1.08629      train-rmspe:0.642279
eval-rmspe:0.642279
[68]    train-rmse:1.05584      eval-rmse:1.05584      train-rmspe:0.631508
eval-rmspe:0.631508
[69]    train-rmse:1.02653      eval-rmse:1.02653      train-rmspe:0.620725
eval-rmspe:0.620725
[70]    train-rmse:0.998066     eval-rmse:0.998066     train-rmspe:0.610036
eval-rmspe:0.610036
[71]    train-rmse:0.97035      eval-rmse:0.97035      train-rmspe:0.599404
eval-rmspe:0.599404
[72]    train-rmse:0.943536     eval-rmse:0.943536     train-rmspe:0.588852
eval-rmspe:0.588852
[73]    train-rmse:0.917267     eval-rmse:0.917267     train-rmspe:0.578395
eval-rmspe:0.578395
[74]    train-rmse:0.892056     eval-rmse:0.892056     train-rmspe:0.568036
eval-rmspe:0.568036
[75]    train-rmse:0.867815     eval-rmse:0.867815     train-rmspe:0.557728
eval-rmspe:0.557728
[76]    train-rmse:0.843875     eval-rmse:0.843875     train-rmspe:0.547557
eval-rmspe:0.547557
[77]    train-rmse:0.821157     eval-rmse:0.821157     train-rmspe:0.537485
eval-rmspe:0.537485
[78]    train-rmse:0.79914      eval-rmse:0.79914      train-rmspe:0.527518
eval-rmspe:0.527518
[79]    train-rmse:0.777928     eval-rmse:0.777928     train-rmspe:0.517699
eval-rmspe:0.517699
[80]    train-rmse:0.757328     eval-rmse:0.757328     train-rmspe:0.508022
eval-rmspe:0.508022
[81]    train-rmse:0.737182     eval-rmse:0.737182     train-rmspe:0.498467
eval-rmspe:0.498467
[82]    train-rmse:0.717877     eval-rmse:0.717877     train-rmspe:0.48907
eval-rmspe:0.48907
[83]    train-rmse:0.699013     eval-rmse:0.699013     train-rmspe:0.479844
eval-rmspe:0.479844
[84]    train-rmse:0.680965     eval-rmse:0.680965     train-rmspe:0.470773
eval-rmspe:0.470773
[85]    train-rmse:0.663647     eval-rmse:0.663647     train-rmspe:0.461868
eval-rmspe:0.461868
[86]    train-rmse:0.646688     eval-rmse:0.646688     train-rmspe:0.453133
eval-rmspe:0.453133
[87]    train-rmse:0.630379     eval-rmse:0.630379     train-rmspe:0.444573
eval-rmspe:0.444573
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[88]     train-rmse:0.614618     eval-rmse:0.614618     train-rmspe:0.436203
eval-rmspe:0.436203
[89]     train-rmse:0.599294     eval-rmse:0.599294     train-rmspe:0.427997
eval-rmspe:0.427997
[90]     train-rmse:0.584392     eval-rmse:0.584392     train-rmspe:0.419942
eval-rmspe:0.419942
[91]     train-rmse:0.569641     eval-rmse:0.569641     train-rmspe:0.411973
eval-rmspe:0.411973
[92]     train-rmse:0.555496     eval-rmse:0.555496     train-rmspe:0.404216
eval-rmspe:0.404216
[93]     train-rmse:0.542356     eval-rmse:0.542356     train-rmspe:0.396783
eval-rmspe:0.396783
[94]     train-rmse:0.52916      eval-rmse:0.52916      train-rmspe:0.389373
eval-rmspe:0.389373
[95]     train-rmse:0.516598     eval-rmse:0.516598     train-rmspe:0.38224
eval-rmspe:0.38224
[96]     train-rmse:0.504797     eval-rmse:0.504797     train-rmspe:0.375389
eval-rmspe:0.375389
[97]     train-rmse:0.49311      eval-rmse:0.49311      train-rmspe:0.368624
eval-rmspe:0.368624
[98]     train-rmse:0.482009     eval-rmse:0.482009     train-rmspe:0.362119
eval-rmspe:0.362119
[99]     train-rmse:0.471162     eval-rmse:0.471162     train-rmspe:0.355755
eval-rmspe:0.355755
[100]    train-rmse:0.460708     eval-rmse:0.460708     train-rmspe:0.349611
eval-rmspe:0.349611
[101]    train-rmse:0.450604     eval-rmse:0.450604     train-rmspe:0.343635
eval-rmspe:0.343635
[102]    train-rmse:0.441002     eval-rmse:0.441002     train-rmspe:0.337908
eval-rmspe:0.337908
[103]    train-rmse:0.431502     eval-rmse:0.431502     train-rmspe:0.332246
eval-rmspe:0.332246
[104]    train-rmse:0.422497     eval-rmse:0.422497     train-rmspe:0.326817
eval-rmspe:0.326817
[105]    train-rmse:0.413958     eval-rmse:0.413958     train-rmspe:0.321655
eval-rmspe:0.321655
[106]    train-rmse:0.405582     eval-rmse:0.405582     train-rmspe:0.316596
eval-rmspe:0.316596
[107]    train-rmse:0.397431     eval-rmse:0.397431     train-rmspe:0.311669
eval-rmspe:0.311669
[108]    train-rmse:0.389438     eval-rmse:0.389438     train-rmspe:0.306916
eval-rmspe:0.306916
[109]    train-rmse:0.381844     eval-rmse:0.381844     train-rmspe:0.302379
eval-rmspe:0.302379
[110]    train-rmse:0.37457      eval-rmse:0.37457      train-rmspe:0.297987
eval-rmspe:0.297987
[111]    train-rmse:0.367731     eval-rmse:0.367731     train-rmspe:0.293906
eval-rmspe:0.293906
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[112]    train-rmse:0.361042     eval-rmse:0.361042       train-rmspe:0.289884
eval-rmspe:0.289884
[113]    train-rmse:0.354524     eval-rmse:0.354524       train-rmspe:0.286018
eval-rmspe:0.286018
[114]    train-rmse:0.347966     eval-rmse:0.347966       train-rmspe:0.282028
eval-rmspe:0.282028
[115]    train-rmse:0.342074     eval-rmse:0.342074       train-rmspe:0.278543
eval-rmspe:0.278543
[116]    train-rmse:0.336096     eval-rmse:0.336096       train-rmspe:0.274899
eval-rmspe:0.274899
[117]    train-rmse:0.330622     eval-rmse:0.330622       train-rmspe:0.27165
eval-rmspe:0.27165
[118]    train-rmse:0.324759     eval-rmse:0.324759       train-rmspe:0.268092
eval-rmspe:0.268092
[119]    train-rmse:0.319492     eval-rmse:0.319492       train-rmspe:0.264904
eval-rmspe:0.264904
[120]    train-rmse:0.314663     eval-rmse:0.314663       train-rmspe:0.262045
eval-rmspe:0.262045
[121]    train-rmse:0.3098       eval-rmse:0.3098         train-rmspe:0.259167
eval-rmspe:0.259167
[122]    train-rmse:0.305424     eval-rmse:0.305424       train-rmspe:0.256696
eval-rmspe:0.256696
[123]    train-rmse:0.301189     eval-rmse:0.301189       train-rmspe:0.254264
eval-rmspe:0.254264
[124]    train-rmse:0.29647      eval-rmse:0.29647        train-rmspe:0.251469
eval-rmspe:0.251469
[125]    train-rmse:0.292304     eval-rmse:0.292304       train-rmspe:0.249064
eval-rmspe:0.249064
[126]    train-rmse:0.288441     eval-rmse:0.288441       train-rmspe:0.246914
eval-rmspe:0.246914
[127]    train-rmse:0.284802     eval-rmse:0.284802       train-rmspe:0.244904
eval-rmspe:0.244904
[128]    train-rmse:0.281132     eval-rmse:0.281132       train-rmspe:0.242904
eval-rmspe:0.242904
[129]    train-rmse:0.277733     eval-rmse:0.277733       train-rmspe:0.241008
eval-rmspe:0.241008
[130]    train-rmse:0.274398     eval-rmse:0.274398       train-rmspe:0.239217
eval-rmspe:0.239217
[131]    train-rmse:0.271402     eval-rmse:0.271402       train-rmspe:0.237604
eval-rmspe:0.237604
[132]    train-rmse:0.268326     eval-rmse:0.268326       train-rmspe:0.235968
eval-rmspe:0.235968
[133]    train-rmse:0.265503     eval-rmse:0.265503       train-rmspe:0.234543
eval-rmspe:0.234543
[134]    train-rmse:0.262743     eval-rmse:0.262743       train-rmspe:0.233154
eval-rmspe:0.233154
[135]    train-rmse:0.259957     eval-rmse:0.259957       train-rmspe:0.231595
eval-rmspe:0.231595
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[136]    train-rmse:0.257423    eval-rmse:0.257423    train-rmspe:0.230288
eval-rmspe:0.230288
[137]    train-rmse:0.255033    eval-rmse:0.255033    train-rmspe:0.229067
eval-rmspe:0.229067
[138]    train-rmse:0.252673    eval-rmse:0.252673    train-rmspe:0.227879
eval-rmspe:0.227879
[139]    train-rmse:0.250498    eval-rmse:0.250498    train-rmspe:0.226813
eval-rmspe:0.226813
[140]    train-rmse:0.248343    eval-rmse:0.248343    train-rmspe:0.225834
eval-rmspe:0.225834
[141]    train-rmse:0.246079    eval-rmse:0.246079    train-rmspe:0.224632
eval-rmspe:0.224632
[142]    train-rmse:0.24428    eval-rmse:0.24428    train-rmspe:0.223849
eval-rmspe:0.223849
[143]    train-rmse:0.242214    eval-rmse:0.242214    train-rmspe:0.22286
eval-rmspe:0.22286
[144]    train-rmse:0.240479    eval-rmse:0.240479    train-rmspe:0.222108
eval-rmspe:0.222108
[145]    train-rmse:0.238949    eval-rmse:0.238949    train-rmspe:0.221509
eval-rmspe:0.221509
[146]    train-rmse:0.237199    eval-rmse:0.237199    train-rmspe:0.220652
eval-rmspe:0.220652
[147]    train-rmse:0.23555    eval-rmse:0.23555    train-rmspe:0.219872
eval-rmspe:0.219872
[148]    train-rmse:0.232713    eval-rmse:0.232713    train-rmspe:0.21786
eval-rmspe:0.21786
[149]    train-rmse:0.231225    eval-rmse:0.231225    train-rmspe:0.217198
eval-rmspe:0.217198
[150]    train-rmse:0.229284    eval-rmse:0.229284    train-rmspe:0.215978
eval-rmspe:0.215978
[151]    train-rmse:0.227803    eval-rmse:0.227803    train-rmspe:0.215306
eval-rmspe:0.215306
[152]    train-rmse:0.22612    eval-rmse:0.22612    train-rmspe:0.214471
eval-rmspe:0.214471
[153]    train-rmse:0.224832    eval-rmse:0.224832    train-rmspe:0.213942
eval-rmspe:0.213942
[154]    train-rmse:0.223312    eval-rmse:0.223312    train-rmspe:0.213136
eval-rmspe:0.213136
[155]    train-rmse:0.222081    eval-rmse:0.222081    train-rmspe:0.212596
eval-rmspe:0.212596
[156]    train-rmse:0.21993    eval-rmse:0.21993    train-rmspe:0.211165
eval-rmspe:0.211165
[157]    train-rmse:0.218479    eval-rmse:0.218479    train-rmspe:0.210308
eval-rmspe:0.210308
[158]    train-rmse:0.217543    eval-rmse:0.217543    train-rmspe:0.209984
eval-rmspe:0.209984
[159]    train-rmse:0.216024    eval-rmse:0.216024    train-rmspe:0.209094
eval-rmspe:0.209094
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[160]   train-rmse:0.21472   eval-rmse:0.21472   train-rmspe:0.208411
eval-rmspe:0.208411
[161]   train-rmse:0.2132   eval-rmse:0.2132   train-rmspe:0.207505
eval-rmspe:0.207505
[162]   train-rmse:0.212163   eval-rmse:0.212163   train-rmspe:0.207089
eval-rmspe:0.207089
[163]   train-rmse:0.211233   eval-rmse:0.211233   train-rmspe:0.206674
eval-rmspe:0.206674
[164]   train-rmse:0.209582   eval-rmse:0.209582   train-rmspe:0.205444
eval-rmspe:0.205444
[165]   train-rmse:0.208807   eval-rmse:0.208807   train-rmspe:0.205167
eval-rmspe:0.205167
[166]   train-rmse:0.207992   eval-rmse:0.207992   train-rmspe:0.204818
eval-rmspe:0.204818
[167]   train-rmse:0.207354   eval-rmse:0.207354   train-rmspe:0.204645
eval-rmspe:0.204645
[168]   train-rmse:0.206635   eval-rmse:0.206635   train-rmspe:0.204382
eval-rmspe:0.204382
[169]   train-rmse:0.205525   eval-rmse:0.205525   train-rmspe:0.203702
eval-rmspe:0.203702
[170]   train-rmse:0.204798   eval-rmse:0.204798   train-rmspe:0.203376
eval-rmspe:0.203376
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[175]   train-rmse:0.200077   eval-rmse:0.200077   train-rmspe:0.200528
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[177]   train-rmse:0.1985   eval-rmse:0.1985   train-rmspe:0.199587
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[178]   train-rmse:0.197614   eval-rmse:0.197614   train-rmspe:0.199046
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[179]   train-rmse:0.197078   eval-rmse:0.197078   train-rmspe:0.198828
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eval-rmspe:0.198389
[182]   train-rmse:0.195337   eval-rmse:0.195337   train-rmspe:0.198004
eval-rmspe:0.198004
[183]   train-rmse:0.194333   eval-rmse:0.194333   train-rmspe:0.197242
eval-rmspe:0.197242

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eval-rmspe:0.196177
[186]    train-rmse:0.192329    eval-rmse:0.192329    train-rmspe:0.195943
eval-rmspe:0.195943
[187]    train-rmse:0.190663    eval-rmse:0.190663    train-rmspe:0.194399
eval-rmspe:0.194399
[188]    train-rmse:0.189684    eval-rmse:0.189684    train-rmspe:0.193498
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[189]    train-rmse:0.188583    eval-rmse:0.188583    train-rmspe:0.192448
eval-rmspe:0.192448
[190]    train-rmse:0.187801    eval-rmse:0.187801    train-rmspe:0.191889
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[191]    train-rmse:0.187453    eval-rmse:0.187453    train-rmspe:0.191732
eval-rmspe:0.191732
[192]    train-rmse:0.187103    eval-rmse:0.187103    train-rmspe:0.191563
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[193]    train-rmse:0.186216    eval-rmse:0.186216    train-rmspe:0.190799
eval-rmspe:0.190799
[194]    train-rmse:0.185883    eval-rmse:0.185883    train-rmspe:0.190641
eval-rmspe:0.190641
[195]    train-rmse:0.185169    eval-rmse:0.185169    train-rmspe:0.190042
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[196]    train-rmse:0.184784    eval-rmse:0.184784    train-rmspe:0.189814
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[197]    train-rmse:0.184307    eval-rmse:0.184307    train-rmspe:0.189455
eval-rmspe:0.189455
[198]    train-rmse:0.183839    eval-rmse:0.183839    train-rmspe:0.189127
eval-rmspe:0.189127
[199]    train-rmse:0.183488    eval-rmse:0.183488    train-rmspe:0.188948
eval-rmspe:0.188948
[200]    train-rmse:0.182041    eval-rmse:0.182041    train-rmspe:0.187587
eval-rmspe:0.187587
[201]    train-rmse:0.181581    eval-rmse:0.181581    train-rmspe:0.187281
eval-rmspe:0.187281
[202]    train-rmse:0.181394    eval-rmse:0.181394    train-rmspe:0.187243
eval-rmspe:0.187243
[203]    train-rmse:0.180201    eval-rmse:0.180201    train-rmspe:0.186091
eval-rmspe:0.186091
[204]    train-rmse:0.179815    eval-rmse:0.179815    train-rmspe:0.185815
eval-rmspe:0.185815
[205]    train-rmse:0.179639    eval-rmse:0.179639    train-rmspe:0.185787
eval-rmspe:0.185787
[206]    train-rmse:0.178932    eval-rmse:0.178932    train-rmspe:0.185127
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eval-rmspe:0.183699
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eval-rmspe:0.181898
[210]    train-rmse:0.175217    eval-rmse:0.175217    train-rmspe:0.181627
eval-rmspe:0.181627
[211]    train-rmse:0.1745      eval-rmse:0.1745      train-rmspe:0.180964
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[212]    train-rmse:0.173214    eval-rmse:0.173214    train-rmspe:0.179653
eval-rmspe:0.179653
[213]    train-rmse:0.172433    eval-rmse:0.172433    train-rmspe:0.178946
eval-rmspe:0.178946
[214]    train-rmse:0.172185    eval-rmse:0.172185    train-rmspe:0.178759
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[215]    train-rmse:0.172001    eval-rmse:0.172001    train-rmspe:0.178681
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[216]    train-rmse:0.171717    eval-rmse:0.171717    train-rmspe:0.178468
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[217]    train-rmse:0.170709    eval-rmse:0.170709    train-rmspe:0.177481
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[218]    train-rmse:0.169593    eval-rmse:0.169593    train-rmspe:0.176358
eval-rmspe:0.176358
[219]    train-rmse:0.169233    eval-rmse:0.169233    train-rmspe:0.176073
eval-rmspe:0.176073
[220]    train-rmse:0.168783    eval-rmse:0.168783    train-rmspe:0.175655
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[221]    train-rmse:0.168504    eval-rmse:0.168504    train-rmspe:0.175444
eval-rmspe:0.175444
[222]    train-rmse:0.168055    eval-rmse:0.168055    train-rmspe:0.175068
eval-rmspe:0.175068
[223]    train-rmse:0.167355    eval-rmse:0.167355    train-rmspe:0.174393
eval-rmspe:0.174393
[224]    train-rmse:0.166316    eval-rmse:0.166316    train-rmspe:0.173336
eval-rmspe:0.173336
[225]    train-rmse:0.165891    eval-rmse:0.165891    train-rmspe:0.172958
eval-rmspe:0.172958
[226]    train-rmse:0.164953    eval-rmse:0.164953    train-rmspe:0.171995
eval-rmspe:0.171995
[227]    train-rmse:0.164818    eval-rmse:0.164818    train-rmspe:0.171927
eval-rmspe:0.171927
[228]    train-rmse:0.164044    eval-rmse:0.164044    train-rmspe:0.171176
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[229]    train-rmse:0.163599    eval-rmse:0.163599    train-rmspe:0.170798
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[230]    train-rmse:0.163087    eval-rmse:0.163087    train-rmspe:0.17032
eval-rmspe:0.17032
[231]    train-rmse:0.162311    eval-rmse:0.162311    train-rmspe:0.169546
eval-rmspe:0.169546
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[232]   train-rmse:0.161676   eval-rmse:0.161676   train-rmspe:0.168963
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[233]   train-rmse:0.160844   eval-rmse:0.160844   train-rmspe:0.168152
eval-rmspe:0.168152
[234]   train-rmse:0.160201   eval-rmse:0.160201   train-rmspe:0.167445
eval-rmspe:0.167445
[235]   train-rmse:0.159656   eval-rmse:0.159656   train-rmspe:0.166959
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[236]   train-rmse:0.159349   eval-rmse:0.159349   train-rmspe:0.166672
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[237]   train-rmse:0.158462   eval-rmse:0.158462   train-rmspe:0.165768
eval-rmspe:0.165768
[238]   train-rmse:0.157613   eval-rmse:0.157613   train-rmspe:0.164924
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eval-rmspe:0.163136
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eval-rmspe:0.162918
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eval-rmspe:0.162779
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eval-rmspe:0.162214
[247]   train-rmse:0.154433   eval-rmse:0.154433   train-rmspe:0.161779
eval-rmspe:0.161779
[248]   train-rmse:0.153961   eval-rmse:0.153961   train-rmspe:0.16132
eval-rmspe:0.16132
[249]   train-rmse:0.153448   eval-rmse:0.153448   train-rmspe:0.160845
eval-rmspe:0.160845
[250]   train-rmse:0.153016   eval-rmse:0.153016   train-rmspe:0.160405
eval-rmspe:0.160405
[251]   train-rmse:0.152492   eval-rmse:0.152492   train-rmspe:0.159895
eval-rmspe:0.159895
[252]   train-rmse:0.152208   eval-rmse:0.152208   train-rmspe:0.159631
eval-rmspe:0.159631
[253]   train-rmse:0.151526   eval-rmse:0.151526   train-rmspe:0.158985
eval-rmspe:0.158985
[254]   train-rmse:0.151049   eval-rmse:0.151049   train-rmspe:0.158524
eval-rmspe:0.158524
[255]   train-rmse:0.15066   eval-rmse:0.15066   train-rmspe:0.158137
eval-rmspe:0.158137

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[257]   train-rmse:0.150004   eval-rmse:0.150004   train-rmspe:0.157506
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[258]   train-rmse:0.148997   eval-rmse:0.148997   train-rmspe:0.156419
eval-rmspe:0.156419
[259]   train-rmse:0.148522   eval-rmse:0.148522   train-rmspe:0.155939
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[260]   train-rmse:0.148016   eval-rmse:0.148016   train-rmspe:0.15542
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[261]   train-rmse:0.147678   eval-rmse:0.147678   train-rmspe:0.155098
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[262]   train-rmse:0.147295   eval-rmse:0.147295   train-rmspe:0.1547
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[263]   train-rmse:0.147159   eval-rmse:0.147159   train-rmspe:0.154571
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[266]   train-rmse:0.146468   eval-rmse:0.146468   train-rmspe:0.153919
eval-rmspe:0.153919
[267]   train-rmse:0.146065   eval-rmse:0.146065   train-rmspe:0.153497
eval-rmspe:0.153497
[268]   train-rmse:0.145219   eval-rmse:0.145219   train-rmspe:0.15255
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[269]   train-rmse:0.144944   eval-rmse:0.144944   train-rmspe:0.152268
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[271]   train-rmse:0.143775   eval-rmse:0.143775   train-rmspe:0.151041
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[273]   train-rmse:0.142527   eval-rmse:0.142527   train-rmspe:0.149742
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[275]   train-rmse:0.141434   eval-rmse:0.141434   train-rmspe:0.148564
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[276]   train-rmse:0.141085   eval-rmse:0.141085   train-rmspe:0.148177
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[277]   train-rmse:0.140699   eval-rmse:0.140699   train-rmspe:0.147795
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[278]   train-rmse:0.140317   eval-rmse:0.140317   train-rmspe:0.147406
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[279]   train-rmse:0.139736   eval-rmse:0.139736   train-rmspe:0.146823
eval-rmspe:0.146823

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[282]    train-rmse:0.138876    eval-rmse:0.138876    train-rmspe:0.145976
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eval-rmspe:0.145643
[284]    train-rmse:0.137942    eval-rmse:0.137942    train-rmspe:0.144941
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[287]    train-rmse:0.137044    eval-rmse:0.137044    train-rmspe:0.144046
eval-rmspe:0.144046
[288]    train-rmse:0.136813    eval-rmse:0.136813    train-rmspe:0.143802
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[291]    train-rmse:0.135219    eval-rmse:0.135219    train-rmspe:0.142153
eval-rmspe:0.142153
[292]    train-rmse:0.13482     eval-rmse:0.13482     train-rmspe:0.141752
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[293]    train-rmse:0.134619    eval-rmse:0.134619    train-rmspe:0.14156
eval-rmspe:0.14156
[294]    train-rmse:0.134035    eval-rmse:0.134035    train-rmspe:0.140934
eval-rmspe:0.140934
[295]    train-rmse:0.133885    eval-rmse:0.133885    train-rmspe:0.140769
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[296]    train-rmse:0.133578    eval-rmse:0.133578    train-rmspe:0.140435
eval-rmspe:0.140435
[297]    train-rmse:0.133071    eval-rmse:0.133071    train-rmspe:0.139886
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[298]    train-rmse:0.132497    eval-rmse:0.132497    train-rmspe:0.139273
eval-rmspe:0.139273
[299]    train-rmse:0.13221     eval-rmse:0.13221     train-rmspe:0.138982
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[300]    train-rmse:0.131985    eval-rmse:0.131985    train-rmspe:0.138762
eval-rmspe:0.138762
[301]    train-rmse:0.131783    eval-rmse:0.131783    train-rmspe:0.138545
eval-rmspe:0.138545
[302]    train-rmse:0.131586    eval-rmse:0.131586    train-rmspe:0.138336
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eval-rmspe:0.138084
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eval-rmspe:0.136968
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eval-rmspe:0.136447
[310]   train-rmse:0.129423   eval-rmse:0.129423   train-rmspe:0.136097
eval-rmspe:0.136097
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eval-rmspe:0.135263
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eval-rmspe:0.13484
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eval-rmspe:0.134424
[316]   train-rmse:0.127669   eval-rmse:0.127669   train-rmspe:0.13426
eval-rmspe:0.13426
[317]   train-rmse:0.127595   eval-rmse:0.127595   train-rmspe:0.134192
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[318]   train-rmse:0.127046   eval-rmse:0.127046   train-rmspe:0.133624
eval-rmspe:0.133624
[319]   train-rmse:0.126834   eval-rmse:0.126834   train-rmspe:0.133407
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[320]   train-rmse:0.126607   eval-rmse:0.126607   train-rmspe:0.13316
eval-rmspe:0.13316
[321]   train-rmse:0.126147   eval-rmse:0.126147   train-rmspe:0.132666
eval-rmspe:0.132666
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eval-rmspe:0.132444
[323]   train-rmse:0.125575   eval-rmse:0.125575   train-rmspe:0.132075
eval-rmspe:0.132075
[324]   train-rmse:0.124992   eval-rmse:0.124992   train-rmspe:0.131456
eval-rmspe:0.131456
[325]   train-rmse:0.124707   eval-rmse:0.124707   train-rmspe:0.131166
eval-rmspe:0.131166
[326]   train-rmse:0.1245   eval-rmse:0.1245   train-rmspe:0.130924
eval-rmspe:0.130924
[327]   train-rmse:0.124211   eval-rmse:0.124211   train-rmspe:0.13058
eval-rmspe:0.13058

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[328]    train-rmse:0.124067    eval-rmse:0.124067    train-rmspe:0.130434
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eval-rmspe:0.130016
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[418]    train-rmse:0.102054    eval-rmse:0.102054    train-rmspe:0.106252
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[443]    train-rmse:0.097578    eval-rmse:0.097578    train-rmspe:0.101384
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[446]    train-rmse:0.097228    eval-rmse:0.097228    train-rmspe:0.101018
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eval-rmspe:0.097631
[467]   train-rmse:0.093989   eval-rmse:0.093989   train-rmspe:0.097525
eval-rmspe:0.097525
[468]   train-rmse:0.093883   eval-rmse:0.093883   train-rmspe:0.097419
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[494]    train-rmse:0.090345    eval-rmse:0.090345    train-rmspe:0.093615
eval-rmspe:0.093615
[495]    train-rmse:0.090253    eval-rmse:0.090253    train-rmspe:0.093518
eval-rmspe:0.093518
```

[496]   train-rmse:0.090059   eval-rmse:0.090059   train-rmspe:0.093249
eval-rmspe:0.093249
[497]   train-rmse:0.089871   eval-rmse:0.089871   train-rmspe:0.093051
eval-rmspe:0.093051
[498]   train-rmse:0.089718   eval-rmse:0.089718   train-rmspe:0.092878
eval-rmspe:0.092878
[499]   train-rmse:0.089637   eval-rmse:0.089637   train-rmspe:0.092796
eval-rmspe:0.092796
[500]   train-rmse:0.089559   eval-rmse:0.089559   train-rmspe:0.092712
eval-rmspe:0.092712
[501]   train-rmse:0.089436   eval-rmse:0.089436   train-rmspe:0.092587
eval-rmspe:0.092587
[502]   train-rmse:0.089307   eval-rmse:0.089307   train-rmspe:0.092454
eval-rmspe:0.092454
[503]   train-rmse:0.089286   eval-rmse:0.089286   train-rmspe:0.092433
eval-rmspe:0.092433
[504]   train-rmse:0.089149   eval-rmse:0.089149   train-rmspe:0.092289
eval-rmspe:0.092289
[505]   train-rmse:0.089001   eval-rmse:0.089001   train-rmspe:0.09209
eval-rmspe:0.09209
[506]   train-rmse:0.088833   eval-rmse:0.088833   train-rmspe:0.091909
eval-rmspe:0.091909
[507]   train-rmse:0.088718   eval-rmse:0.088718   train-rmspe:0.091782
eval-rmspe:0.091782
[508]   train-rmse:0.088451   eval-rmse:0.088451   train-rmspe:0.091485
eval-rmspe:0.091485
[509]   train-rmse:0.088284   eval-rmse:0.088284   train-rmspe:0.091309
eval-rmspe:0.091309
[510]   train-rmse:0.088183   eval-rmse:0.088183   train-rmspe:0.091203
eval-rmspe:0.091203
[511]   train-rmse:0.088111   eval-rmse:0.088111   train-rmspe:0.091122
eval-rmspe:0.091122
[512]   train-rmse:0.087996   eval-rmse:0.087996   train-rmspe:0.090952
eval-rmspe:0.090952
[513]   train-rmse:0.087785   eval-rmse:0.087785   train-rmspe:0.09071
eval-rmspe:0.09071
[514]   train-rmse:0.087623   eval-rmse:0.087623   train-rmspe:0.090519
eval-rmspe:0.090519
[515]   train-rmse:0.087571   eval-rmse:0.087571   train-rmspe:0.090466
eval-rmspe:0.090466
[516]   train-rmse:0.087447   eval-rmse:0.087447   train-rmspe:0.090292
eval-rmspe:0.090292
[517]   train-rmse:0.087341   eval-rmse:0.087341   train-rmspe:0.090185
eval-rmspe:0.090185
[518]   train-rmse:0.087127   eval-rmse:0.087127   train-rmspe:0.089955
eval-rmspe:0.089955
[519]   train-rmse:0.087002   eval-rmse:0.087002   train-rmspe:0.089822
eval-rmspe:0.089822

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[520]    train-rmse:0.086893    eval-rmse:0.086893    train-rmspe:0.089704
eval-rmspe:0.089704
[521]    train-rmse:0.086833    eval-rmse:0.086833    train-rmspe:0.089643
eval-rmspe:0.089643
[522]    train-rmse:0.086786    eval-rmse:0.086786    train-rmspe:0.089594
eval-rmspe:0.089594
[523]    train-rmse:0.086674    eval-rmse:0.086674    train-rmspe:0.089475
eval-rmspe:0.089475
[524]    train-rmse:0.086651    eval-rmse:0.086651    train-rmspe:0.089452
eval-rmspe:0.089452
[525]    train-rmse:0.08653     eval-rmse:0.08653     train-rmspe:0.089329
eval-rmspe:0.089329
[526]    train-rmse:0.086346    eval-rmse:0.086346    train-rmspe:0.089121
eval-rmspe:0.089121
[527]    train-rmse:0.086235    eval-rmse:0.086235    train-rmspe:0.089002
eval-rmspe:0.089002
[528]    train-rmse:0.08616     eval-rmse:0.08616     train-rmspe:0.088922
eval-rmspe:0.088922
[529]    train-rmse:0.086044    eval-rmse:0.086044    train-rmspe:0.0888
eval-rmspe:0.0888
[530]    train-rmse:0.085951    eval-rmse:0.085951    train-rmspe:0.088703
eval-rmspe:0.088703
[531]    train-rmse:0.085811    eval-rmse:0.085811    train-rmspe:0.088536
eval-rmspe:0.088536
[532]    train-rmse:0.085691    eval-rmse:0.085691    train-rmspe:0.088382
eval-rmspe:0.088382
[533]    train-rmse:0.085489    eval-rmse:0.085489    train-rmspe:0.088165
eval-rmspe:0.088165
[534]    train-rmse:0.085439    eval-rmse:0.085439    train-rmspe:0.08811
eval-rmspe:0.08811
[535]    train-rmse:0.085296    eval-rmse:0.085296    train-rmspe:0.087957
eval-rmspe:0.087957
[536]    train-rmse:0.08522     eval-rmse:0.08522     train-rmspe:0.08788
eval-rmspe:0.08788
[537]    train-rmse:0.08508     eval-rmse:0.08508     train-rmspe:0.087739
eval-rmspe:0.087739
[538]    train-rmse:0.084984    eval-rmse:0.084984    train-rmspe:0.08764
eval-rmspe:0.08764
[539]    train-rmse:0.084768    eval-rmse:0.084768    train-rmspe:0.087389
eval-rmspe:0.087389
[540]    train-rmse:0.084558    eval-rmse:0.084558    train-rmspe:0.087117
eval-rmspe:0.087117
[541]    train-rmse:0.08441     eval-rmse:0.08441     train-rmspe:0.086958
eval-rmspe:0.086958
[542]    train-rmse:0.084246    eval-rmse:0.084246    train-rmspe:0.086774
eval-rmspe:0.086774
[543]    train-rmse:0.084159    eval-rmse:0.084159    train-rmspe:0.08668
eval-rmspe:0.08668
```

```
[544]    train-rmse:0.08405      eval-rmse:0.08405      train-rmspe:0.08656
eval-rmspe:0.08656
[545]    train-rmse:0.084024     eval-rmse:0.084024     train-rmspe:0.086533
eval-rmspe:0.086533
[546]    train-rmse:0.083878     eval-rmse:0.083878     train-rmspe:0.086377
eval-rmspe:0.086377
[547]    train-rmse:0.083709     eval-rmse:0.083709     train-rmspe:0.086191
eval-rmspe:0.086191
[548]    train-rmse:0.083654     eval-rmse:0.083654     train-rmspe:0.086131
eval-rmspe:0.086131
[549]    train-rmse:0.083531     eval-rmse:0.083531     train-rmspe:0.085981
eval-rmspe:0.085981
[550]    train-rmse:0.083365     eval-rmse:0.083365     train-rmspe:0.085809
eval-rmspe:0.085809
[551]    train-rmse:0.083205     eval-rmse:0.083205     train-rmspe:0.085609
eval-rmspe:0.085609
[552]    train-rmse:0.083091     eval-rmse:0.083091     train-rmspe:0.085485
eval-rmspe:0.085485
[553]    train-rmse:0.082947     eval-rmse:0.082947     train-rmspe:0.085331
eval-rmspe:0.085331
[554]    train-rmse:0.082846     eval-rmse:0.082846     train-rmspe:0.085228
eval-rmspe:0.085228
[555]    train-rmse:0.082791     eval-rmse:0.082791     train-rmspe:0.08517
eval-rmspe:0.08517
[556]    train-rmse:0.082718     eval-rmse:0.082718     train-rmspe:0.085089
eval-rmspe:0.085089
[557]    train-rmse:0.082602     eval-rmse:0.082602     train-rmspe:0.084957
eval-rmspe:0.084957
[558]    train-rmse:0.082528     eval-rmse:0.082528     train-rmspe:0.084882
eval-rmspe:0.084882
[559]    train-rmse:0.082285     eval-rmse:0.082285     train-rmspe:0.084623
eval-rmspe:0.084623
[560]    train-rmse:0.082268     eval-rmse:0.082268     train-rmspe:0.084606
eval-rmspe:0.084606
[561]    train-rmse:0.082167     eval-rmse:0.082167     train-rmspe:0.0845
eval-rmspe:0.0845
[562]    train-rmse:0.082042     eval-rmse:0.082042     train-rmspe:0.084369
eval-rmspe:0.084369
[563]    train-rmse:0.081961     eval-rmse:0.081961     train-rmspe:0.084287
eval-rmspe:0.084287
[564]    train-rmse:0.081866     eval-rmse:0.081866     train-rmspe:0.084189
eval-rmspe:0.084189
[565]    train-rmse:0.08171      eval-rmse:0.08171      train-rmspe:0.083991
eval-rmspe:0.083991
[566]    train-rmse:0.081641     eval-rmse:0.081641     train-rmspe:0.083922
eval-rmspe:0.083922
[567]    train-rmse:0.081455     eval-rmse:0.081455     train-rmspe:0.083696
eval-rmspe:0.083696
```

[568]   train-rmse:0.081379   eval-rmse:0.081379   train-rmspe:0.08362
eval-rmspe:0.08362
[569]   train-rmse:0.081283   eval-rmse:0.081283   train-rmspe:0.083521
eval-rmspe:0.083521
[570]   train-rmse:0.081216   eval-rmse:0.081216   train-rmspe:0.083451
eval-rmspe:0.083451
[571]   train-rmse:0.081034   eval-rmse:0.081034   train-rmspe:0.08325
eval-rmspe:0.08325
[572]   train-rmse:0.080879   eval-rmse:0.080879   train-rmspe:0.083077
eval-rmspe:0.083077
[573]   train-rmse:0.080842   eval-rmse:0.080842   train-rmspe:0.083039
eval-rmspe:0.083039
[574]   train-rmse:0.080701   eval-rmse:0.080701   train-rmspe:0.08289
eval-rmspe:0.08289
[575]   train-rmse:0.080675   eval-rmse:0.080675   train-rmspe:0.082863
eval-rmspe:0.082863
[576]   train-rmse:0.080571   eval-rmse:0.080571   train-rmspe:0.082754
eval-rmspe:0.082754
[577]   train-rmse:0.080517   eval-rmse:0.080517   train-rmspe:0.0827
eval-rmspe:0.0827
[578]   train-rmse:0.080386   eval-rmse:0.080386   train-rmspe:0.082538
eval-rmspe:0.082538
[579]   train-rmse:0.080303   eval-rmse:0.080303   train-rmspe:0.082447
eval-rmspe:0.082447
[580]   train-rmse:0.080254   eval-rmse:0.080254   train-rmspe:0.082398
eval-rmspe:0.082398
[581]   train-rmse:0.080133   eval-rmse:0.080133   train-rmspe:0.08227
eval-rmspe:0.08227
[582]   train-rmse:0.08 eval-rmse:0.08 train-rmspe:0.082118   eval-
rmspe:0.082118
[583]   train-rmse:0.079889   eval-rmse:0.079889   train-rmspe:0.082001
eval-rmspe:0.082001
[584]   train-rmse:0.079805   eval-rmse:0.079805   train-rmspe:0.081911
eval-rmspe:0.081911
[585]   train-rmse:0.079701   eval-rmse:0.079701   train-rmspe:0.081796
eval-rmspe:0.081796
[586]   train-rmse:0.079644   eval-rmse:0.079644   train-rmspe:0.081738
eval-rmspe:0.081738
[587]   train-rmse:0.07951   eval-rmse:0.07951   train-rmspe:0.081577
eval-rmspe:0.081577
[588]   train-rmse:0.079341   eval-rmse:0.079341   train-rmspe:0.081395
eval-rmspe:0.081395
[589]   train-rmse:0.079267   eval-rmse:0.079267   train-rmspe:0.081313
eval-rmspe:0.081313
[590]   train-rmse:0.079171   eval-rmse:0.079171   train-rmspe:0.08121
eval-rmspe:0.08121
[591]   train-rmse:0.079062   eval-rmse:0.079062   train-rmspe:0.0811
eval-rmspe:0.0811

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[592]    train-rmse:0.078944    eval-rmse:0.078944    train-rmspe:0.080978
eval-rmspe:0.080978
[593]    train-rmse:0.078847    eval-rmse:0.078847    train-rmspe:0.080874
eval-rmspe:0.080874
[594]    train-rmse:0.078674    eval-rmse:0.078674    train-rmspe:0.080682
eval-rmspe:0.080682
[595]    train-rmse:0.07865     eval-rmse:0.07865     train-rmspe:0.080658
eval-rmspe:0.080658
[596]    train-rmse:0.078599    eval-rmse:0.078599    train-rmspe:0.080606
eval-rmspe:0.080606
[597]    train-rmse:0.078478    eval-rmse:0.078478    train-rmspe:0.080475
eval-rmspe:0.080475
[598]    train-rmse:0.078404    eval-rmse:0.078404    train-rmspe:0.080402
eval-rmspe:0.080402
[599]    train-rmse:0.078323    eval-rmse:0.078323    train-rmspe:0.080316
eval-rmspe:0.080316
round 4 end
round 5:
[0]      train-rmse:8.02734     eval-rmse:8.02734     train-rmspe:0.999811
eval-rmspe:0.999811
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
[1]      train-rmse:7.7871      eval-rmse:7.7871      train-rmspe:0.999713
eval-rmspe:0.999713
[2]      train-rmse:7.55403     eval-rmse:7.55403     train-rmspe:0.999594
eval-rmspe:0.999594
[3]      train-rmse:7.32795     eval-rmse:7.32795     train-rmspe:0.999448
eval-rmspe:0.999448
[4]      train-rmse:7.10869     eval-rmse:7.10869     train-rmspe:0.999272
eval-rmspe:0.999272
[5]      train-rmse:6.89606     eval-rmse:6.89606     train-rmspe:0.999059
eval-rmspe:0.999059
[6]      train-rmse:6.6898      eval-rmse:6.6898      train-rmspe:0.998806
eval-rmspe:0.998806
[7]      train-rmse:6.48972     eval-rmse:6.48972     train-rmspe:0.998504
eval-rmspe:0.998504
[8]      train-rmse:6.29564     eval-rmse:6.29564     train-rmspe:0.998149
eval-rmspe:0.998149
[9]      train-rmse:6.10743     eval-rmse:6.10743     train-rmspe:0.997732
eval-rmspe:0.997732
[10]     train-rmse:5.92486     eval-rmse:5.92486     train-rmspe:0.997245
eval-rmspe:0.997245
[11]     train-rmse:5.7478      eval-rmse:5.7478      train-rmspe:0.996681
eval-rmspe:0.996681
[12]     train-rmse:5.57606     eval-rmse:5.57606     train-rmspe:0.99603
eval-rmspe:0.99603
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[13]    train-rmse:5.40947    eval-rmse:5.40947    train-rmspe:0.995281
eval-rmspe:0.995281
[14]    train-rmse:5.24791    eval-rmse:5.24791    train-rmspe:0.994426
eval-rmspe:0.994426
[15]    train-rmse:5.09121    eval-rmse:5.09121    train-rmspe:0.993455
eval-rmspe:0.993455
[16]    train-rmse:4.93927    eval-rmse:4.93927    train-rmspe:0.992355
eval-rmspe:0.992355
[17]    train-rmse:4.79188    eval-rmse:4.79188    train-rmspe:0.991119
eval-rmspe:0.991119
[18]    train-rmse:4.64897    eval-rmse:4.64897    train-rmspe:0.989734
eval-rmspe:0.989734
[19]    train-rmse:4.51032    eval-rmse:4.51032    train-rmspe:0.988189
eval-rmspe:0.988189
[20]    train-rmse:4.37586    eval-rmse:4.37586    train-rmspe:0.986471
eval-rmspe:0.986471
[21]    train-rmse:4.24546    eval-rmse:4.24546    train-rmspe:0.98457
eval-rmspe:0.98457
[22]    train-rmse:4.11899    eval-rmse:4.11899    train-rmspe:0.982476
eval-rmspe:0.982476
[23]    train-rmse:3.9963     eval-rmse:3.9963     train-rmspe:0.980174
eval-rmspe:0.980174
[24]    train-rmse:3.87737    eval-rmse:3.87737    train-rmspe:0.977652
eval-rmspe:0.977652
[25]    train-rmse:3.76204    eval-rmse:3.76204    train-rmspe:0.974904
eval-rmspe:0.974904
[26]    train-rmse:3.65017    eval-rmse:3.65017    train-rmspe:0.971925
eval-rmspe:0.971925
[27]    train-rmse:3.54169    eval-rmse:3.54169    train-rmspe:0.9687
eval-rmspe:0.9687
[28]    train-rmse:3.43648    eval-rmse:3.43648    train-rmspe:0.965222
eval-rmspe:0.965222
[29]    train-rmse:3.33448    eval-rmse:3.33448    train-rmspe:0.961476
eval-rmspe:0.961476
[30]    train-rmse:3.23554    eval-rmse:3.23554    train-rmspe:0.957462
eval-rmspe:0.957462
[31]    train-rmse:3.1396     eval-rmse:3.1396     train-rmspe:0.953188
eval-rmspe:0.953188
[32]    train-rmse:3.04656    eval-rmse:3.04656    train-rmspe:0.948629
eval-rmspe:0.948629
[33]    train-rmse:2.95635    eval-rmse:2.95635    train-rmspe:0.943779
eval-rmspe:0.943779
[34]    train-rmse:2.86884    eval-rmse:2.86884    train-rmspe:0.938645
eval-rmspe:0.938645
[35]    train-rmse:2.78397    eval-rmse:2.78397    train-rmspe:0.933224
eval-rmspe:0.933224
[36]    train-rmse:2.70173    eval-rmse:2.70173    train-rmspe:0.927509
eval-rmspe:0.927509
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[37]     train-rmse:2.62195     eval-rmse:2.62195     train-rmspe:0.921518
eval-rmspe:0.921518
[38]     train-rmse:2.54466     eval-rmse:2.54466     train-rmspe:0.915222
eval-rmspe:0.915222
[39]     train-rmse:2.46959     eval-rmse:2.46959     train-rmspe:0.908649
eval-rmspe:0.908649
[40]     train-rmse:2.3969      eval-rmse:2.3969      train-rmspe:0.901801
eval-rmspe:0.901801
[41]     train-rmse:2.32634     eval-rmse:2.32634     train-rmspe:0.894688
eval-rmspe:0.894688
[42]     train-rmse:2.25794     eval-rmse:2.25794     train-rmspe:0.887306
eval-rmspe:0.887306
[43]     train-rmse:2.19162     eval-rmse:2.19162     train-rmspe:0.879664
eval-rmspe:0.879664
[44]     train-rmse:2.12738     eval-rmse:2.12738     train-rmspe:0.871707
eval-rmspe:0.871707
[45]     train-rmse:2.06503     eval-rmse:2.06503     train-rmspe:0.863543
eval-rmspe:0.863543
[46]     train-rmse:2.00466     eval-rmse:2.00466     train-rmspe:0.855088
eval-rmspe:0.855088
[47]     train-rmse:1.9461      eval-rmse:1.9461      train-rmspe:0.846407
eval-rmspe:0.846407
[48]     train-rmse:1.88931     eval-rmse:1.88931     train-rmspe:0.837505
eval-rmspe:0.837505
[49]     train-rmse:1.83431     eval-rmse:1.83431     train-rmspe:0.828396
eval-rmspe:0.828396
[50]     train-rmse:1.78087     eval-rmse:1.78087     train-rmspe:0.81913
eval-rmspe:0.81913
[51]     train-rmse:1.72908     eval-rmse:1.72908     train-rmspe:0.80965
eval-rmspe:0.80965
[52]     train-rmse:1.67893     eval-rmse:1.67893     train-rmspe:0.799952
eval-rmspe:0.799952
[53]     train-rmse:1.63013     eval-rmse:1.63013     train-rmspe:0.790161
eval-rmspe:0.790161
[54]     train-rmse:1.58296     eval-rmse:1.58296     train-rmspe:0.780159
eval-rmspe:0.780159
[55]     train-rmse:1.53727     eval-rmse:1.53727     train-rmspe:0.770034
eval-rmspe:0.770034
[56]     train-rmse:1.49296     eval-rmse:1.49296     train-rmspe:0.759797
eval-rmspe:0.759797
[57]     train-rmse:1.45002     eval-rmse:1.45002     train-rmspe:0.749422
eval-rmspe:0.749422
[58]     train-rmse:1.40836     eval-rmse:1.40836     train-rmspe:0.738926
eval-rmspe:0.738926
[59]     train-rmse:1.36812     eval-rmse:1.36812     train-rmspe:0.728325
eval-rmspe:0.728325
[60]     train-rmse:1.32909     eval-rmse:1.32909     train-rmspe:0.717657
eval-rmspe:0.717657
```

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[61]     train-rmse:1.29127      eval-rmse:1.29127      train-rmspe:0.706941
eval-rmspe:0.706941
[62]     train-rmse:1.25464      eval-rmse:1.25464      train-rmspe:0.696179
eval-rmspe:0.696179
[63]     train-rmse:1.21911      eval-rmse:1.21911      train-rmspe:0.685404
eval-rmspe:0.685404
[64]     train-rmse:1.18485      eval-rmse:1.18485      train-rmspe:0.674552
eval-rmspe:0.674552
[65]     train-rmse:1.15128      eval-rmse:1.15128      train-rmspe:0.663795
eval-rmspe:0.663795
[66]     train-rmse:1.11897      eval-rmse:1.11897      train-rmspe:0.652984
eval-rmspe:0.652984
[67]     train-rmse:1.08751      eval-rmse:1.08751      train-rmspe:0.642226
eval-rmspe:0.642226
[68]     train-rmse:1.05705      eval-rmse:1.05705      train-rmspe:0.631484
eval-rmspe:0.631484
[69]     train-rmse:1.0278       eval-rmse:1.0278       train-rmspe:0.62071
eval-rmspe:0.62071
[70]     train-rmse:0.999176     eval-rmse:0.999176     train-rmspe:0.610038
eval-rmspe:0.610038
[71]     train-rmse:0.971388     eval-rmse:0.971388     train-rmspe:0.599454
eval-rmspe:0.599454
[72]     train-rmse:0.944232     eval-rmse:0.944232     train-rmspe:0.588944
eval-rmspe:0.588944
[73]     train-rmse:0.918248     eval-rmse:0.918248     train-rmspe:0.578489
eval-rmspe:0.578489
[74]     train-rmse:0.893182     eval-rmse:0.893182     train-rmspe:0.568093
eval-rmspe:0.568093
[75]     train-rmse:0.868815     eval-rmse:0.868815     train-rmspe:0.557803
eval-rmspe:0.557803
[76]     train-rmse:0.84541      eval-rmse:0.84541      train-rmspe:0.547635
eval-rmspe:0.547635
[77]     train-rmse:0.822844     eval-rmse:0.822844     train-rmspe:0.53759
eval-rmspe:0.53759
[78]     train-rmse:0.80033      eval-rmse:0.80033      train-rmspe:0.527662
eval-rmspe:0.527662
[79]     train-rmse:0.779019     eval-rmse:0.779019     train-rmspe:0.517825
eval-rmspe:0.517825
[80]     train-rmse:0.758331     eval-rmse:0.758331     train-rmspe:0.508176
eval-rmspe:0.508176
[81]     train-rmse:0.738373     eval-rmse:0.738373     train-rmspe:0.498631
eval-rmspe:0.498631
[82]     train-rmse:0.718776     eval-rmse:0.718776     train-rmspe:0.489217
eval-rmspe:0.489217
[83]     train-rmse:0.700004     eval-rmse:0.700004     train-rmspe:0.479968
eval-rmspe:0.479968
[84]     train-rmse:0.681861     eval-rmse:0.681861     train-rmspe:0.470886
eval-rmspe:0.470886
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[85]    train-rmse:0.664276    eval-rmse:0.664276    train-rmspe:0.46193
eval-rmspe:0.46193
[86]    train-rmse:0.647202    eval-rmse:0.647202    train-rmspe:0.453175
eval-rmspe:0.453175
[87]    train-rmse:0.630483    eval-rmse:0.630483    train-rmspe:0.444568
eval-rmspe:0.444568
[88]    train-rmse:0.614595    eval-rmse:0.614595    train-rmspe:0.436132
eval-rmspe:0.436132
[89]    train-rmse:0.598704    eval-rmse:0.598704    train-rmspe:0.427802
eval-rmspe:0.427802
[90]    train-rmse:0.583868    eval-rmse:0.583868    train-rmspe:0.419744
eval-rmspe:0.419744
[91]    train-rmse:0.569494    eval-rmse:0.569494    train-rmspe:0.411867
eval-rmspe:0.411867
[92]    train-rmse:0.555734    eval-rmse:0.555734    train-rmspe:0.404183
eval-rmspe:0.404183
[93]    train-rmse:0.542204    eval-rmse:0.542204    train-rmspe:0.396636
eval-rmspe:0.396636
[94]    train-rmse:0.529211    eval-rmse:0.529211    train-rmspe:0.389299
eval-rmspe:0.389299
[95]    train-rmse:0.516729    eval-rmse:0.516729    train-rmspe:0.382163
eval-rmspe:0.382163
[96]    train-rmse:0.504523    eval-rmse:0.504523    train-rmspe:0.375173
eval-rmspe:0.375173
[97]    train-rmse:0.493015    eval-rmse:0.493015    train-rmspe:0.368457
eval-rmspe:0.368457
[98]    train-rmse:0.481856    eval-rmse:0.481856    train-rmspe:0.36191
eval-rmspe:0.36191
[99]    train-rmse:0.471048    eval-rmse:0.471048    train-rmspe:0.355555
eval-rmspe:0.355555
[100]   train-rmse:0.460643    eval-rmse:0.460643    train-rmspe:0.349421
eval-rmspe:0.349421
[101]   train-rmse:0.450684    eval-rmse:0.450684    train-rmspe:0.34347
eval-rmspe:0.34347
[102]   train-rmse:0.441002    eval-rmse:0.441002    train-rmspe:0.337691
eval-rmspe:0.337691
[103]   train-rmse:0.431526    eval-rmse:0.431526    train-rmspe:0.332039
eval-rmspe:0.332039
[104]   train-rmse:0.422083    eval-rmse:0.422083    train-rmspe:0.326436
eval-rmspe:0.326436
[105]   train-rmse:0.413608    eval-rmse:0.413608    train-rmspe:0.321322
eval-rmspe:0.321322
[106]   train-rmse:0.405215    eval-rmse:0.405215    train-rmspe:0.316225
eval-rmspe:0.316225
[107]   train-rmse:0.397121    eval-rmse:0.397121    train-rmspe:0.311324
eval-rmspe:0.311324
[108]   train-rmse:0.389391    eval-rmse:0.389391    train-rmspe:0.306642
eval-rmspe:0.306642
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[109]    train-rmse:0.382096    eval-rmse:0.382096    train-rmspe:0.302223
eval-rmspe:0.302223
[110]    train-rmse:0.37499     eval-rmse:0.37499     train-rmspe:0.297956
eval-rmspe:0.297956
[111]    train-rmse:0.367452    eval-rmse:0.367452    train-rmspe:0.293381
eval-rmspe:0.293381
[112]    train-rmse:0.360454    eval-rmse:0.360454    train-rmspe:0.289167
eval-rmspe:0.289167
[113]    train-rmse:0.353612    eval-rmse:0.353612    train-rmspe:0.285034
eval-rmspe:0.285034
[114]    train-rmse:0.347643    eval-rmse:0.347643    train-rmspe:0.281467
eval-rmspe:0.281467
[115]    train-rmse:0.341512    eval-rmse:0.341512    train-rmspe:0.277785
eval-rmspe:0.277785
[116]    train-rmse:0.335545    eval-rmse:0.335545    train-rmspe:0.274211
eval-rmspe:0.274211
[117]    train-rmse:0.32993     eval-rmse:0.32993     train-rmspe:0.270831
eval-rmspe:0.270831
[118]    train-rmse:0.324316    eval-rmse:0.324316    train-rmspe:0.267402
eval-rmspe:0.267402
[119]    train-rmse:0.319139    eval-rmse:0.319139    train-rmspe:0.264325
eval-rmspe:0.264325
[120]    train-rmse:0.314515    eval-rmse:0.314515    train-rmspe:0.261655
eval-rmspe:0.261655
[121]    train-rmse:0.308978    eval-rmse:0.308978    train-rmspe:0.258338
eval-rmspe:0.258338
[122]    train-rmse:0.304213    eval-rmse:0.304213    train-rmspe:0.255484
eval-rmspe:0.255484
[123]    train-rmse:0.299992    eval-rmse:0.299992    train-rmspe:0.253094
eval-rmspe:0.253094
[124]    train-rmse:0.295435    eval-rmse:0.295435    train-rmspe:0.250335
eval-rmspe:0.250335
[125]    train-rmse:0.291515    eval-rmse:0.291515    train-rmspe:0.248071
eval-rmspe:0.248071
[126]    train-rmse:0.287541    eval-rmse:0.287541    train-rmspe:0.245821
eval-rmspe:0.245821
[127]    train-rmse:0.28369     eval-rmse:0.28369     train-rmspe:0.243619
eval-rmspe:0.243619
[128]    train-rmse:0.280353    eval-rmse:0.280353    train-rmspe:0.241802
eval-rmspe:0.241802
[129]    train-rmse:0.277174    eval-rmse:0.277174    train-rmspe:0.240124
eval-rmspe:0.240124
[130]    train-rmse:0.273117    eval-rmse:0.273117    train-rmspe:0.237751
eval-rmspe:0.237751
[131]    train-rmse:0.269802    eval-rmse:0.269802    train-rmspe:0.235949
eval-rmspe:0.235949
[132]    train-rmse:0.266896    eval-rmse:0.266896    train-rmspe:0.234464
eval-rmspe:0.234464
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[133]   train-rmse:0.264029   eval-rmse:0.264029   train-rmspe:0.232948
eval-rmspe:0.232948
[134]   train-rmse:0.261327   eval-rmse:0.261327   train-rmspe:0.231554
eval-rmspe:0.231554
[135]   train-rmse:0.258734   eval-rmse:0.258734   train-rmspe:0.230249
eval-rmspe:0.230249
[136]   train-rmse:0.256146   eval-rmse:0.256146   train-rmspe:0.228844
eval-rmspe:0.228844
[137]   train-rmse:0.253132   eval-rmse:0.253132   train-rmspe:0.227108
eval-rmspe:0.227108
[138]   train-rmse:0.250477   eval-rmse:0.250477   train-rmspe:0.22562
eval-rmspe:0.22562
[139]   train-rmse:0.248186   eval-rmse:0.248186   train-rmspe:0.224491
eval-rmspe:0.224491
[140]   train-rmse:0.246188   eval-rmse:0.246188   train-rmspe:0.223603
eval-rmspe:0.223603
[141]   train-rmse:0.244   eval-rmse:0.244 train-rmspe:0.222514   eval-
rmspe:0.222514
[142]   train-rmse:0.242066   eval-rmse:0.242066   train-rmspe:0.221604
eval-rmspe:0.221604
[143]   train-rmse:0.239532   eval-rmse:0.239532   train-rmspe:0.220136
eval-rmspe:0.220136
[144]   train-rmse:0.237866   eval-rmse:0.237866   train-rmspe:0.219426
eval-rmspe:0.219426
[145]   train-rmse:0.236075   eval-rmse:0.236075   train-rmspe:0.218595
eval-rmspe:0.218595
[146]   train-rmse:0.234   eval-rmse:0.234 train-rmspe:0.21741   eval-
rmspe:0.21741
[147]   train-rmse:0.232245   eval-rmse:0.232245   train-rmspe:0.216607
eval-rmspe:0.216607
[148]   train-rmse:0.230791   eval-rmse:0.230791   train-rmspe:0.216027
eval-rmspe:0.216027
[149]   train-rmse:0.228749   eval-rmse:0.228749   train-rmspe:0.214846
eval-rmspe:0.214846
[150]   train-rmse:0.227012   eval-rmse:0.227012   train-rmspe:0.213945
eval-rmspe:0.213945
[151]   train-rmse:0.22533   eval-rmse:0.22533   train-rmspe:0.212968
eval-rmspe:0.212968
[152]   train-rmse:0.224056   eval-rmse:0.224056   train-rmspe:0.212421
eval-rmspe:0.212421
[153]   train-rmse:0.222996   eval-rmse:0.222996   train-rmspe:0.212087
eval-rmspe:0.212087
[154]   train-rmse:0.221475   eval-rmse:0.221475   train-rmspe:0.211288
eval-rmspe:0.211288
[155]   train-rmse:0.220206   eval-rmse:0.220206   train-rmspe:0.21075
eval-rmspe:0.21075
[156]   train-rmse:0.219261   eval-rmse:0.219261   train-rmspe:0.210464
eval-rmspe:0.210464

[157]   train-rmse:0.218108   eval-rmse:0.218108   train-rmspe:0.209988
eval-rmspe:0.209988
[158]   train-rmse:0.216966   eval-rmse:0.216966   train-rmspe:0.209425
eval-rmspe:0.209425
[159]   train-rmse:0.215847   eval-rmse:0.215847   train-rmspe:0.208895
eval-rmspe:0.208895
[160]   train-rmse:0.214146   eval-rmse:0.214146   train-rmspe:0.207788
eval-rmspe:0.207788
[161]   train-rmse:0.213108   eval-rmse:0.213108   train-rmspe:0.207291
eval-rmspe:0.207291
[162]   train-rmse:0.212317   eval-rmse:0.212317   train-rmspe:0.20704
eval-rmspe:0.20704
[163]   train-rmse:0.2106   eval-rmse:0.2106   train-rmspe:0.205865
eval-rmspe:0.205865
[164]   train-rmse:0.209783   eval-rmse:0.209783   train-rmspe:0.205576
eval-rmspe:0.205576
[165]   train-rmse:0.20863   eval-rmse:0.20863   train-rmspe:0.204916
eval-rmspe:0.204916
[166]   train-rmse:0.207725   eval-rmse:0.207725   train-rmspe:0.20452
eval-rmspe:0.20452
[167]   train-rmse:0.206327   eval-rmse:0.206327   train-rmspe:0.203522
eval-rmspe:0.203522
[168]   train-rmse:0.205035   eval-rmse:0.205035   train-rmspe:0.202633
eval-rmspe:0.202633
[169]   train-rmse:0.203647   eval-rmse:0.203647   train-rmspe:0.201698
eval-rmspe:0.201698
[170]   train-rmse:0.202531   eval-rmse:0.202531   train-rmspe:0.200969
eval-rmspe:0.200969
[171]   train-rmse:0.200756   eval-rmse:0.200756   train-rmspe:0.199602
eval-rmspe:0.199602
[172]   train-rmse:0.200158   eval-rmse:0.200158   train-rmspe:0.199369
eval-rmspe:0.199369
[173]   train-rmse:0.199338   eval-rmse:0.199338   train-rmspe:0.198906
eval-rmspe:0.198906
[174]   train-rmse:0.198682   eval-rmse:0.198682   train-rmspe:0.198598
eval-rmspe:0.198598
[175]   train-rmse:0.198234   eval-rmse:0.198234   train-rmspe:0.198521
eval-rmspe:0.198521
[176]   train-rmse:0.197649   eval-rmse:0.197649   train-rmspe:0.198247
eval-rmspe:0.198247
[177]   train-rmse:0.196876   eval-rmse:0.196876   train-rmspe:0.197714
eval-rmspe:0.197714
[178]   train-rmse:0.196426   eval-rmse:0.196426   train-rmspe:0.19759
eval-rmspe:0.19759
[179]   train-rmse:0.195756   eval-rmse:0.195756   train-rmspe:0.197207
eval-rmspe:0.197207
[180]   train-rmse:0.195201   eval-rmse:0.195201   train-rmspe:0.196865
eval-rmspe:0.196865

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[181]    train-rmse:0.194265    eval-rmse:0.194265    train-rmspe:0.196208
eval-rmspe:0.196208
[182]    train-rmse:0.193184    eval-rmse:0.193184    train-rmspe:0.195429
eval-rmspe:0.195429
[183]    train-rmse:0.192541    eval-rmse:0.192541    train-rmspe:0.195038
eval-rmspe:0.195038
[184]    train-rmse:0.191899    eval-rmse:0.191899    train-rmspe:0.194667
eval-rmspe:0.194667
[185]    train-rmse:0.191224    eval-rmse:0.191224    train-rmspe:0.194256
eval-rmspe:0.194256
[186]    train-rmse:0.190565    eval-rmse:0.190565    train-rmspe:0.193802
eval-rmspe:0.193802
[187]    train-rmse:0.189498    eval-rmse:0.189498    train-rmspe:0.192939
eval-rmspe:0.192939
[188]    train-rmse:0.188291    eval-rmse:0.188291    train-rmspe:0.191901
eval-rmspe:0.191901
[189]    train-rmse:0.187497    eval-rmse:0.187497    train-rmspe:0.191293
eval-rmspe:0.191293
[190]    train-rmse:0.186721    eval-rmse:0.186721    train-rmspe:0.190697
eval-rmspe:0.190697
[191]    train-rmse:0.186256    eval-rmse:0.186256    train-rmspe:0.1904
eval-rmspe:0.1904
[192]    train-rmse:0.185745    eval-rmse:0.185745    train-rmspe:0.190069
eval-rmspe:0.190069
[193]    train-rmse:0.185503    eval-rmse:0.185503    train-rmspe:0.190002
eval-rmspe:0.190002
[194]    train-rmse:0.18491     eval-rmse:0.18491     train-rmspe:0.189596
eval-rmspe:0.189596
[195]    train-rmse:0.184054    eval-rmse:0.184054    train-rmspe:0.18888
eval-rmspe:0.18888
[196]    train-rmse:0.183508    eval-rmse:0.183508    train-rmspe:0.188482
eval-rmspe:0.188482
[197]    train-rmse:0.182368    eval-rmse:0.182368    train-rmspe:0.187384
eval-rmspe:0.187384
[198]    train-rmse:0.181482    eval-rmse:0.181482    train-rmspe:0.186632
eval-rmspe:0.186632
[199]    train-rmse:0.180738    eval-rmse:0.180738    train-rmspe:0.186059
eval-rmspe:0.186059
[200]    train-rmse:0.180066    eval-rmse:0.180066    train-rmspe:0.18549
eval-rmspe:0.18549
[201]    train-rmse:0.17959     eval-rmse:0.17959     train-rmspe:0.185139
eval-rmspe:0.185139
[202]    train-rmse:0.178835    eval-rmse:0.178835    train-rmspe:0.184533
eval-rmspe:0.184533
[203]    train-rmse:0.178386    eval-rmse:0.178386    train-rmspe:0.184204
eval-rmspe:0.184204
[204]    train-rmse:0.177416    eval-rmse:0.177416    train-rmspe:0.183263
eval-rmspe:0.183263
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[205]   train-rmse:0.176589   eval-rmse:0.176589   train-rmspe:0.182532
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[206]   train-rmse:0.176149   eval-rmse:0.176149   train-rmspe:0.182162
eval-rmspe:0.182162
[207]   train-rmse:0.175864   eval-rmse:0.175864   train-rmspe:0.181987
eval-rmspe:0.181987
[208]   train-rmse:0.174987   eval-rmse:0.174987   train-rmspe:0.181166
eval-rmspe:0.181166
[209]   train-rmse:0.173823   eval-rmse:0.173823   train-rmspe:0.180064
eval-rmspe:0.180064
[210]   train-rmse:0.17304   eval-rmse:0.17304   train-rmspe:0.179365
eval-rmspe:0.179365
[211]   train-rmse:0.172446   eval-rmse:0.172446   train-rmspe:0.17881
eval-rmspe:0.17881
[212]   train-rmse:0.17219   eval-rmse:0.17219   train-rmspe:0.178591
eval-rmspe:0.178591
[213]   train-rmse:0.171707   eval-rmse:0.171707   train-rmspe:0.178215
eval-rmspe:0.178215
[214]   train-rmse:0.171036   eval-rmse:0.171036   train-rmspe:0.177547
eval-rmspe:0.177547
[215]   train-rmse:0.170528   eval-rmse:0.170528   train-rmspe:0.177136
eval-rmspe:0.177136
[216]   train-rmse:0.170177   eval-rmse:0.170177   train-rmspe:0.17684
eval-rmspe:0.17684
[217]   train-rmse:0.169733   eval-rmse:0.169733   train-rmspe:0.176442
eval-rmspe:0.176442
[218]   train-rmse:0.169593   eval-rmse:0.169593   train-rmspe:0.176378
eval-rmspe:0.176378
[219]   train-rmse:0.168765   eval-rmse:0.168765   train-rmspe:0.175596
eval-rmspe:0.175596
[220]   train-rmse:0.168308   eval-rmse:0.168308   train-rmspe:0.175243
eval-rmspe:0.175243
[221]   train-rmse:0.167344   eval-rmse:0.167344   train-rmspe:0.174264
eval-rmspe:0.174264
[222]   train-rmse:0.167035   eval-rmse:0.167035   train-rmspe:0.174029
eval-rmspe:0.174029
[223]   train-rmse:0.166384   eval-rmse:0.166384   train-rmspe:0.173399
eval-rmspe:0.173399
[224]   train-rmse:0.166016   eval-rmse:0.166016   train-rmspe:0.173096
eval-rmspe:0.173096
[225]   train-rmse:0.165604   eval-rmse:0.165604   train-rmspe:0.1727
eval-rmspe:0.1727
[226]   train-rmse:0.165191   eval-rmse:0.165191   train-rmspe:0.172334
eval-rmspe:0.172334
[227]   train-rmse:0.164726   eval-rmse:0.164726   train-rmspe:0.171892
eval-rmspe:0.171892
[228]   train-rmse:0.164427   eval-rmse:0.164427   train-rmspe:0.171628
eval-rmspe:0.171628

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[229]    train-rmse:0.163134    eval-rmse:0.163134    train-rmspe:0.170295
eval-rmspe:0.170295
[230]    train-rmse:0.162642    eval-rmse:0.162642    train-rmspe:0.169852
eval-rmspe:0.169852
[231]    train-rmse:0.161981    eval-rmse:0.161981    train-rmspe:0.16922
eval-rmspe:0.16922
[232]    train-rmse:0.161668    eval-rmse:0.161668    train-rmspe:0.168929
eval-rmspe:0.168929
[233]    train-rmse:0.161415    eval-rmse:0.161415    train-rmspe:0.168705
eval-rmspe:0.168705
[234]    train-rmse:0.160643    eval-rmse:0.160643    train-rmspe:0.167956
eval-rmspe:0.167956
[235]    train-rmse:0.160281    eval-rmse:0.160281    train-rmspe:0.167608
eval-rmspe:0.167608
[236]    train-rmse:0.15996     eval-rmse:0.15996     train-rmspe:0.167298
eval-rmspe:0.167298
[237]    train-rmse:0.159543    eval-rmse:0.159543    train-rmspe:0.166888
eval-rmspe:0.166888
[238]    train-rmse:0.159227    eval-rmse:0.159227    train-rmspe:0.166583
eval-rmspe:0.166583
[239]    train-rmse:0.158694    eval-rmse:0.158694    train-rmspe:0.166069
eval-rmspe:0.166069
[240]    train-rmse:0.158061    eval-rmse:0.158061    train-rmspe:0.165402
eval-rmspe:0.165402
[241]    train-rmse:0.157515    eval-rmse:0.157515    train-rmspe:0.164856
eval-rmspe:0.164856
[242]    train-rmse:0.157045    eval-rmse:0.157045    train-rmspe:0.164369
eval-rmspe:0.164369
[243]    train-rmse:0.156574    eval-rmse:0.156574    train-rmspe:0.163915
eval-rmspe:0.163915
[244]    train-rmse:0.155831    eval-rmse:0.155831    train-rmspe:0.163113
eval-rmspe:0.163113
[245]    train-rmse:0.155486    eval-rmse:0.155486    train-rmspe:0.162775
eval-rmspe:0.162775
[246]    train-rmse:0.155366    eval-rmse:0.155366    train-rmspe:0.162681
eval-rmspe:0.162681
[247]    train-rmse:0.155009    eval-rmse:0.155009    train-rmspe:0.162349
eval-rmspe:0.162349
[248]    train-rmse:0.154717    eval-rmse:0.154717    train-rmspe:0.16208
eval-rmspe:0.16208
[249]    train-rmse:0.154302    eval-rmse:0.154302    train-rmspe:0.161622
eval-rmspe:0.161622
[250]    train-rmse:0.154058    eval-rmse:0.154058    train-rmspe:0.161379
eval-rmspe:0.161379
[251]    train-rmse:0.153304    eval-rmse:0.153304    train-rmspe:0.160572
eval-rmspe:0.160572
[252]    train-rmse:0.152525    eval-rmse:0.152525    train-rmspe:0.159761
eval-rmspe:0.159761
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[253]    train-rmse:0.152209    eval-rmse:0.152209    train-rmspe:0.159473
eval-rmspe:0.159473
[254]    train-rmse:0.151946    eval-rmse:0.151946    train-rmspe:0.159232
eval-rmspe:0.159232
[255]    train-rmse:0.151659    eval-rmse:0.151659    train-rmspe:0.158943
eval-rmspe:0.158943
[256]    train-rmse:0.151401    eval-rmse:0.151401    train-rmspe:0.158695
eval-rmspe:0.158695
[257]    train-rmse:0.150755    eval-rmse:0.150755    train-rmspe:0.157985
eval-rmspe:0.157985
[258]    train-rmse:0.149865    eval-rmse:0.149865    train-rmspe:0.157037
eval-rmspe:0.157037
[259]    train-rmse:0.149564    eval-rmse:0.149564    train-rmspe:0.156747
eval-rmspe:0.156747
[260]    train-rmse:0.148976    eval-rmse:0.148976    train-rmspe:0.156146
eval-rmspe:0.156146
[261]    train-rmse:0.148746    eval-rmse:0.148746    train-rmspe:0.155916
eval-rmspe:0.155916
[262]    train-rmse:0.148105    eval-rmse:0.148105    train-rmspe:0.155226
eval-rmspe:0.155226
[263]    train-rmse:0.147775    eval-rmse:0.147775    train-rmspe:0.154909
eval-rmspe:0.154909
[264]    train-rmse:0.147416    eval-rmse:0.147416    train-rmspe:0.154559
eval-rmspe:0.154559
[265]    train-rmse:0.146581    eval-rmse:0.146581    train-rmspe:0.153683
eval-rmspe:0.153683
[266]    train-rmse:0.146258    eval-rmse:0.146258    train-rmspe:0.153355
eval-rmspe:0.153355
[267]    train-rmse:0.146057    eval-rmse:0.146057    train-rmspe:0.153152
eval-rmspe:0.153152
[268]    train-rmse:0.145508    eval-rmse:0.145508    train-rmspe:0.152607
eval-rmspe:0.152607
[269]    train-rmse:0.144701    eval-rmse:0.144701    train-rmspe:0.151738
eval-rmspe:0.151738
[270]    train-rmse:0.144218    eval-rmse:0.144218    train-rmspe:0.151282
eval-rmspe:0.151282
[271]    train-rmse:0.14357     eval-rmse:0.14357     train-rmspe:0.150623
eval-rmspe:0.150623
[272]    train-rmse:0.143297    eval-rmse:0.143297    train-rmspe:0.150361
eval-rmspe:0.150361
[273]    train-rmse:0.142698    eval-rmse:0.142698    train-rmspe:0.149698
eval-rmspe:0.149698
[274]    train-rmse:0.142436    eval-rmse:0.142436    train-rmspe:0.149441
eval-rmspe:0.149441
[275]    train-rmse:0.142071    eval-rmse:0.142071    train-rmspe:0.149048
eval-rmspe:0.149048
[276]    train-rmse:0.141481    eval-rmse:0.141481    train-rmspe:0.148405
eval-rmspe:0.148405
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[277]    train-rmse:0.141295    eval-rmse:0.141295    train-rmspe:0.148227
eval-rmspe:0.148227
[278]    train-rmse:0.140951    eval-rmse:0.140951    train-rmspe:0.147879
eval-rmspe:0.147879
[279]    train-rmse:0.140728    eval-rmse:0.140728    train-rmspe:0.147633
eval-rmspe:0.147633
[280]    train-rmse:0.14042     eval-rmse:0.14042     train-rmspe:0.147318
eval-rmspe:0.147318
[281]    train-rmse:0.139893    eval-rmse:0.139893    train-rmspe:0.146777
eval-rmspe:0.146777
[282]    train-rmse:0.139768    eval-rmse:0.139768    train-rmspe:0.146659
eval-rmspe:0.146659
[283]    train-rmse:0.139707    eval-rmse:0.139707    train-rmspe:0.146603
eval-rmspe:0.146603
[284]    train-rmse:0.139332    eval-rmse:0.139332    train-rmspe:0.146236
eval-rmspe:0.146236
[285]    train-rmse:0.138615    eval-rmse:0.138615    train-rmspe:0.145483
eval-rmspe:0.145483
[286]    train-rmse:0.13823     eval-rmse:0.13823     train-rmspe:0.145065
eval-rmspe:0.145065
[287]    train-rmse:0.137749    eval-rmse:0.137749    train-rmspe:0.144543
eval-rmspe:0.144543
[288]    train-rmse:0.137385    eval-rmse:0.137385    train-rmspe:0.144167
eval-rmspe:0.144167
[289]    train-rmse:0.137187    eval-rmse:0.137187    train-rmspe:0.143974
eval-rmspe:0.143974
[290]    train-rmse:0.136544    eval-rmse:0.136544    train-rmspe:0.143274
eval-rmspe:0.143274
[291]    train-rmse:0.136265    eval-rmse:0.136265    train-rmspe:0.142975
eval-rmspe:0.142975
[292]    train-rmse:0.136048    eval-rmse:0.136048    train-rmspe:0.142757
eval-rmspe:0.142757
[293]    train-rmse:0.135476    eval-rmse:0.135476    train-rmspe:0.142154
eval-rmspe:0.142154
[294]    train-rmse:0.135113    eval-rmse:0.135113    train-rmspe:0.141765
eval-rmspe:0.141765
[295]    train-rmse:0.134601    eval-rmse:0.134601    train-rmspe:0.141188
eval-rmspe:0.141188
[296]    train-rmse:0.13418     eval-rmse:0.13418     train-rmspe:0.140745
eval-rmspe:0.140745
[297]    train-rmse:0.134067    eval-rmse:0.134067    train-rmspe:0.140634
eval-rmspe:0.140634
[298]    train-rmse:0.133861    eval-rmse:0.133861    train-rmspe:0.140429
eval-rmspe:0.140429
[299]    train-rmse:0.13361     eval-rmse:0.13361     train-rmspe:0.140164
eval-rmspe:0.140164
[300]    train-rmse:0.133182    eval-rmse:0.133182    train-rmspe:0.139709
eval-rmspe:0.139709
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[301]   train-rmse:0.133023   eval-rmse:0.133023   train-rmspe:0.13954
eval-rmspe:0.13954
[302]   train-rmse:0.132602   eval-rmse:0.132602   train-rmspe:0.139014
eval-rmspe:0.139014
[303]   train-rmse:0.132201   eval-rmse:0.132201   train-rmspe:0.138561
eval-rmspe:0.138561
[304]   train-rmse:0.131984   eval-rmse:0.131984   train-rmspe:0.138333
eval-rmspe:0.138333
[305]   train-rmse:0.131755   eval-rmse:0.131755   train-rmspe:0.138097
eval-rmspe:0.138097
[306]   train-rmse:0.131599   eval-rmse:0.131599   train-rmspe:0.137923
eval-rmspe:0.137923
[307]   train-rmse:0.131442   eval-rmse:0.131442   train-rmspe:0.137749
eval-rmspe:0.137749
[308]   train-rmse:0.131056   eval-rmse:0.131056   train-rmspe:0.137359
eval-rmspe:0.137359
[309]   train-rmse:0.13085   eval-rmse:0.13085   train-rmspe:0.137139
eval-rmspe:0.137139
[310]   train-rmse:0.13063   eval-rmse:0.13063   train-rmspe:0.136926
eval-rmspe:0.136926
[311]   train-rmse:0.130384   eval-rmse:0.130384   train-rmspe:0.136684
eval-rmspe:0.136684
[312]   train-rmse:0.130143   eval-rmse:0.130143   train-rmspe:0.13642
eval-rmspe:0.13642
[313]   train-rmse:0.129973   eval-rmse:0.129973   train-rmspe:0.136251
eval-rmspe:0.136251
[314]   train-rmse:0.12972   eval-rmse:0.12972   train-rmspe:0.135991
eval-rmspe:0.135991
[315]   train-rmse:0.129518   eval-rmse:0.129518   train-rmspe:0.135762
eval-rmspe:0.135762
[316]   train-rmse:0.129345   eval-rmse:0.129345   train-rmspe:0.135564
eval-rmspe:0.135564
[317]   train-rmse:0.128932   eval-rmse:0.128932   train-rmspe:0.135135
eval-rmspe:0.135135
[318]   train-rmse:0.128725   eval-rmse:0.128725   train-rmspe:0.134939
eval-rmspe:0.134939
[319]   train-rmse:0.128409   eval-rmse:0.128409   train-rmspe:0.134604
eval-rmspe:0.134604
[320]   train-rmse:0.128173   eval-rmse:0.128173   train-rmspe:0.134348
eval-rmspe:0.134348
[321]   train-rmse:0.127987   eval-rmse:0.127987   train-rmspe:0.13416
eval-rmspe:0.13416
[322]   train-rmse:0.127788   eval-rmse:0.127788   train-rmspe:0.133955
eval-rmspe:0.133955
[323]   train-rmse:0.127064   eval-rmse:0.127064   train-rmspe:0.133176
eval-rmspe:0.133176
[324]   train-rmse:0.126637   eval-rmse:0.126637   train-rmspe:0.132745
eval-rmspe:0.132745

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[325]    train-rmse:0.126494    eval-rmse:0.126494    train-rmspe:0.13259
eval-rmspe:0.13259
[326]    train-rmse:0.126082    eval-rmse:0.126082    train-rmspe:0.132149
eval-rmspe:0.132149
[327]    train-rmse:0.125868    eval-rmse:0.125868    train-rmspe:0.13192
eval-rmspe:0.13192
[328]    train-rmse:0.125337    eval-rmse:0.125337    train-rmspe:0.131315
eval-rmspe:0.131315
[329]    train-rmse:0.125167    eval-rmse:0.125167    train-rmspe:0.131137
eval-rmspe:0.131137
[330]    train-rmse:0.124996    eval-rmse:0.124996    train-rmspe:0.130961
eval-rmspe:0.130961
[331]    train-rmse:0.124851    eval-rmse:0.124851    train-rmspe:0.130817
eval-rmspe:0.130817
[332]    train-rmse:0.124587    eval-rmse:0.124587    train-rmspe:0.130504
eval-rmspe:0.130504
[333]    train-rmse:0.124396    eval-rmse:0.124396    train-rmspe:0.130297
eval-rmspe:0.130297
[334]    train-rmse:0.124253    eval-rmse:0.124253    train-rmspe:0.130152
eval-rmspe:0.130152
[335]    train-rmse:0.124032    eval-rmse:0.124032    train-rmspe:0.129917
eval-rmspe:0.129917
[336]    train-rmse:0.123803    eval-rmse:0.123803    train-rmspe:0.129664
eval-rmspe:0.129664
[337]    train-rmse:0.123611    eval-rmse:0.123611    train-rmspe:0.129456
eval-rmspe:0.129456
[338]    train-rmse:0.123172    eval-rmse:0.123172    train-rmspe:0.128983
eval-rmspe:0.128983
[339]    train-rmse:0.122824    eval-rmse:0.122824    train-rmspe:0.12859
eval-rmspe:0.12859
[340]    train-rmse:0.122628    eval-rmse:0.122628    train-rmspe:0.128389
eval-rmspe:0.128389
[341]    train-rmse:0.122417    eval-rmse:0.122417    train-rmspe:0.128179
eval-rmspe:0.128179
[342]    train-rmse:0.122148    eval-rmse:0.122148    train-rmspe:0.127881
eval-rmspe:0.127881
[343]    train-rmse:0.121646    eval-rmse:0.121646    train-rmspe:0.127349
eval-rmspe:0.127349
[344]    train-rmse:0.121525    eval-rmse:0.121525    train-rmspe:0.127221
eval-rmspe:0.127221
[345]    train-rmse:0.121307    eval-rmse:0.121307    train-rmspe:0.126999
eval-rmspe:0.126999
[346]    train-rmse:0.12118     eval-rmse:0.12118     train-rmspe:0.126869
eval-rmspe:0.126869
[347]    train-rmse:0.120903    eval-rmse:0.120903    train-rmspe:0.126576
eval-rmspe:0.126576
[348]    train-rmse:0.120711    eval-rmse:0.120711    train-rmspe:0.126381
eval-rmspe:0.126381
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[349]    train-rmse:0.120562    eval-rmse:0.120562    train-rmspe:0.12623
eval-rmspe:0.12623
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eval-rmspe:0.125914
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[352]    train-rmse:0.119909    eval-rmse:0.119909    train-rmspe:0.125552
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[353]    train-rmse:0.119592    eval-rmse:0.119592    train-rmspe:0.125224
eval-rmspe:0.125224
[354]    train-rmse:0.119471    eval-rmse:0.119471    train-rmspe:0.12511
eval-rmspe:0.12511
[355]    train-rmse:0.119066    eval-rmse:0.119066    train-rmspe:0.124688
eval-rmspe:0.124688
[356]    train-rmse:0.118749    eval-rmse:0.118749    train-rmspe:0.124359
eval-rmspe:0.124359
[357]    train-rmse:0.118569    eval-rmse:0.118569    train-rmspe:0.124169
eval-rmspe:0.124169
[358]    train-rmse:0.118228    eval-rmse:0.118228    train-rmspe:0.123806
eval-rmspe:0.123806
[359]    train-rmse:0.117677    eval-rmse:0.117677    train-rmspe:0.12321
eval-rmspe:0.12321
[360]    train-rmse:0.117266    eval-rmse:0.117266    train-rmspe:0.122744
eval-rmspe:0.122744
[361]    train-rmse:0.117079    eval-rmse:0.117079    train-rmspe:0.122531
eval-rmspe:0.122531
[362]    train-rmse:0.116979    eval-rmse:0.116979    train-rmspe:0.122422
eval-rmspe:0.122422
[363]    train-rmse:0.116686    eval-rmse:0.116686    train-rmspe:0.122117
eval-rmspe:0.122117
[364]    train-rmse:0.116259    eval-rmse:0.116259    train-rmspe:0.12167
eval-rmspe:0.12167
[365]    train-rmse:0.115989    eval-rmse:0.115989    train-rmspe:0.12137
eval-rmspe:0.12137
[366]    train-rmse:0.11567     eval-rmse:0.11567     train-rmspe:0.12104
eval-rmspe:0.12104
[367]    train-rmse:0.115323    eval-rmse:0.115323    train-rmspe:0.120694
eval-rmspe:0.120694
[368]    train-rmse:0.115102    eval-rmse:0.115102    train-rmspe:0.120466
eval-rmspe:0.120466
[369]    train-rmse:0.114992    eval-rmse:0.114992    train-rmspe:0.120354
eval-rmspe:0.120354
[370]    train-rmse:0.114608    eval-rmse:0.114608    train-rmspe:0.119905
eval-rmspe:0.119905
[371]    train-rmse:0.114353    eval-rmse:0.114353    train-rmspe:0.11963
eval-rmspe:0.11963
[372]    train-rmse:0.114212    eval-rmse:0.114212    train-rmspe:0.119475
eval-rmspe:0.119475
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[373]   train-rmse:0.113867   eval-rmse:0.113867   train-rmspe:0.119105
eval-rmspe:0.119105
[374]   train-rmse:0.113749   eval-rmse:0.113749   train-rmspe:0.118989
eval-rmspe:0.118989
[375]   train-rmse:0.113642   eval-rmse:0.113642   train-rmspe:0.11887
eval-rmspe:0.11887
[376]   train-rmse:0.113397   eval-rmse:0.113397   train-rmspe:0.118607
eval-rmspe:0.118607
[377]   train-rmse:0.113227   eval-rmse:0.113227   train-rmspe:0.11843
eval-rmspe:0.11843
[378]   train-rmse:0.11301   eval-rmse:0.11301   train-rmspe:0.118212
eval-rmspe:0.118212
[379]   train-rmse:0.112934   eval-rmse:0.112934   train-rmspe:0.118134
eval-rmspe:0.118134
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eval-rmspe:0.089075
[544]   train-rmse:0.08595   eval-rmse:0.08595   train-rmspe:0.089016
eval-rmspe:0.089016
[545]   train-rmse:0.085793   eval-rmse:0.085793   train-rmspe:0.088802
eval-rmspe:0.088802
[546]   train-rmse:0.085675   eval-rmse:0.085675   train-rmspe:0.088685
eval-rmspe:0.088685
[547]   train-rmse:0.085549   eval-rmse:0.085549   train-rmspe:0.088545
eval-rmspe:0.088545
[548]   train-rmse:0.08542   eval-rmse:0.08542   train-rmspe:0.08841
eval-rmspe:0.08841
[549]   train-rmse:0.085334   eval-rmse:0.085334   train-rmspe:0.088322
eval-rmspe:0.088322
[550]   train-rmse:0.085131   eval-rmse:0.085131   train-rmspe:0.088099
eval-rmspe:0.088099
[551]   train-rmse:0.085035   eval-rmse:0.085035   train-rmspe:0.088002
eval-rmspe:0.088002
[552]   train-rmse:0.084915   eval-rmse:0.084915   train-rmspe:0.087886
eval-rmspe:0.087886
[553]   train-rmse:0.08487   eval-rmse:0.08487   train-rmspe:0.087841
eval-rmspe:0.087841
[554]   train-rmse:0.084652   eval-rmse:0.084652   train-rmspe:0.087551
eval-rmspe:0.087551
[555]   train-rmse:0.084587   eval-rmse:0.084587   train-rmspe:0.087482
eval-rmspe:0.087482
[556]   train-rmse:0.084465   eval-rmse:0.084465   train-rmspe:0.087347
eval-rmspe:0.087347
[557]   train-rmse:0.084329   eval-rmse:0.084329   train-rmspe:0.087205
eval-rmspe:0.087205
[558]   train-rmse:0.084243   eval-rmse:0.084243   train-rmspe:0.087115
eval-rmspe:0.087115
[559]   train-rmse:0.084174   eval-rmse:0.084174   train-rmspe:0.08704
eval-rmspe:0.08704
[560]   train-rmse:0.083987   eval-rmse:0.083987   train-rmspe:0.086844
eval-rmspe:0.086844
[561]   train-rmse:0.083939   eval-rmse:0.083939   train-rmspe:0.086794
eval-rmspe:0.086794
[562]   train-rmse:0.083805   eval-rmse:0.083805   train-rmspe:0.08665
eval-rmspe:0.08665
[563]   train-rmse:0.083721   eval-rmse:0.083721   train-rmspe:0.086561
eval-rmspe:0.086561
[564]   train-rmse:0.083543   eval-rmse:0.083543   train-rmspe:0.08638
eval-rmspe:0.08638

[565]   train-rmse:0.083401   eval-rmse:0.083401   train-rmspe:0.086225
eval-rmspe:0.086225
[566]   train-rmse:0.083213   eval-rmse:0.083213   train-rmspe:0.086022
eval-rmspe:0.086022
[567]   train-rmse:0.083181   eval-rmse:0.083181   train-rmspe:0.085989
eval-rmspe:0.085989
[568]   train-rmse:0.083033   eval-rmse:0.083033   train-rmspe:0.085836
eval-rmspe:0.085836
[569]   train-rmse:0.082899   eval-rmse:0.082899   train-rmspe:0.085685
eval-rmspe:0.085685
[570]   train-rmse:0.082845   eval-rmse:0.082845   train-rmspe:0.085631
eval-rmspe:0.085631
[571]   train-rmse:0.082755   eval-rmse:0.082755   train-rmspe:0.085538
eval-rmspe:0.085538
[572]   train-rmse:0.08269   eval-rmse:0.08269   train-rmspe:0.085472
eval-rmspe:0.085472
[573]   train-rmse:0.082588   eval-rmse:0.082588   train-rmspe:0.085308
eval-rmspe:0.085308
[574]   train-rmse:0.082547   eval-rmse:0.082547   train-rmspe:0.085265
eval-rmspe:0.085265
[575]   train-rmse:0.082306   eval-rmse:0.082306   train-rmspe:0.085007
eval-rmspe:0.085007
[576]   train-rmse:0.082192   eval-rmse:0.082192   train-rmspe:0.084886
eval-rmspe:0.084886
[577]   train-rmse:0.082122   eval-rmse:0.082122   train-rmspe:0.084809
eval-rmspe:0.084809
[578]   train-rmse:0.081984   eval-rmse:0.081984   train-rmspe:0.084659
eval-rmspe:0.084659
[579]   train-rmse:0.081873   eval-rmse:0.081873   train-rmspe:0.084544
eval-rmspe:0.084544
[580]   train-rmse:0.081811   eval-rmse:0.081811   train-rmspe:0.084482
eval-rmspe:0.084482
[581]   train-rmse:0.081587   eval-rmse:0.081587   train-rmspe:0.084235
eval-rmspe:0.084235
[582]   train-rmse:0.081461   eval-rmse:0.081461   train-rmspe:0.084093
eval-rmspe:0.084093
[583]   train-rmse:0.08127   eval-rmse:0.08127   train-rmspe:0.083839
eval-rmspe:0.083839
[584]   train-rmse:0.081141   eval-rmse:0.081141   train-rmspe:0.083675
eval-rmspe:0.083675
[585]   train-rmse:0.081044   eval-rmse:0.081044   train-rmspe:0.083575
eval-rmspe:0.083575
[586]   train-rmse:0.080983   eval-rmse:0.080983   train-rmspe:0.083515
eval-rmspe:0.083515
[587]   train-rmse:0.080953   eval-rmse:0.080953   train-rmspe:0.083485
eval-rmspe:0.083485
[588]   train-rmse:0.080923   eval-rmse:0.080923   train-rmspe:0.083455
eval-rmspe:0.083455

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[589]    train-rmse:0.080844    eval-rmse:0.080844    train-rmspe:0.083373
eval-rmspe:0.083373
[590]    train-rmse:0.080657    eval-rmse:0.080657    train-rmspe:0.083167
eval-rmspe:0.083167
[591]    train-rmse:0.08045     eval-rmse:0.08045     train-rmspe:0.082926
eval-rmspe:0.082926
[592]    train-rmse:0.08035     eval-rmse:0.08035     train-rmspe:0.082824
eval-rmspe:0.082824
[593]    train-rmse:0.080267    eval-rmse:0.080267    train-rmspe:0.082737
eval-rmspe:0.082737
[594]    train-rmse:0.08015     eval-rmse:0.08015     train-rmspe:0.082616
eval-rmspe:0.082616
[595]    train-rmse:0.080044    eval-rmse:0.080044    train-rmspe:0.082508
eval-rmspe:0.082508
[596]    train-rmse:0.07998     eval-rmse:0.07998     train-rmspe:0.082441
eval-rmspe:0.082441
[597]    train-rmse:0.079745    eval-rmse:0.079745    train-rmspe:0.082183
eval-rmspe:0.082183
[598]    train-rmse:0.079652    eval-rmse:0.079652    train-rmspe:0.082087
eval-rmspe:0.082087
[599]    train-rmse:0.079515    eval-rmse:0.079515    train-rmspe:0.081909
eval-rmspe:0.081909
round 5 end
round 6:
[0]    train-rmse:8.02735    eval-rmse:8.02735    train-rmspe:0.999811
eval-rmspe:0.999811
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
[1]    train-rmse:7.78708    eval-rmse:7.78708    train-rmspe:0.999713
eval-rmspe:0.999713
[2]    train-rmse:7.554     eval-rmse:7.554 train-rmspe:0.999594    eval-
rmspe:0.999594
[3]    train-rmse:7.32794    eval-rmse:7.32794    train-rmspe:0.999448
eval-rmspe:0.999448
[4]    train-rmse:7.10866    eval-rmse:7.10866    train-rmspe:0.999272
eval-rmspe:0.999272
[5]    train-rmse:6.89605    eval-rmse:6.89605    train-rmspe:0.999059
eval-rmspe:0.999059
[6]    train-rmse:6.68975    eval-rmse:6.68975    train-rmspe:0.998806
eval-rmspe:0.998806
[7]    train-rmse:6.48968    eval-rmse:6.48968    train-rmspe:0.998505
eval-rmspe:0.998505
[8]    train-rmse:6.29561    eval-rmse:6.29561    train-rmspe:0.998149
eval-rmspe:0.998149
[9]    train-rmse:6.10736    eval-rmse:6.10736    train-rmspe:0.997732
eval-rmspe:0.997732
```

```
[10]     train-rmse:5.92484      eval-rmse:5.92484      train-rmspe:0.997246
eval-rmspe:0.997246
[11]     train-rmse:5.74775      eval-rmse:5.74775      train-rmspe:0.996682
eval-rmspe:0.996682
[12]     train-rmse:5.57605      eval-rmse:5.57605      train-rmspe:0.99603
eval-rmspe:0.99603
[13]     train-rmse:5.40946      eval-rmse:5.40946      train-rmspe:0.995283
eval-rmspe:0.995283
[14]     train-rmse:5.24793      eval-rmse:5.24793      train-rmspe:0.994428
eval-rmspe:0.994428
[15]     train-rmse:5.09128      eval-rmse:5.09128      train-rmspe:0.993456
eval-rmspe:0.993456
[16]     train-rmse:4.9393       eval-rmse:4.9393       train-rmspe:0.992358
eval-rmspe:0.992358
[17]     train-rmse:4.79192      eval-rmse:4.79192      train-rmspe:0.99112
eval-rmspe:0.99112
[18]     train-rmse:4.64897      eval-rmse:4.64897      train-rmspe:0.989732
eval-rmspe:0.989732
[19]     train-rmse:4.51034      eval-rmse:4.51034      train-rmspe:0.988185
eval-rmspe:0.988185
[20]     train-rmse:4.37587      eval-rmse:4.37587      train-rmspe:0.986464
eval-rmspe:0.986464
[21]     train-rmse:4.24547      eval-rmse:4.24547      train-rmspe:0.98456
eval-rmspe:0.98456
[22]     train-rmse:4.11898      eval-rmse:4.11898      train-rmspe:0.982462
eval-rmspe:0.982462
[23]     train-rmse:3.99636      eval-rmse:3.99636      train-rmspe:0.98016
eval-rmspe:0.98016
[24]     train-rmse:3.87742      eval-rmse:3.87742      train-rmspe:0.977643
eval-rmspe:0.977643
[25]     train-rmse:3.76206      eval-rmse:3.76206      train-rmspe:0.974897
eval-rmspe:0.974897
[26]     train-rmse:3.65019      eval-rmse:3.65019      train-rmspe:0.971921
eval-rmspe:0.971921
[27]     train-rmse:3.54172      eval-rmse:3.54172      train-rmspe:0.968695
eval-rmspe:0.968695
[28]     train-rmse:3.43648      eval-rmse:3.43648      train-rmspe:0.965218
eval-rmspe:0.965218
[29]     train-rmse:3.33449      eval-rmse:3.33449      train-rmspe:0.961476
eval-rmspe:0.961476
[30]     train-rmse:3.23555      eval-rmse:3.23555      train-rmspe:0.957465
eval-rmspe:0.957465
[31]     train-rmse:3.13961      eval-rmse:3.13961      train-rmspe:0.953188
eval-rmspe:0.953188
[32]     train-rmse:3.04654      eval-rmse:3.04654      train-rmspe:0.948631
eval-rmspe:0.948631
[33]     train-rmse:2.95634      eval-rmse:2.95634      train-rmspe:0.943791
eval-rmspe:0.943791
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[34]     train-rmse:2.86881     eval-rmse:2.86881     train-rmspe:0.938676
eval-rmspe:0.938676
[35]     train-rmse:2.78399     eval-rmse:2.78399     train-rmspe:0.933255
eval-rmspe:0.933255
[36]     train-rmse:2.7017      eval-rmse:2.7017      train-rmspe:0.927557
eval-rmspe:0.927557
[37]     train-rmse:2.62194     eval-rmse:2.62194     train-rmspe:0.921546
eval-rmspe:0.921546
[38]     train-rmse:2.54458     eval-rmse:2.54458     train-rmspe:0.91525
eval-rmspe:0.91525
[39]     train-rmse:2.46958     eval-rmse:2.46958     train-rmspe:0.908677
eval-rmspe:0.908677
[40]     train-rmse:2.3969      eval-rmse:2.3969      train-rmspe:0.901807
eval-rmspe:0.901807
[41]     train-rmse:2.32641     eval-rmse:2.32641     train-rmspe:0.894658
eval-rmspe:0.894658
[42]     train-rmse:2.25803     eval-rmse:2.25803     train-rmspe:0.88725
eval-rmspe:0.88725
[43]     train-rmse:2.19172     eval-rmse:2.19172     train-rmspe:0.879604
eval-rmspe:0.879604
[44]     train-rmse:2.12734     eval-rmse:2.12734     train-rmspe:0.871696
eval-rmspe:0.871696
[45]     train-rmse:2.06503     eval-rmse:2.06503     train-rmspe:0.863497
eval-rmspe:0.863497
[46]     train-rmse:2.00466     eval-rmse:2.00466     train-rmspe:0.855043
eval-rmspe:0.855043
[47]     train-rmse:1.94611     eval-rmse:1.94611     train-rmspe:0.846372
eval-rmspe:0.846372
[48]     train-rmse:1.88929     eval-rmse:1.88929     train-rmspe:0.837494
eval-rmspe:0.837494
[49]     train-rmse:1.83411     eval-rmse:1.83411     train-rmspe:0.828441
eval-rmspe:0.828441
[50]     train-rmse:1.78079     eval-rmse:1.78079     train-rmspe:0.819096
eval-rmspe:0.819096
[51]     train-rmse:1.72908     eval-rmse:1.72908     train-rmspe:0.809587
eval-rmspe:0.809587
[52]     train-rmse:1.67887     eval-rmse:1.67887     train-rmspe:0.79994
eval-rmspe:0.79994
[53]     train-rmse:1.6302      eval-rmse:1.6302      train-rmspe:0.790099
eval-rmspe:0.790099
[54]     train-rmse:1.58309     eval-rmse:1.58309     train-rmspe:0.780095
eval-rmspe:0.780095
[55]     train-rmse:1.53736     eval-rmse:1.53736     train-rmspe:0.769986
eval-rmspe:0.769986
[56]     train-rmse:1.49299     eval-rmse:1.49299     train-rmspe:0.759742
eval-rmspe:0.759742
[57]     train-rmse:1.45013     eval-rmse:1.45013     train-rmspe:0.749337
eval-rmspe:0.749337
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[58]    train-rmse:1.40857     eval-rmse:1.40857     train-rmspe:0.738842
eval-rmspe:0.738842
[59]    train-rmse:1.36827     eval-rmse:1.36827     train-rmspe:0.72825
eval-rmspe:0.72825
[60]    train-rmse:1.32917     eval-rmse:1.32917     train-rmspe:0.717625
eval-rmspe:0.717625
[61]    train-rmse:1.29125     eval-rmse:1.29125     train-rmspe:0.706931
eval-rmspe:0.706931
[62]    train-rmse:1.25442     eval-rmse:1.25442     train-rmspe:0.696213
eval-rmspe:0.696213
[63]    train-rmse:1.21889     eval-rmse:1.21889     train-rmspe:0.685423
eval-rmspe:0.685423
[64]    train-rmse:1.1845      eval-rmse:1.1845      train-rmspe:0.674583
eval-rmspe:0.674583
[65]    train-rmse:1.15095     eval-rmse:1.15095     train-rmspe:0.663808
eval-rmspe:0.663808
[66]    train-rmse:1.11855     eval-rmse:1.11855     train-rmspe:0.653012
eval-rmspe:0.653012
[67]    train-rmse:1.08718     eval-rmse:1.08718     train-rmspe:0.642233
eval-rmspe:0.642233
[68]    train-rmse:1.05683     eval-rmse:1.05683     train-rmspe:0.631472
eval-rmspe:0.631472
[69]    train-rmse:1.02737     eval-rmse:1.02737     train-rmspe:0.620759
eval-rmspe:0.620759
[70]    train-rmse:0.998864    eval-rmse:0.998864    train-rmspe:0.610078
eval-rmspe:0.610078
[71]    train-rmse:0.971216    eval-rmse:0.971216    train-rmspe:0.599462
eval-rmspe:0.599462
[72]    train-rmse:0.944341    eval-rmse:0.944341    train-rmspe:0.588929
eval-rmspe:0.588929
[73]    train-rmse:0.91865     eval-rmse:0.91865     train-rmspe:0.578435
eval-rmspe:0.578435
[74]    train-rmse:0.893602    eval-rmse:0.893602    train-rmspe:0.568069
eval-rmspe:0.568069
[75]    train-rmse:0.869371    eval-rmse:0.869371    train-rmspe:0.557776
eval-rmspe:0.557776
[76]    train-rmse:0.845914    eval-rmse:0.845914    train-rmspe:0.547602
eval-rmspe:0.547602
[77]    train-rmse:0.823187    eval-rmse:0.823187    train-rmspe:0.53757
eval-rmspe:0.53757
[78]    train-rmse:0.801024    eval-rmse:0.801024    train-rmspe:0.527644
eval-rmspe:0.527644
[79]    train-rmse:0.779611    eval-rmse:0.779611    train-rmspe:0.517849
eval-rmspe:0.517849
[80]    train-rmse:0.758846    eval-rmse:0.758846    train-rmspe:0.508193
eval-rmspe:0.508193
[81]    train-rmse:0.738663    eval-rmse:0.738663    train-rmspe:0.498659
eval-rmspe:0.498659
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[82]     train-rmse:0.719476     eval-rmse:0.719476     train-rmspe:0.489307
eval-rmspe:0.489307
[83]     train-rmse:0.700604     eval-rmse:0.700604     train-rmspe:0.480099
eval-rmspe:0.480099
[84]     train-rmse:0.682527     eval-rmse:0.682527     train-rmspe:0.471044
eval-rmspe:0.471044
[85]     train-rmse:0.664977     eval-rmse:0.664977     train-rmspe:0.462119
eval-rmspe:0.462119
[86]     train-rmse:0.647989     eval-rmse:0.647989     train-rmspe:0.453384
eval-rmspe:0.453384
[87]     train-rmse:0.631577     eval-rmse:0.631577     train-rmspe:0.444819
eval-rmspe:0.444819
[88]     train-rmse:0.615894     eval-rmse:0.615894     train-rmspe:0.436457
eval-rmspe:0.436457
[89]     train-rmse:0.60052      eval-rmse:0.60052      train-rmspe:0.428253
eval-rmspe:0.428253
[90]     train-rmse:0.585783     eval-rmse:0.585783     train-rmspe:0.420263
eval-rmspe:0.420263
[91]     train-rmse:0.571476     eval-rmse:0.571476     train-rmspe:0.41243
eval-rmspe:0.41243
[92]     train-rmse:0.557837     eval-rmse:0.557837     train-rmspe:0.404826
eval-rmspe:0.404826
[93]     train-rmse:0.544609     eval-rmse:0.544609     train-rmspe:0.397428
eval-rmspe:0.397428
[94]     train-rmse:0.531868     eval-rmse:0.531868     train-rmspe:0.390216
eval-rmspe:0.390216
[95]     train-rmse:0.519317     eval-rmse:0.519317     train-rmspe:0.383084
eval-rmspe:0.383084
[96]     train-rmse:0.507372     eval-rmse:0.507372     train-rmspe:0.376237
eval-rmspe:0.376237
[97]     train-rmse:0.495818     eval-rmse:0.495818     train-rmspe:0.369533
eval-rmspe:0.369533
[98]     train-rmse:0.484684     eval-rmse:0.484684     train-rmspe:0.36306
eval-rmspe:0.36306
[99]     train-rmse:0.473965     eval-rmse:0.473965     train-rmspe:0.356759
eval-rmspe:0.356759
[100]    train-rmse:0.463166     eval-rmse:0.463166     train-rmspe:0.350435
eval-rmspe:0.350435
[101]    train-rmse:0.453229     eval-rmse:0.453229     train-rmspe:0.34455
eval-rmspe:0.34455
[102]    train-rmse:0.443667     eval-rmse:0.443667     train-rmspe:0.338881
eval-rmspe:0.338881
[103]    train-rmse:0.434464     eval-rmse:0.434464     train-rmspe:0.333392
eval-rmspe:0.333392
[104]    train-rmse:0.425348     eval-rmse:0.425348     train-rmspe:0.328037
eval-rmspe:0.328037
[105]    train-rmse:0.416859     eval-rmse:0.416859     train-rmspe:0.322988
eval-rmspe:0.322988
```

