

exp3

March 11, 2022

```
[ ]: import pandas as pd
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
import matplotlib.pyplot as plt
import seaborn as sb
import numpy as np
```

```
[ ]: df = pd.read_csv("data.csv", na_values=["NaN",])
# df.dropna(axis=0,inplace=True)
df.head()
```

```
[ ]: Unnamed: 0      IST  Pressure  Extrenal_temp  Internal_temp  Humidity  \
0          0  16:27:34    989.9         16.54         18.4      55.2
1          1  16:27:34    989.8         16.68         18.4      55.1
2          2  16:27:36    989.9         16.54         18.4      55.2
3          3  16:27:36    989.9         16.61         18.4      55.4
4          4  16:27:37    989.9         16.68         18.4      55.6

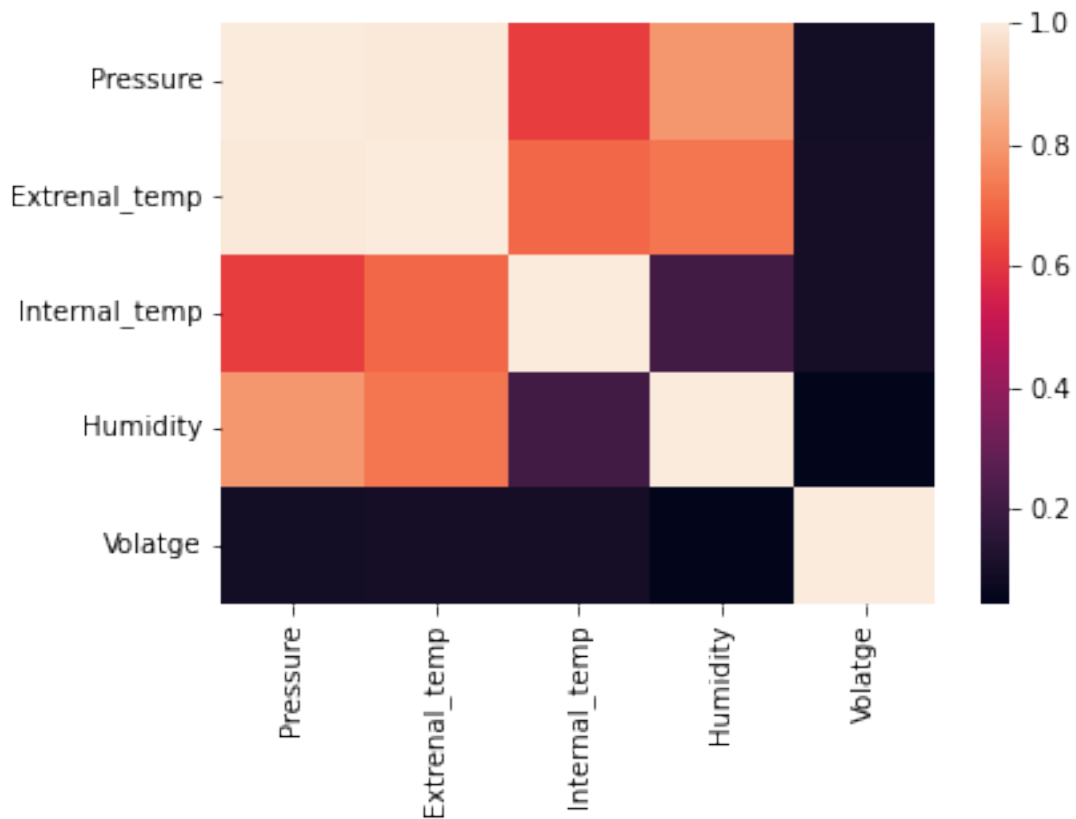
      Volatge      GMT  Latitude n/s  Longitude e/w  No. of Satellites  Altitude
0         8.5      -      -      -      -      -      5      267.4
1         8.5      -      -      -      -      -      5      267.4
2         8.5  10:57:34  28.803999  n  77.211166  e      4      269.5
3         8.5  10:57:35  28.803999  n  77.211166  e      4      269.5
4         8.5      -      -      -      -      -      4      269.5
```

```
[ ]: data_copy = df[["Pressure", "Extrenal_temp", "Internal_temp", "Humidity", "Volatge"]]
data_copy.head()
```

```
[ ]: Pressure  Extrenal_temp  Internal_temp  Humidity  Volatge
0     989.9         16.54         18.4      55.2      8.5
1     989.8         16.68         18.4      55.1      8.5
2     989.9         16.54         18.4      55.2      8.5
3     989.9         16.61         18.4      55.4      8.5
4     989.9         16.68         18.4      55.6      8.5
```

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[ ]: sb.heatmap(data_copy.corr())
```

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[ ]: <AxesSubplot:>
```



```
[ ]: # lets use the correlation between pressure and external_temp
```

```
X = np.array(df["Pressure"]).reshape(-1,1)
y = np.array(df["Extrenal_temp"]).reshape(-1,1)

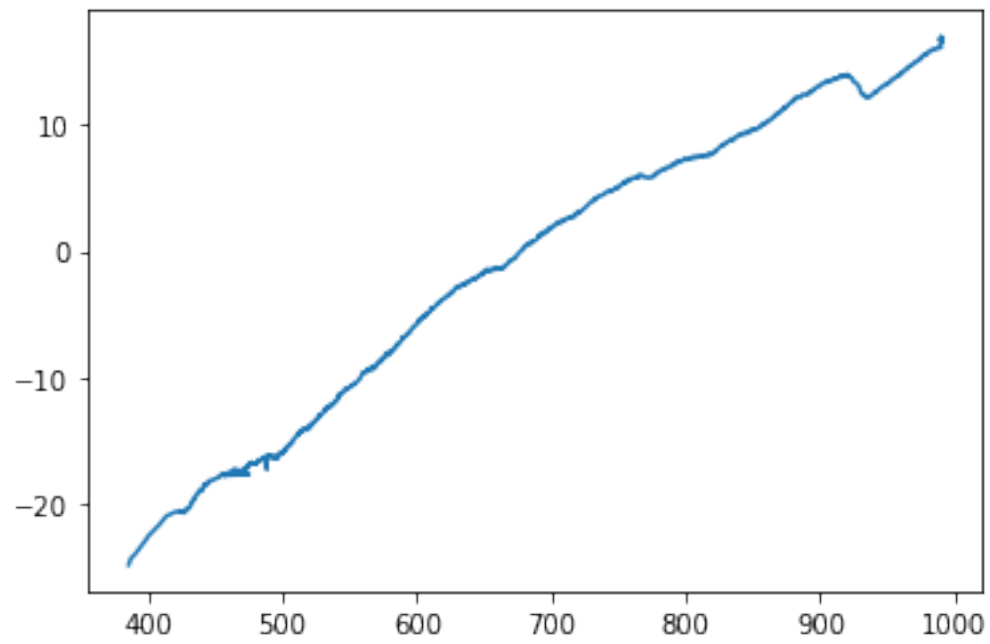
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 0.25)
```

```
[ ]: reg = LinearRegression()
reg.fit(X_train,y_train)
reg.score(X_test,y_test)
```

```
[ ]: 0.9827807238460339
```

```
[ ]: plt.plot(df["Pressure"],df["Extrenal_temp"])
```

```
[ ]: [<matplotlib.lines.Line2D at 0x192cab72b90>]
```



[]:

[]: