

Load data from CSV file

```
In [26]: VoltageTime_df = pd.read_csv('voltage(v)-vs-time(hh_mm_ss).csv')
VoltageTime_df.shape
```

```
Out[26]: (866, 2)
```

```
In [27]: VoltageTime_df = pd.read_csv('voltage(v)-vs-time(hh_mm_ss).csv')
VoltageTime_df.size
```

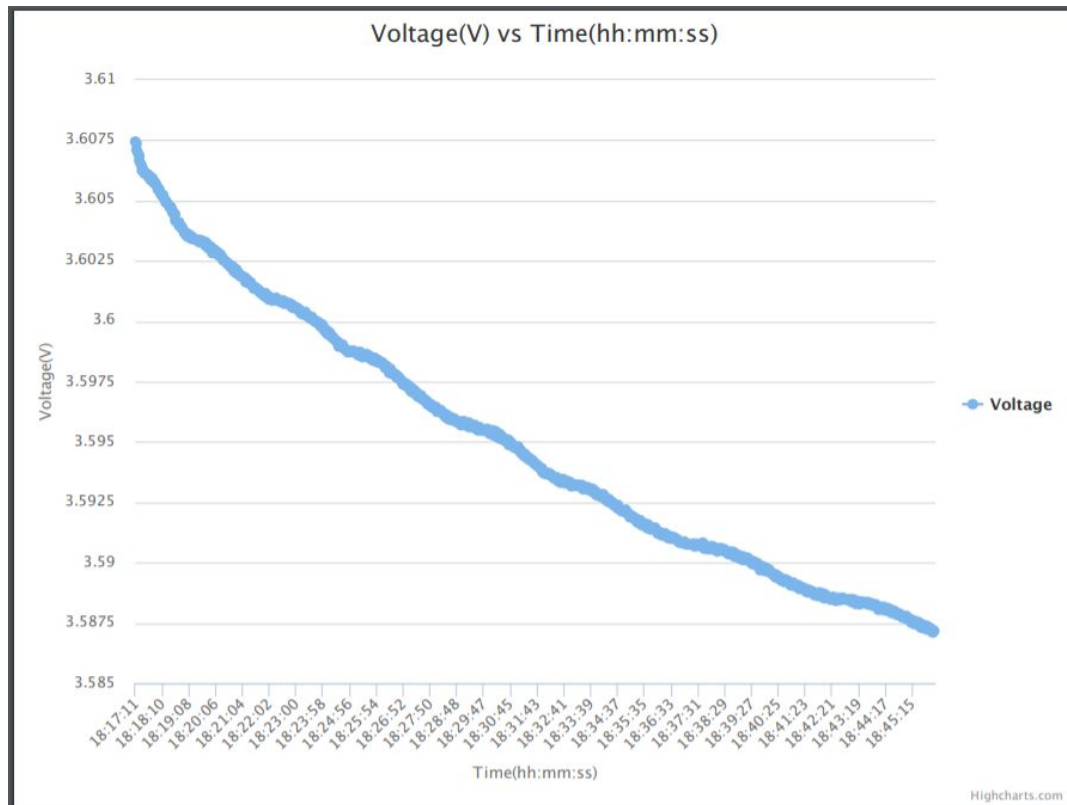
```
Out[27]: 1732
```

```
In [28]: VoltageTime_df = pd.read_csv('voltage(v)-vs-time(hh_mm_ss).csv')
VoltageTime_df.count()
```

```
Out[28]: Category      866
Voltage      866
dtype: int64
```

Distribution of the classes

```
In [ ]: volatge_df = VoltageTime_df[1:200]
volatge_df.plot(kind='|', x='Category', y='Voltage', color='blue', label='VoltagevsTime')
```



Identifying Unwanted Columns

```
In [23]: VoltageTime_df.dtypes|
```

```
Out[23]: Category      object
         Voltage      float64
         dtype: object
```

Identifying Unwanted Rows

```
In [29]: VoltageTime_df.dtypes
VoltageTime_df=VoltageTime_df[pd.to_numeric(VoltageTime_df['Category'],errors='coerce').notnull()]
VoltageTime_df['Category']=VoltageTime_df['Category'].astype('int')
VoltageTime_df.dtypes
```

```
Out[29]: Category      int32
         Voltage      float64
         dtype: object
```

Remove unwanted column

- No need to remove any

```
In [30]: VoltageTime_df.columns|
```

```
Out[30]: Index(['Category', 'Voltage'], dtype='object')
```

```
In [40]: VoltageTime_df.columns
feature_df=VoltageTime_df[['Category', 'Voltage']]
x=np.asarray(feature_df)
y=np.asarray(VoltageTime_df['Voltage'])
x[1:5]
```

```
Out[40]: array([], shape=(0, 2), dtype=float64)
```

Divide Data into train/test data set

```
In [41]: from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.2,random_state=4)
x_train.shape
```

```
Out[41]: (0, 2)
```

```
In [54]: from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.2,random_state=4)

y_train.shape
```

```
Out[54]: (0,)
```

Modeling

```
In [56]: from sklearn import svm

svm.SVC(kernel='linear', gamma = 'auto', C=2)|
```

```
Out[56]: SVC(C=2, cache_size=200, class_weight=None, coef0=0.0,
decision_function_shape='ovr', degree=3, gamma='auto', kernel='linear',
max_iter=-1, probability=False, random_state=None, shrinking=True,
tol=0.001, verbose=False)
```
