

```
print("Be motivated Ganapathy")
```

Be motivated Ganapathy

```
##Dataset creation
```

```
import pandas as pd
import numpy as np
```

```
arr=np.array([["Dhoni",1,2,3,4],["Virat",3,4,5,2]])
df=pd.DataFrame(arr,columns=['name','1s','2s','4s','6s'])
df
```

	name	1s	2s	4s	6s
0	Dhoni	1	2	3	4
1	Virat	3	4	5	2

```
##Random Dataset creation
```

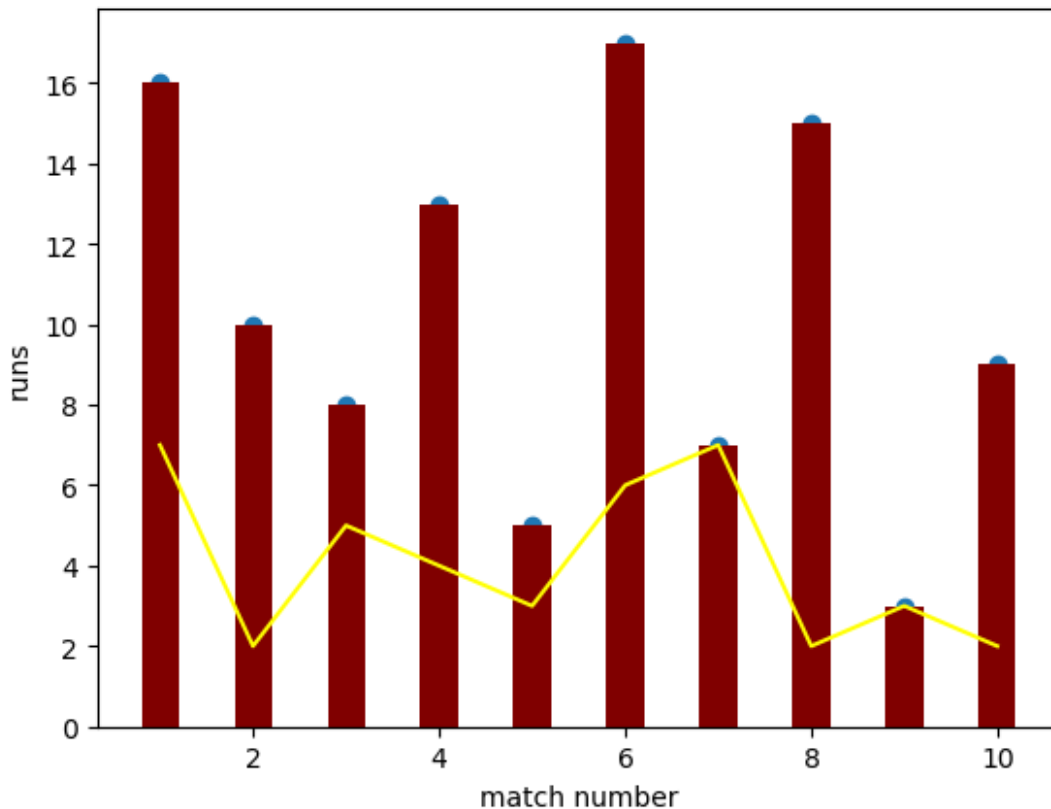
```
import pandas as pd
import numpy as np
```

```
df=pd.DataFrame({"mn":range(1,11),
                  "n4":np.random.randint(1,20,size=10),
                  "n6":np.random.randint(1,10,size=10)
                  })
```

	mn	n4	n6
0	1	16	7
1	2	10	2
2	3	8	5
3	4	13	4
4	5	5	3
5	6	17	6
6	7	7	7
7	8	15	2
8	9	3	3
9	10	9	2

```
import matplotlib.pyplot as plt
plt.scatter(df["mn"],df["n4"])
plt.plot(df.mn,df.n6,color="yellow")
plt.bar(df.mn,df.n4,color="maroon",width=0.4)
plt.xlabel("match number")
plt.ylabel("runs")
```

```
Text(0, 0.5, 'runs')
```



### ##Linear Regression

```
import pandas as pd
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split

lm=pd.read_csv("db/income.csv")
x=lm[["year"]]
y=lm["pci"]
xtrain,xtest,ytrain,ytest=train_test_split(x,y,test_size=0.25)

model=LinearRegression()
model.fit(xtrain,ytrain)
model.score(xtest,ytest)

0.8754252138052113
```

### ##Naive Bayes

```
import pandas as pd
from sklearn.naive_bayes import GaussianNB
from sklearn.model_selection import train_test_split

df=pd.read_csv('db/titanic.csv')
df=df[['Pclass','Age','Survived']]
```

```

df['Age']=df.Age.fillna(df.Age.mean())
df
x=df.drop('Survived',axis='columns')
y=df.Survived
xtrain,xtest,ytrain,ytest=train_test_split(x,y,test_size=0.25)
gb=GaussianNB()
gb.fit(xtrain,ytrain)
print(gb.score(xtest,ytest))

```

0.6547085201793722

*##Decision Tree*

```

import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn import tree
from sklearn.preprocessing import LabelEncoder
import math
import matplotlib.pyplot as plt

```

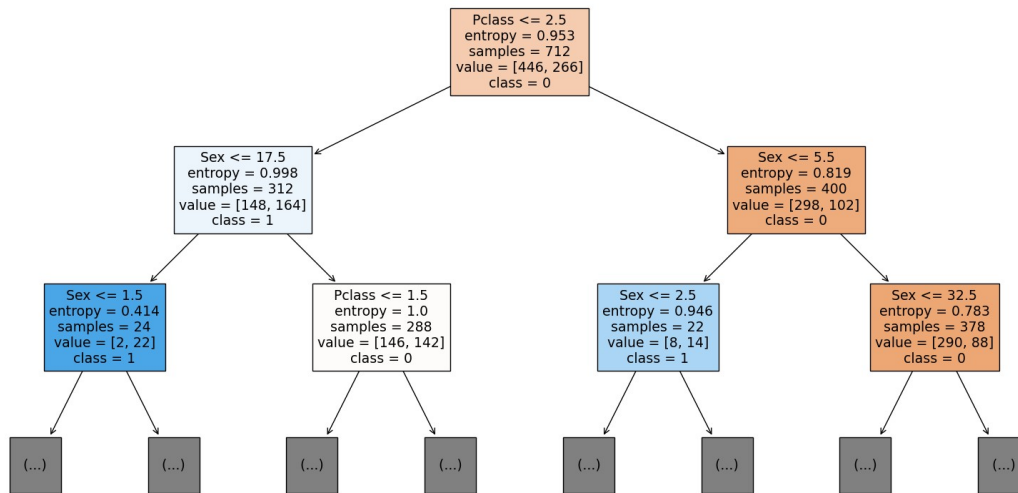
```

df=pd.read_csv('db/titanic.csv')
df=df[['Pclass','Age','Survived']]
df['Age']=df.Age.fillna(df.Age.mean())
df
x=df.drop('Survived',axis='columns')
y=df.Survived
X_train,X_test,Y_train,Y_test=train_test_split(x,y,test_size=0.2,random_state=15)
# C4.5
#
dc=tree.DecisionTreeClassifier(splitter='best',criterion='entropy',random_state=15)
# id3
# dc=tree.DecisionTreeClassifier(criterion='entropy',random_state=15)
#cart
# dc=tree.DecisionTreeClassifier(criterion='gini',random_state=15)

dc.fit(X_train,Y_train)
print(dc.score(X_test,Y_test))
plt.figure(figsize=(20,10))
tree.plot_tree(dc,filled=True,feature_names=X.columns,class_names=['0','1'],max_depth=2)
plt.show()

```

0.6983240223463687



*##K means clustering*

```

from sklearn.cluster import KMeans
from sklearn.preprocessing import MinMaxScaler
from sklearn.model_selection import train_test_split
import pandas as pd
import matplotlib.pyplot as plt

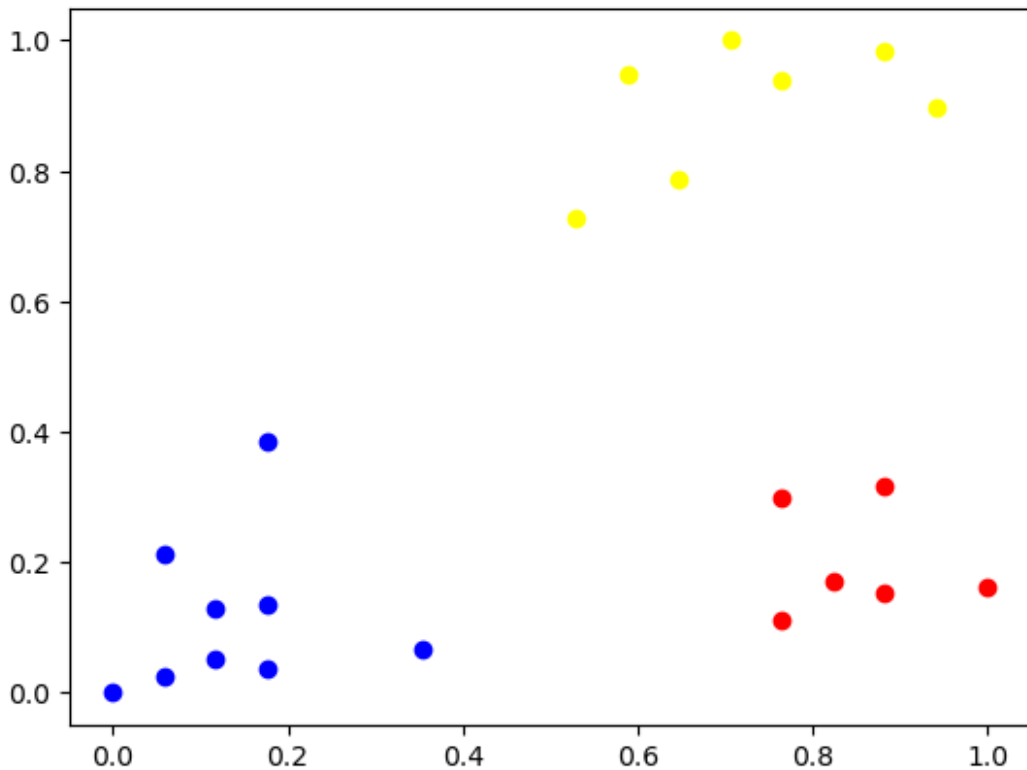
data=pd.read_csv('db/kmeansincome.csv')

scalar=MinMaxScaler()
scalar.fit(data[['Age']])
data['Age']=scalar.transform(data[['Age']])
scalar.fit(data[['Income']])
data['Income']=scalar.transform(data[['Income']])
x=data['Age']
y=data.Income

km=KMeans(n_clusters=3)
data['cluster']=km.fit_predict(data[['Age','Income']])
df0=data[data.cluster==0]
df1=data[data.cluster==1]
df2=data[data.cluster==2]
plt.scatter(df0.Age,df0.Income,color="red")
plt.scatter(df1.Age,df1.Income,color="blue")
plt.scatter(df2.Age,df2.Income,color="yellow")

<matplotlib.collections.PathCollection at 0x209860c6880>

