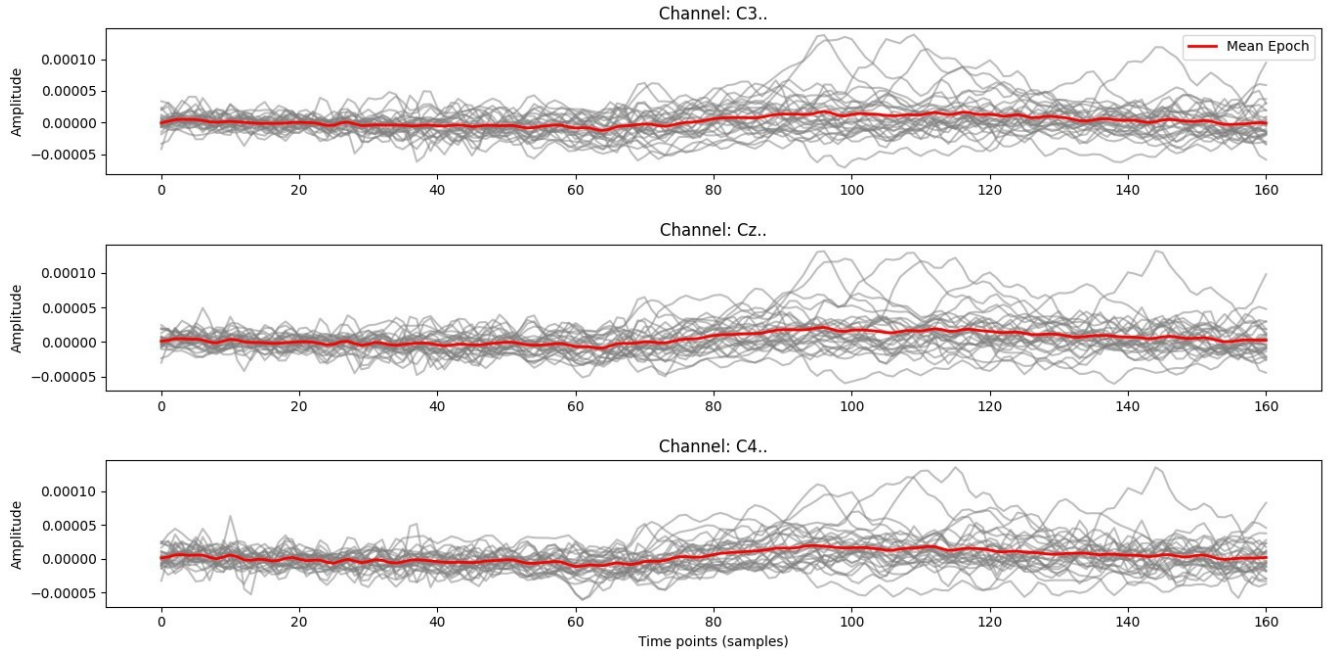
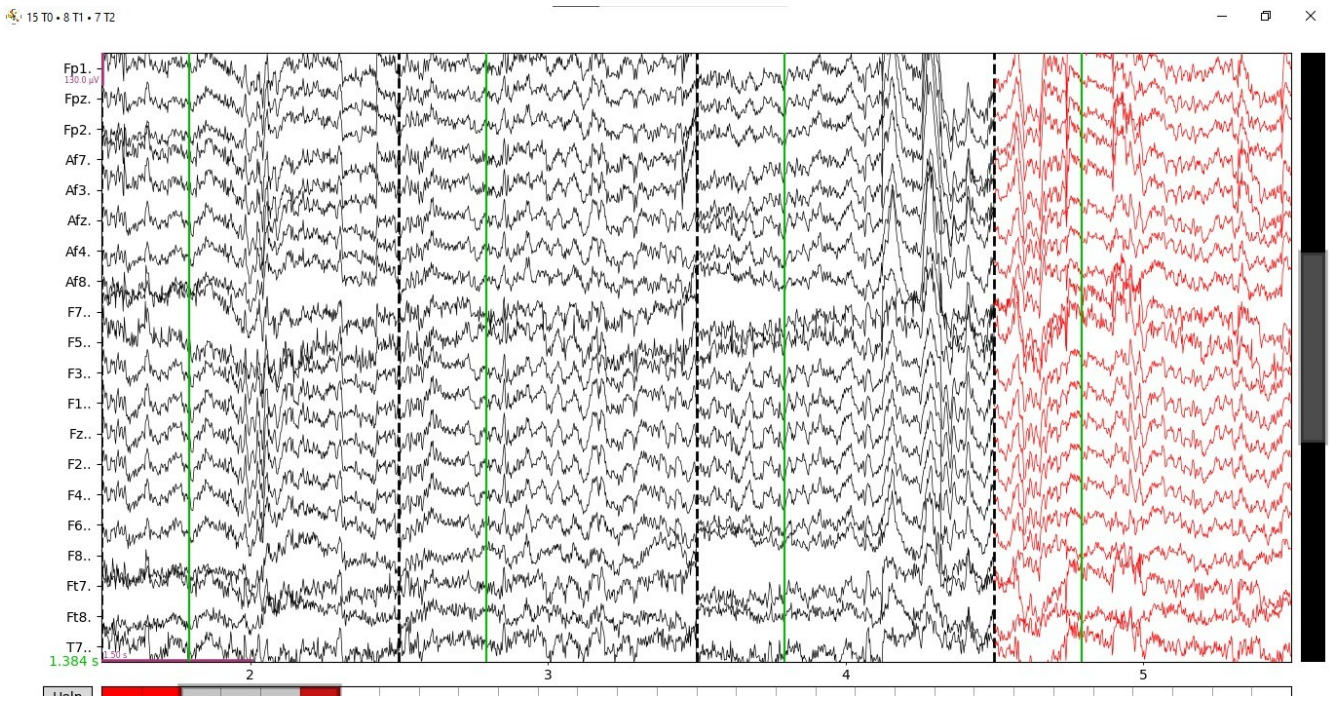
```
# ==========================================
# EEG Motor Imagery Pipeline (Simulation Pseudocode)
# ==========================================


# MAIN PIPELINE
def process_primary_dataset(dataset):
    dataset = filter_bandpass(dataset)             # Step 1
    dataset = artifact_removal(dataset)            # Step 2
    dataset = channel_selector(dataset)            # Step 3
    dataset, events = event_marker(dataset)        # Step 4
    epochs = epoch_creator(dataset, events)        # Step 5
    features, labels = feature_extractor(epochs)   # Step 6
    model = classifier_trainer(features, labels)   # Step 7
    return model
```

```
 Events id mappings:  {np.str_('T0'): 1, np.str_('T1'): 2, np.str_('T2'): 3}
Events shape:  (30, 3)
First 10 events:  [[   0    0    1]
 [ 672    0    3]
 [1328    0    1]
 [2000    0    2]
 [2656    0    1]
 [3328    0    2]
 [3984    0    1]
 [4656    0    3]
 [5312    0    1]
 [5984    0    3]]

Mapped events(sample):

(np.int64(0), np.int64(1), 'Rest')
(np.int64(672), np.int64(3), 'Right_fist')
(np.int64(1328), np.int64(1), 'Rest')