[106]   train-rmse:0.408559   eval-rmse:0.408559   train-rmspe:0.318019
eval-rmspe:0.318019
[107]   train-rmse:0.400467   eval-rmse:0.400467   train-rmspe:0.313219
eval-rmspe:0.313219
[108]   train-rmse:0.392932   eval-rmse:0.392932   train-rmspe:0.308709
eval-rmspe:0.308709
[109]   train-rmse:0.385469   eval-rmse:0.385469   train-rmspe:0.304262
eval-rmspe:0.304262
[110]   train-rmse:0.378238   eval-rmse:0.378238   train-rmspe:0.299865
eval-rmspe:0.299865
[111]   train-rmse:0.371374   eval-rmse:0.371374   train-rmspe:0.295773
eval-rmspe:0.295773
[112]   train-rmse:0.364752   eval-rmse:0.364752   train-rmspe:0.291781
eval-rmspe:0.291781
[113]   train-rmse:0.358411   eval-rmse:0.358411   train-rmspe:0.288045
eval-rmspe:0.288045
[114]   train-rmse:0.351495   eval-rmse:0.351495   train-rmspe:0.283883
eval-rmspe:0.283883
[115]   train-rmse:0.345165   eval-rmse:0.345165   train-rmspe:0.28009
eval-rmspe:0.28009
[116]   train-rmse:0.339619   eval-rmse:0.339619   train-rmspe:0.276871
eval-rmspe:0.276871
[117]   train-rmse:0.334079   eval-rmse:0.334079   train-rmspe:0.273681
eval-rmspe:0.273681
[118]   train-rmse:0.32868   eval-rmse:0.32868   train-rmspe:0.270503
eval-rmspe:0.270503
[119]   train-rmse:0.323776   eval-rmse:0.323776   train-rmspe:0.267654
eval-rmspe:0.267654
[120]   train-rmse:0.318995   eval-rmse:0.318995   train-rmspe:0.264937
eval-rmspe:0.264937
[121]   train-rmse:0.314226   eval-rmse:0.314226   train-rmspe:0.262151
eval-rmspe:0.262151
[122]   train-rmse:0.30965   eval-rmse:0.30965   train-rmspe:0.259507
eval-rmspe:0.259507
[123]   train-rmse:0.305692   eval-rmse:0.305692   train-rmspe:0.257362
eval-rmspe:0.257362
[124]   train-rmse:0.30145   eval-rmse:0.30145   train-rmspe:0.254876
eval-rmspe:0.254876
[125]   train-rmse:0.29744   eval-rmse:0.29744   train-rmspe:0.252627
eval-rmspe:0.252627
[126]   train-rmse:0.293599   eval-rmse:0.293599   train-rmspe:0.250488
eval-rmspe:0.250488
[127]   train-rmse:0.290092   eval-rmse:0.290092   train-rmspe:0.248598
eval-rmspe:0.248598
[128]   train-rmse:0.286628   eval-rmse:0.286628   train-rmspe:0.246732
eval-rmspe:0.246732
[129]   train-rmse:0.283432   eval-rmse:0.283432   train-rmspe:0.245124
eval-rmspe:0.245124

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[130]    train-rmse:0.279048    eval-rmse:0.279048    train-rmspe:0.242491
eval-rmspe:0.242491
[131]    train-rmse:0.275349    eval-rmse:0.275349    train-rmspe:0.24036
eval-rmspe:0.24036
[132]    train-rmse:0.271707    eval-rmse:0.271707    train-rmspe:0.238214
eval-rmspe:0.238214
[133]    train-rmse:0.268361    eval-rmse:0.268361    train-rmspe:0.236323
eval-rmspe:0.236323
[134]    train-rmse:0.265569    eval-rmse:0.265569    train-rmspe:0.234821
eval-rmspe:0.234821
[135]    train-rmse:0.262292    eval-rmse:0.262292    train-rmspe:0.232914
eval-rmspe:0.232914
[136]    train-rmse:0.259773    eval-rmse:0.259773    train-rmspe:0.231684
eval-rmspe:0.231684
[137]    train-rmse:0.257148    eval-rmse:0.257148    train-rmspe:0.230239
eval-rmspe:0.230239
[138]    train-rmse:0.254872    eval-rmse:0.254872    train-rmspe:0.229154
eval-rmspe:0.229154
[139]    train-rmse:0.252669    eval-rmse:0.252669    train-rmspe:0.22802
eval-rmspe:0.22802
[140]    train-rmse:0.250422    eval-rmse:0.250422    train-rmspe:0.226901
eval-rmspe:0.226901
[141]    train-rmse:0.2481    eval-rmse:0.2481    train-rmspe:0.225716
eval-rmspe:0.225716
[142]    train-rmse:0.246115    eval-rmse:0.246115    train-rmspe:0.224736
eval-rmspe:0.224736
[143]    train-rmse:0.24426    eval-rmse:0.24426    train-rmspe:0.22392
eval-rmspe:0.22392
[144]    train-rmse:0.242023    eval-rmse:0.242023    train-rmspe:0.222694
eval-rmspe:0.222694
[145]    train-rmse:0.240134    eval-rmse:0.240134    train-rmspe:0.221741
eval-rmspe:0.221741
[146]    train-rmse:0.237891    eval-rmse:0.237891    train-rmspe:0.22044
eval-rmspe:0.22044
[147]    train-rmse:0.236216    eval-rmse:0.236216    train-rmspe:0.219735
eval-rmspe:0.219735
[148]    train-rmse:0.234634    eval-rmse:0.234634    train-rmspe:0.219011
eval-rmspe:0.219011
[149]    train-rmse:0.232044    eval-rmse:0.232044    train-rmspe:0.21729
eval-rmspe:0.21729
[150]    train-rmse:0.230461    eval-rmse:0.230461    train-rmspe:0.2166
eval-rmspe:0.2166
[151]    train-rmse:0.22869    eval-rmse:0.22869    train-rmspe:0.215694
eval-rmspe:0.215694
[152]    train-rmse:0.227424    eval-rmse:0.227424    train-rmspe:0.21519
eval-rmspe:0.21519
[153]    train-rmse:0.226279    eval-rmse:0.226279    train-rmspe:0.214829
eval-rmspe:0.214829
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[154]    train-rmse:0.224914      eval-rmse:0.224914       train-rmspe:0.214247
eval-rmspe:0.214247
[155]    train-rmse:0.223623      eval-rmse:0.223623       train-rmspe:0.213634
eval-rmspe:0.213634
[156]    train-rmse:0.222344      eval-rmse:0.222344       train-rmspe:0.212977
eval-rmspe:0.212977
[157]    train-rmse:0.221478      eval-rmse:0.221478       train-rmspe:0.212785
eval-rmspe:0.212785
[158]    train-rmse:0.219501      eval-rmse:0.219501       train-rmspe:0.21147
eval-rmspe:0.21147
[159]    train-rmse:0.218654      eval-rmse:0.218654       train-rmspe:0.211233
eval-rmspe:0.211233
[160]    train-rmse:0.217803      eval-rmse:0.217803       train-rmspe:0.210991
eval-rmspe:0.210991
[161]    train-rmse:0.215924      eval-rmse:0.215924       train-rmspe:0.209632
eval-rmspe:0.209632
[162]    train-rmse:0.214915      eval-rmse:0.214915       train-rmspe:0.209189
eval-rmspe:0.209189
[163]    train-rmse:0.2136        eval-rmse:0.2136         train-rmspe:0.208441
eval-rmspe:0.208441
[164]    train-rmse:0.212698      eval-rmse:0.212698       train-rmspe:0.208021
eval-rmspe:0.208021
[165]    train-rmse:0.211928      eval-rmse:0.211928       train-rmspe:0.207765
eval-rmspe:0.207765
[166]    train-rmse:0.211251      eval-rmse:0.211251       train-rmspe:0.207606
eval-rmspe:0.207606
[167]    train-rmse:0.209533      eval-rmse:0.209533       train-rmspe:0.206248
eval-rmspe:0.206248
[168]    train-rmse:0.207888      eval-rmse:0.207888       train-rmspe:0.205061
eval-rmspe:0.205061
[169]    train-rmse:0.207225      eval-rmse:0.207225       train-rmspe:0.204861
eval-rmspe:0.204861
[170]    train-rmse:0.205765      eval-rmse:0.205765       train-rmspe:0.203835
eval-rmspe:0.203835
[171]    train-rmse:0.205208      eval-rmse:0.205208       train-rmspe:0.203689
eval-rmspe:0.203689
[172]    train-rmse:0.204519      eval-rmse:0.204519       train-rmspe:0.20338
eval-rmspe:0.20338
[173]    train-rmse:0.203654      eval-rmse:0.203654       train-rmspe:0.202865
eval-rmspe:0.202865
[174]    train-rmse:0.202537      eval-rmse:0.202537       train-rmspe:0.202189
eval-rmspe:0.202189
[175]    train-rmse:0.201682      eval-rmse:0.201682       train-rmspe:0.201687
eval-rmspe:0.201687
[176]    train-rmse:0.200241      eval-rmse:0.200241       train-rmspe:0.20058
eval-rmspe:0.20058
[177]    train-rmse:0.199561      eval-rmse:0.199561       train-rmspe:0.20026
eval-rmspe:0.20026
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[178]    train-rmse:0.198923    eval-rmse:0.198923    train-rmspe:0.199913
eval-rmspe:0.199913
[179]    train-rmse:0.198376    eval-rmse:0.198376    train-rmspe:0.199657
eval-rmspe:0.199657
[180]    train-rmse:0.196517    eval-rmse:0.196517    train-rmspe:0.197973
eval-rmspe:0.197973
[181]    train-rmse:0.195291    eval-rmse:0.195291    train-rmspe:0.197081
eval-rmspe:0.197081
[182]    train-rmse:0.194668    eval-rmse:0.194668    train-rmspe:0.196695
eval-rmspe:0.196695
[183]    train-rmse:0.19419     eval-rmse:0.19419     train-rmspe:0.196473
eval-rmspe:0.196473
[184]    train-rmse:0.193673    eval-rmse:0.193673    train-rmspe:0.196215
eval-rmspe:0.196215
[185]    train-rmse:0.192893    eval-rmse:0.192893    train-rmspe:0.195623
eval-rmspe:0.195623
[186]    train-rmse:0.192238    eval-rmse:0.192238    train-rmspe:0.195199
eval-rmspe:0.195199
[187]    train-rmse:0.191433    eval-rmse:0.191433    train-rmspe:0.194525
eval-rmspe:0.194525
[188]    train-rmse:0.190152    eval-rmse:0.190152    train-rmspe:0.193466
eval-rmspe:0.193466
[189]    train-rmse:0.189521    eval-rmse:0.189521    train-rmspe:0.193053
eval-rmspe:0.193053
[190]    train-rmse:0.188111    eval-rmse:0.188111    train-rmspe:0.191742
eval-rmspe:0.191742
[191]    train-rmse:0.187707    eval-rmse:0.187707    train-rmspe:0.191555
eval-rmspe:0.191555
[192]    train-rmse:0.186876    eval-rmse:0.186876    train-rmspe:0.1909
eval-rmspe:0.1909
[193]    train-rmse:0.186413    eval-rmse:0.186413    train-rmspe:0.190587
eval-rmspe:0.190587
[194]    train-rmse:0.185483    eval-rmse:0.185483    train-rmspe:0.189767
eval-rmspe:0.189767
[195]    train-rmse:0.185001    eval-rmse:0.185001    train-rmspe:0.189427
eval-rmspe:0.189427
[196]    train-rmse:0.184313    eval-rmse:0.184313    train-rmspe:0.188812
eval-rmspe:0.188812
[197]    train-rmse:0.183402    eval-rmse:0.183402    train-rmspe:0.18801
eval-rmspe:0.18801
[198]    train-rmse:0.182747    eval-rmse:0.182747    train-rmspe:0.187472
eval-rmspe:0.187472
[199]    train-rmse:0.182349    eval-rmse:0.182349    train-rmspe:0.187197
eval-rmspe:0.187197
[200]    train-rmse:0.181757    eval-rmse:0.181757    train-rmspe:0.186749
eval-rmspe:0.186749
[201]    train-rmse:0.180137    eval-rmse:0.180137    train-rmspe:0.185191
eval-rmspe:0.185191
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[202]   train-rmse:0.179731   eval-rmse:0.179731   train-rmspe:0.184912
eval-rmspe:0.184912
[203]   train-rmse:0.178713   eval-rmse:0.178713   train-rmspe:0.183992
eval-rmspe:0.183992
[204]   train-rmse:0.178329   eval-rmse:0.178329   train-rmspe:0.183755
eval-rmspe:0.183755
[205]   train-rmse:0.177644   eval-rmse:0.177644   train-rmspe:0.183148
eval-rmspe:0.183148
[206]   train-rmse:0.1767   eval-rmse:0.1767   train-rmspe:0.182261
eval-rmspe:0.182261
[207]   train-rmse:0.176022   eval-rmse:0.176022   train-rmspe:0.181714
eval-rmspe:0.181714
[208]   train-rmse:0.175465   eval-rmse:0.175465   train-rmspe:0.181252
eval-rmspe:0.181252
[209]   train-rmse:0.175175   eval-rmse:0.175175   train-rmspe:0.181059
eval-rmspe:0.181059
[210]   train-rmse:0.174896   eval-rmse:0.174896   train-rmspe:0.18088
eval-rmspe:0.18088
[211]   train-rmse:0.174505   eval-rmse:0.174505   train-rmspe:0.180602
eval-rmspe:0.180602
[212]   train-rmse:0.173882   eval-rmse:0.173882   train-rmspe:0.180057
eval-rmspe:0.180057
[213]   train-rmse:0.173214   eval-rmse:0.173214   train-rmspe:0.179454
eval-rmspe:0.179454
[214]   train-rmse:0.172399   eval-rmse:0.172399   train-rmspe:0.178692
eval-rmspe:0.178692
[215]   train-rmse:0.172275   eval-rmse:0.172275   train-rmspe:0.178665
eval-rmspe:0.178665
[216]   train-rmse:0.171945   eval-rmse:0.171945   train-rmspe:0.17844
eval-rmspe:0.17844
[217]   train-rmse:0.171591   eval-rmse:0.171591   train-rmspe:0.178147
eval-rmspe:0.178147
[218]   train-rmse:0.170823   eval-rmse:0.170823   train-rmspe:0.177382
eval-rmspe:0.177382
[219]   train-rmse:0.170589   eval-rmse:0.170589   train-rmspe:0.177221
eval-rmspe:0.177221
[220]   train-rmse:0.17023   eval-rmse:0.17023   train-rmspe:0.176943
eval-rmspe:0.176943
[221]   train-rmse:0.170088   eval-rmse:0.170088   train-rmspe:0.176895
eval-rmspe:0.176895
[222]   train-rmse:0.169059   eval-rmse:0.169059   train-rmspe:0.175927
eval-rmspe:0.175927
[223]   train-rmse:0.168546   eval-rmse:0.168546   train-rmspe:0.175426
eval-rmspe:0.175426
[224]   train-rmse:0.168174   eval-rmse:0.168174   train-rmspe:0.175055
eval-rmspe:0.175055
[225]   train-rmse:0.167786   eval-rmse:0.167786   train-rmspe:0.174678
eval-rmspe:0.174678

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[226]   train-rmse:0.166894    eval-rmse:0.166894    train-rmspe:0.173754
eval-rmspe:0.173754
[227]   train-rmse:0.166032    eval-rmse:0.166032    train-rmspe:0.172867
eval-rmspe:0.172867
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eval-rmspe:0.172657
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eval-rmspe:0.172231
[230]   train-rmse:0.164737    eval-rmse:0.164737    train-rmspe:0.171622
eval-rmspe:0.171622
[231]   train-rmse:0.164607    eval-rmse:0.164607    train-rmspe:0.171535
eval-rmspe:0.171535
[232]   train-rmse:0.164326    eval-rmse:0.164326    train-rmspe:0.171284
eval-rmspe:0.171284
[233]   train-rmse:0.16385     eval-rmse:0.16385     train-rmspe:0.170827
eval-rmspe:0.170827
[234]   train-rmse:0.163369    eval-rmse:0.163369    train-rmspe:0.170383
eval-rmspe:0.170383
[235]   train-rmse:0.163084    eval-rmse:0.163084    train-rmspe:0.170141
eval-rmspe:0.170141
[236]   train-rmse:0.162574    eval-rmse:0.162574    train-rmspe:0.16967
eval-rmspe:0.16967
[237]   train-rmse:0.161903    eval-rmse:0.161903    train-rmspe:0.16905
eval-rmspe:0.16905
[238]   train-rmse:0.161205    eval-rmse:0.161205    train-rmspe:0.168339
eval-rmspe:0.168339
[239]   train-rmse:0.160914    eval-rmse:0.160914    train-rmspe:0.168042
eval-rmspe:0.168042
[240]   train-rmse:0.16023     eval-rmse:0.16023     train-rmspe:0.167338
eval-rmspe:0.167338
[241]   train-rmse:0.15962     eval-rmse:0.15962     train-rmspe:0.166717
eval-rmspe:0.166717
[242]   train-rmse:0.159428    eval-rmse:0.159428    train-rmspe:0.166556
eval-rmspe:0.166556
[243]   train-rmse:0.159324    eval-rmse:0.159324    train-rmspe:0.166491
eval-rmspe:0.166491
[244]   train-rmse:0.158897    eval-rmse:0.158897    train-rmspe:0.166092
eval-rmspe:0.166092
[245]   train-rmse:0.158242    eval-rmse:0.158242    train-rmspe:0.165431
eval-rmspe:0.165431
[246]   train-rmse:0.157848    eval-rmse:0.157848    train-rmspe:0.165021
eval-rmspe:0.165021
[247]   train-rmse:0.157578    eval-rmse:0.157578    train-rmspe:0.164769
eval-rmspe:0.164769
[248]   train-rmse:0.15692     eval-rmse:0.15692     train-rmspe:0.164118
eval-rmspe:0.164118
[249]   train-rmse:0.156729    eval-rmse:0.156729    train-rmspe:0.163941
eval-rmspe:0.163941
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[250]   train-rmse:0.156393   eval-rmse:0.156393   train-rmspe:0.163607
eval-rmspe:0.163607
[251]   train-rmse:0.155895   eval-rmse:0.155895   train-rmspe:0.163117
eval-rmspe:0.163117
[252]   train-rmse:0.155684   eval-rmse:0.155684   train-rmspe:0.162936
eval-rmspe:0.162936
[253]   train-rmse:0.155374   eval-rmse:0.155374   train-rmspe:0.162627
eval-rmspe:0.162627
[254]   train-rmse:0.155007   eval-rmse:0.155007   train-rmspe:0.162249
eval-rmspe:0.162249
[255]   train-rmse:0.154821   eval-rmse:0.154821   train-rmspe:0.162097
eval-rmspe:0.162097
[256]   train-rmse:0.154195   eval-rmse:0.154195   train-rmspe:0.161437
eval-rmspe:0.161437
[257]   train-rmse:0.15374    eval-rmse:0.15374    train-rmspe:0.160982
eval-rmspe:0.160982
[258]   train-rmse:0.153494   eval-rmse:0.153494   train-rmspe:0.160721
eval-rmspe:0.160721
[259]   train-rmse:0.152542   eval-rmse:0.152542   train-rmspe:0.15974
eval-rmspe:0.15974
[260]   train-rmse:0.151819   eval-rmse:0.151819   train-rmspe:0.158995
eval-rmspe:0.158995
[261]   train-rmse:0.151549   eval-rmse:0.151549   train-rmspe:0.158735
eval-rmspe:0.158735
[262]   train-rmse:0.151155   eval-rmse:0.151155   train-rmspe:0.158324
eval-rmspe:0.158324
[263]   train-rmse:0.150568   eval-rmse:0.150568   train-rmspe:0.157722
eval-rmspe:0.157722
[264]   train-rmse:0.150324   eval-rmse:0.150324   train-rmspe:0.157495
eval-rmspe:0.157495
[265]   train-rmse:0.150101   eval-rmse:0.150101   train-rmspe:0.157279
eval-rmspe:0.157279
[266]   train-rmse:0.14928    eval-rmse:0.14928    train-rmspe:0.156416
eval-rmspe:0.156416
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eval-rmspe:0.155725
[268]   train-rmse:0.148345   eval-rmse:0.148345   train-rmspe:0.155441
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[270]   train-rmse:0.147515   eval-rmse:0.147515   train-rmspe:0.154568
eval-rmspe:0.154568
[271]   train-rmse:0.146972   eval-rmse:0.146972   train-rmspe:0.154001
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[272]   train-rmse:0.146645   eval-rmse:0.146645   train-rmspe:0.153658
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[275]   train-rmse:0.145325   eval-rmse:0.145325   train-rmspe:0.15223
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[276]   train-rmse:0.144811   eval-rmse:0.144811   train-rmspe:0.151717
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[277]   train-rmse:0.144536   eval-rmse:0.144536   train-rmspe:0.151446
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[278]   train-rmse:0.144094   eval-rmse:0.144094   train-rmspe:0.150976
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[279]   train-rmse:0.143908   eval-rmse:0.143908   train-rmspe:0.150796
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[285]   train-rmse:0.142005   eval-rmse:0.142005   train-rmspe:0.148839
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[286]   train-rmse:0.14159   eval-rmse:0.14159   train-rmspe:0.148431
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[290]   train-rmse:0.140094   eval-rmse:0.140094   train-rmspe:0.146872
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[293]   train-rmse:0.139194   eval-rmse:0.139194   train-rmspe:0.145941
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[307]   train-rmse:0.13329   eval-rmse:0.13329   train-rmspe:0.13956
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eval-rmspe:0.139198
[309]   train-rmse:0.132591   eval-rmse:0.132591   train-rmspe:0.138841
eval-rmspe:0.138841
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[311]   train-rmse:0.131915   eval-rmse:0.131915   train-rmspe:0.138118
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[312]   train-rmse:0.131754   eval-rmse:0.131754   train-rmspe:0.137965
eval-rmspe:0.137965
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[314]   train-rmse:0.131343   eval-rmse:0.131343   train-rmspe:0.137522
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eval-rmspe:0.137109
[317]   train-rmse:0.130467   eval-rmse:0.130467   train-rmspe:0.136574
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[318]   train-rmse:0.130086   eval-rmse:0.130086   train-rmspe:0.136174
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[319]   train-rmse:0.129679   eval-rmse:0.129679   train-rmspe:0.135745
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[320]   train-rmse:0.129564   eval-rmse:0.129564   train-rmspe:0.135627
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eval-rmspe:0.135286

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[323]    train-rmse:0.128186    eval-rmse:0.128186    train-rmspe:0.134168
eval-rmspe:0.134168
[324]    train-rmse:0.127689    eval-rmse:0.127689    train-rmspe:0.133642
eval-rmspe:0.133642
[325]    train-rmse:0.127152    eval-rmse:0.127152    train-rmspe:0.133057
eval-rmspe:0.133057
[326]    train-rmse:0.127072    eval-rmse:0.127072    train-rmspe:0.132968
eval-rmspe:0.132968
[327]    train-rmse:0.126772    eval-rmse:0.126772    train-rmspe:0.132638
eval-rmspe:0.132638
[328]    train-rmse:0.126453    eval-rmse:0.126453    train-rmspe:0.132319
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[329]    train-rmse:0.126166    eval-rmse:0.126166    train-rmspe:0.132011
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[330]    train-rmse:0.12552     eval-rmse:0.12552     train-rmspe:0.131292
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[332]    train-rmse:0.125048    eval-rmse:0.125048    train-rmspe:0.130791
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[333]    train-rmse:0.124648    eval-rmse:0.124648    train-rmspe:0.130375
eval-rmspe:0.130375
[334]    train-rmse:0.124487    eval-rmse:0.124487    train-rmspe:0.130213
eval-rmspe:0.130213
[335]    train-rmse:0.124178    eval-rmse:0.124178    train-rmspe:0.129876
eval-rmspe:0.129876
[336]    train-rmse:0.123943    eval-rmse:0.123943    train-rmspe:0.129611
eval-rmspe:0.129611
[337]    train-rmse:0.123709    eval-rmse:0.123709    train-rmspe:0.129349
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[338]    train-rmse:0.123103    eval-rmse:0.123103    train-rmspe:0.128672
eval-rmspe:0.128672
[339]    train-rmse:0.122671    eval-rmse:0.122671    train-rmspe:0.128208
eval-rmspe:0.128208
[340]    train-rmse:0.122197    eval-rmse:0.122197    train-rmspe:0.127707
eval-rmspe:0.127707
[341]    train-rmse:0.121873    eval-rmse:0.121873    train-rmspe:0.127383
eval-rmspe:0.127383
[342]    train-rmse:0.121721    eval-rmse:0.121721    train-rmspe:0.127232
eval-rmspe:0.127232
[343]    train-rmse:0.121615    eval-rmse:0.121615    train-rmspe:0.127121
eval-rmspe:0.127121
[344]    train-rmse:0.121399    eval-rmse:0.121399    train-rmspe:0.126881
eval-rmspe:0.126881
[345]    train-rmse:0.121104    eval-rmse:0.121104    train-rmspe:0.126549
eval-rmspe:0.126549
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[346]   train-rmse:0.120784   eval-rmse:0.120784   train-rmspe:0.126221
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[347]   train-rmse:0.120568   eval-rmse:0.120568   train-rmspe:0.125978
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[348]   train-rmse:0.120323   eval-rmse:0.120323   train-rmspe:0.125708
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[349]   train-rmse:0.119965   eval-rmse:0.119965   train-rmspe:0.125324
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[353]   train-rmse:0.118541   eval-rmse:0.118541   train-rmspe:0.123784
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[354]   train-rmse:0.118308   eval-rmse:0.118308   train-rmspe:0.123526
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[355]   train-rmse:0.118013   eval-rmse:0.118013   train-rmspe:0.123204
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[356]   train-rmse:0.117789   eval-rmse:0.117789   train-rmspe:0.122978
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[357]   train-rmse:0.117399   eval-rmse:0.117399   train-rmspe:0.122568
eval-rmspe:0.122568
[358]   train-rmse:0.117228   eval-rmse:0.117228   train-rmspe:0.122397
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[359]   train-rmse:0.117026   eval-rmse:0.117026   train-rmspe:0.122188
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eval-rmspe:0.121546
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[363]   train-rmse:0.11627   eval-rmse:0.11627   train-rmspe:0.121366
eval-rmspe:0.121366
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eval-rmspe:0.121156
[365]   train-rmse:0.115605   eval-rmse:0.115605   train-rmspe:0.120621
eval-rmspe:0.120621
[366]   train-rmse:0.115441   eval-rmse:0.115441   train-rmspe:0.120452
eval-rmspe:0.120452
[367]   train-rmse:0.115147   eval-rmse:0.115147   train-rmspe:0.120156
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[368]   train-rmse:0.114854   eval-rmse:0.114854   train-rmspe:0.119842
eval-rmspe:0.119842
[369]   train-rmse:0.114727   eval-rmse:0.114727   train-rmspe:0.119715
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eval-rmspe:0.117657
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[379]    train-rmse:0.112212    eval-rmse:0.112212    train-rmspe:0.117042
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[381]    train-rmse:0.111865    eval-rmse:0.111865    train-rmspe:0.116657
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[384]    train-rmse:0.111246    eval-rmse:0.111246    train-rmspe:0.116026
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[386]    train-rmse:0.110616    eval-rmse:0.110616    train-rmspe:0.11533
eval-rmspe:0.11533
[387]    train-rmse:0.110546    eval-rmse:0.110546    train-rmspe:0.115259
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[388]    train-rmse:0.11046    eval-rmse:0.11046    train-rmspe:0.115165
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[389]    train-rmse:0.110277    eval-rmse:0.110277    train-rmspe:0.114988
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[390]    train-rmse:0.109905    eval-rmse:0.109905    train-rmspe:0.114599
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[392]    train-rmse:0.109483    eval-rmse:0.109483    train-rmspe:0.114094
eval-rmspe:0.114094
[393]    train-rmse:0.109335    eval-rmse:0.109335    train-rmspe:0.113939
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[398]   train-rmse:0.108076   eval-rmse:0.108076   train-rmspe:0.112608
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eval-rmspe:0.111068
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eval-rmspe:0.110734
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eval-rmspe:0.110456
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eval-rmspe:0.11027
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[413]   train-rmse:0.1056   eval-rmse:0.1056   train-rmspe:0.109952
eval-rmspe:0.109952
[414]   train-rmse:0.105427   eval-rmse:0.105427   train-rmspe:0.109768
eval-rmspe:0.109768
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[423]    train-rmse:0.103698    eval-rmse:0.103698    train-rmspe:0.107969
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[424]    train-rmse:0.103386    eval-rmse:0.103386    train-rmspe:0.10763
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[428]    train-rmse:0.102444    eval-rmse:0.102444    train-rmspe:0.106537
eval-rmspe:0.106537
[429]    train-rmse:0.102377    eval-rmse:0.102377    train-rmspe:0.10647
eval-rmspe:0.10647
[430]    train-rmse:0.102227    eval-rmse:0.102227    train-rmspe:0.106317
eval-rmspe:0.106317
[431]    train-rmse:0.102185    eval-rmse:0.102185    train-rmspe:0.106273
eval-rmspe:0.106273
[432]    train-rmse:0.102076    eval-rmse:0.102076    train-rmspe:0.106166
eval-rmspe:0.106166
[433]    train-rmse:0.101782    eval-rmse:0.101782    train-rmspe:0.105855
eval-rmspe:0.105855
[434]    train-rmse:0.101734    eval-rmse:0.101734    train-rmspe:0.105805
eval-rmspe:0.105805
[435]    train-rmse:0.101582    eval-rmse:0.101582    train-rmspe:0.105637
eval-rmspe:0.105637
[436]    train-rmse:0.101362    eval-rmse:0.101362    train-rmspe:0.105408
eval-rmspe:0.105408
[437]    train-rmse:0.101202    eval-rmse:0.101202    train-rmspe:0.105239
eval-rmspe:0.105239
[438]    train-rmse:0.100858    eval-rmse:0.100858    train-rmspe:0.104855
eval-rmspe:0.104855
[439]    train-rmse:0.100662    eval-rmse:0.100662    train-rmspe:0.104633
eval-rmspe:0.104633
[440]    train-rmse:0.100518    eval-rmse:0.100518    train-rmspe:0.104489
eval-rmspe:0.104489
[441]    train-rmse:0.100255    eval-rmse:0.100255    train-rmspe:0.104205
eval-rmspe:0.104205
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[442]    train-rmse:0.100127    eval-rmse:0.100127    train-rmspe:0.104076
eval-rmspe:0.104076
[443]    train-rmse:0.100073    eval-rmse:0.100073    train-rmspe:0.104018
eval-rmspe:0.104018
[444]    train-rmse:0.099861    eval-rmse:0.099861    train-rmspe:0.103793
eval-rmspe:0.103793
[445]    train-rmse:0.099647    eval-rmse:0.099647    train-rmspe:0.103563
eval-rmspe:0.103563
[446]    train-rmse:0.099528    eval-rmse:0.099528    train-rmspe:0.103439
eval-rmspe:0.103439
[447]    train-rmse:0.099426    eval-rmse:0.099426    train-rmspe:0.103335
eval-rmspe:0.103335
[448]    train-rmse:0.099236    eval-rmse:0.099236    train-rmspe:0.103126
eval-rmspe:0.103126
[449]    train-rmse:0.099114    eval-rmse:0.099114    train-rmspe:0.102997
eval-rmspe:0.102997
[450]    train-rmse:0.098974    eval-rmse:0.098974    train-rmspe:0.102859
eval-rmspe:0.102859
[451]    train-rmse:0.09876     eval-rmse:0.09876     train-rmspe:0.102638
eval-rmspe:0.102638
[452]    train-rmse:0.098601    eval-rmse:0.098601    train-rmspe:0.102473
eval-rmspe:0.102473
[453]    train-rmse:0.098318    eval-rmse:0.098318    train-rmspe:0.102172
eval-rmspe:0.102172
[454]    train-rmse:0.098218    eval-rmse:0.098218    train-rmspe:0.102063
eval-rmspe:0.102063
[455]    train-rmse:0.098021    eval-rmse:0.098021    train-rmspe:0.101861
eval-rmspe:0.101861
[456]    train-rmse:0.097935    eval-rmse:0.097935    train-rmspe:0.101772
eval-rmspe:0.101772
[457]    train-rmse:0.097853    eval-rmse:0.097853    train-rmspe:0.101691
eval-rmspe:0.101691
[458]    train-rmse:0.097507    eval-rmse:0.097507    train-rmspe:0.101306
eval-rmspe:0.101306
[459]    train-rmse:0.097455    eval-rmse:0.097455    train-rmspe:0.101251
eval-rmspe:0.101251
[460]    train-rmse:0.097302    eval-rmse:0.097302    train-rmspe:0.101098
eval-rmspe:0.101098
[461]    train-rmse:0.097114    eval-rmse:0.097114    train-rmspe:0.100886
eval-rmspe:0.100886
[462]    train-rmse:0.096967    eval-rmse:0.096967    train-rmspe:0.100718
eval-rmspe:0.100718
[463]    train-rmse:0.096867    eval-rmse:0.096867    train-rmspe:0.100614
eval-rmspe:0.100614
[464]    train-rmse:0.096789    eval-rmse:0.096789    train-rmspe:0.100525
eval-rmspe:0.100525
[465]    train-rmse:0.09655     eval-rmse:0.09655     train-rmspe:0.100263
eval-rmspe:0.100263
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[466]    train-rmse:0.09635      eval-rmse:0.09635       train-rmspe:0.100045
eval-rmspe:0.100045
[467]    train-rmse:0.096199     eval-rmse:0.096199      train-rmspe:0.099879
eval-rmspe:0.099879
[468]    train-rmse:0.09603      eval-rmse:0.09603       train-rmspe:0.099691
eval-rmspe:0.099691
[469]    train-rmse:0.095891     eval-rmse:0.095891      train-rmspe:0.099545
eval-rmspe:0.099545
[470]    train-rmse:0.095861     eval-rmse:0.095861      train-rmspe:0.099511
eval-rmspe:0.099511
[471]    train-rmse:0.095797     eval-rmse:0.095797      train-rmspe:0.099442
eval-rmspe:0.099442
[472]    train-rmse:0.095649     eval-rmse:0.095649      train-rmspe:0.099291
eval-rmspe:0.099291
[473]    train-rmse:0.095479     eval-rmse:0.095479      train-rmspe:0.099113
eval-rmspe:0.099113
[474]    train-rmse:0.095322     eval-rmse:0.095322      train-rmspe:0.098939
eval-rmspe:0.098939
[475]    train-rmse:0.09518      eval-rmse:0.09518       train-rmspe:0.098791
eval-rmspe:0.098791
[476]    train-rmse:0.095162     eval-rmse:0.095162      train-rmspe:0.098774
eval-rmspe:0.098774
[477]    train-rmse:0.09507      eval-rmse:0.09507       train-rmspe:0.098677
eval-rmspe:0.098677
[478]    train-rmse:0.094832     eval-rmse:0.094832      train-rmspe:0.098424
eval-rmspe:0.098424
[479]    train-rmse:0.094676     eval-rmse:0.094676      train-rmspe:0.098271
eval-rmspe:0.098271
[480]    train-rmse:0.09452      eval-rmse:0.09452       train-rmspe:0.098093
eval-rmspe:0.098093
[481]    train-rmse:0.094318     eval-rmse:0.094318      train-rmspe:0.097863
eval-rmspe:0.097863
[482]    train-rmse:0.094125     eval-rmse:0.094125      train-rmspe:0.097662
eval-rmspe:0.097662
[483]    train-rmse:0.093997     eval-rmse:0.093997      train-rmspe:0.09753
eval-rmspe:0.09753
[484]    train-rmse:0.093861     eval-rmse:0.093861      train-rmspe:0.097385
eval-rmspe:0.097385
[485]    train-rmse:0.093727     eval-rmse:0.093727      train-rmspe:0.097249
eval-rmspe:0.097249
[486]    train-rmse:0.09356      eval-rmse:0.09356       train-rmspe:0.097027
eval-rmspe:0.097027
[487]    train-rmse:0.093428     eval-rmse:0.093428      train-rmspe:0.096895
eval-rmspe:0.096895
[488]    train-rmse:0.093301     eval-rmse:0.093301      train-rmspe:0.096761
eval-rmspe:0.096761
[489]    train-rmse:0.093094     eval-rmse:0.093094      train-rmspe:0.096489
eval-rmspe:0.096489
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[490]    train-rmse:0.092826    eval-rmse:0.092826    train-rmspe:0.09614
eval-rmspe:0.09614
[491]    train-rmse:0.092759    eval-rmse:0.092759    train-rmspe:0.096069
eval-rmspe:0.096069
[492]    train-rmse:0.092587    eval-rmse:0.092587    train-rmspe:0.095889
eval-rmspe:0.095889
[493]    train-rmse:0.092429    eval-rmse:0.092429    train-rmspe:0.095725
eval-rmspe:0.095725
[494]    train-rmse:0.092293    eval-rmse:0.092293    train-rmspe:0.095584
eval-rmspe:0.095584
[495]    train-rmse:0.092159    eval-rmse:0.092159    train-rmspe:0.095438
eval-rmspe:0.095438
[496]    train-rmse:0.09207    eval-rmse:0.09207    train-rmspe:0.095344
eval-rmspe:0.095344
[497]    train-rmse:0.09187    eval-rmse:0.09187    train-rmspe:0.095136
eval-rmspe:0.095136
[498]    train-rmse:0.091755    eval-rmse:0.091755    train-rmspe:0.095014
eval-rmspe:0.095014
[499]    train-rmse:0.091532    eval-rmse:0.091532    train-rmspe:0.094781
eval-rmspe:0.094781
[500]    train-rmse:0.091415    eval-rmse:0.091415    train-rmspe:0.094662
eval-rmspe:0.094662
[501]    train-rmse:0.091371    eval-rmse:0.091371    train-rmspe:0.094614
eval-rmspe:0.094614
[502]    train-rmse:0.091275    eval-rmse:0.091275    train-rmspe:0.094517
eval-rmspe:0.094517
[503]    train-rmse:0.091154    eval-rmse:0.091154    train-rmspe:0.094389
eval-rmspe:0.094389
[504]    train-rmse:0.090897    eval-rmse:0.090897    train-rmspe:0.094117
eval-rmspe:0.094117
[505]    train-rmse:0.090828    eval-rmse:0.090828    train-rmspe:0.094038
eval-rmspe:0.094038
[506]    train-rmse:0.090595    eval-rmse:0.090595    train-rmspe:0.093788
eval-rmspe:0.093788
[507]    train-rmse:0.090402    eval-rmse:0.090402    train-rmspe:0.093549
eval-rmspe:0.093549
[508]    train-rmse:0.090231    eval-rmse:0.090231    train-rmspe:0.093372
eval-rmspe:0.093372
[509]    train-rmse:0.08999    eval-rmse:0.08999    train-rmspe:0.093096
eval-rmspe:0.093096
[510]    train-rmse:0.089897    eval-rmse:0.089897    train-rmspe:0.093002
eval-rmspe:0.093002
[511]    train-rmse:0.089733    eval-rmse:0.089733    train-rmspe:0.092821
eval-rmspe:0.092821
[512]    train-rmse:0.089692    eval-rmse:0.089692    train-rmspe:0.092777
eval-rmspe:0.092777
[513]    train-rmse:0.089503    eval-rmse:0.089503    train-rmspe:0.092578
eval-rmspe:0.092578
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[514]   train-rmse:0.089314   eval-rmse:0.089314   train-rmspe:0.092374
eval-rmspe:0.092374
[515]   train-rmse:0.089242   eval-rmse:0.089242   train-rmspe:0.092301
eval-rmspe:0.092301
[516]   train-rmse:0.089157   eval-rmse:0.089157   train-rmspe:0.092216
eval-rmspe:0.092216
[517]   train-rmse:0.089126   eval-rmse:0.089126   train-rmspe:0.092185
eval-rmspe:0.092185
[518]   train-rmse:0.089019   eval-rmse:0.089019   train-rmspe:0.092077
eval-rmspe:0.092077
[519]   train-rmse:0.088859   eval-rmse:0.088859   train-rmspe:0.091904
eval-rmspe:0.091904
[520]   train-rmse:0.088764   eval-rmse:0.088764   train-rmspe:0.091803
eval-rmspe:0.091803
[521]   train-rmse:0.088705   eval-rmse:0.088705   train-rmspe:0.091734
eval-rmspe:0.091734
[522]   train-rmse:0.088546   eval-rmse:0.088546   train-rmspe:0.091558
eval-rmspe:0.091558
[523]   train-rmse:0.088398   eval-rmse:0.088398   train-rmspe:0.091364
eval-rmspe:0.091364
[524]   train-rmse:0.088238   eval-rmse:0.088238   train-rmspe:0.091199
eval-rmspe:0.091199
[525]   train-rmse:0.088141   eval-rmse:0.088141   train-rmspe:0.091101
eval-rmspe:0.091101
[526]   train-rmse:0.087976   eval-rmse:0.087976   train-rmspe:0.090923
eval-rmspe:0.090923
[527]   train-rmse:0.087888   eval-rmse:0.087888   train-rmspe:0.09083
eval-rmspe:0.09083
[528]   train-rmse:0.087767   eval-rmse:0.087767   train-rmspe:0.090701
eval-rmspe:0.090701
[529]   train-rmse:0.087738   eval-rmse:0.087738   train-rmspe:0.09067
eval-rmspe:0.09067
[530]   train-rmse:0.087603   eval-rmse:0.087603   train-rmspe:0.090525
eval-rmspe:0.090525
[531]   train-rmse:0.087563   eval-rmse:0.087563   train-rmspe:0.090485
eval-rmspe:0.090485
[532]   train-rmse:0.087429   eval-rmse:0.087429   train-rmspe:0.09034
eval-rmspe:0.09034
[533]   train-rmse:0.087337   eval-rmse:0.087337   train-rmspe:0.090193
eval-rmspe:0.090193
[534]   train-rmse:0.087203   eval-rmse:0.087203   train-rmspe:0.090055
eval-rmspe:0.090055
[535]   train-rmse:0.087124   eval-rmse:0.087124   train-rmspe:0.089972
eval-rmspe:0.089972
[536]   train-rmse:0.086977   eval-rmse:0.086977   train-rmspe:0.08981
eval-rmspe:0.08981
[537]   train-rmse:0.086808   eval-rmse:0.086808   train-rmspe:0.089629
eval-rmspe:0.089629