```



```
##Multilayer perceptron
```

```
from sklearn.datasets import make_classification
from sklearn.neural_network import MLPClassifier
from sklearn.model_selection import train_test_split
```

```
X,y=make_classification(n_samples=100,n_features=10,random_state=15)
xtrain,xtest,ytrain,ytest=train_test_split(X,y,test_size=0.25)
model=MLPClassifier(max_iter=100000,random_state=15)
model.fit(xtrain,ytrain)
print(model.score(xtest,ytest))
```

```
0.92
```

```
##Reinforcement Learning
```

```
import numpy as np
import gym
```

```
# Define the Q-learning function
```

```
def q_learning(env, num_episodes, alpha, gamma, epsilon):
```

```
    # Initialize the Q-table to zeros
```

```
    Q = np.zeros((env.observation_space.n, env.action_space.n))
```

```
    # Loop over episodes
```

```
    for episode in range(num_episodes):
```

```
        # Reset the environment
```

```

state = env.reset()

# Initialize the total reward for this episode
total_reward = 0

# Loop over time steps in this episode
done = False
while not done:
    # Choose an action using an epsilon-greedy policy
    if np.random.random() < epsilon:
        action = env.action_space.sample() # explore
    else:
        action = np.argmax(Q[state]) # exploit

    # Take the chosen action and observe the next state and
reward
    next_state, reward, done, _ = env.step(action)

    # Update the Q-table
    Q[state, action] += alpha * (reward + gamma *
np.max(Q[next_state]) - Q[state, action])

    # Update the total reward
    total_reward += reward

    # Update the state for the next iteration
    state = next_state

# Print the total reward for this episode
print(f"Episode {episode + 1}: Total reward = {total_reward}")

return Q

# Create the environment
env = gym.make('Taxi-v3')

# Set the hyperparameters
num_episodes = 1000
alpha = 0.1
gamma = 0.99
epsilon = 0.1

# Run the Q-learning algorithm
Q = q_learning(env, num_episodes, alpha, gamma, epsilon)

# Close the environment
env.close()

```

```

-----
-----
IndexError                                Traceback (most recent call
last)
~\AppData\Local\Temp\ipykernel_15972\2879263338.py in <module>
    52
    53 # Run the Q-learning algorithm
--> 54 Q = q_learning(env, num_episodes, alpha, gamma, epsilon)
    55
    56 # Close the environment

~\AppData\Local\Temp\ipykernel_15972\2879263338.py in q_learning(env,
num_episodes, alpha, gamma, epsilon)
    22             action = env.action_space.sample() # explore
    23         else:
--> 24             action = np.argmax(Q[state]) # exploit
    25
    26             # Take the chosen action and observe the next
state and reward

IndexError: only integers, slices (:`:`), ellipsis (`...`),
numpy.newaxis (`None`) and integer or boolean arrays are valid indices

```

*##Support Vector Machine*

```

import pandas as pd
from sklearn.svm import SVC
from sklearn.model_selection import train_test_split

```

```

df=pd.read_csv('DB/url.csv')
# print(df)
X=df.drop(columns=["Domain","Label"])
# print(X)
y=df['Label']
# print(y)

```

```

xtrain,xtest,ytrain,ytest=train_test_split(X,y,test_size=0.75,random_s
tate=15)
model=SVC()
# model=SVC(kernel='linear',random_state=15)
# modell=SVC(kernel='rbf',random_state=15)
model.fit(xtrain,ytrain)
# modell.fit(xtrain,ytrain)
# print(modell.score(xtest,ytest))
print(model.score(xtest,ytest))

```

0.8182666666666667

*##Bagging - Random Forest Classifier*

```

import pandas as pd
from sklearn.ensemble import RandomForestClassifier
from sklearn.model_selection import train_test_split

df = pd.read_csv("db/url.csv")
X=df.drop(columns=["Domain", "Label"])
y=df['Label']
xtrain,xtest,ytrain,ytest=train_test_split(X,y,test_size=0.75)

model=RandomForestClassifier(n_estimators=5,random_state=15)
model.fit(xtrain,ytrain)
print(model.score(xtest,ytest))
# i=0
# for tree in model.estimators_:
#     prediction=tree.predict(xtest)
#     print(f"Iteration:{i} {'Not malicious' if prediction[0]==0 else
'Malicious'}")
#     i+=1

```

0.8426666666666667

*##Boosting - common code*

```

import pandas as pd
from sklearn.model_selection import train_test_split

data = pd.read_csv('db/url.csv')
X = data.drop(columns=['Domain','Label'],axis = 1)
Y = data['Label']
xtrain,xtest,ytrain,ytest= train_test_split(X, Y, test_size=0.3)

```

*##ADA boosting*

```

from sklearn.ensemble import AdaBoostClassifier

```

```

ada=AdaBoostClassifier()
# ada=AdaBoostClassifier(learning_rate=0.3)
ada.fit(xtrain,ytrain)
ada.score(xtest,ytest)

```

0.8083333333333333

*##Gradient Classifier*

```

from sklearn.ensemble import GradientBoostingClassifier

gbc=GradientBoostingClassifier()
gbc=GradientBoostingClassifier(n_estimators=200,learning_rate=0.2)

```



```
gbc.fit(xtrain,ytrain)
gbc.score(xtest,ytest)
```

0.8546666666666667

*##LG boosting*

```
# !pip install lightgbm
from lightgbm import LGBMClassifier
# lgbm=LGBMClassifier()
lgbm=LGBMClassifier(learning_rate=0.3)
lgbm.fit(xtrain,ytrain)
lgbm.score(xtest,ytest)
```

0.8596666666666667

*##Categorical Boosting*

```
from catboost import CatBoostClassifier
cb=CatBoostClassifier()
cb.fit(xtrain,ytrain)
print(cb.score(xtrain,ytrain))
```

Learning rate set to 0.023648

0:	learn: 0.6680605 total: 3.76ms	remaining: 3.76s
1:	learn: 0.6456306 total: 7.81ms	remaining: 3.9s
2:	learn: 0.6257160 total: 10.9ms	remaining: 3.63s
3:	learn: 0.6085758 total: 14.4ms	remaining: 3.6s
4:	learn: 0.5916941 total: 18.1ms	remaining: 3.6s
5:	learn: 0.5775085 total: 21.7ms	remaining: 3.59s
6:	learn: 0.5634850 total: 25.1ms	remaining: 3.56s
7:	learn: 0.5506626 total: 28.8ms	remaining: 3.57s
8:	learn: 0.5398792 total: 31.7ms	remaining: 3.49s
9:	learn: 0.5302093 total: 35.2ms	remaining: 3.49s
10:	learn: 0.5206805 total: 38.8ms	remaining: 3.49s
11:	learn: 0.5124428 total: 42.3ms	remaining: 3.48s
12:	learn: 0.5050919 total: 45.7ms	remaining: 3.47s
13:	learn: 0.4976658 total: 49.1ms	remaining: 3.46s
14:	learn: 0.4913593 total: 52.7ms	remaining: 3.46s
15:	learn: 0.4854644 total: 56.4ms	remaining: 3.46s
16:	learn: 0.4804225 total: 60.2ms	remaining: 3.48s
17:	learn: 0.4753395 total: 63.8ms	remaining: 3.48s
18:	learn: 0.4708018 total: 67.7ms	remaining: 3.5s
19:	learn: 0.4662393 total: 71.9ms	remaining: 3.52s
20:	learn: 0.4620478 total: 75.7ms	remaining: 3.53s
21:	learn: 0.4582314 total: 79.1ms	remaining: 3.52s
22:	learn: 0.4543841 total: 82.9ms	remaining: 3.52s
23:	learn: 0.4506177 total: 86.7ms	remaining: 3.53s
24:	learn: 0.4473358 total: 90.5ms	remaining: 3.53s
25:	learn: 0.4444960 total: 94.4ms	remaining: 3.54s
26:	learn: 0.4415616 total: 98.5ms	remaining: 3.55s
27:	learn: 0.4386283 total: 102ms	remaining: 3.56s

28:	learn: 0.4361863	total: 106ms	remaining: 3.56s
29:	learn: 0.4339560	total: 110ms	remaining: 3.56s
30:	learn: 0.4322364	total: 114ms	remaining: 3.56s
31:	learn: 0.4303192	total: 118ms	remaining: 3.56s
32:	learn: 0.4285202	total: 121ms	remaining: 3.56s
33:	learn: 0.4268323	total: 125ms	remaining: 3.56s
34:	learn: 0.4250311	total: 129ms	remaining: 3.56s
35:	learn: 0.4232490	total: 133ms	remaining: 3.56s
36:	learn: 0.4218022	total: 137ms	remaining: 3.57s
37:	learn: 0.4200568	total: 141ms	remaining: 3.57s
38:	learn: 0.4189333	total: 145ms	remaining: 3.58s
39:	learn: 0.4177139	total: 150ms	remaining: 3.6s
40:	learn: 0.4163408	total: 155ms	remaining: 3.62s
41:	learn: 0.4150615	total: 159ms	remaining: 3.64s
42:	learn: 0.4135771	total: 164ms	remaining: 3.64s
43:	learn: 0.4123255	total: 168ms	remaining: 3.64s
44:	learn: 0.4108687	total: 171ms	remaining: 3.64s
45:	learn: 0.4095873	total: 175ms	remaining: 3.63s
46:	learn: 0.4085120	total: 179ms	remaining: 3.63s
47:	learn: 0.4074556	total: 183ms	remaining: 3.63s
48:	learn: 0.4063278	total: 187ms	remaining: 3.62s
49:	learn: 0.4054743	total: 191ms	remaining: 3.62s
50:	learn: 0.4045715	total: 194ms	remaining: 3.62s
51:	learn: 0.4035837	total: 198ms	remaining: 3.61s
52:	learn: 0.4026363	total: 201ms	remaining: 3.6s
53:	learn: 0.4018571	total: 205ms	remaining: 3.59s
54:	learn: 0.4011151	total: 209ms	remaining: 3.59s
55:	learn: 0.4004194	total: 213ms	remaining: 3.6s
56:	learn: 0.3993506	total: 217ms	remaining: 3.59s
57:	learn: 0.3982065	total: 221ms	remaining: 3.59s
58:	learn: 0.3975134	total: 225ms	remaining: 3.59s
59:	learn: 0.3968226	total: 229ms	remaining: 3.59s
60:	learn: 0.3962352	total: 233ms	remaining: 3.58s
61:	learn: 0.3955466	total: 237ms	remaining: 3.58s
62:	learn: 0.3947253	total: 241ms	remaining: 3.59s
63:	learn: 0.3938457	total: 245ms	remaining: 3.58s
64:	learn: 0.3932172	total: 249ms	remaining: 3.58s
65:	learn: 0.3926829	total: 253ms	remaining: 3.58s
66:	learn: 0.3916990	total: 257ms	remaining: 3.57s
67:	learn: 0.3912130	total: 260ms	remaining: 3.57s
68:	learn: 0.3906447	total: 264ms	remaining: 3.56s
69:	learn: 0.3895785	total: 268ms	remaining: 3.56s
70:	learn: 0.3888803	total: 272ms	remaining: 3.56s
71:	learn: 0.3877794	total: 275ms	remaining: 3.55s
72:	learn: 0.3871641	total: 279ms	remaining: 3.54s
73:	learn: 0.3864282	total: 283ms	remaining: 3.54s
74:	learn: 0.3856971	total: 287ms	remaining: 3.54s
75:	learn: 0.3849214	total: 291ms	remaining: 3.53s
76:	learn: 0.3844016	total: 295ms	remaining: 3.53s
77:	learn: 0.3837994	total: 298ms	remaining: 3.53s

