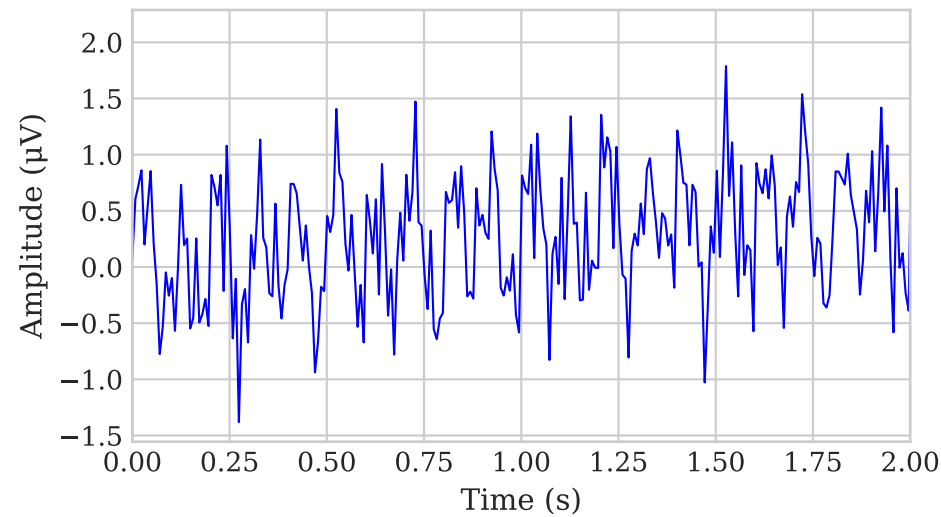
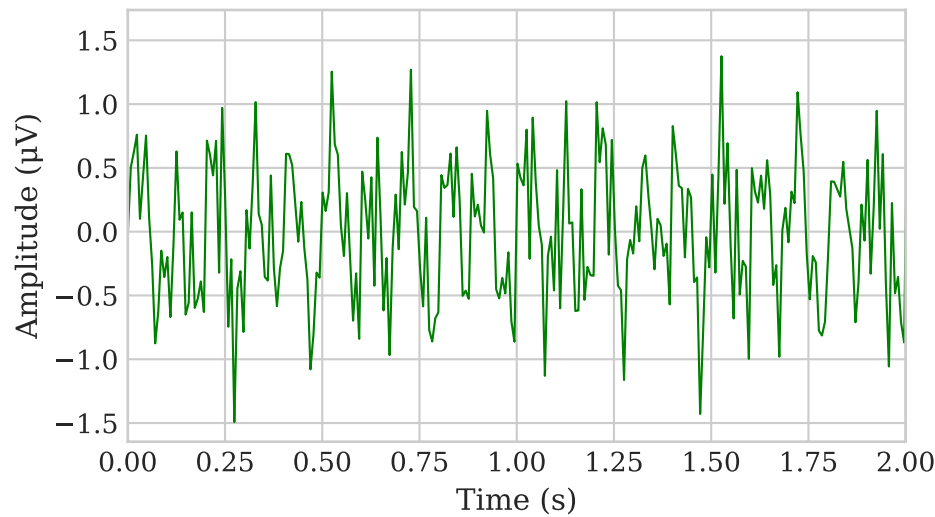