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[538]    train-rmse:0.086458     eval-rmse:0.086458     train-rmspe:0.089247
eval-rmspe:0.089247
[539]    train-rmse:0.086263     eval-rmse:0.086263     train-rmspe:0.089045
eval-rmspe:0.089045
[540]    train-rmse:0.086134     eval-rmse:0.086134     train-rmspe:0.088911
eval-rmspe:0.088911
[541]    train-rmse:0.086104     eval-rmse:0.086104     train-rmspe:0.08888
eval-rmspe:0.08888
[542]    train-rmse:0.08596      eval-rmse:0.08596      train-rmspe:0.088722
eval-rmspe:0.088722
[543]    train-rmse:0.085794     eval-rmse:0.085794     train-rmspe:0.088544
eval-rmspe:0.088544
[544]    train-rmse:0.085688     eval-rmse:0.085688     train-rmspe:0.088436
eval-rmspe:0.088436
[545]    train-rmse:0.085587     eval-rmse:0.085587     train-rmspe:0.08833
eval-rmspe:0.08833
[546]    train-rmse:0.085556     eval-rmse:0.085556     train-rmspe:0.0883
eval-rmspe:0.0883
[547]    train-rmse:0.085424     eval-rmse:0.085424     train-rmspe:0.088164
eval-rmspe:0.088164
[548]    train-rmse:0.085267     eval-rmse:0.085267     train-rmspe:0.087977
eval-rmspe:0.087977
[549]    train-rmse:0.084991     eval-rmse:0.084991     train-rmspe:0.087664
eval-rmspe:0.087664
[550]    train-rmse:0.084854     eval-rmse:0.084854     train-rmspe:0.087523
eval-rmspe:0.087523
[551]    train-rmse:0.084786     eval-rmse:0.084786     train-rmspe:0.087455
eval-rmspe:0.087455
[552]    train-rmse:0.084608     eval-rmse:0.084608     train-rmspe:0.087254
eval-rmspe:0.087254
[553]    train-rmse:0.084491     eval-rmse:0.084491     train-rmspe:0.087125
eval-rmspe:0.087125
[554]    train-rmse:0.084407     eval-rmse:0.084407     train-rmspe:0.08704
eval-rmspe:0.08704
[555]    train-rmse:0.084238     eval-rmse:0.084238     train-rmspe:0.086845
eval-rmspe:0.086845
[556]    train-rmse:0.084164     eval-rmse:0.084164     train-rmspe:0.086769
eval-rmspe:0.086769
[557]    train-rmse:0.084066     eval-rmse:0.084066     train-rmspe:0.086669
eval-rmspe:0.086669
[558]    train-rmse:0.083898     eval-rmse:0.083898     train-rmspe:0.086496
eval-rmspe:0.086496
[559]    train-rmse:0.08373      eval-rmse:0.08373      train-rmspe:0.086315
eval-rmspe:0.086315
[560]    train-rmse:0.083604     eval-rmse:0.083604     train-rmspe:0.086175
eval-rmspe:0.086175
[561]    train-rmse:0.083417     eval-rmse:0.083417     train-rmspe:0.085976
eval-rmspe:0.085976
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[562]    train-rmse:0.083211    eval-rmse:0.083211    train-rmspe:0.08576
eval-rmspe:0.08576
[563]    train-rmse:0.083113    eval-rmse:0.083113    train-rmspe:0.085659
eval-rmspe:0.085659
[564]    train-rmse:0.083052    eval-rmse:0.083052    train-rmspe:0.085599
eval-rmspe:0.085599
[565]    train-rmse:0.08296     eval-rmse:0.08296     train-rmspe:0.085501
eval-rmspe:0.085501
[566]    train-rmse:0.082804    eval-rmse:0.082804    train-rmspe:0.085338
eval-rmspe:0.085338
[567]    train-rmse:0.082612    eval-rmse:0.082612    train-rmspe:0.085126
eval-rmspe:0.085126
[568]    train-rmse:0.082558    eval-rmse:0.082558    train-rmspe:0.085065
eval-rmspe:0.085065
[569]    train-rmse:0.082469    eval-rmse:0.082469    train-rmspe:0.084975
eval-rmspe:0.084975
[570]    train-rmse:0.082407    eval-rmse:0.082407    train-rmspe:0.084905
eval-rmspe:0.084905
[571]    train-rmse:0.082257    eval-rmse:0.082257    train-rmspe:0.084749
eval-rmspe:0.084749
[572]    train-rmse:0.082115    eval-rmse:0.082115    train-rmspe:0.084604
eval-rmspe:0.084604
[573]    train-rmse:0.082081    eval-rmse:0.082081    train-rmspe:0.084569
eval-rmspe:0.084569
[574]    train-rmse:0.082059    eval-rmse:0.082059    train-rmspe:0.084546
eval-rmspe:0.084546
[575]    train-rmse:0.082041    eval-rmse:0.082041    train-rmspe:0.084527
eval-rmspe:0.084527
[576]    train-rmse:0.081992    eval-rmse:0.081992    train-rmspe:0.084471
eval-rmspe:0.084471
[577]    train-rmse:0.081793    eval-rmse:0.081793    train-rmspe:0.084259
eval-rmspe:0.084259
[578]    train-rmse:0.081704    eval-rmse:0.081704    train-rmspe:0.084162
eval-rmspe:0.084162
[579]    train-rmse:0.081668    eval-rmse:0.081668    train-rmspe:0.084125
eval-rmspe:0.084125
[580]    train-rmse:0.08156     eval-rmse:0.08156     train-rmspe:0.084011
eval-rmspe:0.084011
[581]    train-rmse:0.081472    eval-rmse:0.081472    train-rmspe:0.083918
eval-rmspe:0.083918
[582]    train-rmse:0.081348    eval-rmse:0.081348    train-rmspe:0.083789
eval-rmspe:0.083789
[583]    train-rmse:0.081322    eval-rmse:0.081322    train-rmspe:0.083762
eval-rmspe:0.083762
[584]    train-rmse:0.081245    eval-rmse:0.081245    train-rmspe:0.083684
eval-rmspe:0.083684
[585]    train-rmse:0.081182    eval-rmse:0.081182    train-rmspe:0.083618
eval-rmspe:0.083618
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[586]    train-rmse:0.081138    eval-rmse:0.081138    train-rmspe:0.083572
eval-rmspe:0.083572
[587]    train-rmse:0.08084     eval-rmse:0.08084     train-rmspe:0.083213
eval-rmspe:0.083213
[588]    train-rmse:0.08071     eval-rmse:0.08071     train-rmspe:0.083067
eval-rmspe:0.083067
[589]    train-rmse:0.080563    eval-rmse:0.080563    train-rmspe:0.082908
eval-rmspe:0.082908
[590]    train-rmse:0.080346    eval-rmse:0.080346    train-rmspe:0.08266
eval-rmspe:0.08266
[591]    train-rmse:0.080271    eval-rmse:0.080271    train-rmspe:0.082584
eval-rmspe:0.082584
[592]    train-rmse:0.080235    eval-rmse:0.080235    train-rmspe:0.082549
eval-rmspe:0.082549
[593]    train-rmse:0.080192    eval-rmse:0.080192    train-rmspe:0.082506
eval-rmspe:0.082506
[594]    train-rmse:0.080146    eval-rmse:0.080146    train-rmspe:0.082459
eval-rmspe:0.082459
[595]    train-rmse:0.080028    eval-rmse:0.080028    train-rmspe:0.082334
eval-rmspe:0.082334
[596]    train-rmse:0.079977    eval-rmse:0.079977    train-rmspe:0.082277
eval-rmspe:0.082277
[597]    train-rmse:0.079823    eval-rmse:0.079823    train-rmspe:0.082111
eval-rmspe:0.082111
[598]    train-rmse:0.079789    eval-rmse:0.079789    train-rmspe:0.082071
eval-rmspe:0.082071
[599]    train-rmse:0.07975     eval-rmse:0.07975     train-rmspe:0.082033
eval-rmspe:0.082033
round 6 end
round 7:
[0]      train-rmse:8.02732     eval-rmse:8.02732     train-rmspe:0.999811
eval-rmspe:0.999811
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
[1]      train-rmse:7.78703     eval-rmse:7.78703     train-rmspe:0.999713
eval-rmspe:0.999713
[2]      train-rmse:7.55396     eval-rmse:7.55396     train-rmspe:0.999594
eval-rmspe:0.999594
[3]      train-rmse:7.32791     eval-rmse:7.32791     train-rmspe:0.999448
eval-rmspe:0.999448
[4]      train-rmse:7.10862     eval-rmse:7.10862     train-rmspe:0.999272
eval-rmspe:0.999272
[5]      train-rmse:6.89599     eval-rmse:6.89599     train-rmspe:0.999059
eval-rmspe:0.999059
[6]      train-rmse:6.68969     eval-rmse:6.68969     train-rmspe:0.998806
eval-rmspe:0.998806
```

```
[7]     train-rmse:6.48959      eval-rmse:6.48959       train-rmspe:0.998504
eval-rmspe:0.998504
[8]     train-rmse:6.29558      eval-rmse:6.29558       train-rmspe:0.998149
eval-rmspe:0.998149
[9]     train-rmse:6.10736      eval-rmse:6.10736       train-rmspe:0.997732
eval-rmspe:0.997732
[10]    train-rmse:5.92486      eval-rmse:5.92486       train-rmspe:0.997245
eval-rmspe:0.997245
[11]    train-rmse:5.74775      eval-rmse:5.74775       train-rmspe:0.99668
eval-rmspe:0.99668
[12]    train-rmse:5.57604      eval-rmse:5.57604       train-rmspe:0.996028
eval-rmspe:0.996028
[13]    train-rmse:5.40949      eval-rmse:5.40949       train-rmspe:0.995281
eval-rmspe:0.995281
[14]    train-rmse:5.24791      eval-rmse:5.24791       train-rmspe:0.994426
eval-rmspe:0.994426
[15]    train-rmse:5.09123      eval-rmse:5.09123       train-rmspe:0.993456
eval-rmspe:0.993456
[16]    train-rmse:4.9393       eval-rmse:4.9393        train-rmspe:0.992357
eval-rmspe:0.992357
[17]    train-rmse:4.79191      eval-rmse:4.79191       train-rmspe:0.991121
eval-rmspe:0.991121
[18]    train-rmse:4.64897      eval-rmse:4.64897       train-rmspe:0.989736
eval-rmspe:0.989736
[19]    train-rmse:4.51035      eval-rmse:4.51035       train-rmspe:0.98819
eval-rmspe:0.98819
[20]    train-rmse:4.37588      eval-rmse:4.37588       train-rmspe:0.986472
eval-rmspe:0.986472
[21]    train-rmse:4.2455       eval-rmse:4.2455        train-rmspe:0.984567
eval-rmspe:0.984567
[22]    train-rmse:4.11904      eval-rmse:4.11904       train-rmspe:0.982474
eval-rmspe:0.982474
[23]    train-rmse:3.99639      eval-rmse:3.99639       train-rmspe:0.980175
eval-rmspe:0.980175
[24]    train-rmse:3.87744      eval-rmse:3.87744       train-rmspe:0.977658
eval-rmspe:0.977658
[25]    train-rmse:3.76209      eval-rmse:3.76209       train-rmspe:0.974913
eval-rmspe:0.974913
[26]    train-rmse:3.65025      eval-rmse:3.65025       train-rmspe:0.971937
eval-rmspe:0.971937
[27]    train-rmse:3.54177      eval-rmse:3.54177       train-rmspe:0.968714
eval-rmspe:0.968714
[28]    train-rmse:3.43657      eval-rmse:3.43657       train-rmspe:0.965242
eval-rmspe:0.965242
[29]    train-rmse:3.33452      eval-rmse:3.33452       train-rmspe:0.961507
eval-rmspe:0.961507
[30]    train-rmse:3.23557      eval-rmse:3.23557       train-rmspe:0.957501
eval-rmspe:0.957501
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[31]   train-rmse:3.13957   eval-rmse:3.13957   train-rmspe:0.953217
eval-rmspe:0.953217
[32]   train-rmse:3.04655   eval-rmse:3.04655   train-rmspe:0.948661
eval-rmspe:0.948661
[33]   train-rmse:2.95635   eval-rmse:2.95635   train-rmspe:0.943823
eval-rmspe:0.943823
[34]   train-rmse:2.86888   eval-rmse:2.86888   train-rmspe:0.938688
eval-rmspe:0.938688
[35]   train-rmse:2.78405   eval-rmse:2.78405   train-rmspe:0.933267
eval-rmspe:0.933267
[36]   train-rmse:2.70176   eval-rmse:2.70176   train-rmspe:0.927561
eval-rmspe:0.927561
[37]   train-rmse:2.62197   eval-rmse:2.62197   train-rmspe:0.921571
eval-rmspe:0.921571
[38]   train-rmse:2.54463   eval-rmse:2.54463   train-rmspe:0.915291
eval-rmspe:0.915291
[39]   train-rmse:2.46965   eval-rmse:2.46965   train-rmspe:0.908718
eval-rmspe:0.908718
[40]   train-rmse:2.3969   eval-rmse:2.3969   train-rmspe:0.90188
eval-rmspe:0.90188
[41]   train-rmse:2.32639   eval-rmse:2.32639   train-rmspe:0.894744
eval-rmspe:0.894744
[42]   train-rmse:2.25796   eval-rmse:2.25796   train-rmspe:0.887333
eval-rmspe:0.887333
[43]   train-rmse:2.19164   eval-rmse:2.19164   train-rmspe:0.879667
eval-rmspe:0.879667
[44]   train-rmse:2.12733   eval-rmse:2.12733   train-rmspe:0.871764
eval-rmspe:0.871764
[45]   train-rmse:2.065   eval-rmse:2.065 train-rmspe:0.863557   eval-
rmspe:0.863557
[46]   train-rmse:2.0046   eval-rmse:2.0046   train-rmspe:0.855125
eval-rmspe:0.855125
[47]   train-rmse:1.94594   eval-rmse:1.94594   train-rmspe:0.846476
eval-rmspe:0.846476
[48]   train-rmse:1.8891   eval-rmse:1.8891   train-rmspe:0.83761
eval-rmspe:0.83761
[49]   train-rmse:1.83396   eval-rmse:1.83396   train-rmspe:0.828532
eval-rmspe:0.828532
[50]   train-rmse:1.78057   eval-rmse:1.78057   train-rmspe:0.819218
eval-rmspe:0.819218
[51]   train-rmse:1.72886   eval-rmse:1.72886   train-rmspe:0.809704
eval-rmspe:0.809704
[52]   train-rmse:1.67864   eval-rmse:1.67864   train-rmspe:0.800038
eval-rmspe:0.800038
[53]   train-rmse:1.62995   eval-rmse:1.62995   train-rmspe:0.790201
eval-rmspe:0.790201
[54]   train-rmse:1.58272   eval-rmse:1.58272   train-rmspe:0.780251
eval-rmspe:0.780251

