Kyle James G. Bautista BSIT 3E

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# -*- coding: utf-8 -*-
"""anomaly detection no.2 .ipynb

Automatically generated by Colab.

Original file is located at
    https://colab.research.google.com/drive/12KRBCGJeZMpwgfRLfmoCQ4WZrAoYB7EB
"""

import numpy as np
from sklearn.ensemble import IsolationForest
import pandas as pd
from sklearn.preprocessing import StandardScaler
import matplotlib.pyplot as plt

df = pd.read_excel('Machine_DataSet.xlsx')

df.drop('Power Status', axis = 1,inplace = True)
df.drop('Machine Status', axis = 1,inplace = True)
df.drop('Timestamp', axis = 1,inplace = True)

scaler = StandardScaler()
scaled_data = scaler.fit_transform(df)

clf = IsolationForest(contamination=0.15)

clf.fit(scaled_data)
```

```
predictions = clf.predict(scaled_data)


anomaly_indices = np.where(predictions == -1)[0]




for i in df.columns:
  plt.plot(df.index,df[i], c = 'r')
  plt.scatter(anomaly_indices, df[i].loc[anomaly_indices], c = 'b', marker = '*')
  plt.title(i)
  plt.show()
```