EEG Data Preprocessing Pipeline

Step 1

Raw EEG
(32 channels)

Sampling Rate
128-512 Hz

Duration
60s segments

Step 2

1. Bandpass Filter
(0.5-100 Hz)

Step 3

2. ICA Artifact
Removal

3. Notch Filter
(50/60 Hz)

Step 4

4. Epoch Segmentation
(4s windows, 50% overlap)

Step 5

5. Z-score
Normalization

6. Channel-wise
Standardization

Step 6

Preprocessed EEG Tensor
(B × 32 × 512)