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[55]     train-rmse:1.53684      eval-rmse:1.53684      train-rmspe:0.770177
eval-rmspe:0.770177
[56]     train-rmse:1.49251      eval-rmse:1.49251      train-rmspe:0.759938
eval-rmspe:0.759938
[57]     train-rmse:1.44951      eval-rmse:1.44951      train-rmspe:0.74958
eval-rmspe:0.74958
[58]     train-rmse:1.40794      eval-rmse:1.40794      train-rmspe:0.739072
eval-rmspe:0.739072
[59]     train-rmse:1.36763      eval-rmse:1.36763      train-rmspe:0.728506
eval-rmspe:0.728506
[60]     train-rmse:1.32862      eval-rmse:1.32862      train-rmspe:0.71782
eval-rmspe:0.71782
[61]     train-rmse:1.29075      eval-rmse:1.29075      train-rmspe:0.707121
eval-rmspe:0.707121
[62]     train-rmse:1.25391      eval-rmse:1.25391      train-rmspe:0.696414
eval-rmspe:0.696414
[63]     train-rmse:1.2181       eval-rmse:1.2181       train-rmspe:0.685669
eval-rmspe:0.685669
[64]     train-rmse:1.18365      eval-rmse:1.18365      train-rmspe:0.674843
eval-rmspe:0.674843
[65]     train-rmse:1.15024      eval-rmse:1.15024      train-rmspe:0.664025
eval-rmspe:0.664025
[66]     train-rmse:1.11771      eval-rmse:1.11771      train-rmspe:0.653233
eval-rmspe:0.653233
[67]     train-rmse:1.08637      eval-rmse:1.08637      train-rmspe:0.642409
eval-rmspe:0.642409
[68]     train-rmse:1.05607      eval-rmse:1.05607      train-rmspe:0.631609
eval-rmspe:0.631609
[69]     train-rmse:1.02668      eval-rmse:1.02668      train-rmspe:0.620834
eval-rmspe:0.620834
[70]     train-rmse:0.99821      eval-rmse:0.99821      train-rmspe:0.610139
eval-rmspe:0.610139
[71]     train-rmse:0.970448     eval-rmse:0.970448     train-rmspe:0.599531
eval-rmspe:0.599531
[72]     train-rmse:0.94366      eval-rmse:0.94366      train-rmspe:0.588956
eval-rmspe:0.588956
[73]     train-rmse:0.917723     eval-rmse:0.917723     train-rmspe:0.578489
eval-rmspe:0.578489
[74]     train-rmse:0.892809     eval-rmse:0.892809     train-rmspe:0.568068
eval-rmspe:0.568068
[75]     train-rmse:0.868337     eval-rmse:0.868337     train-rmspe:0.55779
eval-rmspe:0.55779
[76]     train-rmse:0.844735     eval-rmse:0.844735     train-rmspe:0.547586
eval-rmspe:0.547586
[77]     train-rmse:0.822015     eval-rmse:0.822015     train-rmspe:0.537502
eval-rmspe:0.537502
[78]     train-rmse:0.799798     eval-rmse:0.799798     train-rmspe:0.527543
eval-rmspe:0.527543
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[79]    train-rmse:0.77839      eval-rmse:0.77839       train-rmspe:0.517718
eval-rmspe:0.517718
[80]    train-rmse:0.757822     eval-rmse:0.757822      train-rmspe:0.508032
eval-rmspe:0.508032
[81]    train-rmse:0.737964     eval-rmse:0.737964      train-rmspe:0.498489
eval-rmspe:0.498489
[82]    train-rmse:0.71861      eval-rmse:0.71861       train-rmspe:0.489077
eval-rmspe:0.489077
[83]    train-rmse:0.69936      eval-rmse:0.69936       train-rmspe:0.479776
eval-rmspe:0.479776
[84]    train-rmse:0.681124     eval-rmse:0.681124      train-rmspe:0.470686
eval-rmspe:0.470686
[85]    train-rmse:0.663284     eval-rmse:0.663284      train-rmspe:0.461696
eval-rmspe:0.461696
[86]    train-rmse:0.646171     eval-rmse:0.646171      train-rmspe:0.452911
eval-rmspe:0.452911
[87]    train-rmse:0.629912     eval-rmse:0.629912      train-rmspe:0.444346
eval-rmspe:0.444346
[88]    train-rmse:0.614103     eval-rmse:0.614103      train-rmspe:0.435951
eval-rmspe:0.435951
[89]    train-rmse:0.598941     eval-rmse:0.598941      train-rmspe:0.427737
eval-rmspe:0.427737
[90]    train-rmse:0.583713     eval-rmse:0.583713      train-rmspe:0.419539
eval-rmspe:0.419539
[91]    train-rmse:0.569421     eval-rmse:0.569421      train-rmspe:0.411652
eval-rmspe:0.411652
[92]    train-rmse:0.555602     eval-rmse:0.555602      train-rmspe:0.403963
eval-rmspe:0.403963
[93]    train-rmse:0.542301     eval-rmse:0.542301      train-rmspe:0.396507
eval-rmspe:0.396507
[94]    train-rmse:0.52929      eval-rmse:0.52929       train-rmspe:0.389137
eval-rmspe:0.389137
[95]    train-rmse:0.51679      eval-rmse:0.51679       train-rmspe:0.382003
eval-rmspe:0.382003
[96]    train-rmse:0.50471      eval-rmse:0.50471       train-rmspe:0.37504
eval-rmspe:0.37504
[97]    train-rmse:0.492993     eval-rmse:0.492993      train-rmspe:0.368255
eval-rmspe:0.368255
[98]    train-rmse:0.481869     eval-rmse:0.481869      train-rmspe:0.36171
eval-rmspe:0.36171
[99]    train-rmse:0.471091     eval-rmse:0.471091      train-rmspe:0.355339
eval-rmspe:0.355339
[100]   train-rmse:0.460732     eval-rmse:0.460732      train-rmspe:0.349207
eval-rmspe:0.349207
[101]   train-rmse:0.450662     eval-rmse:0.450662      train-rmspe:0.343224
eval-rmspe:0.343224
[102]   train-rmse:0.440543     eval-rmse:0.440543      train-rmspe:0.337233
eval-rmspe:0.337233
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[103]    train-rmse:0.431141    eval-rmse:0.431141    train-rmspe:0.331572
eval-rmspe:0.331572
[104]    train-rmse:0.422004    eval-rmse:0.422004    train-rmspe:0.326085
eval-rmspe:0.326085
[105]    train-rmse:0.412967    eval-rmse:0.412967    train-rmspe:0.320606
eval-rmspe:0.320606
[106]    train-rmse:0.40438     eval-rmse:0.40438     train-rmspe:0.315367
eval-rmspe:0.315367
[107]    train-rmse:0.396161    eval-rmse:0.396161    train-rmspe:0.31037
eval-rmspe:0.31037
[108]    train-rmse:0.388285    eval-rmse:0.388285    train-rmspe:0.305571
eval-rmspe:0.305571
[109]    train-rmse:0.380468    eval-rmse:0.380468    train-rmspe:0.300857
eval-rmspe:0.300857
[110]    train-rmse:0.373348    eval-rmse:0.373348    train-rmspe:0.296484
eval-rmspe:0.296484
[111]    train-rmse:0.3664      eval-rmse:0.3664      train-rmspe:0.292273
eval-rmspe:0.292273
[112]    train-rmse:0.359803    eval-rmse:0.359803    train-rmspe:0.288284
eval-rmspe:0.288284
[113]    train-rmse:0.35347     eval-rmse:0.35347     train-rmspe:0.284485
eval-rmspe:0.284485
[114]    train-rmse:0.346605    eval-rmse:0.346605    train-rmspe:0.280354
eval-rmspe:0.280354
[115]    train-rmse:0.340652    eval-rmse:0.340652    train-rmspe:0.276719
eval-rmspe:0.276719
[116]    train-rmse:0.334943    eval-rmse:0.334943    train-rmspe:0.273268
eval-rmspe:0.273268
[117]    train-rmse:0.329275    eval-rmse:0.329275    train-rmspe:0.269865
eval-rmspe:0.269865
[118]    train-rmse:0.323762    eval-rmse:0.323762    train-rmspe:0.266554
eval-rmspe:0.266554
[119]    train-rmse:0.317765    eval-rmse:0.317765    train-rmspe:0.262882
eval-rmspe:0.262882
[120]    train-rmse:0.312622    eval-rmse:0.312622    train-rmspe:0.259736
eval-rmspe:0.259736
[121]    train-rmse:0.307872    eval-rmse:0.307872    train-rmspe:0.256922
eval-rmspe:0.256922
[122]    train-rmse:0.303422    eval-rmse:0.303422    train-rmspe:0.25434
eval-rmspe:0.25434
[123]    train-rmse:0.29879     eval-rmse:0.29879     train-rmspe:0.251558
eval-rmspe:0.251558
[124]    train-rmse:0.294336    eval-rmse:0.294336    train-rmspe:0.248811
eval-rmspe:0.248811
[125]    train-rmse:0.290217    eval-rmse:0.290217    train-rmspe:0.246408
eval-rmspe:0.246408
[126]    train-rmse:0.286331    eval-rmse:0.286331    train-rmspe:0.244243
eval-rmspe:0.244243
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[127]    train-rmse:0.282653    eval-rmse:0.282653    train-rmspe:0.242174
eval-rmspe:0.242174
[128]    train-rmse:0.278861    eval-rmse:0.278861    train-rmspe:0.239984
eval-rmspe:0.239984
[129]    train-rmse:0.274401    eval-rmse:0.274401    train-rmspe:0.237145
eval-rmspe:0.237145
[130]    train-rmse:0.271157    eval-rmse:0.271157    train-rmspe:0.235385
eval-rmspe:0.235385
[131]    train-rmse:0.267983    eval-rmse:0.267983    train-rmspe:0.233611
eval-rmspe:0.233611
[132]    train-rmse:0.264938    eval-rmse:0.264938    train-rmspe:0.231921
eval-rmspe:0.231921
[133]    train-rmse:0.261684    eval-rmse:0.261684    train-rmspe:0.23
eval-rmspe:0.23
[134]    train-rmse:0.259163    eval-rmse:0.259163    train-rmspe:0.228739
eval-rmspe:0.228739
[135]    train-rmse:0.256215    eval-rmse:0.256215    train-rmspe:0.227076
eval-rmspe:0.227076
[136]    train-rmse:0.252571    eval-rmse:0.252571    train-rmspe:0.224766
eval-rmspe:0.224766
[137]    train-rmse:0.250025    eval-rmse:0.250025    train-rmspe:0.223434
eval-rmspe:0.223434
[138]    train-rmse:0.247272    eval-rmse:0.247272    train-rmspe:0.221918
eval-rmspe:0.221918
[139]    train-rmse:0.245001    eval-rmse:0.245001    train-rmspe:0.220649
eval-rmspe:0.220649
[140]    train-rmse:0.242743    eval-rmse:0.242743    train-rmspe:0.219505
eval-rmspe:0.219505
[141]    train-rmse:0.240669    eval-rmse:0.240669    train-rmspe:0.218488
eval-rmspe:0.218488
[142]    train-rmse:0.23862    eval-rmse:0.23862    train-rmspe:0.217487
eval-rmspe:0.217487
[143]    train-rmse:0.236712    eval-rmse:0.236712    train-rmspe:0.216574
eval-rmspe:0.216574
[144]    train-rmse:0.234292    eval-rmse:0.234292    train-rmspe:0.215197
eval-rmspe:0.215197
[145]    train-rmse:0.232461    eval-rmse:0.232461    train-rmspe:0.214298
eval-rmspe:0.214298
[146]    train-rmse:0.23042    eval-rmse:0.23042    train-rmspe:0.21308
eval-rmspe:0.21308
[147]    train-rmse:0.22874    eval-rmse:0.22874    train-rmspe:0.212318
eval-rmspe:0.212318
[148]    train-rmse:0.227049    eval-rmse:0.227049    train-rmspe:0.211497
eval-rmspe:0.211497
[149]    train-rmse:0.225129    eval-rmse:0.225129    train-rmspe:0.21043
eval-rmspe:0.21043
[150]    train-rmse:0.223569    eval-rmse:0.223569    train-rmspe:0.209661
eval-rmspe:0.209661
```

[151]   train-rmse:0.222325   eval-rmse:0.222325   train-rmspe:0.209181
eval-rmspe:0.209181
[152]   train-rmse:0.220966   eval-rmse:0.220966   train-rmspe:0.208524
eval-rmspe:0.208524
[153]   train-rmse:0.21981   eval-rmse:0.21981   train-rmspe:0.208074
eval-rmspe:0.208074
[154]   train-rmse:0.218618   eval-rmse:0.218618   train-rmspe:0.207588
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[156]   train-rmse:0.216163   eval-rmse:0.216163   train-rmspe:0.206455
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[157]   train-rmse:0.214567   eval-rmse:0.214567   train-rmspe:0.20549
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[158]   train-rmse:0.213476   eval-rmse:0.213476   train-rmspe:0.20505
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[159]   train-rmse:0.212381   eval-rmse:0.212381   train-rmspe:0.204543
eval-rmspe:0.204543
[160]   train-rmse:0.210894   eval-rmse:0.210894   train-rmspe:0.203707
eval-rmspe:0.203707
[161]   train-rmse:0.20994   eval-rmse:0.20994   train-rmspe:0.203291
eval-rmspe:0.203291
[162]   train-rmse:0.208613   eval-rmse:0.208613   train-rmspe:0.202542
eval-rmspe:0.202542
[163]   train-rmse:0.207259   eval-rmse:0.207259   train-rmspe:0.201676
eval-rmspe:0.201676
[164]   train-rmse:0.206319   eval-rmse:0.206319   train-rmspe:0.201237
eval-rmspe:0.201237
[165]   train-rmse:0.205221   eval-rmse:0.205221   train-rmspe:0.200593
eval-rmspe:0.200593
[166]   train-rmse:0.204179   eval-rmse:0.204179   train-rmspe:0.200014
eval-rmspe:0.200014
[167]   train-rmse:0.202996   eval-rmse:0.202996   train-rmspe:0.199227
eval-rmspe:0.199227
[168]   train-rmse:0.201527   eval-rmse:0.201527   train-rmspe:0.198133
eval-rmspe:0.198133
[169]   train-rmse:0.200687   eval-rmse:0.200687   train-rmspe:0.1977
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[170]   train-rmse:0.198865   eval-rmse:0.198865   train-rmspe:0.196172
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[171]   train-rmse:0.198178   eval-rmse:0.198178   train-rmspe:0.195857
eval-rmspe:0.195857
[172]   train-rmse:0.197327   eval-rmse:0.197327   train-rmspe:0.195388
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[173]   train-rmse:0.196683   eval-rmse:0.196683   train-rmspe:0.195126
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[174]   train-rmse:0.195519   eval-rmse:0.195519   train-rmspe:0.194251
eval-rmspe:0.194251

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[175]    train-rmse:0.194584     eval-rmse:0.194584      train-rmspe:0.193589
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[176]    train-rmse:0.19393      eval-rmse:0.19393       train-rmspe:0.193278
eval-rmspe:0.193278
[177]    train-rmse:0.193379     eval-rmse:0.193379      train-rmspe:0.193049
eval-rmspe:0.193049
[178]    train-rmse:0.192836     eval-rmse:0.192836      train-rmspe:0.192815
eval-rmspe:0.192815
[179]    train-rmse:0.19182      eval-rmse:0.19182       train-rmspe:0.192053
eval-rmspe:0.192053
[180]    train-rmse:0.191397     eval-rmse:0.191397      train-rmspe:0.191934
eval-rmspe:0.191934
[181]    train-rmse:0.190949     eval-rmse:0.190949      train-rmspe:0.19178
eval-rmspe:0.19178
[182]    train-rmse:0.190238     eval-rmse:0.190238      train-rmspe:0.191366
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[183]    train-rmse:0.189588     eval-rmse:0.189588      train-rmspe:0.191029
eval-rmspe:0.191029
[184]    train-rmse:0.189076     eval-rmse:0.189076      train-rmspe:0.190759
eval-rmspe:0.190759
[185]    train-rmse:0.18742      eval-rmse:0.18742       train-rmspe:0.189284
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[186]    train-rmse:0.18583      eval-rmse:0.18583       train-rmspe:0.187852
eval-rmspe:0.187852
[187]    train-rmse:0.185323     eval-rmse:0.185323      train-rmspe:0.187548
eval-rmspe:0.187548
[188]    train-rmse:0.183502     eval-rmse:0.183502      train-rmspe:0.185857
eval-rmspe:0.185857
[189]    train-rmse:0.183128     eval-rmse:0.183128      train-rmspe:0.185674
eval-rmspe:0.185674
[190]    train-rmse:0.182421     eval-rmse:0.182421      train-rmspe:0.185191
eval-rmspe:0.185191
[191]    train-rmse:0.181651     eval-rmse:0.181651      train-rmspe:0.184572
eval-rmspe:0.184572
[192]    train-rmse:0.181091     eval-rmse:0.181091      train-rmspe:0.18422
eval-rmspe:0.18422
[193]    train-rmse:0.180808     eval-rmse:0.180808      train-rmspe:0.184111
eval-rmspe:0.184111
[194]    train-rmse:0.18035      eval-rmse:0.18035       train-rmspe:0.183831
eval-rmspe:0.183831
[195]    train-rmse:0.179853     eval-rmse:0.179853      train-rmspe:0.18349
eval-rmspe:0.18349
[196]    train-rmse:0.178598     eval-rmse:0.178598      train-rmspe:0.182314
eval-rmspe:0.182314
[197]    train-rmse:0.178281     eval-rmse:0.178281      train-rmspe:0.182165
eval-rmspe:0.182165
[198]    train-rmse:0.177554     eval-rmse:0.177554      train-rmspe:0.181514
eval-rmspe:0.181514
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[199]    train-rmse:0.177122    eval-rmse:0.177122    train-rmspe:0.181206
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[200]    train-rmse:0.176271    eval-rmse:0.176271    train-rmspe:0.180457
eval-rmspe:0.180457
[201]    train-rmse:0.17577     eval-rmse:0.17577     train-rmspe:0.180101
eval-rmspe:0.180101
[202]    train-rmse:0.175142    eval-rmse:0.175142    train-rmspe:0.179564
eval-rmspe:0.179564
[203]    train-rmse:0.174362    eval-rmse:0.174362    train-rmspe:0.178897
eval-rmspe:0.178897
[204]    train-rmse:0.17384     eval-rmse:0.17384     train-rmspe:0.178517
eval-rmspe:0.178517
[205]    train-rmse:0.173273    eval-rmse:0.173273    train-rmspe:0.17808
eval-rmspe:0.17808
[206]    train-rmse:0.172867    eval-rmse:0.172867    train-rmspe:0.177817
eval-rmspe:0.177817
[207]    train-rmse:0.171995    eval-rmse:0.171995    train-rmspe:0.177015
eval-rmspe:0.177015
[208]    train-rmse:0.171317    eval-rmse:0.171317    train-rmspe:0.176411
eval-rmspe:0.176411
[209]    train-rmse:0.171037    eval-rmse:0.171037    train-rmspe:0.176227
eval-rmspe:0.176227
[210]    train-rmse:0.17068     eval-rmse:0.17068     train-rmspe:0.176001
eval-rmspe:0.176001
[211]    train-rmse:0.170377    eval-rmse:0.170377    train-rmspe:0.175781
eval-rmspe:0.175781
[212]    train-rmse:0.170183    eval-rmse:0.170183    train-rmspe:0.175696
eval-rmspe:0.175696
[213]    train-rmse:0.16973     eval-rmse:0.16973     train-rmspe:0.175336
eval-rmspe:0.175336
[214]    train-rmse:0.169407    eval-rmse:0.169407    train-rmspe:0.175084
eval-rmspe:0.175084
[215]    train-rmse:0.168829    eval-rmse:0.168829    train-rmspe:0.174591
eval-rmspe:0.174591
[216]    train-rmse:0.168557    eval-rmse:0.168557    train-rmspe:0.174386
eval-rmspe:0.174386
[217]    train-rmse:0.168112    eval-rmse:0.168112    train-rmspe:0.174031
eval-rmspe:0.174031
[218]    train-rmse:0.167297    eval-rmse:0.167297    train-rmspe:0.173324
eval-rmspe:0.173324
[219]    train-rmse:0.166718    eval-rmse:0.166718    train-rmspe:0.17278
eval-rmspe:0.17278
[220]    train-rmse:0.16558     eval-rmse:0.16558     train-rmspe:0.171664
eval-rmspe:0.171664
[221]    train-rmse:0.1653      eval-rmse:0.1653      train-rmspe:0.171441
eval-rmspe:0.171441
[222]    train-rmse:0.16484     eval-rmse:0.16484     train-rmspe:0.171007
eval-rmspe:0.171007
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[223]    train-rmse:0.164317    eval-rmse:0.164317    train-rmspe:0.170569
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[224]    train-rmse:0.164048    eval-rmse:0.164048    train-rmspe:0.170345
eval-rmspe:0.170345
[225]    train-rmse:0.163665    eval-rmse:0.163665    train-rmspe:0.170008
eval-rmspe:0.170008
[226]    train-rmse:0.162578    eval-rmse:0.162578    train-rmspe:0.168901
eval-rmspe:0.168901
[227]    train-rmse:0.161555    eval-rmse:0.161555    train-rmspe:0.167887
eval-rmspe:0.167887
[228]    train-rmse:0.16086     eval-rmse:0.16086     train-rmspe:0.167132
eval-rmspe:0.167132
[229]    train-rmse:0.160607    eval-rmse:0.160607    train-rmspe:0.166945
eval-rmspe:0.166945
[230]    train-rmse:0.160257    eval-rmse:0.160257    train-rmspe:0.16661
eval-rmspe:0.16661
[231]    train-rmse:0.159981    eval-rmse:0.159981    train-rmspe:0.166398
eval-rmspe:0.166398
[232]    train-rmse:0.15924     eval-rmse:0.15924     train-rmspe:0.165653
eval-rmspe:0.165653
[233]    train-rmse:0.159124    eval-rmse:0.159124    train-rmspe:0.16558
eval-rmspe:0.16558
[234]    train-rmse:0.158849    eval-rmse:0.158849    train-rmspe:0.165324
eval-rmspe:0.165324
[235]    train-rmse:0.158288    eval-rmse:0.158288    train-rmspe:0.164758
eval-rmspe:0.164758
[236]    train-rmse:0.158186    eval-rmse:0.158186    train-rmspe:0.164697
eval-rmspe:0.164697
[237]    train-rmse:0.157606    eval-rmse:0.157606    train-rmspe:0.164166
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[238]    train-rmse:0.157183    eval-rmse:0.157183    train-rmspe:0.163786
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[239]    train-rmse:0.156497    eval-rmse:0.156497    train-rmspe:0.163106
eval-rmspe:0.163106
[240]    train-rmse:0.15612     eval-rmse:0.15612     train-rmspe:0.162736
eval-rmspe:0.162736
[241]    train-rmse:0.155917    eval-rmse:0.155917    train-rmspe:0.162555
eval-rmspe:0.162555
[242]    train-rmse:0.155254    eval-rmse:0.155254    train-rmspe:0.161855
eval-rmspe:0.161855
[243]    train-rmse:0.155057    eval-rmse:0.155057    train-rmspe:0.161682
eval-rmspe:0.161682
[244]    train-rmse:0.154742    eval-rmse:0.154742    train-rmspe:0.161401
eval-rmspe:0.161401
[245]    train-rmse:0.154529    eval-rmse:0.154529    train-rmspe:0.161203
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[246]    train-rmse:0.153659    eval-rmse:0.153659    train-rmspe:0.160297
eval-rmspe:0.160297
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[247]   train-rmse:0.152959   eval-rmse:0.152959   train-rmspe:0.159552
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[248]   train-rmse:0.152477   eval-rmse:0.152477   train-rmspe:0.159061
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[257]   train-rmse:0.146805   eval-rmse:0.146805   train-rmspe:0.153263
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[258]   train-rmse:0.146094   eval-rmse:0.146094   train-rmspe:0.15253
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[259]   train-rmse:0.145859   eval-rmse:0.145859   train-rmspe:0.1523
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[260]   train-rmse:0.145369   eval-rmse:0.145369   train-rmspe:0.15183
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[261]   train-rmse:0.14489   eval-rmse:0.14489   train-rmspe:0.151339
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[263]   train-rmse:0.144442   eval-rmse:0.144442   train-rmspe:0.150866
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[264]   train-rmse:0.143901   eval-rmse:0.143901   train-rmspe:0.150314
eval-rmspe:0.150314
[265]   train-rmse:0.143576   eval-rmse:0.143576   train-rmspe:0.149994
eval-rmspe:0.149994
[266]   train-rmse:0.143162   eval-rmse:0.143162   train-rmspe:0.149579
eval-rmspe:0.149579
[267]   train-rmse:0.142623   eval-rmse:0.142623   train-rmspe:0.148963
eval-rmspe:0.148963
[268]   train-rmse:0.142515   eval-rmse:0.142515   train-rmspe:0.14886
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[269]   train-rmse:0.142347   eval-rmse:0.142347   train-rmspe:0.148714
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[277]   train-rmse:0.138606   eval-rmse:0.138606   train-rmspe:0.144884
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[278]   train-rmse:0.137996   eval-rmse:0.137996   train-rmspe:0.144237
eval-rmspe:0.144237
[279]   train-rmse:0.137826   eval-rmse:0.137826   train-rmspe:0.144049
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[286]   train-rmse:0.135175   eval-rmse:0.135175   train-rmspe:0.141235
eval-rmspe:0.141235
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[289]   train-rmse:0.134551   eval-rmse:0.134551   train-rmspe:0.140531
eval-rmspe:0.140531
[290]   train-rmse:0.133875   eval-rmse:0.133875   train-rmspe:0.139801
eval-rmspe:0.139801
[291]   train-rmse:0.133537   eval-rmse:0.133537   train-rmspe:0.139421
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[292]   train-rmse:0.133261   eval-rmse:0.133261   train-rmspe:0.139133
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[295]    train-rmse:0.132191    eval-rmse:0.132191    train-rmspe:0.138021
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eval-rmspe:0.134528
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eval-rmspe:0.133837
[308]    train-rmse:0.127724    eval-rmse:0.127724    train-rmspe:0.13329
eval-rmspe:0.13329
[309]    train-rmse:0.127497    eval-rmse:0.127497    train-rmspe:0.133065
eval-rmspe:0.133065
[310]    train-rmse:0.127215    eval-rmse:0.127215    train-rmspe:0.132768
eval-rmspe:0.132768
[311]    train-rmse:0.127017    eval-rmse:0.127017    train-rmspe:0.132557
eval-rmspe:0.132557
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eval-rmspe:0.132403
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eval-rmspe:0.132248
[314]    train-rmse:0.126203    eval-rmse:0.126203    train-rmspe:0.131693
eval-rmspe:0.131693
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eval-rmspe:0.131431
[316]    train-rmse:0.125756    eval-rmse:0.125756    train-rmspe:0.131223
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[317]    train-rmse:0.125642    eval-rmse:0.125642    train-rmspe:0.131103
eval-rmspe:0.131103
[318]    train-rmse:0.12552     eval-rmse:0.12552     train-rmspe:0.130973
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[321]   train-rmse:0.124918   eval-rmse:0.124918   train-rmspe:0.130343
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[322]   train-rmse:0.124754   eval-rmse:0.124754   train-rmspe:0.130172
eval-rmspe:0.130172
[323]   train-rmse:0.124427   eval-rmse:0.124427   train-rmspe:0.129823
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[324]   train-rmse:0.124051   eval-rmse:0.124051   train-rmspe:0.129423
eval-rmspe:0.129423
[325]   train-rmse:0.123778   eval-rmse:0.123778   train-rmspe:0.129134
eval-rmspe:0.129134
[326]   train-rmse:0.123599   eval-rmse:0.123599   train-rmspe:0.128954
eval-rmspe:0.128954
[327]   train-rmse:0.123442   eval-rmse:0.123442   train-rmspe:0.128785
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[328]   train-rmse:0.122995   eval-rmse:0.122995   train-rmspe:0.128309
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[329]   train-rmse:0.122682   eval-rmse:0.122682   train-rmspe:0.128004
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[330]   train-rmse:0.122435   eval-rmse:0.122435   train-rmspe:0.127746
eval-rmspe:0.127746
[331]   train-rmse:0.122067   eval-rmse:0.122067   train-rmspe:0.127359
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eval-rmspe:0.127145
[333]   train-rmse:0.121429   eval-rmse:0.121429   train-rmspe:0.126669
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[335]   train-rmse:0.12098   eval-rmse:0.12098   train-rmspe:0.126202
eval-rmspe:0.126202
[336]   train-rmse:0.120722   eval-rmse:0.120722   train-rmspe:0.125913
eval-rmspe:0.125913
[337]   train-rmse:0.120527   eval-rmse:0.120527   train-rmspe:0.125713
eval-rmspe:0.125713
[338]   train-rmse:0.120248   eval-rmse:0.120248   train-rmspe:0.125428
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[339]   train-rmse:0.120025   eval-rmse:0.120025   train-rmspe:0.125189
eval-rmspe:0.125189
[340]   train-rmse:0.119815   eval-rmse:0.119815   train-rmspe:0.124964
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[341]   train-rmse:0.119489   eval-rmse:0.119489   train-rmspe:0.124617
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eval-rmspe:0.124444

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[343]   train-rmse:0.119   eval-rmse:0.119 train-rmspe:0.124095   eval-rmspe:0.124095

[344]   train-rmse:0.118653   eval-rmse:0.118653   train-rmspe:0.123755
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[345]   train-rmse:0.118436   eval-rmse:0.118436   train-rmspe:0.123541
eval-rmspe:0.123541

[346]   train-rmse:0.118287   eval-rmse:0.118287   train-rmspe:0.123379
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[347]   train-rmse:0.118168   eval-rmse:0.118168   train-rmspe:0.123251
eval-rmspe:0.123251

[348]   train-rmse:0.117937   eval-rmse:0.117937   train-rmspe:0.123014
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[349]   train-rmse:0.11769   eval-rmse:0.11769   train-rmspe:0.122759
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[350]   train-rmse:0.117531   eval-rmse:0.117531   train-rmspe:0.122597
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[351]   train-rmse:0.117241   eval-rmse:0.117241   train-rmspe:0.122282
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[352]   train-rmse:0.117172   eval-rmse:0.117172   train-rmspe:0.122209
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[353]   train-rmse:0.116979   eval-rmse:0.116979   train-rmspe:0.12201
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[354]   train-rmse:0.116809   eval-rmse:0.116809   train-rmspe:0.121825
eval-rmspe:0.121825

[355]   train-rmse:0.116458   eval-rmse:0.116458   train-rmspe:0.121429
eval-rmspe:0.121429

[356]   train-rmse:0.116107   eval-rmse:0.116107   train-rmspe:0.12105
eval-rmspe:0.12105

[357]   train-rmse:0.115558   eval-rmse:0.115558   train-rmspe:0.120459
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[358]   train-rmse:0.115345   eval-rmse:0.115345   train-rmspe:0.120243
eval-rmspe:0.120243

[359]   train-rmse:0.115036   eval-rmse:0.115036   train-rmspe:0.119933
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[360]   train-rmse:0.114883   eval-rmse:0.114883   train-rmspe:0.11978
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[361]   train-rmse:0.11483   eval-rmse:0.11483   train-rmspe:0.119727
eval-rmspe:0.119727

[362]   train-rmse:0.114646   eval-rmse:0.114646   train-rmspe:0.119532
eval-rmspe:0.119532

[363]   train-rmse:0.114387   eval-rmse:0.114387   train-rmspe:0.119267
eval-rmspe:0.119267

[364]   train-rmse:0.114137   eval-rmse:0.114137   train-rmspe:0.11901
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[365]   train-rmse:0.113914   eval-rmse:0.113914   train-rmspe:0.118784
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[366]   train-rmse:0.113777   eval-rmse:0.113777   train-rmspe:0.118642
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[367]   train-rmse:0.113569   eval-rmse:0.113569   train-rmspe:0.118428
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[368]   train-rmse:0.113429   eval-rmse:0.113429   train-rmspe:0.118284
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[369]   train-rmse:0.113222   eval-rmse:0.113222   train-rmspe:0.118072
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[370]   train-rmse:0.113065   eval-rmse:0.113065   train-rmspe:0.117919
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[371]   train-rmse:0.112916   eval-rmse:0.112916   train-rmspe:0.11772
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[373]   train-rmse:0.112391   eval-rmse:0.112391   train-rmspe:0.117154
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[374]   train-rmse:0.112159   eval-rmse:0.112159   train-rmspe:0.116915
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[375]   train-rmse:0.111966   eval-rmse:0.111966   train-rmspe:0.11673
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[376]   train-rmse:0.111736   eval-rmse:0.111736   train-rmspe:0.116491
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[377]   train-rmse:0.111375   eval-rmse:0.111375   train-rmspe:0.116076
eval-rmspe:0.116076
[378]   train-rmse:0.111213   eval-rmse:0.111213   train-rmspe:0.115906
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[379]   train-rmse:0.110778   eval-rmse:0.110778   train-rmspe:0.115459
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[381]   train-rmse:0.110361   eval-rmse:0.110361   train-rmspe:0.115023
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[383]   train-rmse:0.109996   eval-rmse:0.109996   train-rmspe:0.114632
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[384]   train-rmse:0.109926   eval-rmse:0.109926   train-rmspe:0.114561
eval-rmspe:0.114561
[385]   train-rmse:0.109697   eval-rmse:0.109697   train-rmspe:0.114321
eval-rmspe:0.114321
[386]   train-rmse:0.109543   eval-rmse:0.109543   train-rmspe:0.114158
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[387]   train-rmse:0.109318   eval-rmse:0.109318   train-rmspe:0.113917
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[388]   train-rmse:0.109196   eval-rmse:0.109196   train-rmspe:0.113772
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[389]   train-rmse:0.109004   eval-rmse:0.109004   train-rmspe:0.11358
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[393]	train-rmse:0.108337	eval-rmse:0.108337	train-rmspe:0.112905
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[394]	train-rmse:0.107991	eval-rmse:0.107991	train-rmspe:0.112535
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[395]	train-rmse:0.107861	eval-rmse:0.107861	train-rmspe:0.112394
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[396]	train-rmse:0.107509	eval-rmse:0.107509	train-rmspe:0.112017
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[399]	train-rmse:0.106952	eval-rmse:0.106952	train-rmspe:0.111451
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[400]	train-rmse:0.10662	eval-rmse:0.10662	train-rmspe:0.111081
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[401]	train-rmse:0.106497	eval-rmse:0.106497	train-rmspe:0.110955
eval-rmspe:0.110955
[402]	train-rmse:0.106139	eval-rmse:0.106139	train-rmspe:0.110576
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[403]	train-rmse:0.105927	eval-rmse:0.105927	train-rmspe:0.110356
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[404]	train-rmse:0.105631	eval-rmse:0.105631	train-rmspe:0.110047
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[405]	train-rmse:0.105392	eval-rmse:0.105392	train-rmspe:0.109781
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[406]	train-rmse:0.105285	eval-rmse:0.105285	train-rmspe:0.109663
eval-rmspe:0.109663
[407]	train-rmse:0.105138	eval-rmse:0.105138	train-rmspe:0.109427
eval-rmspe:0.109427
[408]	train-rmse:0.105019	eval-rmse:0.105019	train-rmspe:0.109299
eval-rmspe:0.109299
[409]	train-rmse:0.104957	eval-rmse:0.104957	train-rmspe:0.109233
eval-rmspe:0.109233
[410]	train-rmse:0.104678	eval-rmse:0.104678	train-rmspe:0.108938
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[411]	train-rmse:0.104598	eval-rmse:0.104598	train-rmspe:0.108857
eval-rmspe:0.108857
[412]	train-rmse:0.104303	eval-rmse:0.104303	train-rmspe:0.108554
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[413]	train-rmse:0.104124	eval-rmse:0.104124	train-rmspe:0.108371
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[414]	train-rmse:0.104012	eval-rmse:0.104012	train-rmspe:0.108251
eval-rmspe:0.108251

[415]   train-rmse:0.103893   eval-rmse:0.103893   train-rmspe:0.108128
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[418]   train-rmse:0.103559   eval-rmse:0.103559   train-rmspe:0.107788
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[419]   train-rmse:0.103369   eval-rmse:0.103369   train-rmspe:0.107588
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[420]   train-rmse:0.103111   eval-rmse:0.103111   train-rmspe:0.107252
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[421]   train-rmse:0.102858   eval-rmse:0.102858   train-rmspe:0.106964
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[422]   train-rmse:0.102815   eval-rmse:0.102815   train-rmspe:0.106922
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[423]   train-rmse:0.102437   eval-rmse:0.102437   train-rmspe:0.106533
eval-rmspe:0.106533
[424]   train-rmse:0.102241   eval-rmse:0.102241   train-rmspe:0.10633
eval-rmspe:0.10633
[425]   train-rmse:0.102093   eval-rmse:0.102093   train-rmspe:0.106181
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[426]   train-rmse:0.101905   eval-rmse:0.101905   train-rmspe:0.105969
eval-rmspe:0.105969
[427]   train-rmse:0.101711   eval-rmse:0.101711   train-rmspe:0.105776
eval-rmspe:0.105776
[428]   train-rmse:0.101607   eval-rmse:0.101607   train-rmspe:0.105663
eval-rmspe:0.105663
[429]   train-rmse:0.101378   eval-rmse:0.101378   train-rmspe:0.105363
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[430]   train-rmse:0.10114   eval-rmse:0.10114   train-rmspe:0.105128
eval-rmspe:0.105128
[431]   train-rmse:0.10078   eval-rmse:0.10078   train-rmspe:0.10471
eval-rmspe:0.10471
[432]   train-rmse:0.100549   eval-rmse:0.100549   train-rmspe:0.104453
eval-rmspe:0.104453
[433]   train-rmse:0.100355   eval-rmse:0.100355   train-rmspe:0.104242
eval-rmspe:0.104242
[434]   train-rmse:0.100174   eval-rmse:0.100174   train-rmspe:0.104048
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[435]   train-rmse:0.099914   eval-rmse:0.099914   train-rmspe:0.103765
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[436]   train-rmse:0.099756   eval-rmse:0.099756   train-rmspe:0.103601
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[437]   train-rmse:0.099586   eval-rmse:0.099586   train-rmspe:0.103432
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[439]    train-rmse:0.099364    eval-rmse:0.099364    train-rmspe:0.10313
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eval-rmspe:0.10287
[441]    train-rmse:0.098983    eval-rmse:0.098983    train-rmspe:0.10273
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[442]    train-rmse:0.098781    eval-rmse:0.098781    train-rmspe:0.102511
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[443]    train-rmse:0.098709    eval-rmse:0.098709    train-rmspe:0.102437
eval-rmspe:0.102437
[444]    train-rmse:0.098468    eval-rmse:0.098468    train-rmspe:0.10213
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eval-rmspe:0.101959
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eval-rmspe:0.10176
[447]    train-rmse:0.097926    eval-rmse:0.097926    train-rmspe:0.101561
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[448]    train-rmse:0.097884    eval-rmse:0.097884    train-rmspe:0.101514
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[449]    train-rmse:0.097757    eval-rmse:0.097757    train-rmspe:0.101377
eval-rmspe:0.101377
[450]    train-rmse:0.097618    eval-rmse:0.097618    train-rmspe:0.101229
eval-rmspe:0.101229
[451]    train-rmse:0.097404    eval-rmse:0.097404    train-rmspe:0.100955
eval-rmspe:0.100955
[452]    train-rmse:0.097311    eval-rmse:0.097311    train-rmspe:0.100859
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[453]    train-rmse:0.097175    eval-rmse:0.097175    train-rmspe:0.100717
eval-rmspe:0.100717
[454]    train-rmse:0.097006    eval-rmse:0.097006    train-rmspe:0.100535
eval-rmspe:0.100535
[455]    train-rmse:0.096791    eval-rmse:0.096791    train-rmspe:0.100316
eval-rmspe:0.100316
[456]    train-rmse:0.096718    eval-rmse:0.096718    train-rmspe:0.100239
eval-rmspe:0.100239
[457]    train-rmse:0.096597    eval-rmse:0.096597    train-rmspe:0.100114
eval-rmspe:0.100114
[458]    train-rmse:0.09647     eval-rmse:0.09647     train-rmspe:0.099976
eval-rmspe:0.099976
[459]    train-rmse:0.09628     eval-rmse:0.09628     train-rmspe:0.099769
eval-rmspe:0.099769
[460]    train-rmse:0.09618     eval-rmse:0.09618     train-rmspe:0.099665
eval-rmspe:0.099665
[461]    train-rmse:0.095913    eval-rmse:0.095913    train-rmspe:0.099353
eval-rmspe:0.099353
[462]    train-rmse:0.095872    eval-rmse:0.095872    train-rmspe:0.09931
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[463]   train-rmse:0.095713   eval-rmse:0.095713   train-rmspe:0.09915
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[468]   train-rmse:0.095072   eval-rmse:0.095072   train-rmspe:0.098442
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[472]   train-rmse:0.094067   eval-rmse:0.094067   train-rmspe:0.09735
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[476]   train-rmse:0.093422   eval-rmse:0.093422   train-rmspe:0.096631
eval-rmspe:0.096631
[477]   train-rmse:0.093273   eval-rmse:0.093273   train-rmspe:0.096466
eval-rmspe:0.096466
[478]   train-rmse:0.093161   eval-rmse:0.093161   train-rmspe:0.096353
eval-rmspe:0.096353
[479]   train-rmse:0.093025   eval-rmse:0.093025   train-rmspe:0.096214
eval-rmspe:0.096214
[480]   train-rmse:0.092912   eval-rmse:0.092912   train-rmspe:0.096095
eval-rmspe:0.096095
[481]   train-rmse:0.092832   eval-rmse:0.092832   train-rmspe:0.096012
eval-rmspe:0.096012
[482]   train-rmse:0.092792   eval-rmse:0.092792   train-rmspe:0.095971
eval-rmspe:0.095971
[483]   train-rmse:0.092615   eval-rmse:0.092615   train-rmspe:0.095768
eval-rmspe:0.095768
[484]   train-rmse:0.092495   eval-rmse:0.092495   train-rmspe:0.095639
eval-rmspe:0.095639
[485]   train-rmse:0.0924   eval-rmse:0.0924   train-rmspe:0.095538
eval-rmspe:0.095538
[486]   train-rmse:0.092313   eval-rmse:0.092313   train-rmspe:0.095448
eval-rmspe:0.095448

[487]   train-rmse:0.092207   eval-rmse:0.092207   train-rmspe:0.09534
eval-rmspe:0.09534
[488]   train-rmse:0.09209   eval-rmse:0.09209   train-rmspe:0.095217
eval-rmspe:0.095217
[489]   train-rmse:0.091787   eval-rmse:0.091787   train-rmspe:0.094903
eval-rmspe:0.094903
[490]   train-rmse:0.091652   eval-rmse:0.091652   train-rmspe:0.094766
eval-rmspe:0.094766
[491]   train-rmse:0.091457   eval-rmse:0.091457   train-rmspe:0.09455
eval-rmspe:0.09455
[492]   train-rmse:0.091421   eval-rmse:0.091421   train-rmspe:0.094515
eval-rmspe:0.094515
[493]   train-rmse:0.091279   eval-rmse:0.091279   train-rmspe:0.09437
eval-rmspe:0.09437
[494]   train-rmse:0.09112   eval-rmse:0.09112   train-rmspe:0.094168
eval-rmspe:0.094168
[495]   train-rmse:0.091094   eval-rmse:0.091094   train-rmspe:0.094142
eval-rmspe:0.094142
[496]   train-rmse:0.090908   eval-rmse:0.090908   train-rmspe:0.093938
eval-rmspe:0.093938
[497]   train-rmse:0.090766   eval-rmse:0.090766   train-rmspe:0.09378
eval-rmspe:0.09378
[498]   train-rmse:0.090616   eval-rmse:0.090616   train-rmspe:0.093628
eval-rmspe:0.093628
[499]   train-rmse:0.090446   eval-rmse:0.090446   train-rmspe:0.093462
eval-rmspe:0.093462
[500]   train-rmse:0.090287   eval-rmse:0.090287   train-rmspe:0.093293
eval-rmspe:0.093293
[501]   train-rmse:0.090238   eval-rmse:0.090238   train-rmspe:0.093243
eval-rmspe:0.093243
[502]   train-rmse:0.090196   eval-rmse:0.090196   train-rmspe:0.093201
eval-rmspe:0.093201
[503]   train-rmse:0.090144   eval-rmse:0.090144   train-rmspe:0.093144
eval-rmspe:0.093144
[504]   train-rmse:0.09004   eval-rmse:0.09004   train-rmspe:0.093038
eval-rmspe:0.093038
[505]   train-rmse:0.08988   eval-rmse:0.08988   train-rmspe:0.092858
eval-rmspe:0.092858
[506]   train-rmse:0.089763   eval-rmse:0.089763   train-rmspe:0.09269
eval-rmspe:0.09269
[507]   train-rmse:0.089647   eval-rmse:0.089647   train-rmspe:0.092565
eval-rmspe:0.092565
[508]   train-rmse:0.089469   eval-rmse:0.089469   train-rmspe:0.092365
eval-rmspe:0.092365
[509]   train-rmse:0.08931   eval-rmse:0.08931   train-rmspe:0.092166
eval-rmspe:0.092166
[510]   train-rmse:0.089216   eval-rmse:0.089216   train-rmspe:0.092066
eval-rmspe:0.092066

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[511]    train-rmse:0.089101    eval-rmse:0.089101    train-rmspe:0.09194
eval-rmspe:0.09194
[512]    train-rmse:0.088925    eval-rmse:0.088925    train-rmspe:0.091747
eval-rmspe:0.091747
[513]    train-rmse:0.08884     eval-rmse:0.08884     train-rmspe:0.09166
eval-rmspe:0.09166
[514]    train-rmse:0.088722    eval-rmse:0.088722    train-rmspe:0.091537
eval-rmspe:0.091537
[515]    train-rmse:0.088497    eval-rmse:0.088497    train-rmspe:0.091291
eval-rmspe:0.091291
[516]    train-rmse:0.088419    eval-rmse:0.088419    train-rmspe:0.091207
eval-rmspe:0.091207
[517]    train-rmse:0.088344    eval-rmse:0.088344    train-rmspe:0.091129
eval-rmspe:0.091129
[518]    train-rmse:0.08815     eval-rmse:0.08815     train-rmspe:0.090924
eval-rmspe:0.090924
[519]    train-rmse:0.088079    eval-rmse:0.088079    train-rmspe:0.090851
eval-rmspe:0.090851
[520]    train-rmse:0.088015    eval-rmse:0.088015    train-rmspe:0.090786
eval-rmspe:0.090786
[521]    train-rmse:0.087794    eval-rmse:0.087794    train-rmspe:0.090547
eval-rmspe:0.090547
[522]    train-rmse:0.087615    eval-rmse:0.087615    train-rmspe:0.090356
eval-rmspe:0.090356
[523]    train-rmse:0.087459    eval-rmse:0.087459    train-rmspe:0.090193
eval-rmspe:0.090193
[524]    train-rmse:0.087346    eval-rmse:0.087346    train-rmspe:0.090079
eval-rmspe:0.090079
[525]    train-rmse:0.087134    eval-rmse:0.087134    train-rmspe:0.089856
eval-rmspe:0.089856
[526]    train-rmse:0.086919    eval-rmse:0.086919    train-rmspe:0.089606
eval-rmspe:0.089606
[527]    train-rmse:0.086823    eval-rmse:0.086823    train-rmspe:0.089506
eval-rmspe:0.089506
[528]    train-rmse:0.086738    eval-rmse:0.086738    train-rmspe:0.089414
eval-rmspe:0.089414
[529]    train-rmse:0.086666    eval-rmse:0.086666    train-rmspe:0.08934
eval-rmspe:0.08934
[530]    train-rmse:0.086469    eval-rmse:0.086469    train-rmspe:0.089132
eval-rmspe:0.089132
[531]    train-rmse:0.086303    eval-rmse:0.086303    train-rmspe:0.088964
eval-rmspe:0.088964
[532]    train-rmse:0.086224    eval-rmse:0.086224    train-rmspe:0.088884
eval-rmspe:0.088884
[533]    train-rmse:0.086142    eval-rmse:0.086142    train-rmspe:0.088795
eval-rmspe:0.088795
[534]    train-rmse:0.085942    eval-rmse:0.085942    train-rmspe:0.08857
eval-rmspe:0.08857
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[535]    train-rmse:0.085835    eval-rmse:0.085835    train-rmspe:0.08846
eval-rmspe:0.08846
[536]    train-rmse:0.085783    eval-rmse:0.085783    train-rmspe:0.088409
eval-rmspe:0.088409
[537]    train-rmse:0.085617    eval-rmse:0.085617    train-rmspe:0.088235
eval-rmspe:0.088235
[538]    train-rmse:0.085493    eval-rmse:0.085493    train-rmspe:0.088105
eval-rmspe:0.088105
[539]    train-rmse:0.085477    eval-rmse:0.085477    train-rmspe:0.088089
eval-rmspe:0.088089
[540]    train-rmse:0.085405    eval-rmse:0.085405    train-rmspe:0.088013
eval-rmspe:0.088013
[541]    train-rmse:0.085353    eval-rmse:0.085353    train-rmspe:0.087952
eval-rmspe:0.087952
[542]    train-rmse:0.085172    eval-rmse:0.085172    train-rmspe:0.087764
eval-rmspe:0.087764
[543]    train-rmse:0.085007    eval-rmse:0.085007    train-rmspe:0.087594
eval-rmspe:0.087594
[544]    train-rmse:0.084896    eval-rmse:0.084896    train-rmspe:0.087471
eval-rmspe:0.087471
[545]    train-rmse:0.084751    eval-rmse:0.084751    train-rmspe:0.087313
eval-rmspe:0.087313
[546]    train-rmse:0.084546    eval-rmse:0.084546    train-rmspe:0.087082
eval-rmspe:0.087082
[547]    train-rmse:0.084408    eval-rmse:0.084408    train-rmspe:0.086939
eval-rmspe:0.086939
[548]    train-rmse:0.084279    eval-rmse:0.084279    train-rmspe:0.086793
eval-rmspe:0.086793
[549]    train-rmse:0.084131    eval-rmse:0.084131    train-rmspe:0.086636
eval-rmspe:0.086636
[550]    train-rmse:0.083988    eval-rmse:0.083988    train-rmspe:0.086488
eval-rmspe:0.086488
[551]    train-rmse:0.08388     eval-rmse:0.08388     train-rmspe:0.086372
eval-rmspe:0.086372
[552]    train-rmse:0.083714    eval-rmse:0.083714    train-rmspe:0.086198
eval-rmspe:0.086198
[553]    train-rmse:0.083623    eval-rmse:0.083623    train-rmspe:0.086104
eval-rmspe:0.086104
[554]    train-rmse:0.083515    eval-rmse:0.083515    train-rmspe:0.085993
eval-rmspe:0.085993
[555]    train-rmse:0.083457    eval-rmse:0.083457    train-rmspe:0.085934
eval-rmspe:0.085934
[556]    train-rmse:0.083401    eval-rmse:0.083401    train-rmspe:0.085878
eval-rmspe:0.085878
[557]    train-rmse:0.08323     eval-rmse:0.08323     train-rmspe:0.085691
eval-rmspe:0.085691
[558]    train-rmse:0.083207    eval-rmse:0.083207    train-rmspe:0.085666
eval-rmspe:0.085666
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[559]    train-rmse:0.08316     eval-rmse:0.08316      train-rmspe:0.085617
eval-rmspe:0.085617
[560]    train-rmse:0.082984    eval-rmse:0.082984     train-rmspe:0.085432
eval-rmspe:0.085432
[561]    train-rmse:0.082864    eval-rmse:0.082864     train-rmspe:0.085306
eval-rmspe:0.085306
[562]    train-rmse:0.082791    eval-rmse:0.082791     train-rmspe:0.085228
eval-rmspe:0.085228
[563]    train-rmse:0.082535    eval-rmse:0.082535     train-rmspe:0.084952
eval-rmspe:0.084952
[564]    train-rmse:0.082407    eval-rmse:0.082407     train-rmspe:0.084815
eval-rmspe:0.084815
[565]    train-rmse:0.082241    eval-rmse:0.082241     train-rmspe:0.084619
eval-rmspe:0.084619
[566]    train-rmse:0.082218    eval-rmse:0.082218     train-rmspe:0.084597
eval-rmspe:0.084597
[567]    train-rmse:0.082119    eval-rmse:0.082119     train-rmspe:0.084495
eval-rmspe:0.084495
[568]    train-rmse:0.081994    eval-rmse:0.081994     train-rmspe:0.084362
eval-rmspe:0.084362
[569]    train-rmse:0.081904    eval-rmse:0.081904     train-rmspe:0.084267
eval-rmspe:0.084267
[570]    train-rmse:0.081743    eval-rmse:0.081743     train-rmspe:0.084098
eval-rmspe:0.084098
[571]    train-rmse:0.081637    eval-rmse:0.081637     train-rmspe:0.083983
eval-rmspe:0.083983
[572]    train-rmse:0.081507    eval-rmse:0.081507     train-rmspe:0.083847
eval-rmspe:0.083847
[573]    train-rmse:0.081423    eval-rmse:0.081423     train-rmspe:0.083754
eval-rmspe:0.083754
[574]    train-rmse:0.081234    eval-rmse:0.081234     train-rmspe:0.083526
eval-rmspe:0.083526
[575]    train-rmse:0.081155    eval-rmse:0.081155     train-rmspe:0.083445
eval-rmspe:0.083445
[576]    train-rmse:0.081091    eval-rmse:0.081091     train-rmspe:0.083375
eval-rmspe:0.083375
[577]    train-rmse:0.081001    eval-rmse:0.081001     train-rmspe:0.083282
eval-rmspe:0.083282
[578]    train-rmse:0.080924    eval-rmse:0.080924     train-rmspe:0.083199
eval-rmspe:0.083199
[579]    train-rmse:0.080805    eval-rmse:0.080805     train-rmspe:0.083061
eval-rmspe:0.083061
[580]    train-rmse:0.080663    eval-rmse:0.080663     train-rmspe:0.082907
eval-rmspe:0.082907
[581]    train-rmse:0.080601    eval-rmse:0.080601     train-rmspe:0.082844
eval-rmspe:0.082844
[582]    train-rmse:0.080496    eval-rmse:0.080496     train-rmspe:0.082735
eval-rmspe:0.082735
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[583]   train-rmse:0.080364   eval-rmse:0.080364   train-rmspe:0.082599
eval-rmspe:0.082599
[584]   train-rmse:0.080324   eval-rmse:0.080324   train-rmspe:0.082559
eval-rmspe:0.082559
[585]   train-rmse:0.08026   eval-rmse:0.08026   train-rmspe:0.082492
eval-rmspe:0.082492
[586]   train-rmse:0.080119   eval-rmse:0.080119   train-rmspe:0.082347
eval-rmspe:0.082347
[587]   train-rmse:0.080069   eval-rmse:0.080069   train-rmspe:0.082295
eval-rmspe:0.082295
[588]   train-rmse:0.080012   eval-rmse:0.080012   train-rmspe:0.082239
eval-rmspe:0.082239
[589]   train-rmse:0.0799   eval-rmse:0.0799   train-rmspe:0.082112
eval-rmspe:0.082112
[590]   train-rmse:0.079738   eval-rmse:0.079738   train-rmspe:0.081936
eval-rmspe:0.081936
[591]   train-rmse:0.07966   eval-rmse:0.07966   train-rmspe:0.081833
eval-rmspe:0.081833
[592]   train-rmse:0.07961   eval-rmse:0.07961   train-rmspe:0.081782
eval-rmspe:0.081782
[593]   train-rmse:0.079561   eval-rmse:0.079561   train-rmspe:0.081726
eval-rmspe:0.081726
[594]   train-rmse:0.079405   eval-rmse:0.079405   train-rmspe:0.081546
eval-rmspe:0.081546
[595]   train-rmse:0.079248   eval-rmse:0.079248   train-rmspe:0.081376
eval-rmspe:0.081376
[596]   train-rmse:0.079193   eval-rmse:0.079193   train-rmspe:0.081318
eval-rmspe:0.081318
[597]   train-rmse:0.079071   eval-rmse:0.079071   train-rmspe:0.081189
eval-rmspe:0.081189
[598]   train-rmse:0.078927   eval-rmse:0.078927   train-rmspe:0.081
eval-rmspe:0.081
[599]   train-rmse:0.07881   eval-rmse:0.07881   train-rmspe:0.080879
eval-rmspe:0.080879
round 7 end
round 8:
[0]   train-rmse:8.02731   eval-rmse:8.02731   train-rmspe:0.999811
eval-rmspe:0.999811
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
[1]   train-rmse:7.78701   eval-rmse:7.78701   train-rmspe:0.999713
eval-rmspe:0.999713
[2]   train-rmse:7.55393   eval-rmse:7.55393   train-rmspe:0.999594
eval-rmspe:0.999594
[3]   train-rmse:7.32795   eval-rmse:7.32795   train-rmspe:0.999448
eval-rmspe:0.999448

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[4]     train-rmse:7.10867     eval-rmse:7.10867     train-rmspe:0.999271
eval-rmspe:0.999271
[5]     train-rmse:6.89601     eval-rmse:6.89601     train-rmspe:0.999059
eval-rmspe:0.999059
[6]     train-rmse:6.6897      eval-rmse:6.6897      train-rmspe:0.998805
eval-rmspe:0.998805
[7]     train-rmse:6.48961     eval-rmse:6.48961     train-rmspe:0.998504
eval-rmspe:0.998504
[8]     train-rmse:6.29553     eval-rmse:6.29553     train-rmspe:0.998148
eval-rmspe:0.998148
[9]     train-rmse:6.10733     eval-rmse:6.10733     train-rmspe:0.997731
eval-rmspe:0.997731
[10]    train-rmse:5.92475     eval-rmse:5.92475     train-rmspe:0.997245
eval-rmspe:0.997245
[11]    train-rmse:5.74771     eval-rmse:5.74771     train-rmspe:0.99668
eval-rmspe:0.99668
[12]    train-rmse:5.576       eval-rmse:5.576 train-rmspe:0.996028     eval-
rmspe:0.996028
[13]    train-rmse:5.40942     eval-rmse:5.40942     train-rmspe:0.99528
eval-rmspe:0.99528
[14]    train-rmse:5.24788     eval-rmse:5.24788     train-rmspe:0.994426
eval-rmspe:0.994426
[15]    train-rmse:5.09118     eval-rmse:5.09118     train-rmspe:0.993456
eval-rmspe:0.993456
[16]    train-rmse:4.93923     eval-rmse:4.93923     train-rmspe:0.992356
eval-rmspe:0.992356
[17]    train-rmse:4.7918      eval-rmse:4.7918      train-rmspe:0.99112
eval-rmspe:0.99112
[18]    train-rmse:4.64884     eval-rmse:4.64884     train-rmspe:0.989733
eval-rmspe:0.989733
[19]    train-rmse:4.51021     eval-rmse:4.51021     train-rmspe:0.988187
eval-rmspe:0.988187
[20]    train-rmse:4.37578     eval-rmse:4.37578     train-rmspe:0.986466
eval-rmspe:0.986466
[21]    train-rmse:4.2454      eval-rmse:4.2454      train-rmspe:0.984565
eval-rmspe:0.984565
[22]    train-rmse:4.11893     eval-rmse:4.11893     train-rmspe:0.982468
eval-rmspe:0.982468
[23]    train-rmse:3.99631     eval-rmse:3.99631     train-rmspe:0.980167
eval-rmspe:0.980167
[24]    train-rmse:3.87737     eval-rmse:3.87737     train-rmspe:0.977646
eval-rmspe:0.977646
[25]    train-rmse:3.76201     eval-rmse:3.76201     train-rmspe:0.974904
eval-rmspe:0.974904
[26]    train-rmse:3.65014     eval-rmse:3.65014     train-rmspe:0.971924
eval-rmspe:0.971924
[27]    train-rmse:3.54167     eval-rmse:3.54167     train-rmspe:0.968701
eval-rmspe:0.968701
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[28]     train-rmse:3.43642     eval-rmse:3.43642     train-rmspe:0.965223
eval-rmspe:0.965223
[29]     train-rmse:3.33441     eval-rmse:3.33441     train-rmspe:0.961487
eval-rmspe:0.961487
[30]     train-rmse:3.23548     eval-rmse:3.23548     train-rmspe:0.957474
eval-rmspe:0.957474
[31]     train-rmse:3.13954     eval-rmse:3.13954     train-rmspe:0.953183
eval-rmspe:0.953183
[32]     train-rmse:3.04651     eval-rmse:3.04651     train-rmspe:0.948618
eval-rmspe:0.948618
[33]     train-rmse:2.95629     eval-rmse:2.95629     train-rmspe:0.943783
eval-rmspe:0.943783
[34]     train-rmse:2.86879     eval-rmse:2.86879     train-rmspe:0.938647
eval-rmspe:0.938647
[35]     train-rmse:2.7839      eval-rmse:2.7839      train-rmspe:0.933239
eval-rmspe:0.933239
[36]     train-rmse:2.70166     eval-rmse:2.70166     train-rmspe:0.927529
eval-rmspe:0.927529
[37]     train-rmse:2.62191     eval-rmse:2.62191     train-rmspe:0.921543
eval-rmspe:0.921543
[38]     train-rmse:2.54451     eval-rmse:2.54451     train-rmspe:0.915269
eval-rmspe:0.915269
[39]     train-rmse:2.4695      eval-rmse:2.4695      train-rmspe:0.90869
eval-rmspe:0.90869
[40]     train-rmse:2.3968      eval-rmse:2.3968      train-rmspe:0.90182
eval-rmspe:0.90182
[41]     train-rmse:2.32626     eval-rmse:2.32626     train-rmspe:0.894684
eval-rmspe:0.894684
[42]     train-rmse:2.25782     eval-rmse:2.25782     train-rmspe:0.887306
eval-rmspe:0.887306
[43]     train-rmse:2.19153     eval-rmse:2.19153     train-rmspe:0.879626
eval-rmspe:0.879626
[44]     train-rmse:2.12718     eval-rmse:2.12718     train-rmspe:0.871701
eval-rmspe:0.871701
[45]     train-rmse:2.06473     eval-rmse:2.06473     train-rmspe:0.863566
eval-rmspe:0.863566
[46]     train-rmse:2.00431     eval-rmse:2.00431     train-rmspe:0.855138
eval-rmspe:0.855138
[47]     train-rmse:1.94576     eval-rmse:1.94576     train-rmspe:0.846454
eval-rmspe:0.846454
[48]     train-rmse:1.8889      eval-rmse:1.8889      train-rmspe:0.837595
eval-rmspe:0.837595
[49]     train-rmse:1.83385     eval-rmse:1.83385     train-rmspe:0.828474
eval-rmspe:0.828474
[50]     train-rmse:1.78047     eval-rmse:1.78047     train-rmspe:0.819157
eval-rmspe:0.819157
[51]     train-rmse:1.72877     eval-rmse:1.72877     train-rmspe:0.809631
eval-rmspe:0.809631
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[52]    train-rmse:1.67857       eval-rmse:1.67857        train-rmspe:0.79997
eval-rmspe:0.79997
[53]    train-rmse:1.62983       eval-rmse:1.62983        train-rmspe:0.790149
eval-rmspe:0.790149
[54]    train-rmse:1.58268       eval-rmse:1.58268        train-rmspe:0.780173
eval-rmspe:0.780173
[55]    train-rmse:1.53699       eval-rmse:1.53699        train-rmspe:0.770013
eval-rmspe:0.770013
[56]    train-rmse:1.49258       eval-rmse:1.49258        train-rmspe:0.759792
eval-rmspe:0.759792
[57]    train-rmse:1.44974       eval-rmse:1.44974        train-rmspe:0.749384
eval-rmspe:0.749384
[58]    train-rmse:1.40802       eval-rmse:1.40802        train-rmspe:0.738943
eval-rmspe:0.738943
[59]    train-rmse:1.36756       eval-rmse:1.36756        train-rmspe:0.728399
eval-rmspe:0.728399
[60]    train-rmse:1.32845       eval-rmse:1.32845        train-rmspe:0.717771
eval-rmspe:0.717771
[61]    train-rmse:1.29061       eval-rmse:1.29061        train-rmspe:0.707073
eval-rmspe:0.707073
[62]    train-rmse:1.25399       eval-rmse:1.25399        train-rmspe:0.696283
eval-rmspe:0.696283
[63]    train-rmse:1.21841       eval-rmse:1.21841        train-rmspe:0.685467
eval-rmspe:0.685467
[64]    train-rmse:1.18382       eval-rmse:1.18382        train-rmspe:0.674701
eval-rmspe:0.674701
[65]    train-rmse:1.15031       eval-rmse:1.15031        train-rmspe:0.663919
eval-rmspe:0.663919
[66]    train-rmse:1.11802       eval-rmse:1.11802        train-rmspe:0.653094
eval-rmspe:0.653094
[67]    train-rmse:1.08666       eval-rmse:1.08666        train-rmspe:0.642286
eval-rmspe:0.642286
[68]    train-rmse:1.05621       eval-rmse:1.05621        train-rmspe:0.631556
eval-rmspe:0.631556
[69]    train-rmse:1.02684       eval-rmse:1.02684        train-rmspe:0.62081
eval-rmspe:0.62081
[70]    train-rmse:0.998375      eval-rmse:0.998375       train-rmspe:0.610109
eval-rmspe:0.610109
[71]    train-rmse:0.970491      eval-rmse:0.970491       train-rmspe:0.599535
eval-rmspe:0.599535
[72]    train-rmse:0.943894      eval-rmse:0.943894       train-rmspe:0.588958
eval-rmspe:0.588958
[73]    train-rmse:0.917807      eval-rmse:0.917807       train-rmspe:0.578539
eval-rmspe:0.578539
[74]    train-rmse:0.892742      eval-rmse:0.892742       train-rmspe:0.568157
eval-rmspe:0.568157
[75]    train-rmse:0.86821       eval-rmse:0.86821        train-rmspe:0.557893
eval-rmspe:0.557893
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[76]     train-rmse:0.844598     eval-rmse:0.844598     train-rmspe:0.547705
eval-rmspe:0.547705
[77]     train-rmse:0.821855     eval-rmse:0.821855     train-rmspe:0.537617
eval-rmspe:0.537617
[78]     train-rmse:0.799951     eval-rmse:0.799951     train-rmspe:0.527669
eval-rmspe:0.527669
[79]     train-rmse:0.778642     eval-rmse:0.778642     train-rmspe:0.517832
eval-rmspe:0.517832
[80]     train-rmse:0.757986     eval-rmse:0.757986     train-rmspe:0.508141
eval-rmspe:0.508141
[81]     train-rmse:0.738188     eval-rmse:0.738188     train-rmspe:0.498604
eval-rmspe:0.498604
[82]     train-rmse:0.718692     eval-rmse:0.718692     train-rmspe:0.489195
eval-rmspe:0.489195
[83]     train-rmse:0.699861     eval-rmse:0.699861     train-rmspe:0.479945
eval-rmspe:0.479945
[84]     train-rmse:0.681806     eval-rmse:0.681806     train-rmspe:0.470885
eval-rmspe:0.470885
[85]     train-rmse:0.664257     eval-rmse:0.664257     train-rmspe:0.461986
eval-rmspe:0.461986
[86]     train-rmse:0.647498     eval-rmse:0.647498     train-rmspe:0.453271
eval-rmspe:0.453271
[87]     train-rmse:0.630978     eval-rmse:0.630978     train-rmspe:0.44471
eval-rmspe:0.44471
[88]     train-rmse:0.615149     eval-rmse:0.615149     train-rmspe:0.436313
eval-rmspe:0.436313
[89]     train-rmse:0.599451     eval-rmse:0.599451     train-rmspe:0.428044
eval-rmspe:0.428044
[90]     train-rmse:0.584737     eval-rmse:0.584737     train-rmspe:0.420005
eval-rmspe:0.420005
[91]     train-rmse:0.570343     eval-rmse:0.570343     train-rmspe:0.412137
eval-rmspe:0.412137
[92]     train-rmse:0.556631     eval-rmse:0.556631     train-rmspe:0.404495
eval-rmspe:0.404495
[93]     train-rmse:0.543374     eval-rmse:0.543374     train-rmspe:0.397035
eval-rmspe:0.397035
[94]     train-rmse:0.530364     eval-rmse:0.530364     train-rmspe:0.389729
eval-rmspe:0.389729
[95]     train-rmse:0.517765     eval-rmse:0.517765     train-rmspe:0.382554
eval-rmspe:0.382554
[96]     train-rmse:0.505688     eval-rmse:0.505688     train-rmspe:0.375613
eval-rmspe:0.375613
[97]     train-rmse:0.493959     eval-rmse:0.493959     train-rmspe:0.368854
eval-rmspe:0.368854
[98]     train-rmse:0.482598     eval-rmse:0.482598     train-rmspe:0.362228
eval-rmspe:0.362228
[99]     train-rmse:0.471765     eval-rmse:0.471765     train-rmspe:0.355872
eval-rmspe:0.355872
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[100]    train-rmse:0.461259    eval-rmse:0.461259    train-rmspe:0.349697
eval-rmspe:0.349697
[101]    train-rmse:0.451237    eval-rmse:0.451237    train-rmspe:0.343776
eval-rmspe:0.343776
[102]    train-rmse:0.441642    eval-rmse:0.441642    train-rmspe:0.338058
eval-rmspe:0.338058
[103]    train-rmse:0.432306    eval-rmse:0.432306    train-rmspe:0.332467
eval-rmspe:0.332467
[104]    train-rmse:0.423207    eval-rmse:0.423207    train-rmspe:0.327035
eval-rmspe:0.327035
[105]    train-rmse:0.414393    eval-rmse:0.414393    train-rmspe:0.321718
eval-rmspe:0.321718
[106]    train-rmse:0.405879    eval-rmse:0.405879    train-rmspe:0.316626
eval-rmspe:0.316626
[107]    train-rmse:0.397725    eval-rmse:0.397725    train-rmspe:0.31172
eval-rmspe:0.31172
[108]    train-rmse:0.38975    eval-rmse:0.38975    train-rmspe:0.306909
eval-rmspe:0.306909
[109]    train-rmse:0.382137    eval-rmse:0.382137    train-rmspe:0.302276
eval-rmspe:0.302276
[110]    train-rmse:0.374936    eval-rmse:0.374936    train-rmspe:0.297932
eval-rmspe:0.297932
[111]    train-rmse:0.368065    eval-rmse:0.368065    train-rmspe:0.293779
eval-rmspe:0.293779
[112]    train-rmse:0.361489    eval-rmse:0.361489    train-rmspe:0.289853
eval-rmspe:0.289853
[113]    train-rmse:0.355079    eval-rmse:0.355079    train-rmspe:0.286039
eval-rmspe:0.286039
[114]    train-rmse:0.348519    eval-rmse:0.348519    train-rmspe:0.282053
eval-rmspe:0.282053
[115]    train-rmse:0.342687    eval-rmse:0.342687    train-rmspe:0.278602
eval-rmspe:0.278602
[116]    train-rmse:0.336925    eval-rmse:0.336925    train-rmspe:0.275133
eval-rmspe:0.275133
[117]    train-rmse:0.331084    eval-rmse:0.331084    train-rmspe:0.271594
eval-rmspe:0.271594
[118]    train-rmse:0.326022    eval-rmse:0.326022    train-rmspe:0.268616
eval-rmspe:0.268616
[119]    train-rmse:0.320749    eval-rmse:0.320749    train-rmspe:0.265479
eval-rmspe:0.265479
[120]    train-rmse:0.315991    eval-rmse:0.315991    train-rmspe:0.262712
eval-rmspe:0.262712
[121]    train-rmse:0.311206    eval-rmse:0.311206    train-rmspe:0.259902
eval-rmspe:0.259902
[122]    train-rmse:0.306693    eval-rmse:0.306693    train-rmspe:0.25728
eval-rmspe:0.25728
[123]    train-rmse:0.302461    eval-rmse:0.302461    train-rmspe:0.254926
eval-rmspe:0.254926
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[124]    train-rmse:0.298126    eval-rmse:0.298126    train-rmspe:0.252441
eval-rmspe:0.252441
[125]    train-rmse:0.294154    eval-rmse:0.294154    train-rmspe:0.250171
eval-rmspe:0.250171
[126]    train-rmse:0.290298    eval-rmse:0.290298    train-rmspe:0.24803
eval-rmspe:0.24803
[127]    train-rmse:0.286684    eval-rmse:0.286684    train-rmspe:0.246032
eval-rmspe:0.246032
[128]    train-rmse:0.28321    eval-rmse:0.28321    train-rmspe:0.244111
eval-rmspe:0.244111
[129]    train-rmse:0.280018    eval-rmse:0.280018    train-rmspe:0.24244
eval-rmspe:0.24244
[130]    train-rmse:0.276842    eval-rmse:0.276842    train-rmspe:0.240774
eval-rmspe:0.240774
[131]    train-rmse:0.273898    eval-rmse:0.273898    train-rmspe:0.239286
eval-rmspe:0.239286
[132]    train-rmse:0.26985    eval-rmse:0.26985    train-rmspe:0.236799
eval-rmspe:0.236799
[133]    train-rmse:0.266861    eval-rmse:0.266861    train-rmspe:0.235155
eval-rmspe:0.235155
[134]    train-rmse:0.264012    eval-rmse:0.264012    train-rmspe:0.23369
eval-rmspe:0.23369
[135]    train-rmse:0.26151    eval-rmse:0.26151    train-rmspe:0.232445
eval-rmspe:0.232445
[136]    train-rmse:0.259013    eval-rmse:0.259013    train-rmspe:0.231223
eval-rmspe:0.231223
[137]    train-rmse:0.256858    eval-rmse:0.256858    train-rmspe:0.230258
eval-rmspe:0.230258
[138]    train-rmse:0.254767    eval-rmse:0.254767    train-rmspe:0.229342
eval-rmspe:0.229342
[139]    train-rmse:0.252027    eval-rmse:0.252027    train-rmspe:0.227743
eval-rmspe:0.227743
[140]    train-rmse:0.249339    eval-rmse:0.249339    train-rmspe:0.226327
eval-rmspe:0.226327
[141]    train-rmse:0.2471    eval-rmse:0.2471    train-rmspe:0.22521
eval-rmspe:0.22521
[142]    train-rmse:0.244959    eval-rmse:0.244959    train-rmspe:0.224186
eval-rmspe:0.224186
[143]    train-rmse:0.242997    eval-rmse:0.242997    train-rmspe:0.223284
eval-rmspe:0.223284
[144]    train-rmse:0.240971    eval-rmse:0.240971    train-rmspe:0.222204
eval-rmspe:0.222204
[145]    train-rmse:0.239148    eval-rmse:0.239148    train-rmspe:0.221259
eval-rmspe:0.221259
[146]    train-rmse:0.236387    eval-rmse:0.236387    train-rmspe:0.219484
eval-rmspe:0.219484
[147]    train-rmse:0.234853    eval-rmse:0.234853    train-rmspe:0.218831
eval-rmspe:0.218831
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[148]    train-rmse:0.232592    eval-rmse:0.232592    train-rmspe:0.217535
eval-rmspe:0.217535
[149]    train-rmse:0.231042    eval-rmse:0.231042    train-rmspe:0.216856
eval-rmspe:0.216856
[150]    train-rmse:0.229628    eval-rmse:0.229628    train-rmspe:0.216301
eval-rmspe:0.216301
[151]    train-rmse:0.228151    eval-rmse:0.228151    train-rmspe:0.215595
eval-rmspe:0.215595
[152]    train-rmse:0.226304    eval-rmse:0.226304    train-rmspe:0.214497
eval-rmspe:0.214497
[153]    train-rmse:0.223734    eval-rmse:0.223734    train-rmspe:0.212571
eval-rmspe:0.212571
[154]    train-rmse:0.222651    eval-rmse:0.222651    train-rmspe:0.212182
eval-rmspe:0.212182
[155]    train-rmse:0.221165    eval-rmse:0.221165    train-rmspe:0.211335
eval-rmspe:0.211335
[156]    train-rmse:0.219885    eval-rmse:0.219885    train-rmspe:0.210697
eval-rmspe:0.210697
[157]    train-rmse:0.217738    eval-rmse:0.217738    train-rmspe:0.209244
eval-rmspe:0.209244
[158]    train-rmse:0.216562    eval-rmse:0.216562    train-rmspe:0.208673
eval-rmspe:0.208673
[159]    train-rmse:0.215311    eval-rmse:0.215311    train-rmspe:0.208049
eval-rmspe:0.208049
[160]    train-rmse:0.213865    eval-rmse:0.213865    train-rmspe:0.207213
eval-rmspe:0.207213
[161]    train-rmse:0.212514    eval-rmse:0.212514    train-rmspe:0.206422
eval-rmspe:0.206422
[162]    train-rmse:0.210665    eval-rmse:0.210665    train-rmspe:0.205074
eval-rmspe:0.205074
[163]    train-rmse:0.209397    eval-rmse:0.209397    train-rmspe:0.204351
eval-rmspe:0.204351
[164]    train-rmse:0.20756     eval-rmse:0.20756     train-rmspe:0.203082
eval-rmspe:0.203082
[165]    train-rmse:0.206868    eval-rmse:0.206868    train-rmspe:0.202903
eval-rmspe:0.202903
[166]    train-rmse:0.205467    eval-rmse:0.205467    train-rmspe:0.201934
eval-rmspe:0.201934
[167]    train-rmse:0.204821    eval-rmse:0.204821    train-rmspe:0.201755
eval-rmspe:0.201755
[168]    train-rmse:0.203968    eval-rmse:0.203968    train-rmspe:0.201308
eval-rmspe:0.201308
[169]    train-rmse:0.203045    eval-rmse:0.203045    train-rmspe:0.200844
eval-rmspe:0.200844
[170]    train-rmse:0.202232    eval-rmse:0.202232    train-rmspe:0.200417
eval-rmspe:0.200417
[171]    train-rmse:0.201012    eval-rmse:0.201012    train-rmspe:0.199552
eval-rmspe:0.199552
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[172]   train-rmse:0.200311   eval-rmse:0.200311   train-rmspe:0.199258
eval-rmspe:0.199258
[173]   train-rmse:0.199697   eval-rmse:0.199697   train-rmspe:0.199011
eval-rmspe:0.199011
[174]   train-rmse:0.199166   eval-rmse:0.199166   train-rmspe:0.198858
eval-rmspe:0.198858
[175]   train-rmse:0.198416   eval-rmse:0.198416   train-rmspe:0.198433
eval-rmspe:0.198433
[176]   train-rmse:0.197787   eval-rmse:0.197787   train-rmspe:0.198123
eval-rmspe:0.198123
[177]   train-rmse:0.197121   eval-rmse:0.197121   train-rmspe:0.197759
eval-rmspe:0.197759
[178]   train-rmse:0.196533   eval-rmse:0.196533   train-rmspe:0.197478
eval-rmspe:0.197478
[179]   train-rmse:0.195567   eval-rmse:0.195567   train-rmspe:0.196828
eval-rmspe:0.196828
[180]   train-rmse:0.194259   eval-rmse:0.194259   train-rmspe:0.195778
eval-rmspe:0.195778
[181]   train-rmse:0.192626   eval-rmse:0.192626   train-rmspe:0.194354
eval-rmspe:0.194354
[182]   train-rmse:0.192099   eval-rmse:0.192099   train-rmspe:0.194079
eval-rmspe:0.194079
[183]   train-rmse:0.191295   eval-rmse:0.191295   train-rmspe:0.193506
eval-rmspe:0.193506
[184]   train-rmse:0.190662   eval-rmse:0.190662   train-rmspe:0.193068
eval-rmspe:0.193068
[185]   train-rmse:0.190233   eval-rmse:0.190233   train-rmspe:0.192916
eval-rmspe:0.192916
[186]   train-rmse:0.189246   eval-rmse:0.189246   train-rmspe:0.192195
eval-rmspe:0.192195
[187]   train-rmse:0.188614   eval-rmse:0.188614   train-rmspe:0.191737
eval-rmspe:0.191737
[188]   train-rmse:0.187684   eval-rmse:0.187684   train-rmspe:0.190912
eval-rmspe:0.190912
[189]   train-rmse:0.187286   eval-rmse:0.187286   train-rmspe:0.190713
eval-rmspe:0.190713
[190]   train-rmse:0.186497   eval-rmse:0.186497   train-rmspe:0.190088
eval-rmspe:0.190088
[191]   train-rmse:0.186076   eval-rmse:0.186076   train-rmspe:0.189839
eval-rmspe:0.189839
[192]   train-rmse:0.185809   eval-rmse:0.185809   train-rmspe:0.189765
eval-rmspe:0.189765
[193]   train-rmse:0.185437   eval-rmse:0.185437   train-rmspe:0.189586
eval-rmspe:0.189586
[194]   train-rmse:0.184662   eval-rmse:0.184662   train-rmspe:0.189025
eval-rmspe:0.189025
[195]   train-rmse:0.183971   eval-rmse:0.183971   train-rmspe:0.188483
eval-rmspe:0.188483

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[196]    train-rmse:0.183392    eval-rmse:0.183392    train-rmspe:0.188027
eval-rmspe:0.188027
[197]    train-rmse:0.183129    eval-rmse:0.183129    train-rmspe:0.187948
eval-rmspe:0.187948
[198]    train-rmse:0.182668    eval-rmse:0.182668    train-rmspe:0.187641
eval-rmspe:0.187641
[199]    train-rmse:0.182209    eval-rmse:0.182209    train-rmspe:0.187359
eval-rmspe:0.187359
[200]    train-rmse:0.181304    eval-rmse:0.181304    train-rmspe:0.186538
eval-rmspe:0.186538
[201]    train-rmse:0.181128    eval-rmse:0.181128    train-rmspe:0.186517
eval-rmspe:0.186517
[202]    train-rmse:0.180804    eval-rmse:0.180804    train-rmspe:0.186314
eval-rmspe:0.186314
[203]    train-rmse:0.180021    eval-rmse:0.180021    train-rmspe:0.185651
eval-rmspe:0.185651
[204]    train-rmse:0.179474    eval-rmse:0.179474    train-rmspe:0.185187
eval-rmspe:0.185187
[205]    train-rmse:0.179261    eval-rmse:0.179261    train-rmspe:0.185075
eval-rmspe:0.185075
[206]    train-rmse:0.17899    eval-rmse:0.17899    train-rmspe:0.184924
eval-rmspe:0.184924
[207]    train-rmse:0.178678    eval-rmse:0.178678    train-rmspe:0.18471
eval-rmspe:0.18471
[208]    train-rmse:0.177707    eval-rmse:0.177707    train-rmspe:0.183885
eval-rmspe:0.183885
[209]    train-rmse:0.17694    eval-rmse:0.17694    train-rmspe:0.18318
eval-rmspe:0.18318
[210]    train-rmse:0.17629    eval-rmse:0.17629    train-rmspe:0.182645
eval-rmspe:0.182645
[211]    train-rmse:0.175959    eval-rmse:0.175959    train-rmspe:0.182402
eval-rmspe:0.182402
[212]    train-rmse:0.175787    eval-rmse:0.175787    train-rmspe:0.182336
eval-rmspe:0.182336
[213]    train-rmse:0.174792    eval-rmse:0.174792    train-rmspe:0.181308
eval-rmspe:0.181308
[214]    train-rmse:0.173991    eval-rmse:0.173991    train-rmspe:0.18057
eval-rmspe:0.18057
[215]    train-rmse:0.172894    eval-rmse:0.172894    train-rmspe:0.179463
eval-rmspe:0.179463
[216]    train-rmse:0.171808    eval-rmse:0.171808    train-rmspe:0.178384
eval-rmspe:0.178384
[217]    train-rmse:0.171317    eval-rmse:0.171317    train-rmspe:0.177955
eval-rmspe:0.177955
[218]    train-rmse:0.170966    eval-rmse:0.170966    train-rmspe:0.17766
eval-rmspe:0.17766
[219]    train-rmse:0.170572    eval-rmse:0.170572    train-rmspe:0.177324
eval-rmspe:0.177324
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[221]    train-rmse:0.169888    eval-rmse:0.169888    train-rmspe:0.176787
eval-rmspe:0.176787
[222]    train-rmse:0.169504    eval-rmse:0.169504    train-rmspe:0.17649
eval-rmspe:0.17649
[223]    train-rmse:0.16898     eval-rmse:0.16898     train-rmspe:0.176042
eval-rmspe:0.176042
[224]    train-rmse:0.168611    eval-rmse:0.168611    train-rmspe:0.175723
eval-rmspe:0.175723
[225]    train-rmse:0.168265    eval-rmse:0.168265    train-rmspe:0.175435
eval-rmspe:0.175435
[226]    train-rmse:0.167909    eval-rmse:0.167909    train-rmspe:0.175134
eval-rmspe:0.175134
[227]    train-rmse:0.167753    eval-rmse:0.167753    train-rmspe:0.175043
eval-rmspe:0.175043
[228]    train-rmse:0.167149    eval-rmse:0.167149    train-rmspe:0.17446
eval-rmspe:0.17446
[229]    train-rmse:0.166561    eval-rmse:0.166561    train-rmspe:0.173908
eval-rmspe:0.173908
[230]    train-rmse:0.166017    eval-rmse:0.166017    train-rmspe:0.173356
eval-rmspe:0.173356
[231]    train-rmse:0.165787    eval-rmse:0.165787    train-rmspe:0.173188
eval-rmspe:0.173188
[232]    train-rmse:0.165306    eval-rmse:0.165306    train-rmspe:0.172682
eval-rmspe:0.172682
[233]    train-rmse:0.164296    eval-rmse:0.164296    train-rmspe:0.171579
eval-rmspe:0.171579
[234]    train-rmse:0.163923    eval-rmse:0.163923    train-rmspe:0.171258
eval-rmspe:0.171258
[235]    train-rmse:0.163505    eval-rmse:0.163505    train-rmspe:0.170844
eval-rmspe:0.170844
[236]    train-rmse:0.162645    eval-rmse:0.162645    train-rmspe:0.169985
eval-rmspe:0.169985
[237]    train-rmse:0.162327    eval-rmse:0.162327    train-rmspe:0.16969
eval-rmspe:0.16969
[238]    train-rmse:0.161674    eval-rmse:0.161674    train-rmspe:0.169073
eval-rmspe:0.169073
[239]    train-rmse:0.161378    eval-rmse:0.161378    train-rmspe:0.168806
eval-rmspe:0.168806
[240]    train-rmse:0.161032    eval-rmse:0.161032    train-rmspe:0.168494
eval-rmspe:0.168494
[241]    train-rmse:0.160497    eval-rmse:0.160497    train-rmspe:0.167995
eval-rmspe:0.167995
[242]    train-rmse:0.159598    eval-rmse:0.159598    train-rmspe:0.167084
eval-rmspe:0.167084
[243]    train-rmse:0.158437    eval-rmse:0.158437    train-rmspe:0.165867
eval-rmspe:0.165867
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[244]   train-rmse:0.158129   eval-rmse:0.158129   train-rmspe:0.165582
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[245]   train-rmse:0.158022   eval-rmse:0.158022   train-rmspe:0.165508
eval-rmspe:0.165508
[246]   train-rmse:0.157478   eval-rmse:0.157478   train-rmspe:0.164986
eval-rmspe:0.164986
[247]   train-rmse:0.157162   eval-rmse:0.157162   train-rmspe:0.164663
eval-rmspe:0.164663
[248]   train-rmse:0.156731   eval-rmse:0.156731   train-rmspe:0.164225
eval-rmspe:0.164225
[249]   train-rmse:0.15603   eval-rmse:0.15603   train-rmspe:0.16354
eval-rmspe:0.16354
[250]   train-rmse:0.155431   eval-rmse:0.155431   train-rmspe:0.162899
eval-rmspe:0.162899
[251]   train-rmse:0.154914   eval-rmse:0.154914   train-rmspe:0.162375
eval-rmspe:0.162375
[252]   train-rmse:0.154738   eval-rmse:0.154738   train-rmspe:0.162226
eval-rmspe:0.162226
[253]   train-rmse:0.15372   eval-rmse:0.15372   train-rmspe:0.161131
eval-rmspe:0.161131
[254]   train-rmse:0.152944   eval-rmse:0.152944   train-rmspe:0.160332
eval-rmspe:0.160332
[255]   train-rmse:0.152799   eval-rmse:0.152799   train-rmspe:0.160199
eval-rmspe:0.160199
[256]   train-rmse:0.15248   eval-rmse:0.15248   train-rmspe:0.159886
eval-rmspe:0.159886
[257]   train-rmse:0.152129   eval-rmse:0.152129   train-rmspe:0.159529
eval-rmspe:0.159529
[258]   train-rmse:0.151849   eval-rmse:0.151849   train-rmspe:0.159261
eval-rmspe:0.159261
[259]   train-rmse:0.151279   eval-rmse:0.151279   train-rmspe:0.1587
eval-rmspe:0.1587
[260]   train-rmse:0.150375   eval-rmse:0.150375   train-rmspe:0.157781
eval-rmspe:0.157781
[261]   train-rmse:0.150168   eval-rmse:0.150168   train-rmspe:0.157525
eval-rmspe:0.157525
[262]   train-rmse:0.149574   eval-rmse:0.149574   train-rmspe:0.156849
eval-rmspe:0.156849
[263]   train-rmse:0.148903   eval-rmse:0.148903   train-rmspe:0.156039
eval-rmspe:0.156039
[264]   train-rmse:0.148274   eval-rmse:0.148274   train-rmspe:0.155378
eval-rmspe:0.155378
[265]   train-rmse:0.147975   eval-rmse:0.147975   train-rmspe:0.155106
eval-rmspe:0.155106
[266]   train-rmse:0.147638   eval-rmse:0.147638   train-rmspe:0.154745
eval-rmspe:0.154745
[267]   train-rmse:0.146858   eval-rmse:0.146858   train-rmspe:0.153937
eval-rmspe:0.153937

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[268]    train-rmse:0.146447     eval-rmse:0.146447      train-rmspe:0.153489
eval-rmspe:0.153489
[269]    train-rmse:0.14612      eval-rmse:0.14612       train-rmspe:0.153187
eval-rmspe:0.153187
[270]    train-rmse:0.145541     eval-rmse:0.145541      train-rmspe:0.152607
eval-rmspe:0.152607
[271]    train-rmse:0.145419     eval-rmse:0.145419      train-rmspe:0.152484
eval-rmspe:0.152484
[272]    train-rmse:0.145191     eval-rmse:0.145191      train-rmspe:0.152257
eval-rmspe:0.152257
[273]    train-rmse:0.144418     eval-rmse:0.144418      train-rmspe:0.1514
eval-rmspe:0.1514
[274]    train-rmse:0.144379     eval-rmse:0.144379      train-rmspe:0.151376
eval-rmspe:0.151376
[275]    train-rmse:0.143962     eval-rmse:0.143962      train-rmspe:0.150959
eval-rmspe:0.150959
[276]    train-rmse:0.143594     eval-rmse:0.143594      train-rmspe:0.150579
eval-rmspe:0.150579
[277]    train-rmse:0.142978     eval-rmse:0.142978      train-rmspe:0.149927
eval-rmspe:0.149927
[278]    train-rmse:0.142587     eval-rmse:0.142587      train-rmspe:0.149529
eval-rmspe:0.149529
[279]    train-rmse:0.142192     eval-rmse:0.142192      train-rmspe:0.149149
eval-rmspe:0.149149
[280]    train-rmse:0.141755     eval-rmse:0.141755      train-rmspe:0.148679
eval-rmspe:0.148679
[281]    train-rmse:0.141253     eval-rmse:0.141253      train-rmspe:0.14814
eval-rmspe:0.14814
[282]    train-rmse:0.140671     eval-rmse:0.140671      train-rmspe:0.147553
eval-rmspe:0.147553
[283]    train-rmse:0.140314     eval-rmse:0.140314      train-rmspe:0.147168
eval-rmspe:0.147168
[284]    train-rmse:0.140107     eval-rmse:0.140107      train-rmspe:0.146942
eval-rmspe:0.146942
[285]    train-rmse:0.139682     eval-rmse:0.139682      train-rmspe:0.14651
eval-rmspe:0.14651
[286]    train-rmse:0.139506     eval-rmse:0.139506      train-rmspe:0.146347
eval-rmspe:0.146347
[287]    train-rmse:0.139342     eval-rmse:0.139342      train-rmspe:0.14617
eval-rmspe:0.14617
[288]    train-rmse:0.138995     eval-rmse:0.138995      train-rmspe:0.145829
eval-rmspe:0.145829
[289]    train-rmse:0.138871     eval-rmse:0.138871      train-rmspe:0.14571
eval-rmspe:0.14571
[290]    train-rmse:0.138587     eval-rmse:0.138587      train-rmspe:0.1454
eval-rmspe:0.1454
[291]    train-rmse:0.138137     eval-rmse:0.138137      train-rmspe:0.144903
eval-rmspe:0.144903
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[292]    train-rmse:0.137913    eval-rmse:0.137913    train-rmspe:0.144684
eval-rmspe:0.144684
[293]    train-rmse:0.137729    eval-rmse:0.137729    train-rmspe:0.144503
eval-rmspe:0.144503
[294]    train-rmse:0.137435    eval-rmse:0.137435    train-rmspe:0.14422
eval-rmspe:0.14422
[295]    train-rmse:0.137123    eval-rmse:0.137123    train-rmspe:0.143898
eval-rmspe:0.143898
[296]    train-rmse:0.136529    eval-rmse:0.136529    train-rmspe:0.143264
eval-rmspe:0.143264
[297]    train-rmse:0.136101    eval-rmse:0.136101    train-rmspe:0.142764
eval-rmspe:0.142764
[298]    train-rmse:0.135845    eval-rmse:0.135845    train-rmspe:0.142502
eval-rmspe:0.142502
[299]    train-rmse:0.135703    eval-rmse:0.135703    train-rmspe:0.142353
eval-rmspe:0.142353
[300]    train-rmse:0.135422    eval-rmse:0.135422    train-rmspe:0.142061
eval-rmspe:0.142061
[301]    train-rmse:0.134891    eval-rmse:0.134891    train-rmspe:0.141508
eval-rmspe:0.141508
[302]    train-rmse:0.134635    eval-rmse:0.134635    train-rmspe:0.141244
eval-rmspe:0.141244
[303]    train-rmse:0.134438    eval-rmse:0.134438    train-rmspe:0.141034
eval-rmspe:0.141034
[304]    train-rmse:0.134367    eval-rmse:0.134367    train-rmspe:0.140957
eval-rmspe:0.140957
[305]    train-rmse:0.133828    eval-rmse:0.133828    train-rmspe:0.140415
eval-rmspe:0.140415
[306]    train-rmse:0.133574    eval-rmse:0.133574    train-rmspe:0.140086
eval-rmspe:0.140086
[307]    train-rmse:0.133203    eval-rmse:0.133203    train-rmspe:0.139722
eval-rmspe:0.139722
[308]    train-rmse:0.132923    eval-rmse:0.132923    train-rmspe:0.139412
eval-rmspe:0.139412
[309]    train-rmse:0.132614    eval-rmse:0.132614    train-rmspe:0.139077
eval-rmspe:0.139077
[310]    train-rmse:0.132209    eval-rmse:0.132209    train-rmspe:0.138642
eval-rmspe:0.138642
[311]    train-rmse:0.131773    eval-rmse:0.131773    train-rmspe:0.138175
eval-rmspe:0.138175
[312]    train-rmse:0.131108    eval-rmse:0.131108    train-rmspe:0.137468
eval-rmspe:0.137468
[313]    train-rmse:0.130915    eval-rmse:0.130915    train-rmspe:0.13727
eval-rmspe:0.13727
[314]    train-rmse:0.130309    eval-rmse:0.130309    train-rmspe:0.136605
eval-rmspe:0.136605
[315]    train-rmse:0.130036    eval-rmse:0.130036    train-rmspe:0.136333
eval-rmspe:0.136333
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eval-rmspe:0.135826
[318]   train-rmse:0.128985   eval-rmse:0.128985   train-rmspe:0.135218
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[319]   train-rmse:0.128702   eval-rmse:0.128702   train-rmspe:0.134914
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eval-rmspe:0.134241
[322]   train-rmse:0.127489   eval-rmse:0.127489   train-rmspe:0.133601
eval-rmspe:0.133601
[323]   train-rmse:0.127272   eval-rmse:0.127272   train-rmspe:0.133385
eval-rmspe:0.133385
[324]   train-rmse:0.126971   eval-rmse:0.126971   train-rmspe:0.133088
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[325]   train-rmse:0.126632   eval-rmse:0.126632   train-rmspe:0.132734
eval-rmspe:0.132734
[326]   train-rmse:0.126446   eval-rmse:0.126446   train-rmspe:0.132537
eval-rmspe:0.132537
[327]   train-rmse:0.126262   eval-rmse:0.126262   train-rmspe:0.132345
eval-rmspe:0.132345
[328]   train-rmse:0.126035   eval-rmse:0.126035   train-rmspe:0.132099
eval-rmspe:0.132099
[329]   train-rmse:0.125825   eval-rmse:0.125825   train-rmspe:0.131879
eval-rmspe:0.131879
[330]   train-rmse:0.125676   eval-rmse:0.125676   train-rmspe:0.131731
eval-rmspe:0.131731
[331]   train-rmse:0.125229   eval-rmse:0.125229   train-rmspe:0.131273
eval-rmspe:0.131273
[332]   train-rmse:0.125007   eval-rmse:0.125007   train-rmspe:0.131044
eval-rmspe:0.131044
[333]   train-rmse:0.124726   eval-rmse:0.124726   train-rmspe:0.130746
eval-rmspe:0.130746
[334]   train-rmse:0.124178   eval-rmse:0.124178   train-rmspe:0.130161
eval-rmspe:0.130161
[335]   train-rmse:0.123759   eval-rmse:0.123759   train-rmspe:0.129717
eval-rmspe:0.129717
[336]   train-rmse:0.123598   eval-rmse:0.123598   train-rmspe:0.129554
eval-rmspe:0.129554
[337]   train-rmse:0.12335   eval-rmse:0.12335   train-rmspe:0.129294
eval-rmspe:0.129294
[338]   train-rmse:0.122925   eval-rmse:0.122925   train-rmspe:0.128847
eval-rmspe:0.128847
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eval-rmspe:0.128653

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eval-rmspe:0.128082
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eval-rmspe:0.127824
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eval-rmspe:0.127529
[344]    train-rmse:0.121385    eval-rmse:0.121385    train-rmspe:0.127241
eval-rmspe:0.127241
[345]    train-rmse:0.121116    eval-rmse:0.121116    train-rmspe:0.126953
eval-rmspe:0.126953
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eval-rmspe:0.126787
[347]    train-rmse:0.120755    eval-rmse:0.120755    train-rmspe:0.126578
eval-rmspe:0.126578
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eval-rmspe:0.125618
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eval-rmspe:0.125383
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eval-rmspe:0.124622
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eval-rmspe:0.124119
[355]    train-rmse:0.117994    eval-rmse:0.117994    train-rmspe:0.123637
eval-rmspe:0.123637
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eval-rmspe:0.123378
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eval-rmspe:0.122858
[359]    train-rmse:0.117014    eval-rmse:0.117014    train-rmspe:0.122649
eval-rmspe:0.122649
[360]    train-rmse:0.116823    eval-rmse:0.116823    train-rmspe:0.122443
eval-rmspe:0.122443
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eval-rmspe:0.122167
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eval-rmspe:0.121835
[363]    train-rmse:0.115734    eval-rmse:0.115734    train-rmspe:0.12123
eval-rmspe:0.12123
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[364]    train-rmse:0.115524    eval-rmse:0.115524    train-rmspe:0.120996
eval-rmspe:0.120996
[365]    train-rmse:0.115243    eval-rmse:0.115243    train-rmspe:0.120709
eval-rmspe:0.120709
[366]    train-rmse:0.115125    eval-rmse:0.115125    train-rmspe:0.120587
eval-rmspe:0.120587
[367]    train-rmse:0.114822    eval-rmse:0.114822    train-rmspe:0.120281
eval-rmspe:0.120281
[368]    train-rmse:0.114459    eval-rmse:0.114459    train-rmspe:0.119888
eval-rmspe:0.119888
[369]    train-rmse:0.114332    eval-rmse:0.114332    train-rmspe:0.119745
eval-rmspe:0.119745
[370]    train-rmse:0.114141    eval-rmse:0.114141    train-rmspe:0.119527
eval-rmspe:0.119527
[371]    train-rmse:0.113977    eval-rmse:0.113977    train-rmspe:0.119366
eval-rmspe:0.119366
[372]    train-rmse:0.11389     eval-rmse:0.11389     train-rmspe:0.11928
eval-rmspe:0.11928
[373]    train-rmse:0.113534    eval-rmse:0.113534    train-rmspe:0.118894
eval-rmspe:0.118894
[374]    train-rmse:0.113448    eval-rmse:0.113448    train-rmspe:0.118806
eval-rmspe:0.118806
[375]    train-rmse:0.113193    eval-rmse:0.113193    train-rmspe:0.118537
eval-rmspe:0.118537
[376]    train-rmse:0.112775    eval-rmse:0.112775    train-rmspe:0.118094
eval-rmspe:0.118094
[377]    train-rmse:0.112463    eval-rmse:0.112463    train-rmspe:0.117762
eval-rmspe:0.117762
[378]    train-rmse:0.112275    eval-rmse:0.112275    train-rmspe:0.117567
eval-rmspe:0.117567
[379]    train-rmse:0.111953    eval-rmse:0.111953    train-rmspe:0.11722
eval-rmspe:0.11722
[380]    train-rmse:0.111759    eval-rmse:0.111759    train-rmspe:0.116957
eval-rmspe:0.116957
[381]    train-rmse:0.111478    eval-rmse:0.111478    train-rmspe:0.116638
eval-rmspe:0.116638
[382]    train-rmse:0.111314    eval-rmse:0.111314    train-rmspe:0.116473
eval-rmspe:0.116473
[383]    train-rmse:0.111097    eval-rmse:0.111097    train-rmspe:0.116238
eval-rmspe:0.116238
[384]    train-rmse:0.110859    eval-rmse:0.110859    train-rmspe:0.115992
eval-rmspe:0.115992
[385]    train-rmse:0.110384    eval-rmse:0.110384    train-rmspe:0.115473
eval-rmspe:0.115473
[386]    train-rmse:0.110185    eval-rmse:0.110185    train-rmspe:0.115255
eval-rmspe:0.115255
[387]    train-rmse:0.109689    eval-rmse:0.109689    train-rmspe:0.114732
eval-rmspe:0.114732
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[388]    train-rmse:0.109432    eval-rmse:0.109432    train-rmspe:0.114466
eval-rmspe:0.114466
[389]    train-rmse:0.109203    eval-rmse:0.109203    train-rmspe:0.114241
eval-rmspe:0.114241
[390]    train-rmse:0.109081    eval-rmse:0.109081    train-rmspe:0.114116
eval-rmspe:0.114116
[391]    train-rmse:0.108992    eval-rmse:0.108992    train-rmspe:0.114026
eval-rmspe:0.114026
[392]    train-rmse:0.108749    eval-rmse:0.108749    train-rmspe:0.113758
eval-rmspe:0.113758
[393]    train-rmse:0.108608    eval-rmse:0.108608    train-rmspe:0.113603
eval-rmspe:0.113603
[394]    train-rmse:0.108405    eval-rmse:0.108405    train-rmspe:0.11333
eval-rmspe:0.11333
[395]    train-rmse:0.10829     eval-rmse:0.10829     train-rmspe:0.11321
eval-rmspe:0.11321
[396]    train-rmse:0.108122    eval-rmse:0.108122    train-rmspe:0.113034
eval-rmspe:0.113034
[397]    train-rmse:0.108055    eval-rmse:0.108055    train-rmspe:0.112961
eval-rmspe:0.112961
[398]    train-rmse:0.107959    eval-rmse:0.107959    train-rmspe:0.11286
eval-rmspe:0.11286
[399]    train-rmse:0.107572    eval-rmse:0.107572    train-rmspe:0.112401
eval-rmspe:0.112401
[400]    train-rmse:0.107229    eval-rmse:0.107229    train-rmspe:0.112032
eval-rmspe:0.112032
[401]    train-rmse:0.106824    eval-rmse:0.106824    train-rmspe:0.11157
eval-rmspe:0.11157
[402]    train-rmse:0.106672    eval-rmse:0.106672    train-rmspe:0.111421
eval-rmspe:0.111421
[403]    train-rmse:0.106557    eval-rmse:0.106557    train-rmspe:0.1113
eval-rmspe:0.1113
[404]    train-rmse:0.106328    eval-rmse:0.106328    train-rmspe:0.111047
eval-rmspe:0.111047
[405]    train-rmse:0.106233    eval-rmse:0.106233    train-rmspe:0.110952
eval-rmspe:0.110952
[406]    train-rmse:0.105957    eval-rmse:0.105957    train-rmspe:0.110653
eval-rmspe:0.110653
[407]    train-rmse:0.105835    eval-rmse:0.105835    train-rmspe:0.110531
eval-rmspe:0.110531
[408]    train-rmse:0.105782    eval-rmse:0.105782    train-rmspe:0.110477
eval-rmspe:0.110477
[409]    train-rmse:0.105533    eval-rmse:0.105533    train-rmspe:0.110199
eval-rmspe:0.110199
[410]    train-rmse:0.105238    eval-rmse:0.105238    train-rmspe:0.109894
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[411]    train-rmse:0.105128    eval-rmse:0.105128    train-rmspe:0.109783
eval-rmspe:0.109783
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[412]    train-rmse:0.104992    eval-rmse:0.104992    train-rmspe:0.109647
eval-rmspe:0.109647
[413]    train-rmse:0.104844    eval-rmse:0.104844    train-rmspe:0.109489
eval-rmspe:0.109489
[414]    train-rmse:0.104637    eval-rmse:0.104637    train-rmspe:0.109263
eval-rmspe:0.109263
[415]    train-rmse:0.104434    eval-rmse:0.104434    train-rmspe:0.109049
eval-rmspe:0.109049
[416]    train-rmse:0.104166    eval-rmse:0.104166    train-rmspe:0.108768
eval-rmspe:0.108768
[417]    train-rmse:0.104075    eval-rmse:0.104075    train-rmspe:0.108673
eval-rmspe:0.108673
[418]    train-rmse:0.104023    eval-rmse:0.104023    train-rmspe:0.108621
eval-rmspe:0.108621
[419]    train-rmse:0.103731    eval-rmse:0.103731    train-rmspe:0.108325
eval-rmspe:0.108325
[420]    train-rmse:0.103629    eval-rmse:0.103629    train-rmspe:0.108219
eval-rmspe:0.108219
[421]    train-rmse:0.10338    eval-rmse:0.10338    train-rmspe:0.107968
eval-rmspe:0.107968
[422]    train-rmse:0.103087    eval-rmse:0.103087    train-rmspe:0.107647
eval-rmspe:0.107647
[423]    train-rmse:0.102904    eval-rmse:0.102904    train-rmspe:0.107456
eval-rmspe:0.107456
[424]    train-rmse:0.10277    eval-rmse:0.10277    train-rmspe:0.107317
eval-rmspe:0.107317
[425]    train-rmse:0.102725    eval-rmse:0.102725    train-rmspe:0.107273
eval-rmspe:0.107273
[426]    train-rmse:0.102615    eval-rmse:0.102615    train-rmspe:0.107162
eval-rmspe:0.107162
[427]    train-rmse:0.102572    eval-rmse:0.102572    train-rmspe:0.107115
eval-rmspe:0.107115
[428]    train-rmse:0.102328    eval-rmse:0.102328    train-rmspe:0.106854
eval-rmspe:0.106854
[429]    train-rmse:0.102157    eval-rmse:0.102157    train-rmspe:0.106682
eval-rmspe:0.106682
[430]    train-rmse:0.10203    eval-rmse:0.10203    train-rmspe:0.106552
eval-rmspe:0.106552
[431]    train-rmse:0.101765    eval-rmse:0.101765    train-rmspe:0.10627
eval-rmspe:0.10627
[432]    train-rmse:0.101427    eval-rmse:0.101427    train-rmspe:0.105889
eval-rmspe:0.105889
[433]    train-rmse:0.101233    eval-rmse:0.101233    train-rmspe:0.105697
eval-rmspe:0.105697
[434]    train-rmse:0.101093    eval-rmse:0.101093    train-rmspe:0.105558
eval-rmspe:0.105558
[435]    train-rmse:0.100836    eval-rmse:0.100836    train-rmspe:0.105274
eval-rmspe:0.105274
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eval-rmspe:0.105118
[438]   train-rmse:0.100594   eval-rmse:0.100594   train-rmspe:0.105017
eval-rmspe:0.105017
[439]   train-rmse:0.100569   eval-rmse:0.100569   train-rmspe:0.104991
eval-rmspe:0.104991
[440]   train-rmse:0.10037   eval-rmse:0.10037   train-rmspe:0.104728
eval-rmspe:0.104728
[441]   train-rmse:0.100237   eval-rmse:0.100237   train-rmspe:0.104595
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[443]   train-rmse:0.099734   eval-rmse:0.099734   train-rmspe:0.10397
eval-rmspe:0.10397
[444]   train-rmse:0.099635   eval-rmse:0.099635   train-rmspe:0.103871
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[445]   train-rmse:0.099394   eval-rmse:0.099394   train-rmspe:0.103631
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[446]   train-rmse:0.099263   eval-rmse:0.099263   train-rmspe:0.103502
eval-rmspe:0.103502
[447]   train-rmse:0.099046   eval-rmse:0.099046   train-rmspe:0.103277
eval-rmspe:0.103277
[448]   train-rmse:0.09875   eval-rmse:0.09875   train-rmspe:0.102924
eval-rmspe:0.102924
[449]   train-rmse:0.098607   eval-rmse:0.098607   train-rmspe:0.102779
eval-rmspe:0.102779
[450]   train-rmse:0.098521   eval-rmse:0.098521   train-rmspe:0.102686
eval-rmspe:0.102686
[451]   train-rmse:0.098343   eval-rmse:0.098343   train-rmspe:0.102501
eval-rmspe:0.102501
[452]   train-rmse:0.098098   eval-rmse:0.098098   train-rmspe:0.10224
eval-rmspe:0.10224
[453]   train-rmse:0.097932   eval-rmse:0.097932   train-rmspe:0.10205
eval-rmspe:0.10205
[454]   train-rmse:0.097848   eval-rmse:0.097848   train-rmspe:0.101967
eval-rmspe:0.101967
[455]   train-rmse:0.097807   eval-rmse:0.097807   train-rmspe:0.101926
eval-rmspe:0.101926
[456]   train-rmse:0.097573   eval-rmse:0.097573   train-rmspe:0.101672
eval-rmspe:0.101672
[457]   train-rmse:0.097316   eval-rmse:0.097316   train-rmspe:0.101409
eval-rmspe:0.101409
[458]   train-rmse:0.097128   eval-rmse:0.097128   train-rmspe:0.101212
eval-rmspe:0.101212
[459]   train-rmse:0.09685   eval-rmse:0.09685   train-rmspe:0.100922
eval-rmspe:0.100922

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[460]    train-rmse:0.09667      eval-rmse:0.09667       train-rmspe:0.100738
eval-rmspe:0.100738
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eval-rmspe:0.100511
[462]    train-rmse:0.096305     eval-rmse:0.096305      train-rmspe:0.100358
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[463]    train-rmse:0.096233     eval-rmse:0.096233      train-rmspe:0.100282
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[464]    train-rmse:0.096098     eval-rmse:0.096098      train-rmspe:0.100123
eval-rmspe:0.100123
[465]    train-rmse:0.09604      eval-rmse:0.09604       train-rmspe:0.100061
eval-rmspe:0.100061
[466]    train-rmse:0.095835     eval-rmse:0.095835      train-rmspe:0.099857
eval-rmspe:0.099857
[467]    train-rmse:0.095721     eval-rmse:0.095721      train-rmspe:0.099667
eval-rmspe:0.099667
[468]    train-rmse:0.0954       eval-rmse:0.0954        train-rmspe:0.099304
eval-rmspe:0.099304
[469]    train-rmse:0.095127     eval-rmse:0.095127      train-rmspe:0.098936
eval-rmspe:0.098936
[470]    train-rmse:0.09507      eval-rmse:0.09507       train-rmspe:0.098871
eval-rmspe:0.098871
[471]    train-rmse:0.094953     eval-rmse:0.094953      train-rmspe:0.098721
eval-rmspe:0.098721
[472]    train-rmse:0.094722     eval-rmse:0.094722      train-rmspe:0.098409
eval-rmspe:0.098409
[473]    train-rmse:0.094676     eval-rmse:0.094676      train-rmspe:0.09836
eval-rmspe:0.09836
[474]    train-rmse:0.094456     eval-rmse:0.094456      train-rmspe:0.098134
eval-rmspe:0.098134
[475]    train-rmse:0.094208     eval-rmse:0.094208      train-rmspe:0.097814
eval-rmspe:0.097814
[476]    train-rmse:0.093989     eval-rmse:0.093989      train-rmspe:0.097575
eval-rmspe:0.097575
[477]    train-rmse:0.093859     eval-rmse:0.093859      train-rmspe:0.097438
eval-rmspe:0.097438
[478]    train-rmse:0.093667     eval-rmse:0.093667      train-rmspe:0.097234
eval-rmspe:0.097234
[479]    train-rmse:0.093381     eval-rmse:0.093381      train-rmspe:0.096932
eval-rmspe:0.096932
[480]    train-rmse:0.093144     eval-rmse:0.093144      train-rmspe:0.09664
eval-rmspe:0.09664
[481]    train-rmse:0.092852     eval-rmse:0.092852      train-rmspe:0.09626
eval-rmspe:0.09626
[482]    train-rmse:0.092758     eval-rmse:0.092758      train-rmspe:0.096167
eval-rmspe:0.096167
[483]    train-rmse:0.092713     eval-rmse:0.092713      train-rmspe:0.096119
eval-rmspe:0.096119
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eval-rmspe:0.095966
[486]   train-rmse:0.092491   eval-rmse:0.092491   train-rmspe:0.095886
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[487]   train-rmse:0.092413   eval-rmse:0.092413   train-rmspe:0.095808
eval-rmspe:0.095808
[488]   train-rmse:0.09229   eval-rmse:0.09229   train-rmspe:0.095677
eval-rmspe:0.095677
[489]   train-rmse:0.092194   eval-rmse:0.092194   train-rmspe:0.095585
eval-rmspe:0.095585
[490]   train-rmse:0.09178   eval-rmse:0.09178   train-rmspe:0.095073
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[492]   train-rmse:0.091526   eval-rmse:0.091526   train-rmspe:0.094801
eval-rmspe:0.094801
[493]   train-rmse:0.091284   eval-rmse:0.091284   train-rmspe:0.094493
eval-rmspe:0.094493
[494]   train-rmse:0.091144   eval-rmse:0.091144   train-rmspe:0.094339
eval-rmspe:0.094339
[495]   train-rmse:0.091006   eval-rmse:0.091006   train-rmspe:0.094185
eval-rmspe:0.094185
[496]   train-rmse:0.09092   eval-rmse:0.09092   train-rmspe:0.094093
eval-rmspe:0.094093
[497]   train-rmse:0.090731   eval-rmse:0.090731   train-rmspe:0.093892
eval-rmspe:0.093892
[498]   train-rmse:0.090576   eval-rmse:0.090576   train-rmspe:0.093734
eval-rmspe:0.093734
[499]   train-rmse:0.090513   eval-rmse:0.090513   train-rmspe:0.093666
eval-rmspe:0.093666
[500]   train-rmse:0.090427   eval-rmse:0.090427   train-rmspe:0.093577
eval-rmspe:0.093577
[501]   train-rmse:0.09021   eval-rmse:0.09021   train-rmspe:0.093337
eval-rmspe:0.093337
[502]   train-rmse:0.090075   eval-rmse:0.090075   train-rmspe:0.093199
eval-rmspe:0.093199
[503]   train-rmse:0.089828   eval-rmse:0.089828   train-rmspe:0.092882
eval-rmspe:0.092882
[504]   train-rmse:0.089802   eval-rmse:0.089802   train-rmspe:0.092852
eval-rmspe:0.092852
[505]   train-rmse:0.089556   eval-rmse:0.089556   train-rmspe:0.092584
eval-rmspe:0.092584
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eval-rmspe:0.092394
[507]   train-rmse:0.08927   eval-rmse:0.08927   train-rmspe:0.092274
eval-rmspe:0.092274

[508]   train-rmse:0.089094   eval-rmse:0.089094   train-rmspe:0.09208
eval-rmspe:0.09208
[509]   train-rmse:0.088953   eval-rmse:0.088953   train-rmspe:0.09192
eval-rmspe:0.09192
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[511]   train-rmse:0.088709   eval-rmse:0.088709   train-rmspe:0.091675
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[512]   train-rmse:0.088592   eval-rmse:0.088592   train-rmspe:0.091552
eval-rmspe:0.091552
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eval-rmspe:0.091354
[514]   train-rmse:0.088337   eval-rmse:0.088337   train-rmspe:0.091251
eval-rmspe:0.091251
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[519]   train-rmse:0.087622   eval-rmse:0.087622   train-rmspe:0.090432
eval-rmspe:0.090432
[520]   train-rmse:0.087396   eval-rmse:0.087396   train-rmspe:0.090192
eval-rmspe:0.090192
[521]   train-rmse:0.087257   eval-rmse:0.087257   train-rmspe:0.090033
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[522]   train-rmse:0.087123   eval-rmse:0.087123   train-rmspe:0.089889
eval-rmspe:0.089889
[523]   train-rmse:0.086992   eval-rmse:0.086992   train-rmspe:0.08975
eval-rmspe:0.08975
[524]   train-rmse:0.086885   eval-rmse:0.086885   train-rmspe:0.089642
eval-rmspe:0.089642
[525]   train-rmse:0.086802   eval-rmse:0.086802   train-rmspe:0.089559
eval-rmspe:0.089559
[526]   train-rmse:0.086744   eval-rmse:0.086744   train-rmspe:0.089499
eval-rmspe:0.089499
[527]   train-rmse:0.086607   eval-rmse:0.086607   train-rmspe:0.089363
eval-rmspe:0.089363
[528]   train-rmse:0.086544   eval-rmse:0.086544   train-rmspe:0.089297
eval-rmspe:0.089297
[529]   train-rmse:0.086356   eval-rmse:0.086356   train-rmspe:0.089054
eval-rmspe:0.089054
[530]   train-rmse:0.086199   eval-rmse:0.086199   train-rmspe:0.088889
eval-rmspe:0.088889
[531]   train-rmse:0.08609   eval-rmse:0.08609   train-rmspe:0.088747
eval-rmspe:0.088747

[532]   train-rmse:0.086038   eval-rmse:0.086038   train-rmspe:0.088684
eval-rmspe:0.088684
[533]   train-rmse:0.085832   eval-rmse:0.085832   train-rmspe:0.088473
eval-rmspe:0.088473
[534]   train-rmse:0.085709   eval-rmse:0.085709   train-rmspe:0.088339
eval-rmspe:0.088339
[535]   train-rmse:0.08563   eval-rmse:0.08563   train-rmspe:0.088255
eval-rmspe:0.088255
[536]   train-rmse:0.085468   eval-rmse:0.085468   train-rmspe:0.088088
eval-rmspe:0.088088
[537]   train-rmse:0.085345   eval-rmse:0.085345   train-rmspe:0.08796
eval-rmspe:0.08796
[538]   train-rmse:0.085229   eval-rmse:0.085229   train-rmspe:0.087838
eval-rmspe:0.087838
[539]   train-rmse:0.085106   eval-rmse:0.085106   train-rmspe:0.087706
eval-rmspe:0.087706
[540]   train-rmse:0.085017   eval-rmse:0.085017   train-rmspe:0.087608
eval-rmspe:0.087608
[541]   train-rmse:0.084914   eval-rmse:0.084914   train-rmspe:0.087496
eval-rmspe:0.087496
[542]   train-rmse:0.084706   eval-rmse:0.084706   train-rmspe:0.087255
eval-rmspe:0.087255
[543]   train-rmse:0.084684   eval-rmse:0.084684   train-rmspe:0.087233
eval-rmspe:0.087233
[544]   train-rmse:0.084577   eval-rmse:0.084577   train-rmspe:0.087124
eval-rmspe:0.087124
[545]   train-rmse:0.084469   eval-rmse:0.084469   train-rmspe:0.087014
eval-rmspe:0.087014
[546]   train-rmse:0.084338   eval-rmse:0.084338   train-rmspe:0.08685
eval-rmspe:0.08685
[547]   train-rmse:0.084187   eval-rmse:0.084187   train-rmspe:0.086692
eval-rmspe:0.086692
[548]   train-rmse:0.084064   eval-rmse:0.084064   train-rmspe:0.086559
eval-rmspe:0.086559
[549]   train-rmse:0.083937   eval-rmse:0.083937   train-rmspe:0.086422
eval-rmspe:0.086422
[550]   train-rmse:0.083914   eval-rmse:0.083914   train-rmspe:0.086396
eval-rmspe:0.086396
[551]   train-rmse:0.083727   eval-rmse:0.083727   train-rmspe:0.086166
eval-rmspe:0.086166
[552]   train-rmse:0.083609   eval-rmse:0.083609   train-rmspe:0.086037
eval-rmspe:0.086037
[553]   train-rmse:0.083524   eval-rmse:0.083524   train-rmspe:0.085943
eval-rmspe:0.085943
[554]   train-rmse:0.083353   eval-rmse:0.083353   train-rmspe:0.085753
eval-rmspe:0.085753
[555]   train-rmse:0.08332   eval-rmse:0.08332   train-rmspe:0.085719
eval-rmspe:0.085719

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[556]    train-rmse:0.083165    eval-rmse:0.083165    train-rmspe:0.085551
eval-rmspe:0.085551
[557]    train-rmse:0.08301     eval-rmse:0.08301     train-rmspe:0.08539
eval-rmspe:0.08539
[558]    train-rmse:0.082923    eval-rmse:0.082923    train-rmspe:0.085301
eval-rmspe:0.085301
[559]    train-rmse:0.082807    eval-rmse:0.082807    train-rmspe:0.085144
eval-rmspe:0.085144
[560]    train-rmse:0.082659    eval-rmse:0.082659    train-rmspe:0.084966
eval-rmspe:0.084966
[561]    train-rmse:0.082481    eval-rmse:0.082481    train-rmspe:0.084762
eval-rmspe:0.084762
[562]    train-rmse:0.082425    eval-rmse:0.082425    train-rmspe:0.084706
eval-rmspe:0.084706
[563]    train-rmse:0.082312    eval-rmse:0.082312    train-rmspe:0.084583
eval-rmspe:0.084583
[564]    train-rmse:0.08215     eval-rmse:0.08215     train-rmspe:0.084415
eval-rmspe:0.084415
[565]    train-rmse:0.082015    eval-rmse:0.082015    train-rmspe:0.084272
eval-rmspe:0.084272
[566]    train-rmse:0.081854    eval-rmse:0.081854    train-rmspe:0.084103
eval-rmspe:0.084103
[567]    train-rmse:0.081842    eval-rmse:0.081842    train-rmspe:0.084092
eval-rmspe:0.084092
[568]    train-rmse:0.081709    eval-rmse:0.081709    train-rmspe:0.08395
eval-rmspe:0.08395
[569]    train-rmse:0.081599    eval-rmse:0.081599    train-rmspe:0.083813
eval-rmspe:0.083813
[570]    train-rmse:0.081524    eval-rmse:0.081524    train-rmspe:0.083735
eval-rmspe:0.083735
[571]    train-rmse:0.08141     eval-rmse:0.08141     train-rmspe:0.083585
eval-rmspe:0.083585
[572]    train-rmse:0.081276    eval-rmse:0.081276    train-rmspe:0.08345
eval-rmspe:0.08345
[573]    train-rmse:0.081163    eval-rmse:0.081163    train-rmspe:0.083335
eval-rmspe:0.083335
[574]    train-rmse:0.080973    eval-rmse:0.080973    train-rmspe:0.083134
eval-rmspe:0.083134
[575]    train-rmse:0.080888    eval-rmse:0.080888    train-rmspe:0.083044
eval-rmspe:0.083044
[576]    train-rmse:0.080766    eval-rmse:0.080766    train-rmspe:0.082921
eval-rmspe:0.082921
[577]    train-rmse:0.080662    eval-rmse:0.080662    train-rmspe:0.082814
eval-rmspe:0.082814
[578]    train-rmse:0.080622    eval-rmse:0.080622    train-rmspe:0.082775
eval-rmspe:0.082775
[579]    train-rmse:0.080589    eval-rmse:0.080589    train-rmspe:0.082737
eval-rmspe:0.082737
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[580]   train-rmse:0.080552   eval-rmse:0.080552   train-rmspe:0.082701
eval-rmspe:0.082701
[581]   train-rmse:0.080524   eval-rmse:0.080524   train-rmspe:0.082674
eval-rmspe:0.082674
[582]   train-rmse:0.080479   eval-rmse:0.080479   train-rmspe:0.082626
eval-rmspe:0.082626
[583]   train-rmse:0.080469   eval-rmse:0.080469   train-rmspe:0.082615
eval-rmspe:0.082615
[584]   train-rmse:0.080338   eval-rmse:0.080338   train-rmspe:0.082477
eval-rmspe:0.082477
[585]   train-rmse:0.080247   eval-rmse:0.080247   train-rmspe:0.082352
eval-rmspe:0.082352
[586]   train-rmse:0.0801   eval-rmse:0.0801   train-rmspe:0.082171
eval-rmspe:0.082171
[587]   train-rmse:0.080005   eval-rmse:0.080005   train-rmspe:0.082075
eval-rmspe:0.082075
[588]   train-rmse:0.079942   eval-rmse:0.079942   train-rmspe:0.082007
eval-rmspe:0.082007
[589]   train-rmse:0.079852   eval-rmse:0.079852   train-rmspe:0.081911
eval-rmspe:0.081911
[590]   train-rmse:0.079642   eval-rmse:0.079642   train-rmspe:0.081683
eval-rmspe:0.081683
[591]   train-rmse:0.079555   eval-rmse:0.079555   train-rmspe:0.081593
eval-rmspe:0.081593
[592]   train-rmse:0.079373   eval-rmse:0.079373   train-rmspe:0.081387
eval-rmspe:0.081387
[593]   train-rmse:0.079197   eval-rmse:0.079197   train-rmspe:0.081192
eval-rmspe:0.081192
[594]   train-rmse:0.079169   eval-rmse:0.079169   train-rmspe:0.081165
eval-rmspe:0.081165
[595]   train-rmse:0.079012   eval-rmse:0.079012   train-rmspe:0.080993
eval-rmspe:0.080993
[596]   train-rmse:0.078919   eval-rmse:0.078919   train-rmspe:0.080889
eval-rmspe:0.080889
[597]   train-rmse:0.078863   eval-rmse:0.078863   train-rmspe:0.080831
eval-rmspe:0.080831
[598]   train-rmse:0.078734   eval-rmse:0.078734   train-rmspe:0.080694
eval-rmspe:0.080694
[599]   train-rmse:0.078654   eval-rmse:0.078654   train-rmspe:0.080607
eval-rmspe:0.080607
round 8 end
round 9:
[0]   train-rmse:8.02738   eval-rmse:8.02738   train-rmspe:0.99981
eval-rmspe:0.99981
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.