78:	learn: 0.3833515	total: 302ms	remaining: 3.52s
79:	learn: 0.3826918	total: 306ms	remaining: 3.52s
80:	learn: 0.3823026	total: 310ms	remaining: 3.51s
81:	learn: 0.3818137	total: 313ms	remaining: 3.51s
82:	learn: 0.3812251	total: 317ms	remaining: 3.5s
83:	learn: 0.3807706	total: 321ms	remaining: 3.5s
84:	learn: 0.3806062	total: 324ms	remaining: 3.49s
85:	learn: 0.3801307	total: 328ms	remaining: 3.48s
86:	learn: 0.3793701	total: 332ms	remaining: 3.48s
87:	learn: 0.3787008	total: 335ms	remaining: 3.47s
88:	learn: 0.3779892	total: 339ms	remaining: 3.47s
89:	learn: 0.3777147	total: 343ms	remaining: 3.47s
90:	learn: 0.3775324	total: 347ms	remaining: 3.46s
91:	learn: 0.3770203	total: 351ms	remaining: 3.46s
92:	learn: 0.3761639	total: 355ms	remaining: 3.46s
93:	learn: 0.3758957	total: 360ms	remaining: 3.46s
94:	learn: 0.3751960	total: 365ms	remaining: 3.48s
95:	learn: 0.3744294	total: 369ms	remaining: 3.48s
96:	learn: 0.3739142	total: 374ms	remaining: 3.48s
97:	learn: 0.3736188	total: 378ms	remaining: 3.48s
98:	learn: 0.3729267	total: 382ms	remaining: 3.47s
99:	learn: 0.3726863	total: 385ms	remaining: 3.47s
100:	learn: 0.3723213	total: 389ms	remaining: 3.47s
101:	learn: 0.3719975	total: 393ms	remaining: 3.46s
102:	learn: 0.3716297	total: 397ms	remaining: 3.46s
103:	learn: 0.3712641	total: 401ms	remaining: 3.46s
104:	learn: 0.3707450	total: 405ms	remaining: 3.46s
105:	learn: 0.3705131	total: 409ms	remaining: 3.45s
106:	learn: 0.3698824	total: 414ms	remaining: 3.45s
107:	learn: 0.3696237	total: 418ms	remaining: 3.45s
108:	learn: 0.3692666	total: 422ms	remaining: 3.45s
109:	learn: 0.3689743	total: 426ms	remaining: 3.44s
110:	learn: 0.3686612	total: 430ms	remaining: 3.44s
111:	learn: 0.3680824	total: 433ms	remaining: 3.44s
112:	learn: 0.3676735	total: 437ms	remaining: 3.43s
113:	learn: 0.3668782	total: 441ms	remaining: 3.43s
114:	learn: 0.3663979	total: 445ms	remaining: 3.42s
115:	learn: 0.3655928	total: 449ms	remaining: 3.42s
116:	learn: 0.3651616	total: 452ms	remaining: 3.41s
117:	learn: 0.3649246	total: 456ms	remaining: 3.41s
118:	learn: 0.3646300	total: 460ms	remaining: 3.41s
119:	learn: 0.3643753	total: 464ms	remaining: 3.4s
120:	learn: 0.3638672	total: 467ms	remaining: 3.4s
121:	learn: 0.3634783	total: 471ms	remaining: 3.39s
122:	learn: 0.3634323	total: 474ms	remaining: 3.38s
123:	learn: 0.3632746	total: 478ms	remaining: 3.38s
124:	learn: 0.3629247	total: 482ms	remaining: 3.38s
125:	learn: 0.3627420	total: 486ms	remaining: 3.37s
126:	learn: 0.3625891	total: 490ms	remaining: 3.37s
127:	learn: 0.3621322	total: 494ms	remaining: 3.37s

128:	learn:	0.3616813	total:	498ms	remaining:	3.36s
129:	learn:	0.3614029	total:	502ms	remaining:	3.36s
130:	learn:	0.3612258	total:	506ms	remaining:	3.36s
131:	learn:	0.3608527	total:	510ms	remaining:	3.35s
132:	learn:	0.3606548	total:	514ms	remaining:	3.35s
133:	learn:	0.3603838	total:	518ms	remaining:	3.35s
134:	learn:	0.3599200	total:	522ms	remaining:	3.35s
135:	learn:	0.3595752	total:	526ms	remaining:	3.34s
136:	learn:	0.3594120	total:	530ms	remaining:	3.34s
137:	learn:	0.3592913	total:	534ms	remaining:	3.34s
138:	learn:	0.3590368	total:	538ms	remaining:	3.33s
139:	learn:	0.3587718	total:	542ms	remaining:	3.33s
140:	learn:	0.3584130	total:	547ms	remaining:	3.33s
141:	learn:	0.3581914	total:	552ms	remaining:	3.33s
142:	learn:	0.3579822	total:	556ms	remaining:	3.33s
143:	learn:	0.3578750	total:	562ms	remaining:	3.34s
144:	learn:	0.3576449	total:	566ms	remaining:	3.34s
145:	learn:	0.3575347	total:	571ms	remaining:	3.34s
146:	learn:	0.3573837	total:	577ms	remaining:	3.35s
147:	learn:	0.3569834	total:	581ms	remaining:	3.34s
148:	learn:	0.3567204	total:	585ms	remaining:	3.34s
149:	learn:	0.3565275	total:	588ms	remaining:	3.33s
150:	learn:	0.3561339	total:	593ms	remaining:	3.33s
151:	learn:	0.3559824	total:	597ms	remaining:	3.33s
152:	learn:	0.3558715	total:	601ms	remaining:	3.33s
153:	learn:	0.3556381	total:	606ms	remaining:	3.33s
154:	learn:	0.3554695	total:	610ms	remaining:	3.33s
155:	learn:	0.3552415	total:	614ms	remaining:	3.32s
156:	learn:	0.3549545	total:	619ms	remaining:	3.32s
157:	learn:	0.3545707	total:	623ms	remaining:	3.32s
158:	learn:	0.3542354	total:	627ms	remaining:	3.31s
159:	learn:	0.3539526	total:	631ms	remaining:	3.31s
160:	learn:	0.3538940	total:	634ms	remaining:	3.31s
161:	learn:	0.3537446	total:	638ms	remaining:	3.3s
162:	learn:	0.3534771	total:	643ms	remaining:	3.3s
163:	learn:	0.3532487	total:	647ms	remaining:	3.3s
164:	learn:	0.3528717	total:	650ms	remaining:	3.29s
165:	learn:	0.3524430	total:	654ms	remaining:	3.29s
166:	learn:	0.3523160	total:	659ms	remaining:	3.29s
167:	learn:	0.3518653	total:	663ms	remaining:	3.28s
168:	learn:	0.3514937	total:	667ms	remaining:	3.28s
169:	learn:	0.3513620	total:	671ms	remaining:	3.28s
170:	learn:	0.3512214	total:	675ms	remaining:	3.27s
171:	learn:	0.3510233	total:	679ms	remaining:	3.27s
172:	learn:	0.3508901	total:	683ms	remaining:	3.27s
173:	learn:	0.3507312	total:	688ms	remaining:	3.26s
174:	learn:	0.3505699	total:	692ms	remaining:	3.26s
175:	learn:	0.3504495	total:	696ms	remaining:	3.26s
176:	learn:	0.3501391	total:	700ms	remaining:	3.25s
177:	learn:	0.3498257	total:	703ms	remaining:	3.25s

178:	learn:	0.3497253	total:	707ms	remaining:	3.24s
179:	learn:	0.3496432	total:	711ms	remaining:	3.24s
180:	learn:	0.3494372	total:	716ms	remaining:	3.24s
181:	learn:	0.3493079	total:	719ms	remaining:	3.23s
182:	learn:	0.3490023	total:	724ms	remaining:	3.23s
183:	learn:	0.3489552	total:	727ms	remaining:	3.22s
184:	learn:	0.3486847	total:	731ms	remaining:	3.22s
185:	learn:	0.3483132	total:	736ms	remaining:	3.22s
186:	learn:	0.3480788	total:	740ms	remaining:	3.22s
187:	learn:	0.3479765	total:	745ms	remaining:	3.22s
188:	learn:	0.3477749	total:	750ms	remaining:	3.22s
189:	learn:	0.3475894	total:	755ms	remaining:	3.22s
190:	learn:	0.3475102	total:	759ms	remaining:	3.22s
191:	learn:	0.3474634	total:	764ms	remaining:	3.22s
192:	learn:	0.3471012	total:	771ms	remaining:	3.22s
193:	learn:	0.3468886	total:	776ms	remaining:	3.22s
194:	learn:	0.3467003	total:	780ms	remaining:	3.22s
195:	learn:	0.3466719	total:	785ms	remaining:	3.22s
196:	learn:	0.3466285	total:	789ms	remaining:	3.21s
197:	learn:	0.3465731	total:	794ms	remaining:	3.21s
198:	learn:	0.3462672	total:	798ms	remaining:	3.21s
199:	learn:	0.3461352	total:	803ms	remaining:	3.21s
200:	learn:	0.3460161	total:	807ms	remaining:	3.21s
201:	learn:	0.3459443	total:	812ms	remaining:	3.21s
202:	learn:	0.3457967	total:	816ms	remaining:	3.2s
203:	learn:	0.3455790	total:	821ms	remaining:	3.2s
204:	learn:	0.3455744	total:	824ms	remaining:	3.19s
205:	learn:	0.3454253	total:	828ms	remaining:	3.19s
206:	learn:	0.3451293	total:	832ms	remaining:	3.19s
207:	learn:	0.3448427	total:	837ms	remaining:	3.19s
208:	learn:	0.3447280	total:	842ms	remaining:	3.18s
209:	learn:	0.3443926	total:	846ms	remaining:	3.18s
210:	learn:	0.3443193	total:	850ms	remaining:	3.18s
211:	learn:	0.3441959	total:	854ms	remaining:	3.17s
212:	learn:	0.3441363	total:	859ms	remaining:	3.17s
213:	learn:	0.3440268	total:	863ms	remaining:	3.17s
214:	learn:	0.3439716	total:	868ms	remaining:	3.17s
215:	learn:	0.3437311	total:	873ms	remaining:	3.17s
216:	learn:	0.3435818	total:	877ms	remaining:	3.16s
217:	learn:	0.3434420	total:	882ms	remaining:	3.17s
218:	learn:	0.3431371	total:	887ms	remaining:	3.16s
219:	learn:	0.3429865	total:	892ms	remaining:	3.16s
220:	learn:	0.3429519	total:	896ms	remaining:	3.16s
221:	learn:	0.3428444	total:	901ms	remaining:	3.16s
222:	learn:	0.3427270	total:	906ms	remaining:	3.16s
223:	learn:	0.3426397	total:	911ms	remaining:	3.16s
224:	learn:	0.3426106	total:	916ms	remaining:	3.15s
225:	learn:	0.3424379	total:	920ms	remaining:	3.15s
226:	learn:	0.3423673	total:	926ms	remaining:	3.15s

