Friedman3_Base

February 14, 2022

[1]:
```
import warnings
warnings.filterwarnings('ignore')
```

[2]:
```
import scrapbook as sb
import pandas as pd
import numpy as np
import seaborn as sns
import numpy as np
from statistics import mean
import matplotlib.pyplot as plt
```

1 Baseline

[3]:
```
books = sb.read_notebooks("./BaseLine_Model_Output")
paramVal = [1,0.1,0.01]
stats_mae = [[] for i in range(3)]
cat_mae = [[] for i in range(3)]
for nb in books.notebooks:
    paramVar = float(nb.papermill_dataframe.iloc[0]['value'])
    for i in range(3):
        if paramVar == paramVal[i]:
            stats_mae[i].append(nb.scraps['Stats Model MAE'].data)
            cat_mae[i].append(nb.scraps['Catboost MAE'].data)
```

[4]:
```
for i in range(3):
    data = []
    for j in range(10):
        data.append([paramVal[i],stats_mae[i][j],cat_mae[i][j]])
    df = pd.DataFrame(data, columns = ['Variance','Stats MAE','CAT MAE'])
    display(df)
    print(df.mean(axis=0))
    print("-----------------------------------------------------------")
```

	Variance	Stats MAE	CAT MAE
0	1	1.244890	0.917044
1	1	1.134619	1.259574
2	1	1.017569	0.986947
3	1	0.832780	0.793714

```
4         1   0.778749  0.828795
5         1   0.943898  0.999600
6         1   0.876450  0.872098
7         1   0.894509  1.178615
8         1   0.912437  0.838152
9         1   0.718702  1.010803

Variance     1.000000
Stats MAE    0.935460
CAT MAE      0.968534
dtype: float64
------------------------------------------------------------

   Variance  Stats MAE   CAT MAE
0       0.1   0.562177  0.296596
1       0.1   0.526643  0.396453
2       0.1   0.431169  0.451877
3       0.1   0.437312  0.242738
4       0.1   0.584716  0.267435
5       0.1   0.322809  0.385231
6       0.1   0.664418  0.610443
7       0.1   0.685338  0.513720
8       0.1   0.413850  0.210323
9       0.1   0.720641  0.565468

Variance     0.100000
Stats MAE    0.534907
CAT MAE      0.394028
dtype: float64
------------------------------------------------------------

   Variance  Stats MAE   CAT MAE
0      0.01   0.458538  0.421834
1      0.01   0.667027  0.540055
2      0.01   0.566739  0.449262
3      0.01   0.439718  0.259190
4      0.01   0.495556  0.373354
5      0.01   0.516005  0.326653
6      0.01   0.491557  0.398885
7      0.01   0.563750  0.404296
8      0.01   0.444842  0.377444
9      0.01   0.384863  0.284906

Variance     0.010000
Stats MAE    0.502860
CAT MAE      0.383588
dtype: float64
------------------------------------------------------------
```