

Meeting 5

10/07/2021

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Deliverables

- Plot biometric variable over time with UTC time stamps
- Overlay epochs on plot

Methodology and Learnings

- How did I do it?
 - Get the y bound of each epoch span
 - Overlay the y bound on biometric variable plot
 - Convert the number of nodes to UTC timestamps
- What did I learn on the way?
 - Working with tuples
 - List Compression
 - Python Datetime
 - Matplotlib Functions

Results

```
#read eeg from 'log.csv'
biometric_dataframe = pd.read_csv('log.csv')
biometric_var = biometric_dataframe.Temp

epoch_dict = changePeaks_epochDetect(biometric_var, 10, 1, 500)

#get values of dict
epoch_values = epoch_dict.values()
#create a tuple
x, y = zip(*epoch_values)
#write y tuple values in a csv file to use in jupyterLab
df = pd.DataFrame(y, columns=["Temp"])
df.to_csv('epoch.csv')
```

Results

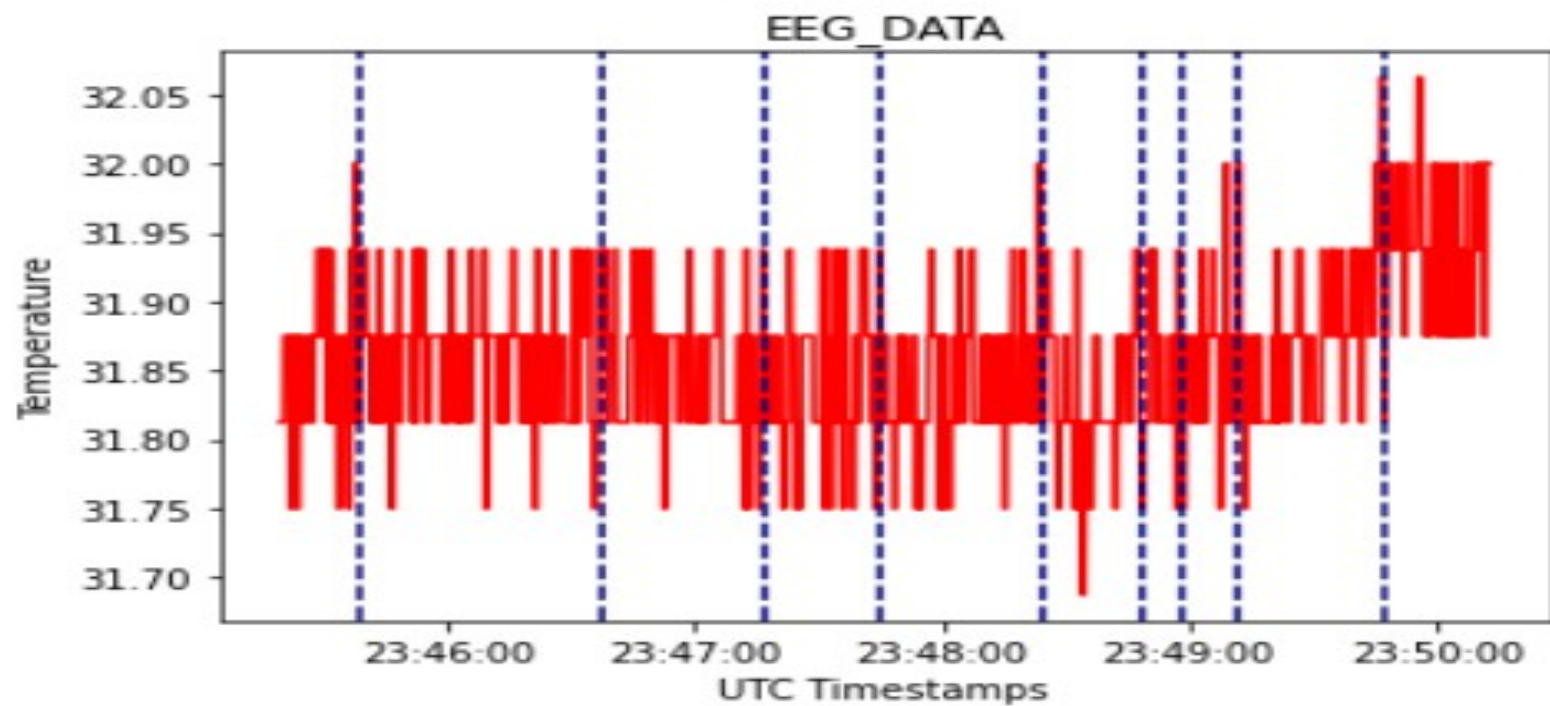
```
df = pd.read_csv('log.csv')
epoch_df = pd.read_csv('epoch.csv')

#creating the datetime(Note the microseconds value should be converted to milli
start_time = datetime.time(23, 45, 19, 217000)
start_date = datetime.date(2020, 6, 4)
start_datetime = datetime.datetime.combine(start_date, start_time)
#prep plot attributes
y_axis = df.Temp
epochs = epoch_df.Temp
#convert #records to UTC timestamps
x_axis = [start_datetime + 2*dt.datetime.timedelta(milliseconds=i) for i in df.loc
```

Results

```
#plot
fig, axis = plt.subplots()
axis.plot(x_axis, y_axis, c='r')
#overlay
for i in range(len(epochs)):
    plt.axvline(x= start_datetime + 2*datetime.timedelta(milliseconds=epochs[i].item()), c=
#define title and labels
plt.title("EEG DATA")
plt.xlabel('UTC Timestamps')
plt.ylabel('Temperature')
#format the x-axis:UTC Timestamps
axis.xaxis.set_major_formatter(mdates.DateFormatter('%H:%M:%S'))
#display
plt.show()
```

Results



Results