227:	learn:	0.3421174	total:	932ms	remaining:	3.15s
228:	learn:	0.3419369	total:	938ms	remaining:	3.16s
229:	learn:	0.3416553	total:	944ms	remaining:	3.16s
230:	learn:	0.3415259	total:	949ms	remaining:	3.16s
231:	learn:	0.3412791	total:	954ms	remaining:	3.16s
232:	learn:	0.3411639	total:	960ms	remaining:	3.16s
233:	learn:	0.3409102	total:	967ms	remaining:	3.16s
234:	learn:	0.3407132	total:	972ms	remaining:	3.16s
235:	learn:	0.3406005	total:	977ms	remaining:	3.16s
236:	learn:	0.3405365	total:	983ms	remaining:	3.16s
237:	learn:	0.3404582	total:	989ms	remaining:	3.17s
238:	learn:	0.3403763	total:	996ms	remaining:	3.17s
239:	learn:	0.3402613	total:	1s	remaining:	3.17s
240:	learn:	0.3402480	total:	1s	remaining:	3.17s
241:	learn:	0.3401789	total:	1.01s	remaining:	3.17s
242:	learn:	0.3400314	total:	1.02s	remaining:	3.17s
243:	learn:	0.3396022	total:	1.02s	remaining:	3.17s
244:	learn:	0.3394337	total:	1.03s	remaining:	3.17s
245:	learn:	0.3393107	total:	1.03s	remaining:	3.17s
246:	learn:	0.3390424	total:	1.04s	remaining:	3.17s
247:	learn:	0.3387594	total:	1.04s	remaining:	3.17s
248:	learn:	0.3386863	total:	1.05s	remaining:	3.17s
249:	learn:	0.3386793	total:	1.05s	remaining:	3.17s
250:	learn:	0.3386579	total:	1.06s	remaining:	3.17s
251:	learn:	0.3386265	total:	1.06s	remaining:	3.16s
252:	learn:	0.3384433	total:	1.07s	remaining:	3.16s
253:	learn:	0.3383708	total:	1.08s	remaining:	3.17s
254:	learn:	0.3381602	total:	1.08s	remaining:	3.16s
255:	learn:	0.3381193	total:	1.09s	remaining:	3.16s
256:	learn:	0.3380594	total:	1.09s	remaining:	3.16s
257:	learn:	0.3379607	total:	1.1s	remaining:	3.16s
258:	learn:	0.3378688	total:	1.1s	remaining:	3.15s
259:	learn:	0.3378296	total:	1.11s	remaining:	3.15s
260:	learn:	0.3377451	total:	1.11s	remaining:	3.15s
261:	learn:	0.3376245	total:	1.12s	remaining:	3.15s
262:	learn:	0.3375789	total:	1.12s	remaining:	3.15s
263:	learn:	0.3375386	total:	1.13s	remaining:	3.14s
264:	learn:	0.3373484	total:	1.13s	remaining:	3.14s
265:	learn:	0.3369820	total:	1.14s	remaining:	3.14s
266:	learn:	0.3369802	total:	1.14s	remaining:	3.13s
267:	learn:	0.3369277	total:	1.15s	remaining:	3.13s
268:	learn:	0.3368777	total:	1.15s	remaining:	3.13s
269:	learn:	0.3368547	total:	1.16s	remaining:	3.13s
270:	learn:	0.3368117	total:	1.16s	remaining:	3.12s
271:	learn:	0.3367905	total:	1.17s	remaining:	3.12s
272:	learn:	0.3367366	total:	1.17s	remaining:	3.12s
273:	learn:	0.3365153	total:	1.18s	remaining:	3.12s
274:	learn:	0.3364451	total:	1.18s	remaining:	3.11s
275:	learn:	0.3363660	total:	1.18s	remaining:	3.11s
276:	learn:	0.3363215	total:	1.19s	remaining:	3.11s

277:	learn:	0.3362958	total:	1.19s	remaining:	3.1s
278:	learn:	0.3361971	total:	1.2s	remaining:	3.1s
279:	learn:	0.3360186	total:	1.2s	remaining:	3.1s
280:	learn:	0.3359130	total:	1.21s	remaining:	3.09s
281:	learn:	0.3357460	total:	1.21s	remaining:	3.09s
282:	learn:	0.3355968	total:	1.22s	remaining:	3.08s
283:	learn:	0.3355475	total:	1.22s	remaining:	3.08s
284:	learn:	0.3353218	total:	1.23s	remaining:	3.08s
285:	learn:	0.3351245	total:	1.23s	remaining:	3.07s
286:	learn:	0.3349182	total:	1.24s	remaining:	3.07s
287:	learn:	0.3347804	total:	1.24s	remaining:	3.07s
288:	learn:	0.3346973	total:	1.24s	remaining:	3.06s
289:	learn:	0.3345414	total:	1.25s	remaining:	3.06s
290:	learn:	0.3344900	total:	1.25s	remaining:	3.05s
291:	learn:	0.3344524	total:	1.26s	remaining:	3.05s
292:	learn:	0.3343888	total:	1.26s	remaining:	3.05s
293:	learn:	0.3343470	total:	1.27s	remaining:	3.04s
294:	learn:	0.3341074	total:	1.27s	remaining:	3.04s
295:	learn:	0.3337903	total:	1.28s	remaining:	3.04s
296:	learn:	0.3337028	total:	1.28s	remaining:	3.03s
297:	learn:	0.3335063	total:	1.28s	remaining:	3.03s
298:	learn:	0.3333108	total:	1.29s	remaining:	3.02s
299:	learn:	0.3332631	total:	1.29s	remaining:	3.02s
300:	learn:	0.3330892	total:	1.3s	remaining:	3.02s
301:	learn:	0.3330074	total:	1.3s	remaining:	3.01s
302:	learn:	0.3330061	total:	1.31s	remaining:	3.01s
303:	learn:	0.3327741	total:	1.31s	remaining:	3s
304:	learn:	0.3326887	total:	1.31s	remaining:	3s
305:	learn:	0.3326607	total:	1.32s	remaining:	2.99s
306:	learn:	0.3325028	total:	1.32s	remaining:	2.99s
307:	learn:	0.3323955	total:	1.33s	remaining:	2.98s
308:	learn:	0.3321264	total:	1.33s	remaining:	2.98s
309:	learn:	0.3320944	total:	1.34s	remaining:	2.98s
310:	learn:	0.3319240	total:	1.34s	remaining:	2.97s
311:	learn:	0.3318755	total:	1.35s	remaining:	2.97s
312:	learn:	0.3317446	total:	1.35s	remaining:	2.96s
313:	learn:	0.3317237	total:	1.35s	remaining:	2.96s
314:	learn:	0.3316114	total:	1.36s	remaining:	2.96s
315:	learn:	0.3315953	total:	1.36s	remaining:	2.95s
316:	learn:	0.3314330	total:	1.37s	remaining:	2.95s
317:	learn:	0.3313777	total:	1.37s	remaining:	2.95s
318:	learn:	0.3313177	total:	1.38s	remaining:	2.94s
319:	learn:	0.3312604	total:	1.39s	remaining:	2.94s
320:	learn:	0.3310642	total:	1.39s	remaining:	2.94s
321:	learn:	0.3309334	total:	1.4s	remaining:	2.94s
322:	learn:	0.3308448	total:	1.4s	remaining:	2.94s
323:	learn:	0.3306054	total:	1.41s	remaining:	2.93s
324:	learn:	0.3304757	total:	1.41s	remaining:	2.93s
325:	learn:	0.3304422	total:	1.41s	remaining:	2.92s
326:	learn:	0.3303999	total:	1.42s	remaining:	2.92s

327:	learn:	0.3302372	total:	1.42s	remaining:	2.91s
328:	learn:	0.3301830	total:	1.43s	remaining:	2.91s
329:	learn:	0.3301028	total:	1.43s	remaining:	2.91s
330:	learn:	0.3300271	total:	1.44s	remaining:	2.9s
331:	learn:	0.3300040	total:	1.44s	remaining:	2.9s
332:	learn:	0.3299265	total:	1.44s	remaining:	2.89s
333:	learn:	0.3299246	total:	1.45s	remaining:	2.88s
334:	learn:	0.3298037	total:	1.45s	remaining:	2.88s
335:	learn:	0.3297199	total:	1.46s	remaining:	2.88s
336:	learn:	0.3296000	total:	1.46s	remaining:	2.87s
337:	learn:	0.3294888	total:	1.47s	remaining:	2.87s
338:	learn:	0.3294231	total:	1.47s	remaining:	2.87s
339:	learn:	0.3291458	total:	1.48s	remaining:	2.86s
340:	learn:	0.3290379	total:	1.48s	remaining:	2.86s
341:	learn:	0.3289561	total:	1.48s	remaining:	2.85s
342:	learn:	0.3288208	total:	1.49s	remaining:	2.85s
343:	learn:	0.3286378	total:	1.49s	remaining:	2.85s
344:	learn:	0.3284941	total:	1.5s	remaining:	2.84s
345:	learn:	0.3283718	total:	1.5s	remaining:	2.84s
346:	learn:	0.3282415	total:	1.5s	remaining:	2.83s
347:	learn:	0.3282070	total:	1.51s	remaining:	2.83s
348:	learn:	0.3281841	total:	1.51s	remaining:	2.83s
349:	learn:	0.3280615	total:	1.52s	remaining:	2.82s
350:	learn:	0.3279977	total:	1.52s	remaining:	2.82s
351:	learn:	0.3278759	total:	1.53s	remaining:	2.81s
352:	learn:	0.3277934	total:	1.53s	remaining:	2.81s
353:	learn:	0.3277787	total:	1.54s	remaining:	2.81s
354:	learn:	0.3276940	total:	1.54s	remaining:	2.8s
355:	learn:	0.3276835	total:	1.54s	remaining:	2.79s
356:	learn:	0.3274979	total:	1.55s	remaining:	2.79s
357:	learn:	0.3274287	total:	1.55s	remaining:	2.79s
358:	learn:	0.3274137	total:	1.56s	remaining:	2.78s
359:	learn:	0.3271560	total:	1.56s	remaining:	2.78s
360:	learn:	0.3270936	total:	1.57s	remaining:	2.78s
361:	learn:	0.3268740	total:	1.57s	remaining:	2.77s
362:	learn:	0.3267308	total:	1.58s	remaining:	2.77s
363:	learn:	0.3267301	total:	1.58s	remaining:	2.77s
364:	learn:	0.3266947	total:	1.59s	remaining:	2.76s
365:	learn:	0.3266279	total:	1.59s	remaining:	2.76s
366:	learn:	0.3265605	total:	1.6s	remaining:	2.75s
367:	learn:	0.3263652	total:	1.6s	remaining:	2.75s
368:	learn:	0.3262672	total:	1.61s	remaining:	2.75s
369:	learn:	0.3262650	total:	1.61s	remaining:	2.74s
370:	learn:	0.3261451	total:	1.62s	remaining:	2.74s
371:	learn:	0.3261179	total:	1.62s	remaining:	2.74s
372:	learn:	0.3260214	total:	1.63s	remaining:	2.73s
373:	learn:	0.3258624	total:	1.63s	remaining:	2.73s
374:	learn:	0.3258344	total:	1.64s	remaining:	2.73s
375:	learn:	0.3256759	total:	1.64s	remaining:	2.73s