EEG Signal Filtering Pipeline

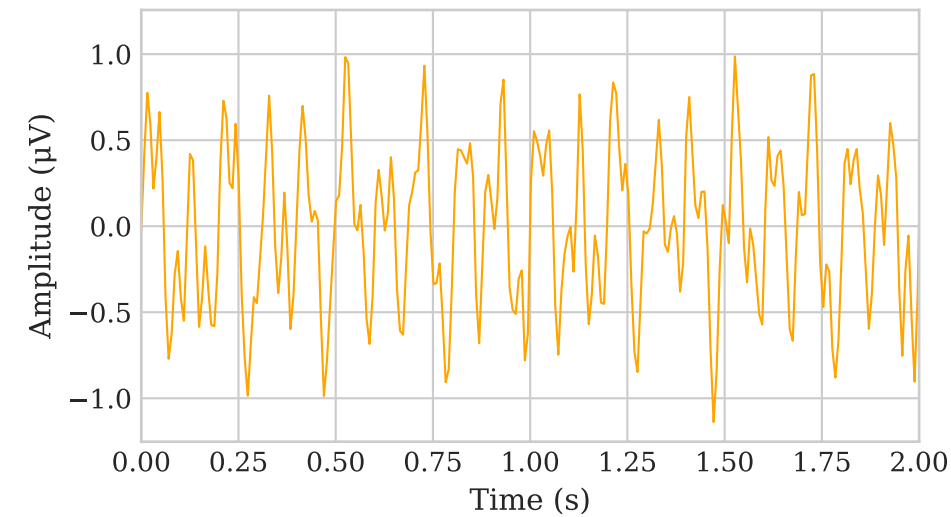
**Step 1: Raw Signal
(with noise)**



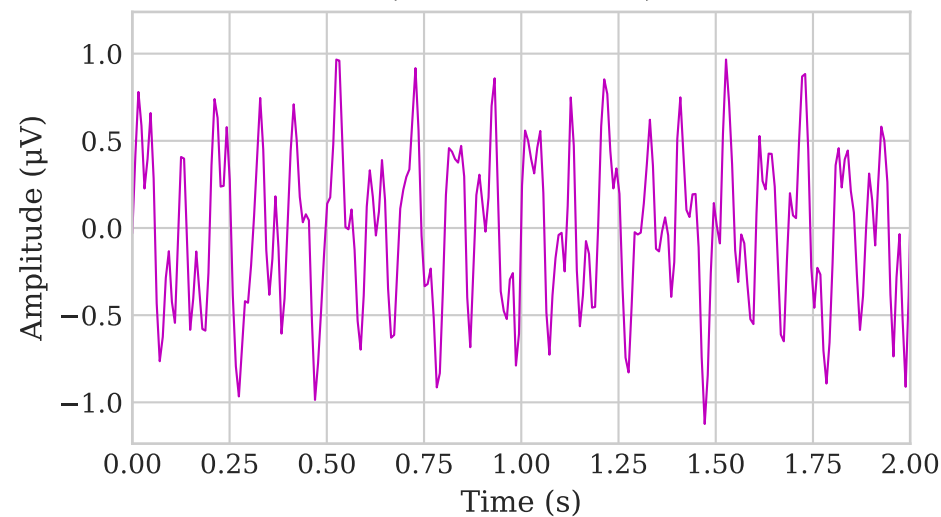
**Step 2: High-Pass Filter
(>0.5 Hz, remove drift)**



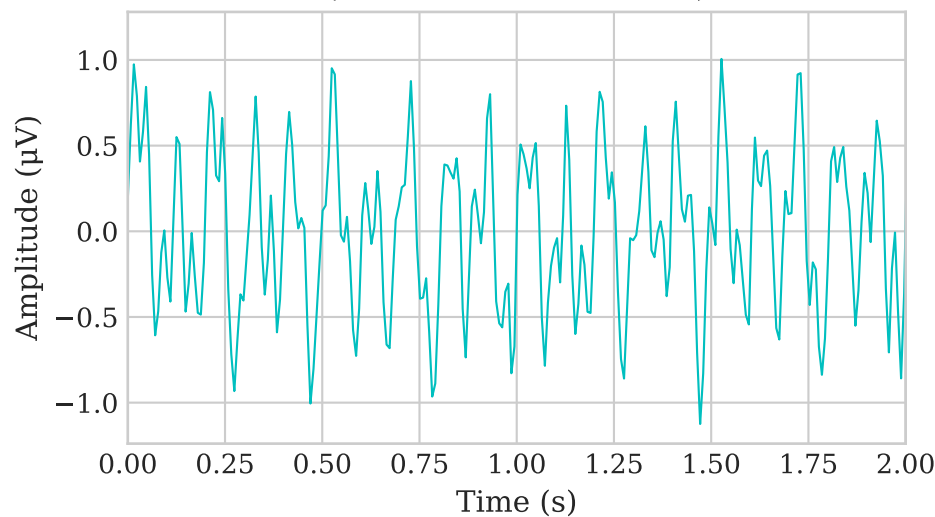
**Step 3: Low-Pass Filter
(<45 Hz, remove HF noise)**