```
[1]     train-rmse:7.7871       eval-rmse:7.7871        train-rmspe:0.999713
eval-rmspe:0.999713
[2]     train-rmse:7.55403      eval-rmse:7.55403       train-rmspe:0.999593
eval-rmspe:0.999593
[3]     train-rmse:7.32794      eval-rmse:7.32794       train-rmspe:0.999448
eval-rmspe:0.999448
[4]     train-rmse:7.10867      eval-rmse:7.10867       train-rmspe:0.999271
eval-rmspe:0.999271
[5]     train-rmse:6.89603      eval-rmse:6.89603       train-rmspe:0.999059
eval-rmspe:0.999059
[6]     train-rmse:6.68977      eval-rmse:6.68977       train-rmspe:0.998806
eval-rmspe:0.998806
[7]     train-rmse:6.48972      eval-rmse:6.48972       train-rmspe:0.998505
eval-rmspe:0.998505
[8]     train-rmse:6.29567      eval-rmse:6.29567       train-rmspe:0.998149
eval-rmspe:0.998149
[9]     train-rmse:6.10741      eval-rmse:6.10741       train-rmspe:0.997732
eval-rmspe:0.997732
[10]    train-rmse:5.92485      eval-rmse:5.92485       train-rmspe:0.997245
eval-rmspe:0.997245
[11]    train-rmse:5.74782      eval-rmse:5.74782       train-rmspe:0.99668
eval-rmspe:0.99668
[12]    train-rmse:5.57609      eval-rmse:5.57609       train-rmspe:0.996029
eval-rmspe:0.996029
[13]    train-rmse:5.40955      eval-rmse:5.40955       train-rmspe:0.995281
eval-rmspe:0.995281
[14]    train-rmse:5.24798      eval-rmse:5.24798       train-rmspe:0.994427
eval-rmspe:0.994427
[15]    train-rmse:5.09131      eval-rmse:5.09131       train-rmspe:0.993456
eval-rmspe:0.993456
[16]    train-rmse:4.93935      eval-rmse:4.93935       train-rmspe:0.992358
eval-rmspe:0.992358
[17]    train-rmse:4.79197      eval-rmse:4.79197       train-rmspe:0.991122
eval-rmspe:0.991122
[18]    train-rmse:4.64906      eval-rmse:4.64906       train-rmspe:0.989737
eval-rmspe:0.989737
[19]    train-rmse:4.51045      eval-rmse:4.51045       train-rmspe:0.988192
eval-rmspe:0.988192
[20]    train-rmse:4.37597      eval-rmse:4.37597       train-rmspe:0.986475
eval-rmspe:0.986475
[21]    train-rmse:4.24554      eval-rmse:4.24554       train-rmspe:0.984575
eval-rmspe:0.984575
[22]    train-rmse:4.11909      eval-rmse:4.11909       train-rmspe:0.982479
eval-rmspe:0.982479
[23]    train-rmse:3.99641      eval-rmse:3.99641       train-rmspe:0.980179
eval-rmspe:0.980179
[24]    train-rmse:3.87749      eval-rmse:3.87749       train-rmspe:0.977659
eval-rmspe:0.977659
```

```
[25]     train-rmse:3.76213     eval-rmse:3.76213     train-rmspe:0.974917
eval-rmspe:0.974917
[26]     train-rmse:3.65023     eval-rmse:3.65023     train-rmspe:0.971938
eval-rmspe:0.971938
[27]     train-rmse:3.54169     eval-rmse:3.54169     train-rmspe:0.968716
eval-rmspe:0.968716
[28]     train-rmse:3.43652     eval-rmse:3.43652     train-rmspe:0.965239
eval-rmspe:0.965239
[29]     train-rmse:3.33446     eval-rmse:3.33446     train-rmspe:0.961505
eval-rmspe:0.961505
[30]     train-rmse:3.23549     eval-rmse:3.23549     train-rmspe:0.957504
eval-rmspe:0.957504
[31]     train-rmse:3.13953     eval-rmse:3.13953     train-rmspe:0.953228
eval-rmspe:0.953228
[32]     train-rmse:3.04644     eval-rmse:3.04644     train-rmspe:0.948669
eval-rmspe:0.948669
[33]     train-rmse:2.95617     eval-rmse:2.95617     train-rmspe:0.94384
eval-rmspe:0.94384
[34]     train-rmse:2.86867     eval-rmse:2.86867     train-rmspe:0.938716
eval-rmspe:0.938716
[35]     train-rmse:2.78381     eval-rmse:2.78381     train-rmspe:0.93331
eval-rmspe:0.93331
[36]     train-rmse:2.70154     eval-rmse:2.70154     train-rmspe:0.927605
eval-rmspe:0.927605
[37]     train-rmse:2.62176     eval-rmse:2.62176     train-rmspe:0.921602
eval-rmspe:0.921602
[38]     train-rmse:2.54442     eval-rmse:2.54442     train-rmspe:0.915312
eval-rmspe:0.915312
[39]     train-rmse:2.4694     eval-rmse:2.4694     train-rmspe:0.908741
eval-rmspe:0.908741
[40]     train-rmse:2.39667     eval-rmse:2.39667     train-rmspe:0.901895
eval-rmspe:0.901895
[41]     train-rmse:2.32616     eval-rmse:2.32616     train-rmspe:0.894763
eval-rmspe:0.894763
[42]     train-rmse:2.25779     eval-rmse:2.25779     train-rmspe:0.887344
eval-rmspe:0.887344
[43]     train-rmse:2.19156     eval-rmse:2.19156     train-rmspe:0.879654
eval-rmspe:0.879654
[44]     train-rmse:2.12725     eval-rmse:2.12725     train-rmspe:0.871752
eval-rmspe:0.871752
[45]     train-rmse:2.06491     eval-rmse:2.06491     train-rmspe:0.863578
eval-rmspe:0.863578
[46]     train-rmse:2.00443     eval-rmse:2.00443     train-rmspe:0.855168
eval-rmspe:0.855168
[47]     train-rmse:1.94589     eval-rmse:1.94589     train-rmspe:0.846487
eval-rmspe:0.846487
[48]     train-rmse:1.8891     eval-rmse:1.8891     train-rmspe:0.837622
eval-rmspe:0.837622
```

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[49]    train-rmse:1.83403      eval-rmse:1.83403       train-rmspe:0.828512
eval-rmspe:0.828512
[50]    train-rmse:1.78063      eval-rmse:1.78063       train-rmspe:0.819203
eval-rmspe:0.819203
[51]    train-rmse:1.72895      eval-rmse:1.72895       train-rmspe:0.809683
eval-rmspe:0.809683
[52]    train-rmse:1.67884      eval-rmse:1.67884       train-rmspe:0.79999
eval-rmspe:0.79999
[53]    train-rmse:1.63014      eval-rmse:1.63014       train-rmspe:0.790161
eval-rmspe:0.790161
[54]    train-rmse:1.58307      eval-rmse:1.58307       train-rmspe:0.780128
eval-rmspe:0.780128
[55]    train-rmse:1.53718      eval-rmse:1.53718       train-rmspe:0.770084
eval-rmspe:0.770084
[56]    train-rmse:1.4927       eval-rmse:1.4927        train-rmspe:0.759886
eval-rmspe:0.759886
[57]    train-rmse:1.44969      eval-rmse:1.44969       train-rmspe:0.749538
eval-rmspe:0.749538
[58]    train-rmse:1.40814      eval-rmse:1.40814       train-rmspe:0.739015
eval-rmspe:0.739015
[59]    train-rmse:1.36783      eval-rmse:1.36783       train-rmspe:0.72843
eval-rmspe:0.72843
[60]    train-rmse:1.32861      eval-rmse:1.32861       train-rmspe:0.717818
eval-rmspe:0.717818
[61]    train-rmse:1.29063      eval-rmse:1.29063       train-rmspe:0.707136
eval-rmspe:0.707136
[62]    train-rmse:1.25352      eval-rmse:1.25352       train-rmspe:0.696463
eval-rmspe:0.696463
[63]    train-rmse:1.21788      eval-rmse:1.21788       train-rmspe:0.685682
eval-rmspe:0.685682
[64]    train-rmse:1.18339      eval-rmse:1.18339       train-rmspe:0.674842
eval-rmspe:0.674842
[65]    train-rmse:1.14988      eval-rmse:1.14988       train-rmspe:0.664041
eval-rmspe:0.664041
[66]    train-rmse:1.11759      eval-rmse:1.11759       train-rmspe:0.653184
eval-rmspe:0.653184
[67]    train-rmse:1.08632      eval-rmse:1.08632       train-rmspe:0.642343
eval-rmspe:0.642343
[68]    train-rmse:1.05571      eval-rmse:1.05571       train-rmspe:0.631604
eval-rmspe:0.631604
[69]    train-rmse:1.02632      eval-rmse:1.02632       train-rmspe:0.620851
eval-rmspe:0.620851
[70]    train-rmse:0.997692     eval-rmse:0.997692      train-rmspe:0.610169
eval-rmspe:0.610169
[71]    train-rmse:0.969945     eval-rmse:0.969945      train-rmspe:0.599528
eval-rmspe:0.599528
[72]    train-rmse:0.943132     eval-rmse:0.943132      train-rmspe:0.588959
eval-rmspe:0.588959
```

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[73]    train-rmse:0.916932    eval-rmse:0.916932    train-rmspe:0.578492
eval-rmspe:0.578492
[74]    train-rmse:0.891776    eval-rmse:0.891776    train-rmspe:0.568068
eval-rmspe:0.568068
[75]    train-rmse:0.867235    eval-rmse:0.867235    train-rmspe:0.557781
eval-rmspe:0.557781
[76]    train-rmse:0.8435      eval-rmse:0.8435      train-rmspe:0.547578
eval-rmspe:0.547578
[77]    train-rmse:0.820477    eval-rmse:0.820477    train-rmspe:0.537486
eval-rmspe:0.537486
[78]    train-rmse:0.798378    eval-rmse:0.798378    train-rmspe:0.527493
eval-rmspe:0.527493
[79]    train-rmse:0.777124    eval-rmse:0.777124    train-rmspe:0.517635
eval-rmspe:0.517635
[80]    train-rmse:0.756524    eval-rmse:0.756524    train-rmspe:0.507913
eval-rmspe:0.507913
[81]    train-rmse:0.736408    eval-rmse:0.736408    train-rmspe:0.498334
eval-rmspe:0.498334
[82]    train-rmse:0.717198    eval-rmse:0.717198    train-rmspe:0.488914
eval-rmspe:0.488914
[83]    train-rmse:0.698549    eval-rmse:0.698549    train-rmspe:0.479659
eval-rmspe:0.479659
[84]    train-rmse:0.680273    eval-rmse:0.680273    train-rmspe:0.470542
eval-rmspe:0.470542
[85]    train-rmse:0.662888    eval-rmse:0.662888    train-rmspe:0.461617
eval-rmspe:0.461617
[86]    train-rmse:0.645855    eval-rmse:0.645855    train-rmspe:0.452823
eval-rmspe:0.452823
[87]    train-rmse:0.629454    eval-rmse:0.629454    train-rmspe:0.444203
eval-rmspe:0.444203
[88]    train-rmse:0.613582    eval-rmse:0.613582    train-rmspe:0.435768
eval-rmspe:0.435768
[89]    train-rmse:0.598207    eval-rmse:0.598207    train-rmspe:0.427499
eval-rmspe:0.427499
[90]    train-rmse:0.583495    eval-rmse:0.583495    train-rmspe:0.419443
eval-rmspe:0.419443
[91]    train-rmse:0.568889    eval-rmse:0.568889    train-rmspe:0.411471
eval-rmspe:0.411471
[92]    train-rmse:0.554583    eval-rmse:0.554583    train-rmspe:0.403646
eval-rmspe:0.403646
[93]    train-rmse:0.54121     eval-rmse:0.54121     train-rmspe:0.396133
eval-rmspe:0.396133
[94]    train-rmse:0.528445    eval-rmse:0.528445    train-rmspe:0.388828
eval-rmspe:0.388828
[95]    train-rmse:0.515769    eval-rmse:0.515769    train-rmspe:0.38159
eval-rmspe:0.38159
[96]    train-rmse:0.503821    eval-rmse:0.503821    train-rmspe:0.374663
eval-rmspe:0.374663
```

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[97]     train-rmse:0.49218      eval-rmse:0.49218        train-rmspe:0.367893
eval-rmspe:0.367893
[98]     train-rmse:0.480855     eval-rmse:0.480855       train-rmspe:0.361291
eval-rmspe:0.361291
[99]     train-rmse:0.470099     eval-rmse:0.470099       train-rmspe:0.35492
eval-rmspe:0.35492
[100]    train-rmse:0.459571     eval-rmse:0.459571       train-rmspe:0.348712
eval-rmspe:0.348712
[101]    train-rmse:0.449618     eval-rmse:0.449618       train-rmspe:0.342728
eval-rmspe:0.342728
[102]    train-rmse:0.439879     eval-rmse:0.439879       train-rmspe:0.336924
eval-rmspe:0.336924
[103]    train-rmse:0.430661     eval-rmse:0.430661       train-rmspe:0.331352
eval-rmspe:0.331352
[104]    train-rmse:0.421558     eval-rmse:0.421558       train-rmspe:0.325876
eval-rmspe:0.325876
[105]    train-rmse:0.41289      eval-rmse:0.41289        train-rmspe:0.320617
eval-rmspe:0.320617
[106]    train-rmse:0.404339     eval-rmse:0.404339       train-rmspe:0.315483
eval-rmspe:0.315483
[107]    train-rmse:0.396362     eval-rmse:0.396362       train-rmspe:0.310609
eval-rmspe:0.310609
[108]    train-rmse:0.388748     eval-rmse:0.388748       train-rmspe:0.305999
eval-rmspe:0.305999
[109]    train-rmse:0.381202     eval-rmse:0.381202       train-rmspe:0.301434
eval-rmspe:0.301434
[110]    train-rmse:0.374067     eval-rmse:0.374067       train-rmspe:0.297143
eval-rmspe:0.297143
[111]    train-rmse:0.367181     eval-rmse:0.367181       train-rmspe:0.292971
eval-rmspe:0.292971
[112]    train-rmse:0.36048      eval-rmse:0.36048        train-rmspe:0.288874
eval-rmspe:0.288874
[113]    train-rmse:0.354113     eval-rmse:0.354113       train-rmspe:0.28503
eval-rmspe:0.28503
[114]    train-rmse:0.348068     eval-rmse:0.348068       train-rmspe:0.281446
eval-rmspe:0.281446
[115]    train-rmse:0.342138     eval-rmse:0.342138       train-rmspe:0.277902
eval-rmspe:0.277902
[116]    train-rmse:0.336018     eval-rmse:0.336018       train-rmspe:0.274159
eval-rmspe:0.274159
[117]    train-rmse:0.330432     eval-rmse:0.330432       train-rmspe:0.270787
eval-rmspe:0.270787
[118]    train-rmse:0.325265     eval-rmse:0.325265       train-rmspe:0.267718
eval-rmspe:0.267718
[119]    train-rmse:0.320132     eval-rmse:0.320132       train-rmspe:0.264668
eval-rmspe:0.264668
[120]    train-rmse:0.315159     eval-rmse:0.315159       train-rmspe:0.261787
eval-rmspe:0.261787
```