376:	learn:	0.3256457	total:	1.65s	remaining:	2.73s
377:	learn:	0.3256221	total:	1.65s	remaining:	2.72s
378:	learn:	0.3254830	total:	1.66s	remaining:	2.72s
379:	learn:	0.3254681	total:	1.66s	remaining:	2.72s
380:	learn:	0.3254272	total:	1.67s	remaining:	2.71s
381:	learn:	0.3253856	total:	1.67s	remaining:	2.71s
382:	learn:	0.3252535	total:	1.68s	remaining:	2.71s
383:	learn:	0.3252168	total:	1.69s	remaining:	2.7s
384:	learn:	0.3251697	total:	1.69s	remaining:	2.7s
385:	learn:	0.3250485	total:	1.7s	remaining:	2.7s
386:	learn:	0.3249925	total:	1.7s	remaining:	2.69s
387:	learn:	0.3249042	total:	1.71s	remaining:	2.69s
388:	learn:	0.3247921	total:	1.71s	remaining:	2.69s
389:	learn:	0.3247452	total:	1.72s	remaining:	2.68s
390:	learn:	0.3247149	total:	1.72s	remaining:	2.68s
391:	learn:	0.3246963	total:	1.73s	remaining:	2.68s
392:	learn:	0.3246571	total:	1.73s	remaining:	2.67s
393:	learn:	0.3245540	total:	1.74s	remaining:	2.67s
394:	learn:	0.3245312	total:	1.74s	remaining:	2.67s
395:	learn:	0.3244728	total:	1.75s	remaining:	2.67s
396:	learn:	0.3244032	total:	1.75s	remaining:	2.66s
397:	learn:	0.3243753	total:	1.76s	remaining:	2.66s
398:	learn:	0.3243026	total:	1.76s	remaining:	2.66s
399:	learn:	0.3242330	total:	1.77s	remaining:	2.65s
400:	learn:	0.3241018	total:	1.77s	remaining:	2.65s
401:	learn:	0.3240729	total:	1.78s	remaining:	2.65s
402:	learn:	0.3239844	total:	1.78s	remaining:	2.64s
403:	learn:	0.3239745	total:	1.79s	remaining:	2.64s
404:	learn:	0.3239006	total:	1.8s	remaining:	2.64s
405:	learn:	0.3237452	total:	1.8s	remaining:	2.63s
406:	learn:	0.3237108	total:	1.81s	remaining:	2.63s
407:	learn:	0.3236627	total:	1.81s	remaining:	2.63s
408:	learn:	0.3236378	total:	1.82s	remaining:	2.63s
409:	learn:	0.3235628	total:	1.82s	remaining:	2.62s
410:	learn:	0.3235062	total:	1.83s	remaining:	2.63s
411:	learn:	0.3234406	total:	1.84s	remaining:	2.63s
412:	learn:	0.3234276	total:	1.84s	remaining:	2.62s
413:	learn:	0.3233941	total:	1.85s	remaining:	2.62s
414:	learn:	0.3233612	total:	1.85s	remaining:	2.62s
415:	learn:	0.3233232	total:	1.86s	remaining:	2.61s
416:	learn:	0.3232545	total:	1.86s	remaining:	2.61s
417:	learn:	0.3231015	total:	1.87s	remaining:	2.61s
418:	learn:	0.3230578	total:	1.88s	remaining:	2.6s
419:	learn:	0.3227946	total:	1.88s	remaining:	2.6s
420:	learn:	0.3226054	total:	1.89s	remaining:	2.6s
421:	learn:	0.3225140	total:	1.89s	remaining:	2.59s
422:	learn:	0.3224569	total:	1.9s	remaining:	2.59s
423:	learn:	0.3223993	total:	1.9s	remaining:	2.59s
424:	learn:	0.3223236	total:	1.91s	remaining:	2.58s
425:	learn:	0.3223045	total:	1.91s	remaining:	2.58s

426:	learn:	0.3222854	total:	1.92s	remaining:	2.57s
427:	learn:	0.3222713	total:	1.92s	remaining:	2.57s
428:	learn:	0.3221253	total:	1.93s	remaining:	2.57s
429:	learn:	0.3221004	total:	1.93s	remaining:	2.56s
430:	learn:	0.3220636	total:	1.94s	remaining:	2.56s
431:	learn:	0.3219943	total:	1.94s	remaining:	2.56s
432:	learn:	0.3219137	total:	1.95s	remaining:	2.55s
433:	learn:	0.3218567	total:	1.96s	remaining:	2.55s
434:	learn:	0.3218010	total:	1.96s	remaining:	2.55s
435:	learn:	0.3217803	total:	1.97s	remaining:	2.54s
436:	learn:	0.3217261	total:	1.97s	remaining:	2.54s
437:	learn:	0.3216572	total:	1.98s	remaining:	2.54s
438:	learn:	0.3215564	total:	1.98s	remaining:	2.53s
439:	learn:	0.3215159	total:	1.99s	remaining:	2.53s
440:	learn:	0.3214807	total:	1.99s	remaining:	2.52s
441:	learn:	0.3214125	total:	2s	remaining:	2.52s
442:	learn:	0.3213140	total:	2s	remaining:	2.52s
443:	learn:	0.3212362	total:	2.01s	remaining:	2.51s
444:	learn:	0.3211795	total:	2.01s	remaining:	2.51s
445:	learn:	0.3211544	total:	2.02s	remaining:	2.5s
446:	learn:	0.3211298	total:	2.02s	remaining:	2.5s
447:	learn:	0.3210596	total:	2.03s	remaining:	2.5s
448:	learn:	0.3210333	total:	2.03s	remaining:	2.49s
449:	learn:	0.3210131	total:	2.04s	remaining:	2.49s
450:	learn:	0.3209789	total:	2.04s	remaining:	2.48s
451:	learn:	0.3208774	total:	2.04s	remaining:	2.48s
452:	learn:	0.3207797	total:	2.05s	remaining:	2.48s
453:	learn:	0.3207292	total:	2.06s	remaining:	2.47s
454:	learn:	0.3206829	total:	2.06s	remaining:	2.47s
455:	learn:	0.3206486	total:	2.06s	remaining:	2.46s
456:	learn:	0.3206296	total:	2.07s	remaining:	2.46s
457:	learn:	0.3206138	total:	2.08s	remaining:	2.46s
458:	learn:	0.3205979	total:	2.08s	remaining:	2.45s
459:	learn:	0.3205472	total:	2.09s	remaining:	2.45s
460:	learn:	0.3205248	total:	2.09s	remaining:	2.44s
461:	learn:	0.3204132	total:	2.1s	remaining:	2.44s
462:	learn:	0.3203445	total:	2.1s	remaining:	2.44s
463:	learn:	0.3203448	total:	2.1s	remaining:	2.43s
464:	learn:	0.3202974	total:	2.11s	remaining:	2.43s
465:	learn:	0.3202118	total:	2.12s	remaining:	2.42s
466:	learn:	0.3201791	total:	2.12s	remaining:	2.42s
467:	learn:	0.3201560	total:	2.12s	remaining:	2.42s
468:	learn:	0.3201058	total:	2.13s	remaining:	2.41s
469:	learn:	0.3200206	total:	2.13s	remaining:	2.41s
470:	learn:	0.3200039	total:	2.14s	remaining:	2.4s
471:	learn:	0.3199177	total:	2.15s	remaining:	2.4s
472:	learn:	0.3198396	total:	2.15s	remaining:	2.4s
473:	learn:	0.3198214	total:	2.15s	remaining:	2.39s
474:	learn:	0.3197945	total:	2.16s	remaining:	2.39s
475:	learn:	0.3197755	total:	2.17s	remaining:	2.38s

476:	learn:	0.3196543	total:	2.17s	remaining:	2.38s
477:	learn:	0.3194928	total:	2.18s	remaining:	2.38s
478:	learn:	0.3194527	total:	2.18s	remaining:	2.38s
479:	learn:	0.3194435	total:	2.19s	remaining:	2.37s
480:	learn:	0.3193822	total:	2.19s	remaining:	2.37s
481:	learn:	0.3193572	total:	2.2s	remaining:	2.36s
482:	learn:	0.3192531	total:	2.21s	remaining:	2.36s
483:	learn:	0.3191967	total:	2.21s	remaining:	2.36s
484:	learn:	0.3191620	total:	2.22s	remaining:	2.35s
485:	learn:	0.3191619	total:	2.22s	remaining:	2.35s
486:	learn:	0.3190709	total:	2.23s	remaining:	2.34s
487:	learn:	0.3190538	total:	2.23s	remaining:	2.34s
488:	learn:	0.3190486	total:	2.23s	remaining:	2.33s
489:	learn:	0.3189998	total:	2.24s	remaining:	2.33s
490:	learn:	0.3189562	total:	2.25s	remaining:	2.33s
491:	learn:	0.3189240	total:	2.25s	remaining:	2.32s
492:	learn:	0.3188860	total:	2.26s	remaining:	2.32s
493:	learn:	0.3188708	total:	2.26s	remaining:	2.32s
494:	learn:	0.3188713	total:	2.27s	remaining:	2.31s
495:	learn:	0.3188431	total:	2.27s	remaining:	2.31s
496:	learn:	0.3188153	total:	2.27s	remaining:	2.3s
497:	learn:	0.3188118	total:	2.28s	remaining:	2.3s
498:	learn:	0.3187399	total:	2.29s	remaining:	2.29s
499:	learn:	0.3187394	total:	2.29s	remaining:	2.29s
500:	learn:	0.3187194	total:	2.29s	remaining:	2.29s
501:	learn:	0.3187031	total:	2.3s	remaining:	2.28s
502:	learn:	0.3186790	total:	2.3s	remaining:	2.28s
503:	learn:	0.3186745	total:	2.31s	remaining:	2.27s
504:	learn:	0.3185974	total:	2.31s	remaining:	2.27s
505:	learn:	0.3185897	total:	2.32s	remaining:	2.27s
506:	learn:	0.3185801	total:	2.33s	remaining:	2.26s
507:	learn:	0.3185701	total:	2.33s	remaining:	2.26s
508:	learn:	0.3185195	total:	2.34s	remaining:	2.25s
509:	learn:	0.3184464	total:	2.34s	remaining:	2.25s
510:	learn:	0.3184383	total:	2.35s	remaining:	2.25s
511:	learn:	0.3184149	total:	2.35s	remaining:	2.24s
512:	learn:	0.3183607	total:	2.36s	remaining:	2.24s
513:	learn:	0.3183263	total:	2.37s	remaining:	2.24s
514:	learn:	0.3183094	total:	2.37s	remaining:	2.23s
515:	learn:	0.3182896	total:	2.38s	remaining:	2.23s
516:	learn:	0.3182507	total:	2.38s	remaining:	2.23s
517:	learn:	0.3182449	total:	2.39s	remaining:	2.22s
518:	learn:	0.3181805	total:	2.39s	remaining:	2.22s
519:	learn:	0.3181442	total:	2.4s	remaining:	2.21s
520:	learn:	0.3181309	total:	2.4s	remaining:	2.21s
521:	learn:	0.3181106	total:	2.41s	remaining:	2.21s
522:	learn:	0.3180849	total:	2.41s	remaining:	2.2s
523:	learn:	0.3180764	total:	2.42s	remaining:	2.2s
524:	learn:	0.3180359	total:	2.42s	remaining:	2.19s
525:	learn:	0.3179533	total:	2.43s	remaining:	2.19s

