Friedman1_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	1.027300	0.930776
1	1	0.863775	0.847999
2	1	0.896239	1.074738
3	1	1.080526	0.963985

```
4          1   0.950101  0.893204
5          1   0.837116  0.684175
6          1   0.775688  0.873667
7          1   0.839791  0.741653
8          1   1.001798  1.082605
9          1   0.751927  0.742605

Variance     1.000000
Stats MAE    0.902426
CAT MAE      0.883541
dtype: float64
------------------------------------------------------------

   Variance  Stats MAE   CAT MAE
0       0.1   0.497743  0.425585
1       0.1   0.345034  0.242752
2       0.1   0.399636  0.390090
3       0.1   0.441498  0.373905
4       0.1   0.488082  0.401580
5       0.1   0.328090  0.297526
6       0.1   0.431372  0.295360
7       0.1   0.484432  0.438895
8       0.1   0.397122  0.337098
9       0.1   0.483670  0.390312

Variance     0.100000
Stats MAE    0.429668
CAT MAE      0.359310
dtype: float64
------------------------------------------------------------

   Variance  Stats MAE   CAT MAE
0      0.01   0.423607  0.317405
1      0.01   0.370623  0.353576
2      0.01   0.268271  0.298044
3      0.01   0.290377  0.272044
4      0.01   0.332387  0.332304
5      0.01   0.295254  0.282228
6      0.01   0.457667  0.368209
7      0.01   0.528753  0.373151
8      0.01   0.333785  0.378320
9      0.01   0.346543  0.314513

Variance     0.010000
Stats MAE    0.364727
CAT MAE      0.328979
dtype: float64
------------------------------------------------------------
```