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[121]    train-rmse:0.310415    eval-rmse:0.310415    train-rmspe:0.259007
eval-rmspe:0.259007
[122]    train-rmse:0.305846    eval-rmse:0.305846    train-rmspe:0.256357
eval-rmspe:0.256357
[123]    train-rmse:0.301676    eval-rmse:0.301676    train-rmspe:0.254017
eval-rmspe:0.254017
[124]    train-rmse:0.297465    eval-rmse:0.297465    train-rmspe:0.251561
eval-rmspe:0.251561
[125]    train-rmse:0.293038    eval-rmse:0.293038    train-rmspe:0.248988
eval-rmspe:0.248988
[126]    train-rmse:0.289147    eval-rmse:0.289147    train-rmspe:0.246796
eval-rmspe:0.246796
[127]    train-rmse:0.285293    eval-rmse:0.285293    train-rmspe:0.244627
eval-rmspe:0.244627
[128]    train-rmse:0.281645    eval-rmse:0.281645    train-rmspe:0.24254
eval-rmspe:0.24254
[129]    train-rmse:0.277997    eval-rmse:0.277997    train-rmspe:0.240408
eval-rmspe:0.240408
[130]    train-rmse:0.274777    eval-rmse:0.274777    train-rmspe:0.238692
eval-rmspe:0.238692
[131]    train-rmse:0.271664    eval-rmse:0.271664    train-rmspe:0.237072
eval-rmspe:0.237072
[132]    train-rmse:0.26833    eval-rmse:0.26833    train-rmspe:0.235218
eval-rmspe:0.235218
[133]    train-rmse:0.265505    eval-rmse:0.265505    train-rmspe:0.233746
eval-rmspe:0.233746
[134]    train-rmse:0.26295    eval-rmse:0.26295    train-rmspe:0.23249
eval-rmspe:0.23249
[135]    train-rmse:0.260451    eval-rmse:0.260451    train-rmspe:0.231288
eval-rmspe:0.231288
[136]    train-rmse:0.256808    eval-rmse:0.256808    train-rmspe:0.229055
eval-rmspe:0.229055
[137]    train-rmse:0.254376    eval-rmse:0.254376    train-rmspe:0.227806
eval-rmspe:0.227806
[138]    train-rmse:0.252048    eval-rmse:0.252048    train-rmspe:0.226627
eval-rmspe:0.226627
[139]    train-rmse:0.249828    eval-rmse:0.249828    train-rmspe:0.225525
eval-rmspe:0.225525
[140]    train-rmse:0.247134    eval-rmse:0.247134    train-rmspe:0.223893
eval-rmspe:0.223893
[141]    train-rmse:0.244798    eval-rmse:0.244798    train-rmspe:0.222599
eval-rmspe:0.222599
[142]    train-rmse:0.24302    eval-rmse:0.24302    train-rmspe:0.221831
eval-rmspe:0.221831
[143]    train-rmse:0.241048    eval-rmse:0.241048    train-rmspe:0.220905
eval-rmspe:0.220905
[144]    train-rmse:0.239376    eval-rmse:0.239376    train-rmspe:0.22018
eval-rmspe:0.22018
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[145]   train-rmse:0.237328   eval-rmse:0.237328   train-rmspe:0.219077
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[146]   train-rmse:0.235369   eval-rmse:0.235369   train-rmspe:0.218035
eval-rmspe:0.218035
[147]   train-rmse:0.234056   eval-rmse:0.234056   train-rmspe:0.217616
eval-rmspe:0.217616
[148]   train-rmse:0.232616   eval-rmse:0.232616   train-rmspe:0.217005
eval-rmspe:0.217005
[149]   train-rmse:0.231234   eval-rmse:0.231234   train-rmspe:0.216449
eval-rmspe:0.216449
[150]   train-rmse:0.229516   eval-rmse:0.229516   train-rmspe:0.215574
eval-rmspe:0.215574
[151]   train-rmse:0.227983   eval-rmse:0.227983   train-rmspe:0.214865
eval-rmspe:0.214865
[152]   train-rmse:0.22694   eval-rmse:0.22694   train-rmspe:0.214576
eval-rmspe:0.214576
[153]   train-rmse:0.225836   eval-rmse:0.225836   train-rmspe:0.214207
eval-rmspe:0.214207
[154]   train-rmse:0.224398   eval-rmse:0.224398   train-rmspe:0.213485
eval-rmspe:0.213485
[155]   train-rmse:0.223243   eval-rmse:0.223243   train-rmspe:0.213052
eval-rmspe:0.213052
[156]   train-rmse:0.222074   eval-rmse:0.222074   train-rmspe:0.212581
eval-rmspe:0.212581
[157]   train-rmse:0.220729   eval-rmse:0.220729   train-rmspe:0.211952
eval-rmspe:0.211952
[158]   train-rmse:0.219244   eval-rmse:0.219244   train-rmspe:0.211061
eval-rmspe:0.211061
[159]   train-rmse:0.218236   eval-rmse:0.218236   train-rmspe:0.210692
eval-rmspe:0.210692
[160]   train-rmse:0.21689   eval-rmse:0.21689   train-rmspe:0.209944
eval-rmspe:0.209944
[161]   train-rmse:0.215725   eval-rmse:0.215725   train-rmspe:0.209366
eval-rmspe:0.209366
[162]   train-rmse:0.214876   eval-rmse:0.214876   train-rmspe:0.209071
eval-rmspe:0.209071
[163]   train-rmse:0.213816   eval-rmse:0.213816   train-rmspe:0.208571
eval-rmspe:0.208571
[164]   train-rmse:0.212633   eval-rmse:0.212633   train-rmspe:0.207842
eval-rmspe:0.207842
[165]   train-rmse:0.211613   eval-rmse:0.211613   train-rmspe:0.207338
eval-rmspe:0.207338
[166]   train-rmse:0.210952   eval-rmse:0.210952   train-rmspe:0.207166
eval-rmspe:0.207166
[167]   train-rmse:0.210136   eval-rmse:0.210136   train-rmspe:0.206833
eval-rmspe:0.206833
[168]   train-rmse:0.209456   eval-rmse:0.209456   train-rmspe:0.206591
eval-rmspe:0.206591

[169]   train-rmse:0.208574   eval-rmse:0.208574   train-rmspe:0.206121
eval-rmspe:0.206121
[170]   train-rmse:0.208097   eval-rmse:0.208097   train-rmspe:0.206073
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[171]   train-rmse:0.2071   eval-rmse:0.2071   train-rmspe:0.205504
eval-rmspe:0.205504
[172]   train-rmse:0.205105   eval-rmse:0.205105   train-rmspe:0.203862
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[173]   train-rmse:0.204638   eval-rmse:0.204638   train-rmspe:0.203758
eval-rmspe:0.203758
[174]   train-rmse:0.204172   eval-rmse:0.204172   train-rmspe:0.203614
eval-rmspe:0.203614
[175]   train-rmse:0.203595   eval-rmse:0.203595   train-rmspe:0.203393
eval-rmspe:0.203393
[176]   train-rmse:0.202645   eval-rmse:0.202645   train-rmspe:0.202733
eval-rmspe:0.202733
[177]   train-rmse:0.201055   eval-rmse:0.201055   train-rmspe:0.201426
eval-rmspe:0.201426
[178]   train-rmse:0.20045   eval-rmse:0.20045   train-rmspe:0.201124
eval-rmspe:0.201124
[179]   train-rmse:0.200025   eval-rmse:0.200025   train-rmspe:0.201037
eval-rmspe:0.201037
[180]   train-rmse:0.198581   eval-rmse:0.198581   train-rmspe:0.19987
eval-rmspe:0.19987
[181]   train-rmse:0.197401   eval-rmse:0.197401   train-rmspe:0.198895
eval-rmspe:0.198895
[182]   train-rmse:0.196116   eval-rmse:0.196116   train-rmspe:0.197777
eval-rmspe:0.197777
[183]   train-rmse:0.195406   eval-rmse:0.195406   train-rmspe:0.197347
eval-rmspe:0.197347
[184]   train-rmse:0.195022   eval-rmse:0.195022   train-rmspe:0.197235
eval-rmspe:0.197235
[185]   train-rmse:0.194439   eval-rmse:0.194439   train-rmspe:0.19686
eval-rmspe:0.19686
[186]   train-rmse:0.193428   eval-rmse:0.193428   train-rmspe:0.196027
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[187]   train-rmse:0.192453   eval-rmse:0.192453   train-rmspe:0.195342
eval-rmspe:0.195342
[188]   train-rmse:0.192058   eval-rmse:0.192058   train-rmspe:0.195157
eval-rmspe:0.195157
[189]   train-rmse:0.191237   eval-rmse:0.191237   train-rmspe:0.194558
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[190]   train-rmse:0.190811   eval-rmse:0.190811   train-rmspe:0.194325
eval-rmspe:0.194325
[191]   train-rmse:0.190449   eval-rmse:0.190449   train-rmspe:0.19417
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[192]   train-rmse:0.190162   eval-rmse:0.190162   train-rmspe:0.194083
eval-rmspe:0.194083

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[193]    train-rmse:0.189952    eval-rmse:0.189952    train-rmspe:0.194076
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[194]    train-rmse:0.189515    eval-rmse:0.189515    train-rmspe:0.193834
eval-rmspe:0.193834
[195]    train-rmse:0.189109    eval-rmse:0.189109    train-rmspe:0.193593
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[196]    train-rmse:0.188861    eval-rmse:0.188861    train-rmspe:0.193516
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[197]    train-rmse:0.188122    eval-rmse:0.188122    train-rmspe:0.192952
eval-rmspe:0.192952
[198]    train-rmse:0.187235    eval-rmse:0.187235    train-rmspe:0.192177
eval-rmspe:0.192177
[199]    train-rmse:0.186982    eval-rmse:0.186982    train-rmspe:0.192098
eval-rmspe:0.192098
[200]    train-rmse:0.186205    eval-rmse:0.186205    train-rmspe:0.191486
eval-rmspe:0.191486
[201]    train-rmse:0.185339    eval-rmse:0.185339    train-rmspe:0.190683
eval-rmspe:0.190683
[202]    train-rmse:0.185056    eval-rmse:0.185056    train-rmspe:0.190553
eval-rmspe:0.190553
[203]    train-rmse:0.184489    eval-rmse:0.184489    train-rmspe:0.190151
eval-rmspe:0.190151
[204]    train-rmse:0.183858    eval-rmse:0.183858    train-rmspe:0.18961
eval-rmspe:0.18961
[205]    train-rmse:0.183382    eval-rmse:0.183382    train-rmspe:0.189282
eval-rmspe:0.189282
[206]    train-rmse:0.183045    eval-rmse:0.183045    train-rmspe:0.189054
eval-rmspe:0.189054
[207]    train-rmse:0.182335    eval-rmse:0.182335    train-rmspe:0.188422
eval-rmspe:0.188422
[208]    train-rmse:0.181291    eval-rmse:0.181291    train-rmspe:0.187448
eval-rmspe:0.187448
[209]    train-rmse:0.180554    eval-rmse:0.180554    train-rmspe:0.186779
eval-rmspe:0.186779
[210]    train-rmse:0.179806    eval-rmse:0.179806    train-rmspe:0.18611
eval-rmspe:0.18611
[211]    train-rmse:0.179361    eval-rmse:0.179361    train-rmspe:0.18573
eval-rmspe:0.18573
[212]    train-rmse:0.179217    eval-rmse:0.179217    train-rmspe:0.18569
eval-rmspe:0.18569
[213]    train-rmse:0.179073    eval-rmse:0.179073    train-rmspe:0.18565
eval-rmspe:0.18565
[214]    train-rmse:0.178835    eval-rmse:0.178835    train-rmspe:0.185517
eval-rmspe:0.185517
[215]    train-rmse:0.178209    eval-rmse:0.178209    train-rmspe:0.184972
eval-rmspe:0.184972
[216]    train-rmse:0.17784     eval-rmse:0.17784     train-rmspe:0.184704
eval-rmspe:0.184704
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[217]   train-rmse:0.177569   eval-rmse:0.177569   train-rmspe:0.184515
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[218]   train-rmse:0.176892   eval-rmse:0.176892   train-rmspe:0.18386
eval-rmspe:0.18386
[219]   train-rmse:0.175962   eval-rmse:0.175962   train-rmspe:0.182863
eval-rmspe:0.182863
[220]   train-rmse:0.175721   eval-rmse:0.175721   train-rmspe:0.182701
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[221]   train-rmse:0.17502   eval-rmse:0.17502   train-rmspe:0.182044
eval-rmspe:0.182044
[222]   train-rmse:0.174496   eval-rmse:0.174496   train-rmspe:0.181575
eval-rmspe:0.181575
[223]   train-rmse:0.174096   eval-rmse:0.174096   train-rmspe:0.181232
eval-rmspe:0.181232
[224]   train-rmse:0.173569   eval-rmse:0.173569   train-rmspe:0.180812
eval-rmspe:0.180812
[225]   train-rmse:0.17195   eval-rmse:0.17195   train-rmspe:0.179129
eval-rmspe:0.179129
[226]   train-rmse:0.171123   eval-rmse:0.171123   train-rmspe:0.178227
eval-rmspe:0.178227
[227]   train-rmse:0.170704   eval-rmse:0.170704   train-rmspe:0.177871
eval-rmspe:0.177871
[228]   train-rmse:0.170326   eval-rmse:0.170326   train-rmspe:0.1775
eval-rmspe:0.1775
[229]   train-rmse:0.170084   eval-rmse:0.170084   train-rmspe:0.177322
eval-rmspe:0.177322
[230]   train-rmse:0.169606   eval-rmse:0.169606   train-rmspe:0.176895
eval-rmspe:0.176895
[231]   train-rmse:0.169007   eval-rmse:0.169007   train-rmspe:0.176293
eval-rmspe:0.176293
[232]   train-rmse:0.168055   eval-rmse:0.168055   train-rmspe:0.175202
eval-rmspe:0.175202
[233]   train-rmse:0.167488   eval-rmse:0.167488   train-rmspe:0.174711
eval-rmspe:0.174711
[234]   train-rmse:0.166903   eval-rmse:0.166903   train-rmspe:0.174166
eval-rmspe:0.174166
[235]   train-rmse:0.16597   eval-rmse:0.16597   train-rmspe:0.173237
eval-rmspe:0.173237
[236]   train-rmse:0.165236   eval-rmse:0.165236   train-rmspe:0.172527
eval-rmspe:0.172527
[237]   train-rmse:0.164431   eval-rmse:0.164431   train-rmspe:0.171694
eval-rmspe:0.171694
[238]   train-rmse:0.163611   eval-rmse:0.163611   train-rmspe:0.170819
eval-rmspe:0.170819
[239]   train-rmse:0.163184   eval-rmse:0.163184   train-rmspe:0.170418
eval-rmspe:0.170418
[240]   train-rmse:0.162802   eval-rmse:0.162802   train-rmspe:0.170041
eval-rmspe:0.170041

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[241]    train-rmse:0.16238      eval-rmse:0.16238       train-rmspe:0.169647
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eval-rmspe:0.169443
[243]    train-rmse:0.162097     eval-rmse:0.162097      train-rmspe:0.169423
eval-rmspe:0.169423
[244]    train-rmse:0.161736     eval-rmse:0.161736      train-rmspe:0.169072
eval-rmspe:0.169072
[245]    train-rmse:0.160755     eval-rmse:0.160755      train-rmspe:0.167954
eval-rmspe:0.167954
[246]    train-rmse:0.160125     eval-rmse:0.160125      train-rmspe:0.167317
eval-rmspe:0.167317
[247]    train-rmse:0.159436     eval-rmse:0.159436      train-rmspe:0.166602
eval-rmspe:0.166602
[248]    train-rmse:0.158814     eval-rmse:0.158814      train-rmspe:0.165983
eval-rmspe:0.165983
[249]    train-rmse:0.158447     eval-rmse:0.158447      train-rmspe:0.165638
eval-rmspe:0.165638
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eval-rmspe:0.165097
[252]    train-rmse:0.157357     eval-rmse:0.157357      train-rmspe:0.164634
eval-rmspe:0.164634
[253]    train-rmse:0.15659      eval-rmse:0.15659       train-rmspe:0.163769
eval-rmspe:0.163769
[254]    train-rmse:0.156356     eval-rmse:0.156356      train-rmspe:0.163539
eval-rmspe:0.163539
[255]    train-rmse:0.155741     eval-rmse:0.155741      train-rmspe:0.162889
eval-rmspe:0.162889
[256]    train-rmse:0.154985     eval-rmse:0.154985      train-rmspe:0.162087
eval-rmspe:0.162087
[257]    train-rmse:0.154675     eval-rmse:0.154675      train-rmspe:0.161804
eval-rmspe:0.161804
[258]    train-rmse:0.154311     eval-rmse:0.154311      train-rmspe:0.161428
eval-rmspe:0.161428
[259]    train-rmse:0.154201     eval-rmse:0.154201      train-rmspe:0.161338
eval-rmspe:0.161338
[260]    train-rmse:0.153919     eval-rmse:0.153919      train-rmspe:0.161035
eval-rmspe:0.161035
[261]    train-rmse:0.153459     eval-rmse:0.153459      train-rmspe:0.160559
eval-rmspe:0.160559
[262]    train-rmse:0.153306     eval-rmse:0.153306      train-rmspe:0.160418
eval-rmspe:0.160418
[263]    train-rmse:0.152855     eval-rmse:0.152855      train-rmspe:0.159978
eval-rmspe:0.159978
[264]    train-rmse:0.152566     eval-rmse:0.152566      train-rmspe:0.159702
eval-rmspe:0.159702
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[266]    train-rmse:0.152023    eval-rmse:0.152023    train-rmspe:0.159169
eval-rmspe:0.159169
[267]    train-rmse:0.15163     eval-rmse:0.15163     train-rmspe:0.158779
eval-rmspe:0.158779
[268]    train-rmse:0.151375    eval-rmse:0.151375    train-rmspe:0.158537
eval-rmspe:0.158537
[269]    train-rmse:0.151226    eval-rmse:0.151226    train-rmspe:0.158404
eval-rmspe:0.158404
[270]    train-rmse:0.150908    eval-rmse:0.150908    train-rmspe:0.158077
eval-rmspe:0.158077
[271]    train-rmse:0.150387    eval-rmse:0.150387    train-rmspe:0.157537
eval-rmspe:0.157537
[272]    train-rmse:0.150118    eval-rmse:0.150118    train-rmspe:0.157259
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[273]    train-rmse:0.149889    eval-rmse:0.149889    train-rmspe:0.157026
eval-rmspe:0.157026
[274]    train-rmse:0.149776    eval-rmse:0.149776    train-rmspe:0.156912
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[275]    train-rmse:0.149253    eval-rmse:0.149253    train-rmspe:0.156393
eval-rmspe:0.156393
[276]    train-rmse:0.148507    eval-rmse:0.148507    train-rmspe:0.155583
eval-rmspe:0.155583
[277]    train-rmse:0.148258    eval-rmse:0.148258    train-rmspe:0.155349
eval-rmspe:0.155349
[278]    train-rmse:0.147917    eval-rmse:0.147917    train-rmspe:0.154977
eval-rmspe:0.154977
[279]    train-rmse:0.14762     eval-rmse:0.14762     train-rmspe:0.154679
eval-rmspe:0.154679
[280]    train-rmse:0.147201    eval-rmse:0.147201    train-rmspe:0.154233
eval-rmspe:0.154233
[281]    train-rmse:0.147064    eval-rmse:0.147064    train-rmspe:0.154101
eval-rmspe:0.154101
[282]    train-rmse:0.1467      eval-rmse:0.1467      train-rmspe:0.153713
eval-rmspe:0.153713
[283]    train-rmse:0.146013    eval-rmse:0.146013    train-rmspe:0.152959
eval-rmspe:0.152959
[284]    train-rmse:0.145729    eval-rmse:0.145729    train-rmspe:0.152679
eval-rmspe:0.152679
[285]    train-rmse:0.145427    eval-rmse:0.145427    train-rmspe:0.152368
eval-rmspe:0.152368
[286]    train-rmse:0.145042    eval-rmse:0.145042    train-rmspe:0.151984
eval-rmspe:0.151984
[287]    train-rmse:0.144766    eval-rmse:0.144766    train-rmspe:0.151704
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[288]    train-rmse:0.144142    eval-rmse:0.144142    train-rmspe:0.151051
eval-rmspe:0.151051
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[289]   train-rmse:0.143977   eval-rmse:0.143977   train-rmspe:0.150882
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[290]   train-rmse:0.14319   eval-rmse:0.14319   train-rmspe:0.150055
eval-rmspe:0.150055
[291]   train-rmse:0.142595   eval-rmse:0.142595   train-rmspe:0.149364
eval-rmspe:0.149364
[292]   train-rmse:0.142549   eval-rmse:0.142549   train-rmspe:0.149326
eval-rmspe:0.149326
[293]   train-rmse:0.142101   eval-rmse:0.142101   train-rmspe:0.14883
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[294]   train-rmse:0.141258   eval-rmse:0.141258   train-rmspe:0.147912
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[295]   train-rmse:0.141031   eval-rmse:0.141031   train-rmspe:0.147686
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[296]   train-rmse:0.140625   eval-rmse:0.140625   train-rmspe:0.147277
eval-rmspe:0.147277
[297]   train-rmse:0.14003   eval-rmse:0.14003   train-rmspe:0.146614
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[298]   train-rmse:0.139791   eval-rmse:0.139791   train-rmspe:0.146369
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[299]   train-rmse:0.138972   eval-rmse:0.138972   train-rmspe:0.145494
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[300]   train-rmse:0.138521   eval-rmse:0.138521   train-rmspe:0.144979
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[301]   train-rmse:0.137815   eval-rmse:0.137815   train-rmspe:0.144245
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[302]   train-rmse:0.137519   eval-rmse:0.137519   train-rmspe:0.143945
eval-rmspe:0.143945
[303]   train-rmse:0.136902   eval-rmse:0.136902   train-rmspe:0.143307
eval-rmspe:0.143307
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[305]   train-rmse:0.136305   eval-rmse:0.136305   train-rmspe:0.142686
eval-rmspe:0.142686
[306]   train-rmse:0.135635   eval-rmse:0.135635   train-rmspe:0.141995
eval-rmspe:0.141995
[307]   train-rmse:0.135337   eval-rmse:0.135337   train-rmspe:0.141682
eval-rmspe:0.141682
[308]   train-rmse:0.134999   eval-rmse:0.134999   train-rmspe:0.141314
eval-rmspe:0.141314
[309]   train-rmse:0.134049   eval-rmse:0.134049   train-rmspe:0.140329
eval-rmspe:0.140329
[310]   train-rmse:0.133783   eval-rmse:0.133783   train-rmspe:0.13998
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[311]   train-rmse:0.13334   eval-rmse:0.13334   train-rmspe:0.139524
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[312]   train-rmse:0.133029   eval-rmse:0.133029   train-rmspe:0.139198
eval-rmspe:0.139198

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[313]    train-rmse:0.132761    eval-rmse:0.132761    train-rmspe:0.138903
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[314]    train-rmse:0.132525    eval-rmse:0.132525    train-rmspe:0.138649
eval-rmspe:0.138649
[315]    train-rmse:0.132381    eval-rmse:0.132381    train-rmspe:0.138489
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[316]    train-rmse:0.132086    eval-rmse:0.132086    train-rmspe:0.138188
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[317]    train-rmse:0.131963    eval-rmse:0.131963    train-rmspe:0.138063
eval-rmspe:0.138063
[318]    train-rmse:0.131642    eval-rmse:0.131642    train-rmspe:0.137746
eval-rmspe:0.137746
[319]    train-rmse:0.131545    eval-rmse:0.131545    train-rmspe:0.137646
eval-rmspe:0.137646
[320]    train-rmse:0.130977    eval-rmse:0.130977    train-rmspe:0.137059
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[321]    train-rmse:0.130654    eval-rmse:0.130654    train-rmspe:0.136729
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[322]    train-rmse:0.130565    eval-rmse:0.130565    train-rmspe:0.136643
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[324]    train-rmse:0.130046    eval-rmse:0.130046    train-rmspe:0.136088
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[325]    train-rmse:0.129457    eval-rmse:0.129457    train-rmspe:0.135437
eval-rmspe:0.135437
[326]    train-rmse:0.129073    eval-rmse:0.129073    train-rmspe:0.135023
eval-rmspe:0.135023
[327]    train-rmse:0.128984    eval-rmse:0.128984    train-rmspe:0.134937
eval-rmspe:0.134937
[328]    train-rmse:0.12883     eval-rmse:0.12883     train-rmspe:0.13477
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[329]    train-rmse:0.128713    eval-rmse:0.128713    train-rmspe:0.134648
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[330]    train-rmse:0.128311    eval-rmse:0.128311    train-rmspe:0.134168
eval-rmspe:0.134168
[331]    train-rmse:0.128188    eval-rmse:0.128188    train-rmspe:0.133995
eval-rmspe:0.133995
[332]    train-rmse:0.128089    eval-rmse:0.128089    train-rmspe:0.133888
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[333]    train-rmse:0.127952    eval-rmse:0.127952    train-rmspe:0.133744
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[334]    train-rmse:0.127911    eval-rmse:0.127911    train-rmspe:0.133703
eval-rmspe:0.133703
[335]    train-rmse:0.127733    eval-rmse:0.127733    train-rmspe:0.133519
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[336]    train-rmse:0.127432    eval-rmse:0.127432    train-rmspe:0.133199
eval-rmspe:0.133199
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eval-rmspe:0.13225
[339]    train-rmse:0.126123    eval-rmse:0.126123    train-rmspe:0.131841
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[340]    train-rmse:0.125874    eval-rmse:0.125874    train-rmspe:0.131564
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[345]    train-rmse:0.12471     eval-rmse:0.12471     train-rmspe:0.130313
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[353]    train-rmse:0.122865    eval-rmse:0.122865    train-rmspe:0.128417
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eval-rmspe:0.12833
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[360]    train-rmse:0.120547    eval-rmse:0.120547    train-rmspe:0.125943
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eval-rmspe:0.1217
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eval-rmspe:0.121498
[377]   train-rmse:0.116089   eval-rmse:0.116089   train-rmspe:0.121117
eval-rmspe:0.121117
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[379]   train-rmse:0.115549   eval-rmse:0.115549   train-rmspe:0.120539
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eval-rmspe:0.120471
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eval-rmspe:0.120377
[382]   train-rmse:0.115137   eval-rmse:0.115137   train-rmspe:0.120092
eval-rmspe:0.120092
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eval-rmspe:0.119509
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eval-rmspe:0.119304
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eval-rmspe:0.117566
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eval-rmspe:0.115637
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[406]   train-rmse:0.11023   eval-rmse:0.11023   train-rmspe:0.114808
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eval-rmspe:0.114701
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[572]    train-rmse:0.08407    eval-rmse:0.08407    train-rmspe:0.086333
eval-rmspe:0.086333
[573]    train-rmse:0.083971    eval-rmse:0.083971    train-rmspe:0.086233
eval-rmspe:0.086233
[574]    train-rmse:0.083894    eval-rmse:0.083894    train-rmspe:0.086151
eval-rmspe:0.086151
[575]    train-rmse:0.083779    eval-rmse:0.083779    train-rmspe:0.086035
eval-rmspe:0.086035
[576]    train-rmse:0.083736    eval-rmse:0.083736    train-rmspe:0.08599
eval-rmspe:0.08599
```

[577]   train-rmse:0.083655   eval-rmse:0.083655   train-rmspe:0.085905
eval-rmspe:0.085905
[578]   train-rmse:0.083612   eval-rmse:0.083612   train-rmspe:0.085862
eval-rmspe:0.085862
[579]   train-rmse:0.083478   eval-rmse:0.083478   train-rmspe:0.085729
eval-rmspe:0.085729
[580]   train-rmse:0.08342   eval-rmse:0.08342   train-rmspe:0.085669
eval-rmspe:0.085669
[581]   train-rmse:0.083339   eval-rmse:0.083339   train-rmspe:0.085576
eval-rmspe:0.085576
[582]   train-rmse:0.083269   eval-rmse:0.083269   train-rmspe:0.085505
eval-rmspe:0.085505
[583]   train-rmse:0.083199   eval-rmse:0.083199   train-rmspe:0.08543
eval-rmspe:0.08543
[584]   train-rmse:0.083108   eval-rmse:0.083108   train-rmspe:0.085333
eval-rmspe:0.085333
[585]   train-rmse:0.083027   eval-rmse:0.083027   train-rmspe:0.085247
eval-rmspe:0.085247
[586]   train-rmse:0.082986   eval-rmse:0.082986   train-rmspe:0.085204
eval-rmspe:0.085204
[587]   train-rmse:0.082878   eval-rmse:0.082878   train-rmspe:0.085092
eval-rmspe:0.085092
[588]   train-rmse:0.08274   eval-rmse:0.08274   train-rmspe:0.084948
eval-rmspe:0.084948
[589]   train-rmse:0.082634   eval-rmse:0.082634   train-rmspe:0.084834
eval-rmspe:0.084834
[590]   train-rmse:0.082522   eval-rmse:0.082522   train-rmspe:0.084713
eval-rmspe:0.084713
[591]   train-rmse:0.082432   eval-rmse:0.082432   train-rmspe:0.084622
eval-rmspe:0.084622
[592]   train-rmse:0.082344   eval-rmse:0.082344   train-rmspe:0.084534
eval-rmspe:0.084534
[593]   train-rmse:0.082245   eval-rmse:0.082245   train-rmspe:0.084431
eval-rmspe:0.084431
[594]   train-rmse:0.082137   eval-rmse:0.082137   train-rmspe:0.084315
eval-rmspe:0.084315
[595]   train-rmse:0.082034   eval-rmse:0.082034   train-rmspe:0.084207
eval-rmspe:0.084207
[596]   train-rmse:0.081843   eval-rmse:0.081843   train-rmspe:0.083999
eval-rmspe:0.083999
[597]   train-rmse:0.081741   eval-rmse:0.081741   train-rmspe:0.083885
eval-rmspe:0.083885
[598]   train-rmse:0.08168   eval-rmse:0.08168   train-rmspe:0.083821
eval-rmspe:0.083821
[599]   train-rmse:0.081617   eval-rmse:0.081617   train-rmspe:0.083755
eval-rmspe:0.083755
round 9 end
round 10:

```
[0]      train-rmse:8.02732     eval-rmse:8.02732     train-rmspe:0.999811
eval-rmspe:0.999811
Multiple eval metrics have been passed: 'eval-rmspe' will be used for early
stopping.

Will train until eval-rmspe hasn't improved in 100 rounds.
[1]      train-rmse:7.787     eval-rmse:7.787 train-rmspe:0.999713     eval-
rmspe:0.999713
[2]      train-rmse:7.55392     eval-rmse:7.55392     train-rmspe:0.999594
eval-rmspe:0.999594
[3]      train-rmse:7.32785     eval-rmse:7.32785     train-rmspe:0.999448
eval-rmspe:0.999448
[4]      train-rmse:7.10856     eval-rmse:7.10856     train-rmspe:0.999272
eval-rmspe:0.999272
[5]      train-rmse:6.89589     eval-rmse:6.89589     train-rmspe:0.999059
eval-rmspe:0.999059
[6]      train-rmse:6.6896     eval-rmse:6.6896     train-rmspe:0.998806
eval-rmspe:0.998806
[7]      train-rmse:6.48952     eval-rmse:6.48952     train-rmspe:0.998504
eval-rmspe:0.998504
[8]      train-rmse:6.29544     eval-rmse:6.29544     train-rmspe:0.998149
eval-rmspe:0.998149
[9]      train-rmse:6.10723     eval-rmse:6.10723     train-rmspe:0.997733
eval-rmspe:0.997733
[10]     train-rmse:5.92466     eval-rmse:5.92466     train-rmspe:0.997246
eval-rmspe:0.997246
[11]     train-rmse:5.74763     eval-rmse:5.74763     train-rmspe:0.996682
eval-rmspe:0.996682
[12]     train-rmse:5.5759     eval-rmse:5.5759     train-rmspe:0.99603
eval-rmspe:0.99603
[13]     train-rmse:5.40935     eval-rmse:5.40935     train-rmspe:0.995282
eval-rmspe:0.995282
[14]     train-rmse:5.24782     eval-rmse:5.24782     train-rmspe:0.994428
eval-rmspe:0.994428
[15]     train-rmse:5.09116     eval-rmse:5.09116     train-rmspe:0.993456
eval-rmspe:0.993456
[16]     train-rmse:4.93923     eval-rmse:4.93923     train-rmspe:0.992357
eval-rmspe:0.992357
[17]     train-rmse:4.79185     eval-rmse:4.79185     train-rmspe:0.99112
eval-rmspe:0.99112
[18]     train-rmse:4.64887     eval-rmse:4.64887     train-rmspe:0.989733
eval-rmspe:0.989733
[19]     train-rmse:4.51027     eval-rmse:4.51027     train-rmspe:0.988186
eval-rmspe:0.988186
[20]     train-rmse:4.37584     eval-rmse:4.37584     train-rmspe:0.986468
eval-rmspe:0.986468
[21]     train-rmse:4.24543     eval-rmse:4.24543     train-rmspe:0.984568
eval-rmspe:0.984568
```

```
[22]    train-rmse:4.11897      eval-rmse:4.11897       train-rmspe:0.982472
eval-rmspe:0.982472
[23]    train-rmse:3.99634      eval-rmse:3.99634       train-rmspe:0.98017
eval-rmspe:0.98017
[24]    train-rmse:3.87741      eval-rmse:3.87741       train-rmspe:0.977651
eval-rmspe:0.977651
[25]    train-rmse:3.76213      eval-rmse:3.76213       train-rmspe:0.974904
eval-rmspe:0.974904
[26]    train-rmse:3.65023      eval-rmse:3.65023       train-rmspe:0.971925
eval-rmspe:0.971925
[27]    train-rmse:3.54173      eval-rmse:3.54173       train-rmspe:0.9687
eval-rmspe:0.9687
[28]    train-rmse:3.43652      eval-rmse:3.43652       train-rmspe:0.965217
eval-rmspe:0.965217
[29]    train-rmse:3.33448      eval-rmse:3.33448       train-rmspe:0.961479
eval-rmspe:0.961479
[30]    train-rmse:3.23555      eval-rmse:3.23555       train-rmspe:0.957474
eval-rmspe:0.957474
[31]    train-rmse:3.13963      eval-rmse:3.13963       train-rmspe:0.953188
eval-rmspe:0.953188
[32]    train-rmse:3.04655      eval-rmse:3.04655       train-rmspe:0.948627
eval-rmspe:0.948627
[33]    train-rmse:2.95634      eval-rmse:2.95634       train-rmspe:0.943775
eval-rmspe:0.943775
[34]    train-rmse:2.86882      eval-rmse:2.86882       train-rmspe:0.938647
eval-rmspe:0.938647
[35]    train-rmse:2.78398      eval-rmse:2.78398       train-rmspe:0.933237
eval-rmspe:0.933237
[36]    train-rmse:2.70169      eval-rmse:2.70169       train-rmspe:0.927552
eval-rmspe:0.927552
[37]    train-rmse:2.62196      eval-rmse:2.62196       train-rmspe:0.921548
eval-rmspe:0.921548
[38]    train-rmse:2.54464      eval-rmse:2.54464       train-rmspe:0.91526
eval-rmspe:0.91526
[39]    train-rmse:2.46959      eval-rmse:2.46959       train-rmspe:0.908711
eval-rmspe:0.908711
[40]    train-rmse:2.39682      eval-rmse:2.39682       train-rmspe:0.901879
eval-rmspe:0.901879
[41]    train-rmse:2.32628      eval-rmse:2.32628       train-rmspe:0.894752
eval-rmspe:0.894752
[42]    train-rmse:2.25796      eval-rmse:2.25796       train-rmspe:0.887318
eval-rmspe:0.887318
[43]    train-rmse:2.19157      eval-rmse:2.19157       train-rmspe:0.879687
eval-rmspe:0.879687
[44]    train-rmse:2.12726      eval-rmse:2.12726       train-rmspe:0.871757
eval-rmspe:0.871757
[45]    train-rmse:2.06495      eval-rmse:2.06495       train-rmspe:0.863557
eval-rmspe:0.863557
```

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[46]     train-rmse:2.00449     eval-rmse:2.00449     train-rmspe:0.855147
eval-rmspe:0.855147
[47]     train-rmse:1.94579     eval-rmse:1.94579     train-rmspe:0.846541
eval-rmspe:0.846541
[48]     train-rmse:1.88896     eval-rmse:1.88896     train-rmspe:0.837679
eval-rmspe:0.837679
[49]     train-rmse:1.83395     eval-rmse:1.83395     train-rmspe:0.828542
eval-rmspe:0.828542
[50]     train-rmse:1.78058     eval-rmse:1.78058     train-rmspe:0.81924
eval-rmspe:0.81924
[51]     train-rmse:1.72885     eval-rmse:1.72885     train-rmspe:0.809723
eval-rmspe:0.809723
[52]     train-rmse:1.6786     eval-rmse:1.6786     train-rmspe:0.800068
eval-rmspe:0.800068
[53]     train-rmse:1.62985     eval-rmse:1.62985     train-rmspe:0.790273
eval-rmspe:0.790273
[54]     train-rmse:1.58257     eval-rmse:1.58257     train-rmspe:0.78032
eval-rmspe:0.78032
[55]     train-rmse:1.53687     eval-rmse:1.53687     train-rmspe:0.770178
eval-rmspe:0.770178
[56]     train-rmse:1.49251     eval-rmse:1.49251     train-rmspe:0.759939
eval-rmspe:0.759939
[57]     train-rmse:1.44964     eval-rmse:1.44964     train-rmspe:0.749516
eval-rmspe:0.749516
[58]     train-rmse:1.40788     eval-rmse:1.40788     train-rmspe:0.739119
eval-rmspe:0.739119
[59]     train-rmse:1.36751     eval-rmse:1.36751     train-rmspe:0.728544
eval-rmspe:0.728544
[60]     train-rmse:1.32812     eval-rmse:1.32812     train-rmspe:0.717977
eval-rmspe:0.717977
[61]     train-rmse:1.29014     eval-rmse:1.29014     train-rmspe:0.707284
eval-rmspe:0.707284
[62]     train-rmse:1.25335     eval-rmse:1.25335     train-rmspe:0.696553
eval-rmspe:0.696553
[63]     train-rmse:1.21762     eval-rmse:1.21762     train-rmspe:0.685804
eval-rmspe:0.685804
[64]     train-rmse:1.18307     eval-rmse:1.18307     train-rmspe:0.674987
eval-rmspe:0.674987
[65]     train-rmse:1.14968     eval-rmse:1.14968     train-rmspe:0.66414
eval-rmspe:0.66414
[66]     train-rmse:1.11732     eval-rmse:1.11732     train-rmspe:0.653321
eval-rmspe:0.653321
[67]     train-rmse:1.08589     eval-rmse:1.08589     train-rmspe:0.642489
eval-rmspe:0.642489
[68]     train-rmse:1.05554     eval-rmse:1.05554     train-rmspe:0.631687
eval-rmspe:0.631687
[69]     train-rmse:1.02603     eval-rmse:1.02603     train-rmspe:0.620969
eval-rmspe:0.620969
```

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[70]    train-rmse:0.99761      eval-rmse:0.99761       train-rmspe:0.610242
eval-rmspe:0.610242
[71]    train-rmse:0.969912     eval-rmse:0.969912      train-rmspe:0.599599
eval-rmspe:0.599599
[72]    train-rmse:0.943288     eval-rmse:0.943288      train-rmspe:0.589005
eval-rmspe:0.589005
[73]    train-rmse:0.917118     eval-rmse:0.917118      train-rmspe:0.578551
eval-rmspe:0.578551
[74]    train-rmse:0.892063     eval-rmse:0.892063      train-rmspe:0.568135
eval-rmspe:0.568135
[75]    train-rmse:0.867758     eval-rmse:0.867758      train-rmspe:0.557831
eval-rmspe:0.557831
[76]    train-rmse:0.844294     eval-rmse:0.844294      train-rmspe:0.547611
eval-rmspe:0.547611
[77]    train-rmse:0.821557     eval-rmse:0.821557      train-rmspe:0.537538
eval-rmspe:0.537538
[78]    train-rmse:0.799327     eval-rmse:0.799327      train-rmspe:0.527581
eval-rmspe:0.527581
[79]    train-rmse:0.777911     eval-rmse:0.777911      train-rmspe:0.517749
eval-rmspe:0.517749
[80]    train-rmse:0.757397     eval-rmse:0.757397      train-rmspe:0.508045
eval-rmspe:0.508045
[81]    train-rmse:0.737424     eval-rmse:0.737424      train-rmspe:0.49851
eval-rmspe:0.49851
[82]    train-rmse:0.71808      eval-rmse:0.71808       train-rmspe:0.489112
eval-rmspe:0.489112
[83]    train-rmse:0.699196     eval-rmse:0.699196      train-rmspe:0.479822
eval-rmspe:0.479822
[84]    train-rmse:0.681064     eval-rmse:0.681064      train-rmspe:0.470728
eval-rmspe:0.470728
[85]    train-rmse:0.663282     eval-rmse:0.663282      train-rmspe:0.461743
eval-rmspe:0.461743
[86]    train-rmse:0.646154     eval-rmse:0.646154      train-rmspe:0.452945
eval-rmspe:0.452945
[87]    train-rmse:0.629961     eval-rmse:0.629961      train-rmspe:0.44437
eval-rmspe:0.44437
[88]    train-rmse:0.614275     eval-rmse:0.614275      train-rmspe:0.435969
eval-rmspe:0.435969
[89]    train-rmse:0.598972     eval-rmse:0.598972      train-rmspe:0.427726
eval-rmspe:0.427726
[90]    train-rmse:0.583914     eval-rmse:0.583914      train-rmspe:0.4196
eval-rmspe:0.4196
[91]    train-rmse:0.569575     eval-rmse:0.569575      train-rmspe:0.411718
eval-rmspe:0.411718
[92]    train-rmse:0.555846     eval-rmse:0.555846      train-rmspe:0.404078
eval-rmspe:0.404078
[93]    train-rmse:0.542631     eval-rmse:0.542631      train-rmspe:0.396616
eval-rmspe:0.396616
```

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[94]    train-rmse:0.529784    eval-rmse:0.529784    train-rmspe:0.3893
eval-rmspe:0.3893
[95]    train-rmse:0.517288    eval-rmse:0.517288    train-rmspe:0.382176
eval-rmspe:0.382176
[96]    train-rmse:0.505302    eval-rmse:0.505302    train-rmspe:0.375272
eval-rmspe:0.375272
[97]    train-rmse:0.493522    eval-rmse:0.493522    train-rmspe:0.368493
eval-rmspe:0.368493
[98]    train-rmse:0.482315    eval-rmse:0.482315    train-rmspe:0.361913
eval-rmspe:0.361913
[99]    train-rmse:0.471571    eval-rmse:0.471571    train-rmspe:0.355553
eval-rmspe:0.355553
[100]   train-rmse:0.46122     eval-rmse:0.46122     train-rmspe:0.34943
eval-rmspe:0.34943
[101]   train-rmse:0.451185    eval-rmse:0.451185    train-rmspe:0.343455
eval-rmspe:0.343455
[102]   train-rmse:0.441176    eval-rmse:0.441176    train-rmspe:0.337506
eval-rmspe:0.337506
[103]   train-rmse:0.431634    eval-rmse:0.431634    train-rmspe:0.331769
eval-rmspe:0.331769
[104]   train-rmse:0.422471    eval-rmse:0.422471    train-rmspe:0.326284
eval-rmspe:0.326284
[105]   train-rmse:0.413609    eval-rmse:0.413609    train-rmspe:0.320993
eval-rmspe:0.320993
[106]   train-rmse:0.404663    eval-rmse:0.404663    train-rmspe:0.315612
eval-rmspe:0.315612
[107]   train-rmse:0.396578    eval-rmse:0.396578    train-rmspe:0.310712
eval-rmspe:0.310712
[108]   train-rmse:0.388501    eval-rmse:0.388501    train-rmspe:0.305842
eval-rmspe:0.305842
[109]   train-rmse:0.381072    eval-rmse:0.381072    train-rmspe:0.301332
eval-rmspe:0.301332
[110]   train-rmse:0.373757    eval-rmse:0.373757    train-rmspe:0.296907
eval-rmspe:0.296907
[111]   train-rmse:0.366698    eval-rmse:0.366698    train-rmspe:0.292618
eval-rmspe:0.292618
[112]   train-rmse:0.359914    eval-rmse:0.359914    train-rmspe:0.288539
eval-rmspe:0.288539
[113]   train-rmse:0.353416    eval-rmse:0.353416    train-rmspe:0.284613
eval-rmspe:0.284613
[114]   train-rmse:0.347371    eval-rmse:0.347371    train-rmspe:0.280973
eval-rmspe:0.280973
[115]   train-rmse:0.341227    eval-rmse:0.341227    train-rmspe:0.277284
eval-rmspe:0.277284
[116]   train-rmse:0.335544    eval-rmse:0.335544    train-rmspe:0.273901
eval-rmspe:0.273901
[117]   train-rmse:0.329956    eval-rmse:0.329956    train-rmspe:0.270564
eval-rmspe:0.270564
```