526:	learn:	0.3179418	total:	2.43s	remaining:	2.18s
527:	learn:	0.3179338	total:	2.44s	remaining:	2.18s
528:	learn:	0.3178917	total:	2.44s	remaining:	2.18s
529:	learn:	0.3178850	total:	2.45s	remaining:	2.17s
530:	learn:	0.3178791	total:	2.45s	remaining:	2.17s
531:	learn:	0.3178101	total:	2.46s	remaining:	2.16s
532:	learn:	0.3178034	total:	2.46s	remaining:	2.16s
533:	learn:	0.3177639	total:	2.47s	remaining:	2.15s
534:	learn:	0.3177554	total:	2.47s	remaining:	2.15s
535:	learn:	0.3176892	total:	2.48s	remaining:	2.15s
536:	learn:	0.3176765	total:	2.48s	remaining:	2.14s
537:	learn:	0.3176353	total:	2.49s	remaining:	2.14s
538:	learn:	0.3176192	total:	2.49s	remaining:	2.13s
539:	learn:	0.3176027	total:	2.5s	remaining:	2.13s
540:	learn:	0.3175992	total:	2.5s	remaining:	2.12s
541:	learn:	0.3175694	total:	2.51s	remaining:	2.12s
542:	learn:	0.3175622	total:	2.51s	remaining:	2.12s
543:	learn:	0.3175544	total:	2.52s	remaining:	2.11s
544:	learn:	0.3175465	total:	2.52s	remaining:	2.11s
545:	learn:	0.3175399	total:	2.53s	remaining:	2.1s
546:	learn:	0.3175311	total:	2.54s	remaining:	2.1s
547:	learn:	0.3175267	total:	2.54s	remaining:	2.1s
548:	learn:	0.3175179	total:	2.55s	remaining:	2.09s
549:	learn:	0.3174648	total:	2.55s	remaining:	2.09s
550:	learn:	0.3174571	total:	2.56s	remaining:	2.08s
551:	learn:	0.3174409	total:	2.56s	remaining:	2.08s
552:	learn:	0.3174368	total:	2.57s	remaining:	2.08s
553:	learn:	0.3173781	total:	2.57s	remaining:	2.07s
554:	learn:	0.3173629	total:	2.58s	remaining:	2.07s
555:	learn:	0.3173591	total:	2.58s	remaining:	2.06s
556:	learn:	0.3173527	total:	2.59s	remaining:	2.06s
557:	learn:	0.3173255	total:	2.6s	remaining:	2.06s
558:	learn:	0.3172674	total:	2.6s	remaining:	2.05s
559:	learn:	0.3172403	total:	2.61s	remaining:	2.05s
560:	learn:	0.3172101	total:	2.61s	remaining:	2.04s
561:	learn:	0.3171814	total:	2.62s	remaining:	2.04s
562:	learn:	0.3171775	total:	2.62s	remaining:	2.04s
563:	learn:	0.3170518	total:	2.63s	remaining:	2.03s
564:	learn:	0.3170340	total:	2.63s	remaining:	2.03s
565:	learn:	0.3170195	total:	2.64s	remaining:	2.02s
566:	learn:	0.3169926	total:	2.65s	remaining:	2.02s
567:	learn:	0.3169871	total:	2.65s	remaining:	2.02s
568:	learn:	0.3169810	total:	2.66s	remaining:	2.01s
569:	learn:	0.3169759	total:	2.66s	remaining:	2.01s
570:	learn:	0.3169706	total:	2.67s	remaining:	2s
571:	learn:	0.3169669	total:	2.67s	remaining:	2s
572:	learn:	0.3169411	total:	2.68s	remaining:	2s
573:	learn:	0.3169097	total:	2.68s	remaining:	1.99s
574:	learn:	0.3168375	total:	2.69s	remaining:	1.99s

575:	learn:	0.3168313	total:	2.69s	remaining:	1.98s
576:	learn:	0.3168104	total:	2.7s	remaining:	1.98s
577:	learn:	0.3168034	total:	2.71s	remaining:	1.98s
578:	learn:	0.3167989	total:	2.71s	remaining:	1.97s
579:	learn:	0.3167481	total:	2.72s	remaining:	1.97s
580:	learn:	0.3167258	total:	2.72s	remaining:	1.96s
581:	learn:	0.3166979	total:	2.73s	remaining:	1.96s
582:	learn:	0.3166843	total:	2.73s	remaining:	1.96s
583:	learn:	0.3166792	total:	2.74s	remaining:	1.95s
584:	learn:	0.3166594	total:	2.75s	remaining:	1.95s
585:	learn:	0.3166553	total:	2.75s	remaining:	1.94s
586:	learn:	0.3165045	total:	2.76s	remaining:	1.94s
587:	learn:	0.3164331	total:	2.76s	remaining:	1.94s
588:	learn:	0.3164098	total:	2.77s	remaining:	1.93s
589:	learn:	0.3164063	total:	2.77s	remaining:	1.93s
590:	learn:	0.3163823	total:	2.78s	remaining:	1.92s
591:	learn:	0.3163795	total:	2.79s	remaining:	1.92s
592:	learn:	0.3163098	total:	2.79s	remaining:	1.92s
593:	learn:	0.3162669	total:	2.8s	remaining:	1.91s
594:	learn:	0.3162456	total:	2.8s	remaining:	1.91s
595:	learn:	0.3161253	total:	2.81s	remaining:	1.9s
596:	learn:	0.3160987	total:	2.81s	remaining:	1.9s
597:	learn:	0.3160843	total:	2.82s	remaining:	1.9s
598:	learn:	0.3160592	total:	2.83s	remaining:	1.89s
599:	learn:	0.3160544	total:	2.83s	remaining:	1.89s
600:	learn:	0.3160514	total:	2.83s	remaining:	1.88s
601:	learn:	0.3159865	total:	2.84s	remaining:	1.88s
602:	learn:	0.3159480	total:	2.85s	remaining:	1.87s
603:	learn:	0.3158933	total:	2.85s	remaining:	1.87s
604:	learn:	0.3158762	total:	2.86s	remaining:	1.87s
605:	learn:	0.3158708	total:	2.86s	remaining:	1.86s
606:	learn:	0.3158507	total:	2.87s	remaining:	1.86s
607:	learn:	0.3158267	total:	2.87s	remaining:	1.85s
608:	learn:	0.3158078	total:	2.88s	remaining:	1.85s
609:	learn:	0.3158029	total:	2.88s	remaining:	1.84s
610:	learn:	0.3158002	total:	2.89s	remaining:	1.84s
611:	learn:	0.3157645	total:	2.9s	remaining:	1.83s
612:	learn:	0.3157609	total:	2.9s	remaining:	1.83s
613:	learn:	0.3157554	total:	2.91s	remaining:	1.83s
614:	learn:	0.3157530	total:	2.91s	remaining:	1.82s
615:	learn:	0.3156932	total:	2.92s	remaining:	1.82s
616:	learn:	0.3156586	total:	2.92s	remaining:	1.82s
617:	learn:	0.3156354	total:	2.93s	remaining:	1.81s
618:	learn:	0.3156324	total:	2.94s	remaining:	1.81s
619:	learn:	0.3156249	total:	2.94s	remaining:	1.8s
620:	learn:	0.3156183	total:	2.95s	remaining:	1.8s
621:	learn:	0.3156012	total:	2.96s	remaining:	1.8s
622:	learn:	0.3155440	total:	2.96s	remaining:	1.79s
623:	learn:	0.3154857	total:	2.97s	remaining:	1.79s
624:	learn:	0.3154632	total:	2.97s	remaining:	1.78s

625:	learn:	0.3154059	total:	2.98s	remaining:	1.78s
626:	learn:	0.3153862	total:	2.99s	remaining:	1.78s
627:	learn:	0.3153832	total:	2.99s	remaining:	1.77s
628:	learn:	0.3153789	total:	3s	remaining:	1.77s
629:	learn:	0.3153628	total:	3s	remaining:	1.76s
630:	learn:	0.3153320	total:	3.01s	remaining:	1.76s
631:	learn:	0.3153103	total:	3.01s	remaining:	1.75s
632:	learn:	0.3153062	total:	3.02s	remaining:	1.75s
633:	learn:	0.3152498	total:	3.02s	remaining:	1.75s
634:	learn:	0.3152343	total:	3.03s	remaining:	1.74s
635:	learn:	0.3152125	total:	3.04s	remaining:	1.74s
636:	learn:	0.3152101	total:	3.04s	remaining:	1.73s
637:	learn:	0.3152079	total:	3.04s	remaining:	1.73s
638:	learn:	0.3151871	total:	3.05s	remaining:	1.72s
639:	learn:	0.3151801	total:	3.06s	remaining:	1.72s
640:	learn:	0.3151497	total:	3.06s	remaining:	1.71s
641:	learn:	0.3151365	total:	3.07s	remaining:	1.71s
642:	learn:	0.3150865	total:	3.07s	remaining:	1.71s
643:	learn:	0.3150405	total:	3.08s	remaining:	1.7s
644:	learn:	0.3150235	total:	3.08s	remaining:	1.7s
645:	learn:	0.3149775	total:	3.09s	remaining:	1.69s
646:	learn:	0.3149282	total:	3.09s	remaining:	1.69s
647:	learn:	0.3148863	total:	3.1s	remaining:	1.68s
648:	learn:	0.3147869	total:	3.1s	remaining:	1.68s
649:	learn:	0.3147765	total:	3.11s	remaining:	1.68s
650:	learn:	0.3147586	total:	3.12s	remaining:	1.67s
651:	learn:	0.3147540	total:	3.12s	remaining:	1.67s
652:	learn:	0.3147508	total:	3.13s	remaining:	1.66s
653:	learn:	0.3146756	total:	3.13s	remaining:	1.66s
654:	learn:	0.3145833	total:	3.14s	remaining:	1.65s
655:	learn:	0.3145179	total:	3.14s	remaining:	1.65s
656:	learn:	0.3144261	total:	3.15s	remaining:	1.64s
657:	learn:	0.3143245	total:	3.15s	remaining:	1.64s
658:	learn:	0.3142547	total:	3.16s	remaining:	1.64s
659:	learn:	0.3142217	total:	3.17s	remaining:	1.63s
660:	learn:	0.3141154	total:	3.17s	remaining:	1.63s
661:	learn:	0.3140997	total:	3.18s	remaining:	1.62s
662:	learn:	0.3140741	total:	3.19s	remaining:	1.62s
663:	learn:	0.3140165	total:	3.19s	remaining:	1.61s
664:	learn:	0.3139485	total:	3.2s	remaining:	1.61s
665:	learn:	0.3138933	total:	3.2s	remaining:	1.6s
666:	learn:	0.3138402	total:	3.21s	remaining:	1.6s
667:	learn:	0.3138040	total:	3.21s	remaining:	1.6s
668:	learn:	0.3137882	total:	3.22s	remaining:	1.59s
669:	learn:	0.3137379	total:	3.23s	remaining:	1.59s
670:	learn:	0.3137001	total:	3.23s	remaining:	1.58s
671:	learn:	0.3136439	total:	3.24s	remaining:	1.58s
672:	learn:	0.3135432	total:	3.24s	remaining:	1.57s
673:	learn:	0.3135027	total:	3.25s	remaining:	1.57s
674:	learn:	0.3134513	total:	3.25s	remaining:	1.57s