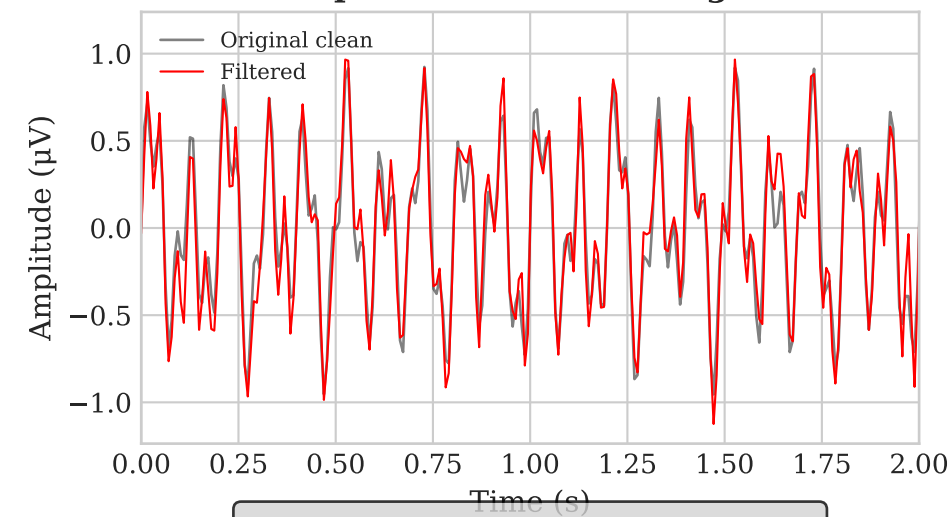
**Step 4: Notch Filter
(remove 50 Hz)**



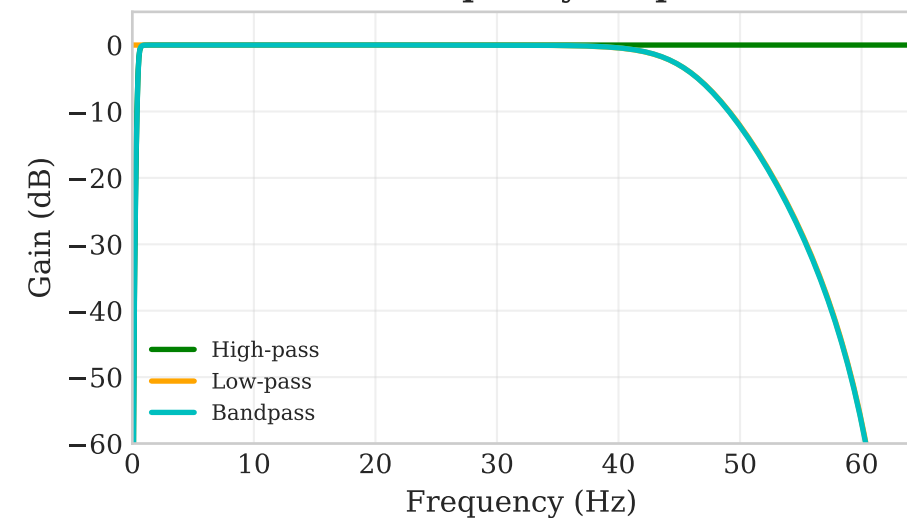
**Step 5: Bandpass Filter
(0.5-45 Hz combined)**



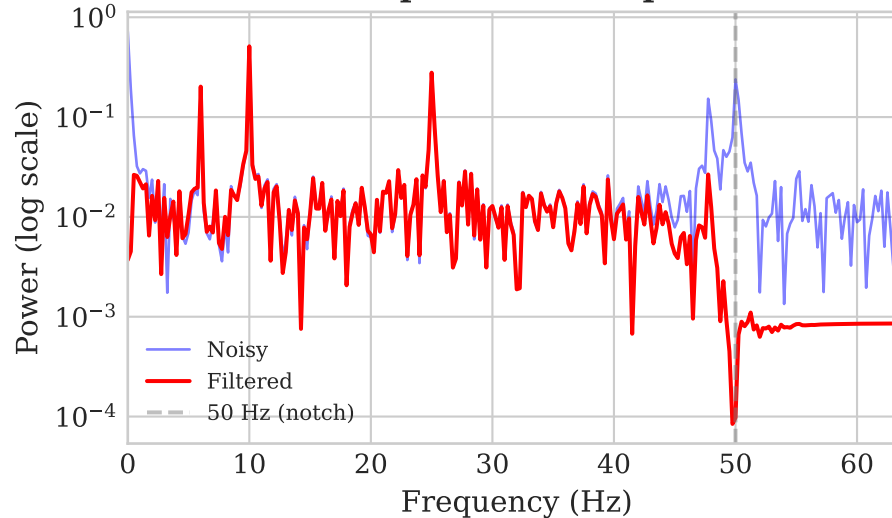
Step 6: Final Cleaned Signal



Filter Frequency Response



Power Spectrum Comparison



Filter Pipeline Summary