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[118]	train-rmse:0.324704	eval-rmse:0.324704	train-rmspe:0.267432
eval-rmspe:0.267432
[119]	train-rmse:0.319456	eval-rmse:0.319456	train-rmspe:0.264262
eval-rmspe:0.264262
[120]	train-rmse:0.314525	eval-rmse:0.314525	train-rmspe:0.261302
eval-rmspe:0.261302
[121]	train-rmse:0.309655	eval-rmse:0.309655	train-rmspe:0.258399
eval-rmspe:0.258399
[122]	train-rmse:0.304751	eval-rmse:0.304751	train-rmspe:0.255462
eval-rmspe:0.255462
[123]	train-rmse:0.300545	eval-rmse:0.300545	train-rmspe:0.253035
eval-rmspe:0.253035
[124]	train-rmse:0.296234	eval-rmse:0.296234	train-rmspe:0.250473
eval-rmspe:0.250473
[125]	train-rmse:0.292145	eval-rmse:0.292145	train-rmspe:0.248116
eval-rmspe:0.248116
[126]	train-rmse:0.287985	eval-rmse:0.287985	train-rmspe:0.245634
eval-rmspe:0.245634
[127]	train-rmse:0.284474	eval-rmse:0.284474	train-rmspe:0.243696
eval-rmspe:0.243696
[128]	train-rmse:0.280981	eval-rmse:0.280981	train-rmspe:0.24181
eval-rmspe:0.24181
[129]	train-rmse:0.277611	eval-rmse:0.277611	train-rmspe:0.239943
eval-rmspe:0.239943
[130]	train-rmse:0.274401	eval-rmse:0.274401	train-rmspe:0.238226
eval-rmspe:0.238226
[131]	train-rmse:0.271148	eval-rmse:0.271148	train-rmspe:0.236493
eval-rmspe:0.236493
[132]	train-rmse:0.267355	eval-rmse:0.267355	train-rmspe:0.234204
eval-rmspe:0.234204
[133]	train-rmse:0.264561	eval-rmse:0.264561	train-rmspe:0.232738
eval-rmspe:0.232738
[134]	train-rmse:0.261794	eval-rmse:0.261794	train-rmspe:0.231257
eval-rmspe:0.231257
[135]	train-rmse:0.259422	eval-rmse:0.259422	train-rmspe:0.230133
eval-rmspe:0.230133
[136]	train-rmse:0.256478	eval-rmse:0.256478	train-rmspe:0.2285
eval-rmspe:0.2285
[137]	train-rmse:0.254153	eval-rmse:0.254153	train-rmspe:0.227332
eval-rmspe:0.227332
[138]	train-rmse:0.251881	eval-rmse:0.251881	train-rmspe:0.226218
eval-rmspe:0.226218
[139]	train-rmse:0.249431	eval-rmse:0.249431	train-rmspe:0.224888
eval-rmspe:0.224888
[140]	train-rmse:0.24732	eval-rmse:0.24732	train-rmspe:0.223839
eval-rmspe:0.223839
[141]	train-rmse:0.245339	eval-rmse:0.245339	train-rmspe:0.222966
eval-rmspe:0.222966
```

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[142]    train-rmse:0.242569    eval-rmse:0.242569    train-rmspe:0.221263
eval-rmspe:0.221263
[143]    train-rmse:0.240747    eval-rmse:0.240747    train-rmspe:0.220429
eval-rmspe:0.220429
[144]    train-rmse:0.238789    eval-rmse:0.238789    train-rmspe:0.219401
eval-rmspe:0.219401
[145]    train-rmse:0.236736    eval-rmse:0.236736    train-rmspe:0.218328
eval-rmspe:0.218328
[146]    train-rmse:0.234373    eval-rmse:0.234373    train-rmspe:0.216911
eval-rmspe:0.216911
[147]    train-rmse:0.232557    eval-rmse:0.232557    train-rmspe:0.216042
eval-rmspe:0.216042
[148]    train-rmse:0.23062     eval-rmse:0.23062     train-rmspe:0.214981
eval-rmspe:0.214981
[149]    train-rmse:0.228716    eval-rmse:0.228716    train-rmspe:0.213947
eval-rmspe:0.213947
[150]    train-rmse:0.227403    eval-rmse:0.227403    train-rmspe:0.213423
eval-rmspe:0.213423
[151]    train-rmse:0.225961    eval-rmse:0.225961    train-rmspe:0.212728
eval-rmspe:0.212728
[152]    train-rmse:0.224403    eval-rmse:0.224403    train-rmspe:0.211877
eval-rmspe:0.211877
[153]    train-rmse:0.223011    eval-rmse:0.223011    train-rmspe:0.211255
eval-rmspe:0.211255
[154]    train-rmse:0.221358    eval-rmse:0.221358    train-rmspe:0.21028
eval-rmspe:0.21028
[155]    train-rmse:0.219857    eval-rmse:0.219857    train-rmspe:0.209455
eval-rmspe:0.209455
[156]    train-rmse:0.218926    eval-rmse:0.218926    train-rmspe:0.209195
eval-rmspe:0.209195
[157]    train-rmse:0.217559    eval-rmse:0.217559    train-rmspe:0.20847
eval-rmspe:0.20847
[158]    train-rmse:0.216155    eval-rmse:0.216155    train-rmspe:0.207767
eval-rmspe:0.207767
[159]    train-rmse:0.213995    eval-rmse:0.213995    train-rmspe:0.206271
eval-rmspe:0.206271
[160]    train-rmse:0.213143    eval-rmse:0.213143    train-rmspe:0.206013
eval-rmspe:0.206013
[161]    train-rmse:0.212036    eval-rmse:0.212036    train-rmspe:0.20547
eval-rmspe:0.20547
[162]    train-rmse:0.21098     eval-rmse:0.21098     train-rmspe:0.204904
eval-rmspe:0.204904
[163]    train-rmse:0.209552    eval-rmse:0.209552    train-rmspe:0.203993
eval-rmspe:0.203993
[164]    train-rmse:0.208403    eval-rmse:0.208403    train-rmspe:0.203403
eval-rmspe:0.203403
[165]    train-rmse:0.207477    eval-rmse:0.207477    train-rmspe:0.202981
eval-rmspe:0.202981
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[166]    train-rmse:0.206456    eval-rmse:0.206456    train-rmspe:0.202433
eval-rmspe:0.202433
[167]    train-rmse:0.205706    eval-rmse:0.205706    train-rmspe:0.202169
eval-rmspe:0.202169
[168]    train-rmse:0.204967    eval-rmse:0.204967    train-rmspe:0.201825
eval-rmspe:0.201825
[169]    train-rmse:0.204059    eval-rmse:0.204059    train-rmspe:0.201346
eval-rmspe:0.201346
[170]    train-rmse:0.203406    eval-rmse:0.203406    train-rmspe:0.201108
eval-rmspe:0.201108
[171]    train-rmse:0.20215     eval-rmse:0.20215     train-rmspe:0.200132
eval-rmspe:0.200132
[172]    train-rmse:0.200624    eval-rmse:0.200624    train-rmspe:0.199037
eval-rmspe:0.199037
[173]    train-rmse:0.199931    eval-rmse:0.199931    train-rmspe:0.198757
eval-rmspe:0.198757
[174]    train-rmse:0.199005    eval-rmse:0.199005    train-rmspe:0.198201
eval-rmspe:0.198201
[175]    train-rmse:0.198146    eval-rmse:0.198146    train-rmspe:0.197729
eval-rmspe:0.197729
[176]    train-rmse:0.197473    eval-rmse:0.197473    train-rmspe:0.197372
eval-rmspe:0.197372
[177]    train-rmse:0.196939    eval-rmse:0.196939    train-rmspe:0.197181
eval-rmspe:0.197181
[178]    train-rmse:0.19617     eval-rmse:0.19617     train-rmspe:0.196749
eval-rmspe:0.196749
[179]    train-rmse:0.195079    eval-rmse:0.195079    train-rmspe:0.195978
eval-rmspe:0.195978
[180]    train-rmse:0.194333    eval-rmse:0.194333    train-rmspe:0.195567
eval-rmspe:0.195567
[181]    train-rmse:0.193797    eval-rmse:0.193797    train-rmspe:0.195286
eval-rmspe:0.195286
[182]    train-rmse:0.193149    eval-rmse:0.193149    train-rmspe:0.194958
eval-rmspe:0.194958
[183]    train-rmse:0.192687    eval-rmse:0.192687    train-rmspe:0.194759
eval-rmspe:0.194759
[184]    train-rmse:0.192212    eval-rmse:0.192212    train-rmspe:0.194543
eval-rmspe:0.194543
[185]    train-rmse:0.191448    eval-rmse:0.191448    train-rmspe:0.193998
eval-rmspe:0.193998
[186]    train-rmse:0.19067     eval-rmse:0.19067     train-rmspe:0.193455
eval-rmspe:0.193455
[187]    train-rmse:0.190084    eval-rmse:0.190084    train-rmspe:0.193053
eval-rmspe:0.193053
[188]    train-rmse:0.188668    eval-rmse:0.188668    train-rmspe:0.191818
eval-rmspe:0.191818
[189]    train-rmse:0.188263    eval-rmse:0.188263    train-rmspe:0.191645
eval-rmspe:0.191645
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[190]    train-rmse:0.18785      eval-rmse:0.18785      train-rmspe:0.191422
eval-rmspe:0.191422
[191]    train-rmse:0.186194     eval-rmse:0.186194     train-rmspe:0.189853
eval-rmspe:0.189853
[192]    train-rmse:0.18569      eval-rmse:0.18569      train-rmspe:0.189507
eval-rmspe:0.189507
[193]    train-rmse:0.184627     eval-rmse:0.184627     train-rmspe:0.188628
eval-rmspe:0.188628
[194]    train-rmse:0.18397      eval-rmse:0.18397      train-rmspe:0.188104
eval-rmspe:0.188104
[195]    train-rmse:0.183509     eval-rmse:0.183509     train-rmspe:0.187798
eval-rmspe:0.187798
[196]    train-rmse:0.18265      eval-rmse:0.18265      train-rmspe:0.187112
eval-rmspe:0.187112
[197]    train-rmse:0.182106     eval-rmse:0.182106     train-rmspe:0.186762
eval-rmspe:0.186762
[198]    train-rmse:0.180789     eval-rmse:0.180789     train-rmspe:0.185454
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[199]    train-rmse:0.180567     eval-rmse:0.180567     train-rmspe:0.185398
eval-rmspe:0.185398
[200]    train-rmse:0.180131     eval-rmse:0.180131     train-rmspe:0.18513
eval-rmspe:0.18513
[201]    train-rmse:0.179371     eval-rmse:0.179371     train-rmspe:0.184478
eval-rmspe:0.184478
[202]    train-rmse:0.17905      eval-rmse:0.17905      train-rmspe:0.184275
eval-rmspe:0.184275
[203]    train-rmse:0.178616     eval-rmse:0.178616     train-rmspe:0.183975
eval-rmspe:0.183975
[204]    train-rmse:0.178341     eval-rmse:0.178341     train-rmspe:0.183815
eval-rmspe:0.183815
[205]    train-rmse:0.177854     eval-rmse:0.177854     train-rmspe:0.18339
eval-rmspe:0.18339
[206]    train-rmse:0.176982     eval-rmse:0.176982     train-rmspe:0.182653
eval-rmspe:0.182653
[207]    train-rmse:0.175605     eval-rmse:0.175605     train-rmspe:0.181289
eval-rmspe:0.181289
[208]    train-rmse:0.17503      eval-rmse:0.17503      train-rmspe:0.180804
eval-rmspe:0.180804
[209]    train-rmse:0.174477     eval-rmse:0.174477     train-rmspe:0.180327
eval-rmspe:0.180327
[210]    train-rmse:0.174131     eval-rmse:0.174131     train-rmspe:0.180071
eval-rmspe:0.180071
[211]    train-rmse:0.173736     eval-rmse:0.173736     train-rmspe:0.179775
eval-rmspe:0.179775
[212]    train-rmse:0.172996     eval-rmse:0.172996     train-rmspe:0.179122
eval-rmspe:0.179122
[213]    train-rmse:0.172012     eval-rmse:0.172012     train-rmspe:0.178178
eval-rmspe:0.178178
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[214]    train-rmse:0.171429    eval-rmse:0.171429    train-rmspe:0.177687
eval-rmspe:0.177687
[215]    train-rmse:0.170995    eval-rmse:0.170995    train-rmspe:0.177327
eval-rmspe:0.177327
[216]    train-rmse:0.170573    eval-rmse:0.170573    train-rmspe:0.176964
eval-rmspe:0.176964
[217]    train-rmse:0.170108    eval-rmse:0.170108    train-rmspe:0.17659
eval-rmspe:0.17659
[218]    train-rmse:0.169776    eval-rmse:0.169776    train-rmspe:0.176296
eval-rmspe:0.176296
[219]    train-rmse:0.168797    eval-rmse:0.168797    train-rmspe:0.175405
eval-rmspe:0.175405
[220]    train-rmse:0.168173    eval-rmse:0.168173    train-rmspe:0.17487
eval-rmspe:0.17487
[221]    train-rmse:0.167696    eval-rmse:0.167696    train-rmspe:0.174463
eval-rmspe:0.174463
[222]    train-rmse:0.167214    eval-rmse:0.167214    train-rmspe:0.173981
eval-rmspe:0.173981
[223]    train-rmse:0.166947    eval-rmse:0.166947    train-rmspe:0.173755
eval-rmspe:0.173755
[224]    train-rmse:0.166598    eval-rmse:0.166598    train-rmspe:0.173441
eval-rmspe:0.173441
[225]    train-rmse:0.165892    eval-rmse:0.165892    train-rmspe:0.172776
eval-rmspe:0.172776
[226]    train-rmse:0.165681    eval-rmse:0.165681    train-rmspe:0.17264
eval-rmspe:0.17264
[227]    train-rmse:0.164882    eval-rmse:0.164882    train-rmspe:0.17185
eval-rmspe:0.17185
[228]    train-rmse:0.164716    eval-rmse:0.164716    train-rmspe:0.171749
eval-rmspe:0.171749
[229]    train-rmse:0.164281    eval-rmse:0.164281    train-rmspe:0.171332
eval-rmspe:0.171332
[230]    train-rmse:0.164        eval-rmse:0.164 train-rmspe:0.171105    eval-
rmspe:0.171105
[231]    train-rmse:0.163635    eval-rmse:0.163635    train-rmspe:0.170753
eval-rmspe:0.170753
[232]    train-rmse:0.162391    eval-rmse:0.162391    train-rmspe:0.169499
eval-rmspe:0.169499
[233]    train-rmse:0.161923    eval-rmse:0.161923    train-rmspe:0.169013
eval-rmspe:0.169013
[234]    train-rmse:0.161406    eval-rmse:0.161406    train-rmspe:0.168507
eval-rmspe:0.168507
[235]    train-rmse:0.160864    eval-rmse:0.160864    train-rmspe:0.167949
eval-rmspe:0.167949
[236]    train-rmse:0.160412    eval-rmse:0.160412    train-rmspe:0.167529
eval-rmspe:0.167529
[237]    train-rmse:0.159483    eval-rmse:0.159483    train-rmspe:0.166567
eval-rmspe:0.166567
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[238]    train-rmse:0.158958    eval-rmse:0.158958    train-rmspe:0.166016
eval-rmspe:0.166016
[239]    train-rmse:0.158223    eval-rmse:0.158223    train-rmspe:0.165263
eval-rmspe:0.165263
[240]    train-rmse:0.157856    eval-rmse:0.157856    train-rmspe:0.164933
eval-rmspe:0.164933
[241]    train-rmse:0.157083    eval-rmse:0.157083    train-rmspe:0.164123
eval-rmspe:0.164123
[242]    train-rmse:0.156804    eval-rmse:0.156804    train-rmspe:0.163881
eval-rmspe:0.163881
[243]    train-rmse:0.156416    eval-rmse:0.156416    train-rmspe:0.163523
eval-rmspe:0.163523
[244]    train-rmse:0.155508    eval-rmse:0.155508    train-rmspe:0.162506
eval-rmspe:0.162506
[245]    train-rmse:0.154977    eval-rmse:0.154977    train-rmspe:0.161975
eval-rmspe:0.161975
[246]    train-rmse:0.154707    eval-rmse:0.154707    train-rmspe:0.161719
eval-rmspe:0.161719
[247]    train-rmse:0.154305    eval-rmse:0.154305    train-rmspe:0.161343
eval-rmspe:0.161343
[248]    train-rmse:0.154116    eval-rmse:0.154116    train-rmspe:0.161178
eval-rmspe:0.161178
[249]    train-rmse:0.153798    eval-rmse:0.153798    train-rmspe:0.160871
eval-rmspe:0.160871
[250]    train-rmse:0.153293    eval-rmse:0.153293    train-rmspe:0.160347
eval-rmspe:0.160347
[251]    train-rmse:0.153028    eval-rmse:0.153028    train-rmspe:0.160083
eval-rmspe:0.160083
[252]    train-rmse:0.152754    eval-rmse:0.152754    train-rmspe:0.159815
eval-rmspe:0.159815
[253]    train-rmse:0.152121    eval-rmse:0.152121    train-rmspe:0.159198
eval-rmspe:0.159198
[254]    train-rmse:0.151844    eval-rmse:0.151844    train-rmspe:0.158944
eval-rmspe:0.158944
[255]    train-rmse:0.151247    eval-rmse:0.151247    train-rmspe:0.158355
eval-rmspe:0.158355
[256]    train-rmse:0.150958    eval-rmse:0.150958    train-rmspe:0.158072
eval-rmspe:0.158072
[257]    train-rmse:0.15074     eval-rmse:0.15074     train-rmspe:0.157845
eval-rmspe:0.157845
[258]    train-rmse:0.150089    eval-rmse:0.150089    train-rmspe:0.157167
eval-rmspe:0.157167
[259]    train-rmse:0.149887    eval-rmse:0.149887    train-rmspe:0.156974
eval-rmspe:0.156974
[260]    train-rmse:0.148953    eval-rmse:0.148953    train-rmspe:0.155998
eval-rmspe:0.155998
[261]    train-rmse:0.14868     eval-rmse:0.14868     train-rmspe:0.155741
eval-rmspe:0.155741
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[262]    train-rmse:0.148396    eval-rmse:0.148396    train-rmspe:0.155443
eval-rmspe:0.155443
[263]    train-rmse:0.148013    eval-rmse:0.148013    train-rmspe:0.155077
eval-rmspe:0.155077
[264]    train-rmse:0.147099    eval-rmse:0.147099    train-rmspe:0.153984
eval-rmspe:0.153984
[265]    train-rmse:0.146889    eval-rmse:0.146889    train-rmspe:0.15378
eval-rmspe:0.15378
[266]    train-rmse:0.146417    eval-rmse:0.146417    train-rmspe:0.153289
eval-rmspe:0.153289
[267]    train-rmse:0.146102    eval-rmse:0.146102    train-rmspe:0.152962
eval-rmspe:0.152962
[268]    train-rmse:0.145943    eval-rmse:0.145943    train-rmspe:0.152812
eval-rmspe:0.152812
[269]    train-rmse:0.145588    eval-rmse:0.145588    train-rmspe:0.152477
eval-rmspe:0.152477
[270]    train-rmse:0.145212    eval-rmse:0.145212    train-rmspe:0.152107
eval-rmspe:0.152107
[271]    train-rmse:0.14499     eval-rmse:0.14499     train-rmspe:0.151897
eval-rmspe:0.151897
[272]    train-rmse:0.144706    eval-rmse:0.144706    train-rmspe:0.151612
eval-rmspe:0.151612
[273]    train-rmse:0.14421     eval-rmse:0.14421     train-rmspe:0.151119
eval-rmspe:0.151119
[274]    train-rmse:0.143985    eval-rmse:0.143985    train-rmspe:0.150901
eval-rmspe:0.150901
[275]    train-rmse:0.143489    eval-rmse:0.143489    train-rmspe:0.15042
eval-rmspe:0.15042
[276]    train-rmse:0.143247    eval-rmse:0.143247    train-rmspe:0.150169
eval-rmspe:0.150169
[277]    train-rmse:0.142949    eval-rmse:0.142949    train-rmspe:0.149892
eval-rmspe:0.149892
[278]    train-rmse:0.142709    eval-rmse:0.142709    train-rmspe:0.149642
eval-rmspe:0.149642
[279]    train-rmse:0.142328    eval-rmse:0.142328    train-rmspe:0.149243
eval-rmspe:0.149243
[280]    train-rmse:0.141553    eval-rmse:0.141553    train-rmspe:0.148407
eval-rmspe:0.148407
[281]    train-rmse:0.14104     eval-rmse:0.14104     train-rmspe:0.147882
eval-rmspe:0.147882
[282]    train-rmse:0.140802    eval-rmse:0.140802    train-rmspe:0.147635
eval-rmspe:0.147635
[283]    train-rmse:0.140375    eval-rmse:0.140375    train-rmspe:0.14719
eval-rmspe:0.14719
[284]    train-rmse:0.139823    eval-rmse:0.139823    train-rmspe:0.146574
eval-rmspe:0.146574
[285]    train-rmse:0.139283    eval-rmse:0.139283    train-rmspe:0.14602
eval-rmspe:0.14602
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[286]    train-rmse:0.138961    eval-rmse:0.138961    train-rmspe:0.145688
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[287]    train-rmse:0.138476    eval-rmse:0.138476    train-rmspe:0.145186
eval-rmspe:0.145186
[288]    train-rmse:0.138274    eval-rmse:0.138274    train-rmspe:0.14495
eval-rmspe:0.14495
[289]    train-rmse:0.137937    eval-rmse:0.137937    train-rmspe:0.144603
eval-rmspe:0.144603
[290]    train-rmse:0.137785    eval-rmse:0.137785    train-rmspe:0.144379
eval-rmspe:0.144379
[291]    train-rmse:0.137674    eval-rmse:0.137674    train-rmspe:0.144263
eval-rmspe:0.144263
[292]    train-rmse:0.137139    eval-rmse:0.137139    train-rmspe:0.143713
eval-rmspe:0.143713
[293]    train-rmse:0.136901    eval-rmse:0.136901    train-rmspe:0.143467
eval-rmspe:0.143467
[294]    train-rmse:0.136556    eval-rmse:0.136556    train-rmspe:0.143108
eval-rmspe:0.143108
[295]    train-rmse:0.136466    eval-rmse:0.136466    train-rmspe:0.143014
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eval-rmspe:0.142712
[297]    train-rmse:0.135848    eval-rmse:0.135848    train-rmspe:0.142402
eval-rmspe:0.142402
[298]    train-rmse:0.135631    eval-rmse:0.135631    train-rmspe:0.142181
eval-rmspe:0.142181
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eval-rmspe:0.14156
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eval-rmspe:0.140862
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eval-rmspe:0.140488
[303]    train-rmse:0.133398    eval-rmse:0.133398    train-rmspe:0.139806
eval-rmspe:0.139806
[304]    train-rmse:0.133144    eval-rmse:0.133144    train-rmspe:0.139556
eval-rmspe:0.139556
[305]    train-rmse:0.132938    eval-rmse:0.132938    train-rmspe:0.139353
eval-rmspe:0.139353
[306]    train-rmse:0.132545    eval-rmse:0.132545    train-rmspe:0.138896
eval-rmspe:0.138896
[307]    train-rmse:0.132223    eval-rmse:0.132223    train-rmspe:0.138569
eval-rmspe:0.138569
[308]    train-rmse:0.13207     eval-rmse:0.13207     train-rmspe:0.138405
eval-rmspe:0.138405
[309]    train-rmse:0.13164     eval-rmse:0.13164     train-rmspe:0.137932
eval-rmspe:0.137932
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eval-rmspe:0.137335
[311]    train-rmse:0.130657    eval-rmse:0.130657    train-rmspe:0.136892
eval-rmspe:0.136892
[312]    train-rmse:0.130174    eval-rmse:0.130174    train-rmspe:0.136353
eval-rmspe:0.136353
[313]    train-rmse:0.129802    eval-rmse:0.129802    train-rmspe:0.135985
eval-rmspe:0.135985
[314]    train-rmse:0.129322    eval-rmse:0.129322    train-rmspe:0.135501
eval-rmspe:0.135501
[315]    train-rmse:0.129189    eval-rmse:0.129189    train-rmspe:0.13536
eval-rmspe:0.13536
[316]    train-rmse:0.129012    eval-rmse:0.129012    train-rmspe:0.135185
eval-rmspe:0.135185
[317]    train-rmse:0.128777    eval-rmse:0.128777    train-rmspe:0.134915
eval-rmspe:0.134915
[318]    train-rmse:0.128659    eval-rmse:0.128659    train-rmspe:0.134802
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[319]    train-rmse:0.128467    eval-rmse:0.128467    train-rmspe:0.134606
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[320]    train-rmse:0.128223    eval-rmse:0.128223    train-rmspe:0.134354
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eval-rmspe:0.134109
[322]    train-rmse:0.127587    eval-rmse:0.127587    train-rmspe:0.133688
eval-rmspe:0.133688
[323]    train-rmse:0.127494    eval-rmse:0.127494    train-rmspe:0.13359
eval-rmspe:0.13359
[324]    train-rmse:0.126891    eval-rmse:0.126891    train-rmspe:0.132919
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[325]    train-rmse:0.126297    eval-rmse:0.126297    train-rmspe:0.13229
eval-rmspe:0.13229
[326]    train-rmse:0.125777    eval-rmse:0.125777    train-rmspe:0.131746
eval-rmspe:0.131746
[327]    train-rmse:0.124945    eval-rmse:0.124945    train-rmspe:0.130864
eval-rmspe:0.130864
[328]    train-rmse:0.124473    eval-rmse:0.124473    train-rmspe:0.130364
eval-rmspe:0.130364
[329]    train-rmse:0.124211    eval-rmse:0.124211    train-rmspe:0.130088
eval-rmspe:0.130088
[330]    train-rmse:0.124029    eval-rmse:0.124029    train-rmspe:0.129888
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[331]    train-rmse:0.123893    eval-rmse:0.123893    train-rmspe:0.129751
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[332]    train-rmse:0.12343     eval-rmse:0.12343     train-rmspe:0.129284
eval-rmspe:0.129284
[333]    train-rmse:0.123298    eval-rmse:0.123298    train-rmspe:0.129139
eval-rmspe:0.129139
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[335]    train-rmse:0.122721    eval-rmse:0.122721    train-rmspe:0.128509
eval-rmspe:0.128509
[336]    train-rmse:0.122319    eval-rmse:0.122319    train-rmspe:0.128055
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[337]    train-rmse:0.122213    eval-rmse:0.122213    train-rmspe:0.12794
eval-rmspe:0.12794
[338]    train-rmse:0.122046    eval-rmse:0.122046    train-rmspe:0.12776
eval-rmspe:0.12776
[339]    train-rmse:0.121621    eval-rmse:0.121621    train-rmspe:0.127333
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[340]    train-rmse:0.121546    eval-rmse:0.121546    train-rmspe:0.127258
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[341]    train-rmse:0.121389    eval-rmse:0.121389    train-rmspe:0.127079
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[342]    train-rmse:0.121098    eval-rmse:0.121098    train-rmspe:0.126779
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[343]    train-rmse:0.120911    eval-rmse:0.120911    train-rmspe:0.126578
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[344]    train-rmse:0.12071     eval-rmse:0.12071     train-rmspe:0.126361
eval-rmspe:0.126361
[345]    train-rmse:0.120205    eval-rmse:0.120205    train-rmspe:0.125842
eval-rmspe:0.125842
[346]    train-rmse:0.119982    eval-rmse:0.119982    train-rmspe:0.125591
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[347]    train-rmse:0.119827    eval-rmse:0.119827    train-rmspe:0.125421
eval-rmspe:0.125421
[348]    train-rmse:0.119716    eval-rmse:0.119716    train-rmspe:0.125307
eval-rmspe:0.125307
[349]    train-rmse:0.119058    eval-rmse:0.119058    train-rmspe:0.124613
eval-rmspe:0.124613
[350]    train-rmse:0.118957    eval-rmse:0.118957    train-rmspe:0.124512
eval-rmspe:0.124512
[351]    train-rmse:0.118686    eval-rmse:0.118686    train-rmspe:0.12425
eval-rmspe:0.12425
[352]    train-rmse:0.118377    eval-rmse:0.118377    train-rmspe:0.123937
eval-rmspe:0.123937
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eval-rmspe:0.123568
[354]    train-rmse:0.117845    eval-rmse:0.117845    train-rmspe:0.123365
eval-rmspe:0.123365
[355]    train-rmse:0.117488    eval-rmse:0.117488    train-rmspe:0.122922
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[356]    train-rmse:0.117208    eval-rmse:0.117208    train-rmspe:0.122604
eval-rmspe:0.122604
[357]    train-rmse:0.116857    eval-rmse:0.116857    train-rmspe:0.122225
eval-rmspe:0.122225
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[358]   train-rmse:0.116605   eval-rmse:0.116605   train-rmspe:0.121976
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eval-rmspe:0.121689
[360]   train-rmse:0.115982   eval-rmse:0.115982   train-rmspe:0.121312
eval-rmspe:0.121312
[361]   train-rmse:0.115737   eval-rmse:0.115737   train-rmspe:0.121042
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[362]   train-rmse:0.115316   eval-rmse:0.115316   train-rmspe:0.120594
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[363]   train-rmse:0.115208   eval-rmse:0.115208   train-rmspe:0.120483
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[366]   train-rmse:0.114119   eval-rmse:0.114119   train-rmspe:0.119342
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[367]   train-rmse:0.113839   eval-rmse:0.113839   train-rmspe:0.11905
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[371]   train-rmse:0.112962   eval-rmse:0.112962   train-rmspe:0.118106
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[372]   train-rmse:0.112621   eval-rmse:0.112621   train-rmspe:0.117709
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[374]   train-rmse:0.112062   eval-rmse:0.112062   train-rmspe:0.11713
eval-rmspe:0.11713
[375]   train-rmse:0.111854   eval-rmse:0.111854   train-rmspe:0.116889
eval-rmspe:0.116889
[376]   train-rmse:0.111646   eval-rmse:0.111646   train-rmspe:0.11668
eval-rmspe:0.11668
[377]   train-rmse:0.111451   eval-rmse:0.111451   train-rmspe:0.116459
eval-rmspe:0.116459
[378]   train-rmse:0.111325   eval-rmse:0.111325   train-rmspe:0.116329
eval-rmspe:0.116329
[379]   train-rmse:0.110994   eval-rmse:0.110994   train-rmspe:0.115943
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[380]   train-rmse:0.110625   eval-rmse:0.110625   train-rmspe:0.115551
eval-rmspe:0.115551
[381]   train-rmse:0.11049   eval-rmse:0.11049   train-rmspe:0.115412
eval-rmspe:0.115412

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[382]    train-rmse:0.110045    eval-rmse:0.110045    train-rmspe:0.114939
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[387]    train-rmse:0.108847    eval-rmse:0.108847    train-rmspe:0.113667
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[388]    train-rmse:0.108614    eval-rmse:0.108614    train-rmspe:0.113403
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[389]    train-rmse:0.108554    eval-rmse:0.108554    train-rmspe:0.113338
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[390]    train-rmse:0.108204    eval-rmse:0.108204    train-rmspe:0.112974
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eval-rmspe:0.112725
[392]    train-rmse:0.107901    eval-rmse:0.107901    train-rmspe:0.112647
eval-rmspe:0.112647
[393]    train-rmse:0.107815    eval-rmse:0.107815    train-rmspe:0.112554
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[394]    train-rmse:0.107647    eval-rmse:0.107647    train-rmspe:0.112383
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eval-rmspe:0.111994
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eval-rmspe:0.111767
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eval-rmspe:0.110757
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eval-rmspe:0.110529
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eval-rmspe:0.110333
[404]    train-rmse:0.105432    eval-rmse:0.105432    train-rmspe:0.109992
eval-rmspe:0.109992
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eval-rmspe:0.109383
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eval-rmspe:0.109155
[409]    train-rmse:0.104457    eval-rmse:0.104457    train-rmspe:0.108941
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eval-rmspe:0.108886
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eval-rmspe:0.108352
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eval-rmspe:0.108179
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eval-rmspe:0.107522
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eval-rmspe:0.107223
[419]    train-rmse:0.102666    eval-rmse:0.102666    train-rmspe:0.106983
eval-rmspe:0.106983
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eval-rmspe:0.106725
[422]    train-rmse:0.102342    eval-rmse:0.102342    train-rmspe:0.106655
eval-rmspe:0.106655
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eval-rmspe:0.106616
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eval-rmspe:0.106428
[425]    train-rmse:0.101963    eval-rmse:0.101963    train-rmspe:0.106265
eval-rmspe:0.106265
[426]    train-rmse:0.101726    eval-rmse:0.101726    train-rmspe:0.106019
eval-rmspe:0.106019
[427]    train-rmse:0.101488    eval-rmse:0.101488    train-rmspe:0.105717
eval-rmspe:0.105717
[428]    train-rmse:0.101319    eval-rmse:0.101319    train-rmspe:0.105539
eval-rmspe:0.105539
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eval-rmspe:0.105216
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eval-rmspe:0.103592
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eval-rmspe:0.103494
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eval-rmspe:0.103412
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eval-rmspe:0.103198
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eval-rmspe:0.102365
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eval-rmspe:0.102251
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eval-rmspe:0.102179
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eval-rmspe:0.101977
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eval-rmspe:0.101708
[449]   train-rmse:0.097733   eval-rmse:0.097733   train-rmspe:0.101623
eval-rmspe:0.101623
[450]   train-rmse:0.097538   eval-rmse:0.097538   train-rmspe:0.101414
eval-rmspe:0.101414
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eval-rmspe:0.101201
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eval-rmspe:0.100942

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eval-rmspe:0.100774
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eval-rmspe:0.100429
[456]   train-rmse:0.096604   eval-rmse:0.096604   train-rmspe:0.100365
eval-rmspe:0.100365
[457]   train-rmse:0.096429   eval-rmse:0.096429   train-rmspe:0.10017
eval-rmspe:0.10017
[458]   train-rmse:0.096374   eval-rmse:0.096374   train-rmspe:0.100116
eval-rmspe:0.100116
[459]   train-rmse:0.096249   eval-rmse:0.096249   train-rmspe:0.099989
eval-rmspe:0.099989
[460]   train-rmse:0.096118   eval-rmse:0.096118   train-rmspe:0.099839
eval-rmspe:0.099839
[461]   train-rmse:0.09592   eval-rmse:0.09592   train-rmspe:0.099625
eval-rmspe:0.099625
[462]   train-rmse:0.095825   eval-rmse:0.095825   train-rmspe:0.099527
eval-rmspe:0.099527
[463]   train-rmse:0.095619   eval-rmse:0.095619   train-rmspe:0.099307
eval-rmspe:0.099307
[464]   train-rmse:0.095479   eval-rmse:0.095479   train-rmspe:0.099157
eval-rmspe:0.099157
[465]   train-rmse:0.095227   eval-rmse:0.095227   train-rmspe:0.098877
eval-rmspe:0.098877
[466]   train-rmse:0.095076   eval-rmse:0.095076   train-rmspe:0.098725
eval-rmspe:0.098725
[467]   train-rmse:0.094903   eval-rmse:0.094903   train-rmspe:0.09854
eval-rmspe:0.09854
[468]   train-rmse:0.094685   eval-rmse:0.094685   train-rmspe:0.09832
eval-rmspe:0.09832
[469]   train-rmse:0.094576   eval-rmse:0.094576   train-rmspe:0.098209
eval-rmspe:0.098209
[470]   train-rmse:0.094401   eval-rmse:0.094401   train-rmspe:0.098025
eval-rmspe:0.098025
[471]   train-rmse:0.094254   eval-rmse:0.094254   train-rmspe:0.097867
eval-rmspe:0.097867
[472]   train-rmse:0.094185   eval-rmse:0.094185   train-rmspe:0.097793
eval-rmspe:0.097793
[473]   train-rmse:0.093964   eval-rmse:0.093964   train-rmspe:0.097557
eval-rmspe:0.097557
[474]   train-rmse:0.093747   eval-rmse:0.093747   train-rmspe:0.097307
eval-rmspe:0.097307
[475]   train-rmse:0.093595   eval-rmse:0.093595   train-rmspe:0.097152
eval-rmspe:0.097152
[476]   train-rmse:0.093383   eval-rmse:0.093383   train-rmspe:0.096929
eval-rmspe:0.096929
[477]   train-rmse:0.093332   eval-rmse:0.093332   train-rmspe:0.096878
eval-rmspe:0.096878

[478]   train-rmse:0.093157   eval-rmse:0.093157   train-rmspe:0.096694
eval-rmspe:0.096694
[479]   train-rmse:0.092916   eval-rmse:0.092916   train-rmspe:0.096422
eval-rmspe:0.096422
[480]   train-rmse:0.092817   eval-rmse:0.092817   train-rmspe:0.096318
eval-rmspe:0.096318
[481]   train-rmse:0.092694   eval-rmse:0.092694   train-rmspe:0.096192
eval-rmspe:0.096192
[482]   train-rmse:0.092637   eval-rmse:0.092637   train-rmspe:0.096131
eval-rmspe:0.096131
[483]   train-rmse:0.092453   eval-rmse:0.092453   train-rmspe:0.095929
eval-rmspe:0.095929
[484]   train-rmse:0.092338   eval-rmse:0.092338   train-rmspe:0.095809
eval-rmspe:0.095809
[485]   train-rmse:0.092201   eval-rmse:0.092201   train-rmspe:0.095657
eval-rmspe:0.095657
[486]   train-rmse:0.09208   eval-rmse:0.09208   train-rmspe:0.095524
eval-rmspe:0.095524
[487]   train-rmse:0.09187   eval-rmse:0.09187   train-rmspe:0.095297
eval-rmspe:0.095297
[488]   train-rmse:0.091713   eval-rmse:0.091713   train-rmspe:0.09513
eval-rmspe:0.09513
[489]   train-rmse:0.091521   eval-rmse:0.091521   train-rmspe:0.094873
eval-rmspe:0.094873
[490]   train-rmse:0.091464   eval-rmse:0.091464   train-rmspe:0.094813
eval-rmspe:0.094813
[491]   train-rmse:0.091381   eval-rmse:0.091381   train-rmspe:0.094718
eval-rmspe:0.094718
[492]   train-rmse:0.091162   eval-rmse:0.091162   train-rmspe:0.094442
eval-rmspe:0.094442
[493]   train-rmse:0.091006   eval-rmse:0.091006   train-rmspe:0.094274
eval-rmspe:0.094274
[494]   train-rmse:0.090969   eval-rmse:0.090969   train-rmspe:0.094237
eval-rmspe:0.094237
[495]   train-rmse:0.090919   eval-rmse:0.090919   train-rmspe:0.094185
eval-rmspe:0.094185
[496]   train-rmse:0.090721   eval-rmse:0.090721   train-rmspe:0.093978
eval-rmspe:0.093978
[497]   train-rmse:0.090601   eval-rmse:0.090601   train-rmspe:0.093851
eval-rmspe:0.093851
[498]   train-rmse:0.090453   eval-rmse:0.090453   train-rmspe:0.093647
eval-rmspe:0.093647
[499]   train-rmse:0.0904   eval-rmse:0.0904   train-rmspe:0.093591
eval-rmspe:0.093591
[500]   train-rmse:0.090322   eval-rmse:0.090322   train-rmspe:0.093511
eval-rmspe:0.093511
[501]   train-rmse:0.090142   eval-rmse:0.090142   train-rmspe:0.093323
eval-rmspe:0.093323

[502]   train-rmse:0.089909   eval-rmse:0.089909   train-rmspe:0.093081
eval-rmspe:0.093081
[503]   train-rmse:0.089691   eval-rmse:0.089691   train-rmspe:0.092833
eval-rmspe:0.092833
[504]   train-rmse:0.089497   eval-rmse:0.089497   train-rmspe:0.092629
eval-rmspe:0.092629
[505]   train-rmse:0.089367   eval-rmse:0.089367   train-rmspe:0.092462
eval-rmspe:0.092462
[506]   train-rmse:0.08933   eval-rmse:0.08933   train-rmspe:0.092424
eval-rmspe:0.092424
[507]   train-rmse:0.089304   eval-rmse:0.089304   train-rmspe:0.092397
eval-rmspe:0.092397
[508]   train-rmse:0.089232   eval-rmse:0.089232   train-rmspe:0.092323
eval-rmspe:0.092323
[509]   train-rmse:0.089098   eval-rmse:0.089098   train-rmspe:0.092185
eval-rmspe:0.092185
[510]   train-rmse:0.088954   eval-rmse:0.088954   train-rmspe:0.092035
eval-rmspe:0.092035
[511]   train-rmse:0.088814   eval-rmse:0.088814   train-rmspe:0.091888
eval-rmspe:0.091888
[512]   train-rmse:0.08865   eval-rmse:0.08865   train-rmspe:0.0917
eval-rmspe:0.0917
[513]   train-rmse:0.088521   eval-rmse:0.088521   train-rmspe:0.091567
eval-rmspe:0.091567
[514]   train-rmse:0.088352   eval-rmse:0.088352   train-rmspe:0.091396
eval-rmspe:0.091396
[515]   train-rmse:0.088187   eval-rmse:0.088187   train-rmspe:0.091222
eval-rmspe:0.091222
[516]   train-rmse:0.088016   eval-rmse:0.088016   train-rmspe:0.091029
eval-rmspe:0.091029
[517]   train-rmse:0.087961   eval-rmse:0.087961   train-rmspe:0.090971
eval-rmspe:0.090971
[518]   train-rmse:0.087799   eval-rmse:0.087799   train-rmspe:0.090795
eval-rmspe:0.090795
[519]   train-rmse:0.087767   eval-rmse:0.087767   train-rmspe:0.090764
eval-rmspe:0.090764
[520]   train-rmse:0.087604   eval-rmse:0.087604   train-rmspe:0.090566
eval-rmspe:0.090566
[521]   train-rmse:0.087539   eval-rmse:0.087539   train-rmspe:0.090502
eval-rmspe:0.090502
[522]   train-rmse:0.0874   eval-rmse:0.0874   train-rmspe:0.090357
eval-rmspe:0.090357
[523]   train-rmse:0.087234   eval-rmse:0.087234   train-rmspe:0.090181
eval-rmspe:0.090181
[524]   train-rmse:0.087126   eval-rmse:0.087126   train-rmspe:0.090066
eval-rmspe:0.090066
[525]   train-rmse:0.086938   eval-rmse:0.086938   train-rmspe:0.089867
eval-rmspe:0.089867

```
[526]    train-rmse:0.086855    eval-rmse:0.086855    train-rmspe:0.089782
eval-rmspe:0.089782
[527]    train-rmse:0.086757    eval-rmse:0.086757    train-rmspe:0.089684
eval-rmspe:0.089684
[528]    train-rmse:0.086676    eval-rmse:0.086676    train-rmspe:0.089601
eval-rmspe:0.089601
[529]    train-rmse:0.086494    eval-rmse:0.086494    train-rmspe:0.089381
eval-rmspe:0.089381
[530]    train-rmse:0.086322    eval-rmse:0.086322    train-rmspe:0.089203
eval-rmspe:0.089203
[531]    train-rmse:0.086292    eval-rmse:0.086292    train-rmspe:0.089173
eval-rmspe:0.089173
[532]    train-rmse:0.086197    eval-rmse:0.086197    train-rmspe:0.089073
eval-rmspe:0.089073
[533]    train-rmse:0.086149    eval-rmse:0.086149    train-rmspe:0.089027
eval-rmspe:0.089027
[534]    train-rmse:0.08593    eval-rmse:0.08593    train-rmspe:0.088777
eval-rmspe:0.088777
[535]    train-rmse:0.085831    eval-rmse:0.085831    train-rmspe:0.088676
eval-rmspe:0.088676
[536]    train-rmse:0.085614    eval-rmse:0.085614    train-rmspe:0.088433
eval-rmspe:0.088433
[537]    train-rmse:0.085451    eval-rmse:0.085451    train-rmspe:0.088265
eval-rmspe:0.088265
[538]    train-rmse:0.085362    eval-rmse:0.085362    train-rmspe:0.088154
eval-rmspe:0.088154
[539]    train-rmse:0.085166    eval-rmse:0.085166    train-rmspe:0.087946
eval-rmspe:0.087946
[540]    train-rmse:0.085087    eval-rmse:0.085087    train-rmspe:0.087869
eval-rmspe:0.087869
[541]    train-rmse:0.084833    eval-rmse:0.084833    train-rmspe:0.087593
eval-rmspe:0.087593
[542]    train-rmse:0.084712    eval-rmse:0.084712    train-rmspe:0.087463
eval-rmspe:0.087463
[543]    train-rmse:0.084574    eval-rmse:0.084574    train-rmspe:0.087315
eval-rmspe:0.087315
[544]    train-rmse:0.084472    eval-rmse:0.084472    train-rmspe:0.087209
eval-rmspe:0.087209
[545]    train-rmse:0.084393    eval-rmse:0.084393    train-rmspe:0.087128
eval-rmspe:0.087128
[546]    train-rmse:0.084246    eval-rmse:0.084246    train-rmspe:0.086974
eval-rmspe:0.086974
[547]    train-rmse:0.084059    eval-rmse:0.084059    train-rmspe:0.086778
eval-rmspe:0.086778
[548]    train-rmse:0.084032    eval-rmse:0.084032    train-rmspe:0.086753
eval-rmspe:0.086753
[549]    train-rmse:0.08395    eval-rmse:0.08395    train-rmspe:0.08665
eval-rmspe:0.08665
```

[550]   train-rmse:0.083909   eval-rmse:0.083909   train-rmspe:0.08661
eval-rmspe:0.08661
[551]   train-rmse:0.083799   eval-rmse:0.083799   train-rmspe:0.086496
eval-rmspe:0.086496
[552]   train-rmse:0.083726   eval-rmse:0.083726   train-rmspe:0.08642
eval-rmspe:0.08642
[553]   train-rmse:0.083548   eval-rmse:0.083548   train-rmspe:0.086233
eval-rmspe:0.086233
[554]   train-rmse:0.083386   eval-rmse:0.083386   train-rmspe:0.086023
eval-rmspe:0.086023
[555]   train-rmse:0.083265   eval-rmse:0.083265   train-rmspe:0.085893
eval-rmspe:0.085893
[556]   train-rmse:0.083141   eval-rmse:0.083141   train-rmspe:0.085756
eval-rmspe:0.085756
[557]   train-rmse:0.083048   eval-rmse:0.083048   train-rmspe:0.085634
eval-rmspe:0.085634
[558]   train-rmse:0.082997   eval-rmse:0.082997   train-rmspe:0.085579
eval-rmspe:0.085579
[559]   train-rmse:0.082861   eval-rmse:0.082861   train-rmspe:0.085428
eval-rmspe:0.085428
[560]   train-rmse:0.082766   eval-rmse:0.082766   train-rmspe:0.085329
eval-rmspe:0.085329
[561]   train-rmse:0.082665   eval-rmse:0.082665   train-rmspe:0.085218
eval-rmspe:0.085218
[562]   train-rmse:0.082458   eval-rmse:0.082458   train-rmspe:0.084978
eval-rmspe:0.084978
[563]   train-rmse:0.082351   eval-rmse:0.082351   train-rmspe:0.08487
eval-rmspe:0.08487
[564]   train-rmse:0.082255   eval-rmse:0.082255   train-rmspe:0.084761
eval-rmspe:0.084761
[565]   train-rmse:0.081951   eval-rmse:0.081951   train-rmspe:0.084421
eval-rmspe:0.084421
[566]   train-rmse:0.08188   eval-rmse:0.08188   train-rmspe:0.084348
eval-rmspe:0.084348
[567]   train-rmse:0.08175   eval-rmse:0.08175   train-rmspe:0.084207
eval-rmspe:0.084207
[568]   train-rmse:0.081485   eval-rmse:0.081485   train-rmspe:0.083874
eval-rmspe:0.083874
[569]   train-rmse:0.081444   eval-rmse:0.081444   train-rmspe:0.083831
eval-rmspe:0.083831
[570]   train-rmse:0.081278   eval-rmse:0.081278   train-rmspe:0.083641
eval-rmspe:0.083641
[571]   train-rmse:0.081169   eval-rmse:0.081169   train-rmspe:0.083522
eval-rmspe:0.083522
[572]   train-rmse:0.081108   eval-rmse:0.081108   train-rmspe:0.083455
eval-rmspe:0.083455
[573]   train-rmse:0.081039   eval-rmse:0.081039   train-rmspe:0.083384
eval-rmspe:0.083384

[574]   train-rmse:0.080951   eval-rmse:0.080951   train-rmspe:0.083295
eval-rmspe:0.083295
[575]   train-rmse:0.080864   eval-rmse:0.080864   train-rmspe:0.083202
eval-rmspe:0.083202
[576]   train-rmse:0.080753   eval-rmse:0.080753   train-rmspe:0.083056
eval-rmspe:0.083056
[577]   train-rmse:0.080651   eval-rmse:0.080651   train-rmspe:0.082919
eval-rmspe:0.082919
[578]   train-rmse:0.080501   eval-rmse:0.080501   train-rmspe:0.082758
eval-rmspe:0.082758
[579]   train-rmse:0.080347   eval-rmse:0.080347   train-rmspe:0.082597
eval-rmspe:0.082597
[580]   train-rmse:0.080297   eval-rmse:0.080297   train-rmspe:0.082541
eval-rmspe:0.082541
[581]   train-rmse:0.080251   eval-rmse:0.080251   train-rmspe:0.082495
eval-rmspe:0.082495
[582]   train-rmse:0.080158   eval-rmse:0.080158   train-rmspe:0.082397
eval-rmspe:0.082397
[583]   train-rmse:0.080089   eval-rmse:0.080089   train-rmspe:0.082327
eval-rmspe:0.082327
[584]   train-rmse:0.080001   eval-rmse:0.080001   train-rmspe:0.082237
eval-rmspe:0.082237
[585]   train-rmse:0.079965   eval-rmse:0.079965   train-rmspe:0.082201
eval-rmspe:0.082201
[586]   train-rmse:0.079818   eval-rmse:0.079818   train-rmspe:0.082034
eval-rmspe:0.082034
[587]   train-rmse:0.079688   eval-rmse:0.079688   train-rmspe:0.081903
eval-rmspe:0.081903
[588]   train-rmse:0.079577   eval-rmse:0.079577   train-rmspe:0.081783
eval-rmspe:0.081783
[589]   train-rmse:0.079463   eval-rmse:0.079463   train-rmspe:0.08166
eval-rmspe:0.08166
[590]   train-rmse:0.079253   eval-rmse:0.079253   train-rmspe:0.081425
eval-rmspe:0.081425
[591]   train-rmse:0.079165   eval-rmse:0.079165   train-rmspe:0.081329
eval-rmspe:0.081329
[592]   train-rmse:0.079113   eval-rmse:0.079113   train-rmspe:0.081272
eval-rmspe:0.081272
[593]   train-rmse:0.078824   eval-rmse:0.078824   train-rmspe:0.080924
eval-rmspe:0.080924
[594]   train-rmse:0.078775   eval-rmse:0.078775   train-rmspe:0.080869
eval-rmspe:0.080869
[595]   train-rmse:0.078695   eval-rmse:0.078695   train-rmspe:0.080787
eval-rmspe:0.080787
[596]   train-rmse:0.078633   eval-rmse:0.078633   train-rmspe:0.080723
eval-rmspe:0.080723
[597]   train-rmse:0.07851   eval-rmse:0.07851   train-rmspe:0.080587
eval-rmspe:0.080587

```
[598]    train-rmse:0.078496       eval-rmse:0.078496       train-rmspe:0.080573
eval-rmspe:0.080573
[599]    train-rmse:0.078414       eval-rmse:0.078414       train-rmspe:0.080491
eval-rmspe:0.080491
round 10 end
Training is end
Training time is 0.2738799624972873 h.
```

[50]:
```python
#(round)
print ('Validating')

bagged_ho_preds1 = preds_ho.mean(axis = 1)
error1 = rmspe(np.expm1(ho_ytest), np.expm1(bagged_ho_preds1))
print('RMSPE for mean: {:.6f}'.format(error1))

#(round)
R = range(10)
Mw = [0.20,0.20,0.10,0.10,0.10,0.10,0.10,0.10,0.00,0.00]
A = pd.DataFrame()
A['round']=R
A['best_score']=B
A.sort_values(['best_score'],inplace = True)
A['weight']=Mw
A.sort_values(['round'],inplace = True)
weight=np.array(A['weight'])
preds_ho_w=weight*preds_ho
bagged_ho_preds2 = preds_ho_w.sum(axis = 1)
error2 = rmspe(np.expm1(ho_ytest), np.expm1(bagged_ho_preds2))
print('RMSPE for weight: {:.6f}'.format(error2))
```

```
Validating
RMSPE for mean: 0.074189
RMSPE for weight: 0.073777
```

[51]:
```python
##
#
print("Make predictions on the test set")
bagged_preds = preds_test.mean(axis = 1)
result = pd.DataFrame({"Id": test['Id'], 'Sales': np.expm1(bagged_preds)})
result.to_csv("meanCombination.csv", index=False)
#
bagged_preds = (preds_test*weight).sum(axis = 1)
result = pd.DataFrame({"Id": test['Id'], 'Sales': np.expm1(bagged_preds)})
result.to_csv("WeightCombination.csv", index=False)
```
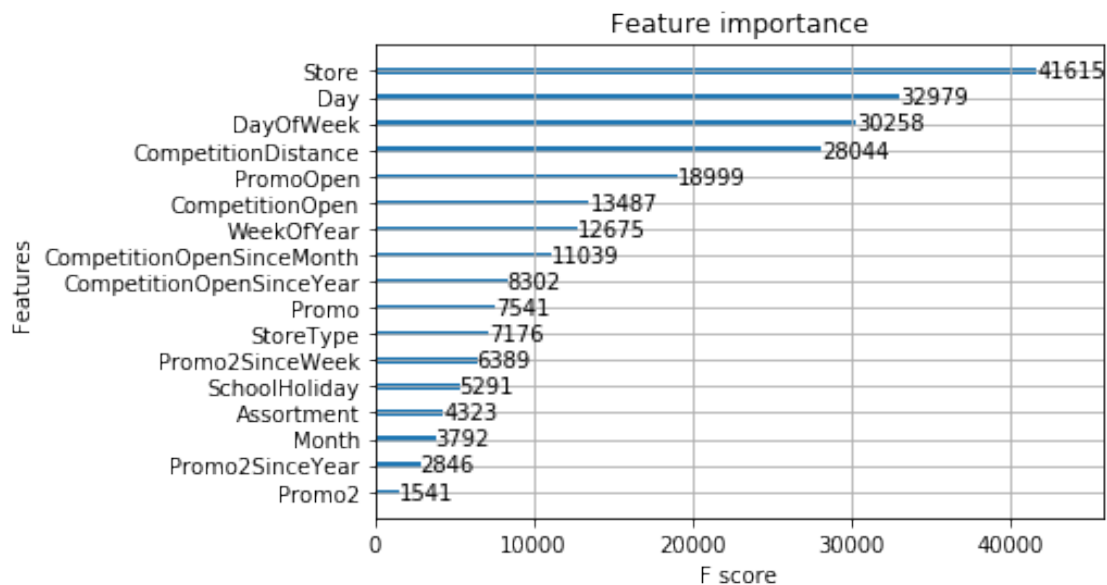
```
Make predictions on the test set
```

13

[52]:
```
#
xgb.plot_importance(gbm)
# - 1.'Day''DayOfWeek''WeekOfYera''Month'2.'Store''StoreTyp'3.Promo):
 ↪'PromoOpen''Promo'4.
 ↪'CompetitionOpen'CompetitionDistance''CompetitionOpenSinceMoth''CompetitionOpenScinceyear'
# - 1.'SchoolHoliday''StateHoliday'2.
 ↪(Promo2)'Promo2''Prom2SinceYear''Prom2SinceWeek'
```

[52]: <matplotlib.axes._subplots.AxesSubplot at 0x10b729b38>

Feature importance

[53]:
```
#
res1 = pd.DataFrame(data = ho_ytest)
res1['Prediction']=bagged_ho_preds2
res1 = pd.merge(ho_xtest,res1, left_index= True, right_index=True)
res1['Ratio'] = res1.Prediction/res.Sales
res1['Error'] =abs(res1.Ratio-1)
res1.head()
```

[53]:

	Store	DayOfWeek	Promo	StateHoliday	SchoolHoliday	StoreType	\
0	1	4	1	0	1	3	
1	1	3	1	0	1	3	
2	1	2	1	0	1	3	
3	1	1	1	0	1	3	
4	1	0	1	0	1	3	

	Assortment	CompetitionDistance	CompetitionOpenSinceMonth	\
0	1	1270.0	9.0	

```
1          1              1270.0                        9.0
2          1              1270.0                        9.0
3          1              1270.0                        9.0
4          1              1270.0                        9.0

   CompetitionOpenSinceYear  ...  Month  Day  WeekOfYear  CompetitionOpen  \
0                    2008.0  ...      7   31          31             82.0
1                    2008.0  ...      7   30          31             82.0
2                    2008.0  ...      7   29          31             82.0
3                    2008.0  ...      7   28          31             82.0
4                    2008.0  ...      7   27          31             82.0

   PromoOpen  IsPromoMonth     Sales  Prediction     Ratio     Error
0   24187.75           1.0  8.568646    8.568202  0.999948  0.000052
1   24187.75           1.0  8.521384    8.495686  0.996984  0.003016
2   24187.75           1.0  8.472823    8.480690  1.000928  0.000928
3   24187.75           1.0  8.519590    8.528154  1.001005  0.001005
4   24187.75           1.0  8.716536    8.658512  0.993343  0.006657

[5 rows x 24 columns]
```

```python
#10
res1.sort_values(['Error'],ascending=False,inplace= True)
res['Store_new'] = res1['Store']
res['Error_new'] = res1['Error']
res['Ratio_new'] = res1['Ratio']
col_3 = ['Store','Ratio','Error','Store_new','Ratio_new','Error_new']
com = pd.DataFrame(res,columns = col_3)
com[:10]
```

```
        Store     Ratio     Error  Store_new  Ratio_new  Error_new
264207    292  1.162414  0.162414        292   1.157037   0.157037
711449    782  1.102852  0.102852        782   1.093553   0.093553
264213    292  1.080666  0.080666        292   1.069271   0.069271
456286    501  1.079322  0.079322        501   1.064904   0.064904
937688   1029  1.078703  0.078703       1029   1.058257   0.058257
937667   1029  1.076170  0.076170       1029   1.060119   0.060119
165039    183  0.923866  0.076134        183   0.913065   0.086935
818909    899  1.072484  0.072484        899   1.051540   0.051540
440257    483  1.069659  0.069659        483   1.054736   0.054736
264218    292  0.933997  0.066003        292   0.922158   0.077842
```