675:	learn:	0.3134149	total:	3.26s	remaining:	1.56s
676:	learn:	0.3133679	total:	3.27s	remaining:	1.56s
677:	learn:	0.3132864	total:	3.27s	remaining:	1.55s
678:	learn:	0.3132221	total:	3.28s	remaining:	1.55s
679:	learn:	0.3131640	total:	3.28s	remaining:	1.54s
680:	learn:	0.3131210	total:	3.29s	remaining:	1.54s
681:	learn:	0.3130803	total:	3.3s	remaining:	1.54s
682:	learn:	0.3130371	total:	3.3s	remaining:	1.53s
683:	learn:	0.3129771	total:	3.31s	remaining:	1.53s
684:	learn:	0.3129363	total:	3.31s	remaining:	1.52s
685:	learn:	0.3128801	total:	3.32s	remaining:	1.52s
686:	learn:	0.3128318	total:	3.33s	remaining:	1.51s
687:	learn:	0.3127886	total:	3.33s	remaining:	1.51s
688:	learn:	0.3127011	total:	3.34s	remaining:	1.51s
689:	learn:	0.3125776	total:	3.35s	remaining:	1.5s
690:	learn:	0.3125296	total:	3.35s	remaining:	1.5s
691:	learn:	0.3124976	total:	3.36s	remaining:	1.5s
692:	learn:	0.3124300	total:	3.36s	remaining:	1.49s
693:	learn:	0.3123797	total:	3.37s	remaining:	1.49s
694:	learn:	0.3123170	total:	3.38s	remaining:	1.48s
695:	learn:	0.3122701	total:	3.38s	remaining:	1.48s
696:	learn:	0.3122110	total:	3.39s	remaining:	1.47s
697:	learn:	0.3121709	total:	3.4s	remaining:	1.47s
698:	learn:	0.3121407	total:	3.4s	remaining:	1.46s
699:	learn:	0.3121094	total:	3.41s	remaining:	1.46s
700:	learn:	0.3120695	total:	3.41s	remaining:	1.46s
701:	learn:	0.3120202	total:	3.42s	remaining:	1.45s
702:	learn:	0.3119837	total:	3.42s	remaining:	1.45s
703:	learn:	0.3119794	total:	3.43s	remaining:	1.44s
704:	learn:	0.3119727	total:	3.44s	remaining:	1.44s
705:	learn:	0.3119173	total:	3.44s	remaining:	1.43s
706:	learn:	0.3118716	total:	3.45s	remaining:	1.43s
707:	learn:	0.3118320	total:	3.45s	remaining:	1.42s
708:	learn:	0.3118032	total:	3.46s	remaining:	1.42s
709:	learn:	0.3117741	total:	3.46s	remaining:	1.41s
710:	learn:	0.3117274	total:	3.47s	remaining:	1.41s
711:	learn:	0.3117250	total:	3.47s	remaining:	1.4s
712:	learn:	0.3116835	total:	3.48s	remaining:	1.4s
713:	learn:	0.3116599	total:	3.48s	remaining:	1.4s
714:	learn:	0.3116130	total:	3.49s	remaining:	1.39s
715:	learn:	0.3116053	total:	3.49s	remaining:	1.39s
716:	learn:	0.3115845	total:	3.5s	remaining:	1.38s
717:	learn:	0.3115770	total:	3.5s	remaining:	1.38s
718:	learn:	0.3115742	total:	3.51s	remaining:	1.37s
719:	learn:	0.3115580	total:	3.51s	remaining:	1.37s
720:	learn:	0.3114722	total:	3.52s	remaining:	1.36s
721:	learn:	0.3114586	total:	3.52s	remaining:	1.36s
722:	learn:	0.3114558	total:	3.53s	remaining:	1.35s
723:	learn:	0.3114417	total:	3.53s	remaining:	1.35s
724:	learn:	0.3114378	total:	3.54s	remaining:	1.34s

725:	learn:	0.3114204	total:	3.54s	remaining:	1.34s
726:	learn:	0.3114173	total:	3.55s	remaining:	1.33s
727:	learn:	0.3114019	total:	3.56s	remaining:	1.33s
728:	learn:	0.3113640	total:	3.56s	remaining:	1.32s
729:	learn:	0.3113505	total:	3.56s	remaining:	1.32s
730:	learn:	0.3113421	total:	3.57s	remaining:	1.31s
731:	learn:	0.3113177	total:	3.58s	remaining:	1.31s
732:	learn:	0.3112771	total:	3.58s	remaining:	1.3s
733:	learn:	0.3112397	total:	3.59s	remaining:	1.3s
734:	learn:	0.3112141	total:	3.59s	remaining:	1.29s
735:	learn:	0.3111656	total:	3.6s	remaining:	1.29s
736:	learn:	0.3111299	total:	3.6s	remaining:	1.29s
737:	learn:	0.3111198	total:	3.61s	remaining:	1.28s
738:	learn:	0.3110887	total:	3.62s	remaining:	1.28s
739:	learn:	0.3110440	total:	3.62s	remaining:	1.27s
740:	learn:	0.3110183	total:	3.63s	remaining:	1.27s
741:	learn:	0.3110078	total:	3.64s	remaining:	1.26s
742:	learn:	0.3109862	total:	3.64s	remaining:	1.26s
743:	learn:	0.3109663	total:	3.65s	remaining:	1.25s
744:	learn:	0.3109637	total:	3.65s	remaining:	1.25s
745:	learn:	0.3109606	total:	3.66s	remaining:	1.25s
746:	learn:	0.3109475	total:	3.66s	remaining:	1.24s
747:	learn:	0.3109296	total:	3.67s	remaining:	1.24s
748:	learn:	0.3109270	total:	3.67s	remaining:	1.23s
749:	learn:	0.3109244	total:	3.68s	remaining:	1.23s
750:	learn:	0.3109121	total:	3.69s	remaining:	1.22s
751:	learn:	0.3108974	total:	3.69s	remaining:	1.22s
752:	learn:	0.3108484	total:	3.7s	remaining:	1.21s
753:	learn:	0.3108482	total:	3.7s	remaining:	1.21s
754:	learn:	0.3108435	total:	3.71s	remaining:	1.2s
755:	learn:	0.3107794	total:	3.71s	remaining:	1.2s
756:	learn:	0.3107703	total:	3.72s	remaining:	1.19s
757:	learn:	0.3107444	total:	3.72s	remaining:	1.19s
758:	learn:	0.3107009	total:	3.73s	remaining:	1.18s
759:	learn:	0.3106901	total:	3.73s	remaining:	1.18s
760:	learn:	0.3106776	total:	3.74s	remaining:	1.18s
761:	learn:	0.3106770	total:	3.75s	remaining:	1.17s
762:	learn:	0.3106443	total:	3.75s	remaining:	1.17s
763:	learn:	0.3106183	total:	3.76s	remaining:	1.16s
764:	learn:	0.3105940	total:	3.76s	remaining:	1.16s
765:	learn:	0.3105534	total:	3.77s	remaining:	1.15s
766:	learn:	0.3105460	total:	3.77s	remaining:	1.15s
767:	learn:	0.3105209	total:	3.78s	remaining:	1.14s
768:	learn:	0.3105194	total:	3.79s	remaining:	1.14s
769:	learn:	0.3104896	total:	3.79s	remaining:	1.13s
770:	learn:	0.3104759	total:	3.8s	remaining:	1.13s
771:	learn:	0.3104677	total:	3.8s	remaining:	1.12s
772:	learn:	0.3104090	total:	3.81s	remaining:	1.12s
773:	learn:	0.3103969	total:	3.81s	remaining:	1.11s



774:	learn:	0.3103840	total:	3.82s	remaining:	1.11s
775:	learn:	0.3103728	total:	3.82s	remaining:	1.1s
776:	learn:	0.3103386	total:	3.83s	remaining:	1.1s
777:	learn:	0.3102879	total:	3.83s	remaining:	1.09s
778:	learn:	0.3102259	total:	3.84s	remaining:	1.09s
779:	learn:	0.3101916	total:	3.84s	remaining:	1.08s
780:	learn:	0.3101817	total:	3.85s	remaining:	1.08s
781:	learn:	0.3101238	total:	3.85s	remaining:	1.07s
782:	learn:	0.3101156	total:	3.86s	remaining:	1.07s
783:	learn:	0.3100635	total:	3.86s	remaining:	1.06s
784:	learn:	0.3100527	total:	3.87s	remaining:	1.06s
785:	learn:	0.3100119	total:	3.87s	remaining:	1.05s
786:	learn:	0.3099953	total:	3.88s	remaining:	1.05s
787:	learn:	0.3099944	total:	3.88s	remaining:	1.04s
788:	learn:	0.3099649	total:	3.89s	remaining:	1.04s
789:	learn:	0.3099017	total:	3.89s	remaining:	1.03s
790:	learn:	0.3098144	total:	3.9s	remaining:	1.03s
791:	learn:	0.3097655	total:	3.9s	remaining:	1.02s
792:	learn:	0.3097079	total:	3.91s	remaining:	1.02s
793:	learn:	0.3097045	total:	3.91s	remaining:	1.01s
794:	learn:	0.3096938	total:	3.92s	remaining:	1.01s
795:	learn:	0.3096688	total:	3.92s	remaining:	1s
796:	learn:	0.3096589	total:	3.93s	remaining:	1s
797:	learn:	0.3096571	total:	3.93s	remaining:	996ms
798:	learn:	0.3096519	total:	3.94s	remaining:	991ms
799:	learn:	0.3096394	total:	3.94s	remaining:	986ms
800:	learn:	0.3096279	total:	3.95s	remaining:	981ms
801:	learn:	0.3096131	total:	3.95s	remaining:	976ms
802:	learn:	0.3096050	total:	3.96s	remaining:	971ms
803:	learn:	0.3095922	total:	3.96s	remaining:	966ms
804:	learn:	0.3095911	total:	3.97s	remaining:	961ms
805:	learn:	0.3095902	total:	3.97s	remaining:	957ms
806:	learn:	0.3095837	total:	3.98s	remaining:	952ms
807:	learn:	0.3095732	total:	3.98s	remaining:	947ms
808:	learn:	0.3095630	total:	3.99s	remaining:	942ms
809:	learn:	0.3095511	total:	3.99s	remaining:	937ms
810:	learn:	0.3095427	total:	4s	remaining:	932ms
811:	learn:	0.3095155	total:	4s	remaining:	927ms
812:	learn:	0.3095105	total:	4.01s	remaining:	923ms
813:	learn:	0.3094989	total:	4.01s	remaining:	918ms
814:	learn:	0.3094494	total:	4.02s	remaining:	913ms
815:	learn:	0.3094475	total:	4.03s	remaining:	908ms
816:	learn:	0.3094104	total:	4.03s	remaining:	903ms
817:	learn:	0.3093973	total:	4.04s	remaining:	898ms
818:	learn:	0.3093846	total:	4.04s	remaining:	893ms
819:	learn:	0.3093562	total:	4.04s	remaining:	888ms
820:	learn:	0.3093422	total:	4.05s	remaining:	883ms
821:	learn:	0.3093283	total:	4.05s	remaining:	878ms
822:	learn:	0.3093074	total:	4.06s	remaining:	873ms
823:	learn:	0.3093021	total:	4.07s	remaining:	868ms