(np.int64(2000), np.int64(2), 'Left_fist')
(np.int64(2656), np.int64(1), 'Rest')
(np.int64(3328), np.int64(2), 'Left_fist')
(np.int64(3984), np.int64(1), 'Rest')
(np.int64(4656), np.int64(3), 'Right_fist')
(np.int64(5312), np.int64(1), 'Rest')
(np.int64(5984), np.int64(3), 'Right_fist')
```


Channel: C3..
Mean Epoch
Amplitude
0.00010
0.00005
0.00000
−0.00005
0
20
40
60
80
100
120
140
160
Channel: Cz..
Amplitude
Channel: C4..
Amplitude
Time points (samples)


15 T0 • 8 T1 • 7 T2
Fp1.
Fpz.
Fp2.
Af7.
Af3.
Afz.
Af4.
Af8.
F7..
F5..
F3..
F1..
Fz..
F2..
F4..
F6..
F8..
Ft7.
Ft8.
T7..
1.384 s
2
3
4
5

```
Annotations :  <Annotations | 30 segments: T0 (15), T1 (8), T2 (7)>
Used Annotations descriptions: [np.str_('T0'), np.str_('T1'), np.str_('T2')]

 Events id mappings:  {np.str_('T0'): 1, np.str_('T1'): 2, np.str_('T2'): 3}
Events shape:  (30, 3)
First 10 events:  [[   0    0    1]
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 [2656    0    1]
 [3328    0    2]
 [3984    0    1]
 [4656    0    3]
 [5312    0    1]
 [5984    0    3]]
>>> # HERE 1 = Rest state ; 2 = Left Fist ; 3 = Right Fist  <=> all are imagery
>>>
```