

# Friedman2\_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.scrap['Stats Model MAE'].data)
            cat_mae[i].append(nb.scrap['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	0.994410	0.840599
1	1	0.706606	0.674482
2	1	0.887031	0.750319
3	1	0.620111	0.807175

4	1	0.741842	0.849849
5	1	0.870848	0.933096
6	1	0.900278	0.891259
7	1	1.068877	0.786663
8	1	0.662091	0.800004
9	1	0.946493	0.541111

Variance 1.000000  
Stats MAE 0.839859  
CAT MAE 0.787456  
dtype: float64

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	Variance	Stats MAE	CAT MAE
0	0.1	0.311787	0.185240
1	0.1	0.312352	0.144518
2	0.1	0.248805	0.201034
3	0.1	0.306542	0.212572
4	0.1	0.420596	0.253258
5	0.1	0.259499	0.133235
6	0.1	0.165738	0.179468
7	0.1	0.332256	0.195139
8	0.1	0.287296	0.085591
9	0.1	0.276861	0.139710

Variance 0.100000  
Stats MAE 0.292173  
CAT MAE 0.172977  
dtype: float64

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	Variance	Stats MAE	CAT MAE
0	0.01	0.258063	0.144100
1	0.01	0.223275	0.136977
2	0.01	0.250377	0.081681
3	0.01	0.346926	0.117875
4	0.01	0.296131	0.098989
5	0.01	0.314935	0.155746
6	0.01	0.256130	0.108141
7	0.01	0.235141	0.159201
8	0.01	0.258305	0.136946
9	0.01	0.217812	0.116728

Variance 0.010000  
Stats MAE 0.265710  
CAT MAE 0.125638  
dtype: float64

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