824:	learn:	0.3092696	total:	4.07s	remaining:	863ms
825:	learn:	0.3092418	total:	4.08s	remaining:	859ms
826:	learn:	0.3091955	total:	4.08s	remaining:	854ms
827:	learn:	0.3091506	total:	4.09s	remaining:	849ms
828:	learn:	0.3091368	total:	4.09s	remaining:	844ms
829:	learn:	0.3091302	total:	4.09s	remaining:	839ms
830:	learn:	0.3090996	total:	4.1s	remaining:	834ms
831:	learn:	0.3090929	total:	4.11s	remaining:	829ms
832:	learn:	0.3090873	total:	4.11s	remaining:	824ms
833:	learn:	0.3090471	total:	4.12s	remaining:	819ms
834:	learn:	0.3090432	total:	4.12s	remaining:	814ms
835:	learn:	0.3090344	total:	4.13s	remaining:	809ms
836:	learn:	0.3090008	total:	4.13s	remaining:	804ms
837:	learn:	0.3089969	total:	4.13s	remaining:	799ms
838:	learn:	0.3089916	total:	4.14s	remaining:	794ms
839:	learn:	0.3089877	total:	4.14s	remaining:	789ms
840:	learn:	0.3089790	total:	4.15s	remaining:	784ms
841:	learn:	0.3089700	total:	4.15s	remaining:	779ms
842:	learn:	0.3089464	total:	4.16s	remaining:	774ms
843:	learn:	0.3089446	total:	4.16s	remaining:	769ms
844:	learn:	0.3089402	total:	4.17s	remaining:	765ms
845:	learn:	0.3089283	total:	4.17s	remaining:	760ms
846:	learn:	0.3089280	total:	4.18s	remaining:	755ms
847:	learn:	0.3089268	total:	4.18s	remaining:	750ms
848:	learn:	0.3089219	total:	4.19s	remaining:	745ms
849:	learn:	0.3089166	total:	4.19s	remaining:	740ms
850:	learn:	0.3089116	total:	4.2s	remaining:	735ms
851:	learn:	0.3089095	total:	4.2s	remaining:	730ms
852:	learn:	0.3088753	total:	4.21s	remaining:	725ms
853:	learn:	0.3088495	total:	4.21s	remaining:	720ms
854:	learn:	0.3088297	total:	4.22s	remaining:	715ms
855:	learn:	0.3087972	total:	4.22s	remaining:	710ms
856:	learn:	0.3087913	total:	4.23s	remaining:	705ms
857:	learn:	0.3087719	total:	4.23s	remaining:	700ms
858:	learn:	0.3087047	total:	4.24s	remaining:	696ms
859:	learn:	0.3086586	total:	4.24s	remaining:	691ms
860:	learn:	0.3086340	total:	4.25s	remaining:	686ms
861:	learn:	0.3086187	total:	4.25s	remaining:	681ms
862:	learn:	0.3085878	total:	4.26s	remaining:	676ms
863:	learn:	0.3085866	total:	4.26s	remaining:	671ms
864:	learn:	0.3085393	total:	4.27s	remaining:	666ms
865:	learn:	0.3085149	total:	4.27s	remaining:	661ms
866:	learn:	0.3084798	total:	4.28s	remaining:	656ms
867:	learn:	0.3084562	total:	4.28s	remaining:	651ms
868:	learn:	0.3084415	total:	4.29s	remaining:	646ms
869:	learn:	0.3084340	total:	4.29s	remaining:	641ms
870:	learn:	0.3084256	total:	4.29s	remaining:	636ms
871:	learn:	0.3084079	total:	4.3s	remaining:	631ms
872:	learn:	0.3083999	total:	4.3s	remaining:	626ms
873:	learn:	0.3083882	total:	4.31s	remaining:	621ms

874:	learn:	0.3083759	total:	4.32s	remaining:	616ms
875:	learn:	0.3083667	total:	4.32s	remaining:	612ms
876:	learn:	0.3083605	total:	4.33s	remaining:	607ms
877:	learn:	0.3083535	total:	4.33s	remaining:	602ms
878:	learn:	0.3083456	total:	4.33s	remaining:	597ms
879:	learn:	0.3083374	total:	4.34s	remaining:	592ms
880:	learn:	0.3083334	total:	4.34s	remaining:	587ms
881:	learn:	0.3083283	total:	4.35s	remaining:	582ms
882:	learn:	0.3083276	total:	4.35s	remaining:	577ms
883:	learn:	0.3082972	total:	4.36s	remaining:	572ms
884:	learn:	0.3082896	total:	4.36s	remaining:	567ms
885:	learn:	0.3082893	total:	4.37s	remaining:	562ms
886:	learn:	0.3082859	total:	4.37s	remaining:	557ms
887:	learn:	0.3082755	total:	4.38s	remaining:	552ms
888:	learn:	0.3082690	total:	4.38s	remaining:	547ms
889:	learn:	0.3082623	total:	4.39s	remaining:	542ms
890:	learn:	0.3082189	total:	4.39s	remaining:	537ms
891:	learn:	0.3081968	total:	4.4s	remaining:	533ms
892:	learn:	0.3081761	total:	4.4s	remaining:	528ms
893:	learn:	0.3081453	total:	4.41s	remaining:	523ms
894:	learn:	0.3081034	total:	4.41s	remaining:	518ms
895:	learn:	0.3080981	total:	4.42s	remaining:	513ms
896:	learn:	0.3080876	total:	4.42s	remaining:	508ms
897:	learn:	0.3080855	total:	4.43s	remaining:	503ms
898:	learn:	0.3080815	total:	4.43s	remaining:	498ms
899:	learn:	0.3080657	total:	4.44s	remaining:	494ms
900:	learn:	0.3080610	total:	4.45s	remaining:	489ms
901:	learn:	0.3080486	total:	4.45s	remaining:	484ms
902:	learn:	0.3080417	total:	4.46s	remaining:	479ms
903:	learn:	0.3080413	total:	4.46s	remaining:	474ms
904:	learn:	0.3080336	total:	4.47s	remaining:	469ms
905:	learn:	0.3080238	total:	4.47s	remaining:	464ms
906:	learn:	0.3080212	total:	4.48s	remaining:	459ms
907:	learn:	0.3080212	total:	4.48s	remaining:	454ms
908:	learn:	0.3080212	total:	4.49s	remaining:	449ms
909:	learn:	0.3080148	total:	4.49s	remaining:	444ms
910:	learn:	0.3080140	total:	4.5s	remaining:	439ms
911:	learn:	0.3080029	total:	4.5s	remaining:	434ms
912:	learn:	0.3079830	total:	4.51s	remaining:	430ms
913:	learn:	0.3079808	total:	4.51s	remaining:	425ms
914:	learn:	0.3079766	total:	4.52s	remaining:	420ms
915:	learn:	0.3079635	total:	4.52s	remaining:	415ms
916:	learn:	0.3079462	total:	4.53s	remaining:	410ms
917:	learn:	0.3079362	total:	4.53s	remaining:	405ms
918:	learn:	0.3079183	total:	4.54s	remaining:	400ms
919:	learn:	0.3079012	total:	4.54s	remaining:	395ms
920:	learn:	0.3079008	total:	4.55s	remaining:	390ms
921:	learn:	0.3078937	total:	4.56s	remaining:	385ms
922:	learn:	0.3078930	total:	4.56s	remaining:	380ms
923:	learn:	0.3078813	total:	4.57s	remaining:	376ms

924:	learn:	0.3078813	total:	4.57s	remaining:	371ms
925:	learn:	0.3078675	total:	4.58s	remaining:	366ms
926:	learn:	0.3078525	total:	4.58s	remaining:	361ms
927:	learn:	0.3078470	total:	4.59s	remaining:	356ms
928:	learn:	0.3078405	total:	4.59s	remaining:	351ms
929:	learn:	0.3078404	total:	4.59s	remaining:	346ms
930:	learn:	0.3078399	total:	4.6s	remaining:	341ms
931:	learn:	0.3078304	total:	4.61s	remaining:	336ms
932:	learn:	0.3078098	total:	4.61s	remaining:	331ms
933:	learn:	0.3077980	total:	4.62s	remaining:	326ms
934:	learn:	0.3077921	total:	4.62s	remaining:	321ms
935:	learn:	0.3077738	total:	4.63s	remaining:	316ms
936:	learn:	0.3077724	total:	4.63s	remaining:	312ms
937:	learn:	0.3077618	total:	4.64s	remaining:	307ms
938:	learn:	0.3077562	total:	4.64s	remaining:	302ms
939:	learn:	0.3077573	total:	4.65s	remaining:	297ms
940:	learn:	0.3077575	total:	4.65s	remaining:	292ms
941:	learn:	0.3077576	total:	4.66s	remaining:	287ms
942:	learn:	0.3077485	total:	4.66s	remaining:	282ms
943:	learn:	0.3077474	total:	4.67s	remaining:	277ms
944:	learn:	0.3077356	total:	4.67s	remaining:	272ms
945:	learn:	0.3077126	total:	4.68s	remaining:	267ms
946:	learn:	0.3076883	total:	4.68s	remaining:	262ms
947:	learn:	0.3076719	total:	4.69s	remaining:	257ms
948:	learn:	0.3076492	total:	4.7s	remaining:	252ms
949:	learn:	0.3076424	total:	4.7s	remaining:	247ms
950:	learn:	0.3076227	total:	4.7s	remaining:	242ms
951:	learn:	0.3076147	total:	4.71s	remaining:	237ms
952:	learn:	0.3075874	total:	4.71s	remaining:	232ms
953:	learn:	0.3075662	total:	4.72s	remaining:	228ms
954:	learn:	0.3075595	total:	4.72s	remaining:	223ms
955:	learn:	0.3075268	total:	4.73s	remaining:	218ms
956:	learn:	0.3075179	total:	4.73s	remaining:	213ms
957:	learn:	0.3075160	total:	4.74s	remaining:	208ms
958:	learn:	0.3075016	total:	4.74s	remaining:	203ms
959:	learn:	0.3074689	total:	4.75s	remaining:	198ms
960:	learn:	0.3074668	total:	4.75s	remaining:	193ms
961:	learn:	0.3074431	total:	4.76s	remaining:	188ms
962:	learn:	0.3074383	total:	4.76s	remaining:	183ms
963:	learn:	0.3074338	total:	4.77s	remaining:	178ms
964:	learn:	0.3074332	total:	4.78s	remaining:	173ms
965:	learn:	0.3074267	total:	4.78s	remaining:	168ms
966:	learn:	0.3074161	total:	4.78s	remaining:	163ms
967:	learn:	0.3074057	total:	4.79s	remaining:	158ms
968:	learn:	0.3074008	total:	4.8s	remaining:	153ms
969:	learn:	0.3073924	total:	4.8s	remaining:	148ms
970:	learn:	0.3073844	total:	4.8s	remaining:	144ms
971:	learn:	0.3073795	total:	4.81s	remaining:	139ms
972:	learn:	0.3073631	total:	4.82s	remaining:	134ms

973:	learn:	0.3073435	total:	4.82s	remaining:	129ms
974:	learn:	0.3073405	total:	4.83s	remaining:	124ms
975:	learn:	0.3073402	total:	4.83s	remaining:	119ms
976:	learn:	0.3073403	total:	4.83s	remaining:	114ms
977:	learn:	0.3073303	total:	4.84s	remaining:	109ms
978:	learn:	0.3073279	total:	4.84s	remaining:	104ms
979:	learn:	0.3073205	total:	4.85s	remaining:	99ms
980:	learn:	0.3073198	total:	4.85s	remaining:	94ms
981:	learn:	0.3073198	total:	4.86s	remaining:	89ms
982:	learn:	0.3073095	total:	4.86s	remaining:	84.1ms
983:	learn:	0.3072815	total:	4.87s	remaining:	79.1ms
984:	learn:	0.3072514	total:	4.87s	remaining:	74.2ms
985:	learn:	0.3072266	total:	4.88s	remaining:	69.2ms
986:	learn:	0.3071806	total:	4.88s	remaining:	64.3ms
987:	learn:	0.3071739	total:	4.89s	remaining:	59.3ms
988:	learn:	0.3071610	total:	4.89s	remaining:	54.4ms
989:	learn:	0.3071596	total:	4.89s	remaining:	49.4ms
990:	learn:	0.3071531	total:	4.9s	remaining:	44.5ms
991:	learn:	0.3071491	total:	4.9s	remaining:	39.6ms
992:	learn:	0.3071425	total:	4.91s	remaining:	34.6ms
993:	learn:	0.3071394	total:	4.92s	remaining:	29.7ms
994:	learn:	0.3071298	total:	4.92s	remaining:	24.7ms
995:	learn:	0.3071011	total:	4.92s	remaining:	19.8ms
996:	learn:	0.3070721	total:	4.93s	remaining:	14.8ms
997:	learn:	0.3070294	total:	4.93s	remaining:	9.89ms
998:	learn:	0.3070253	total:	4.94s	remaining:	4.94ms
999:	learn:	0.3070032	total:	4.94s	remaining:	0us

0.865