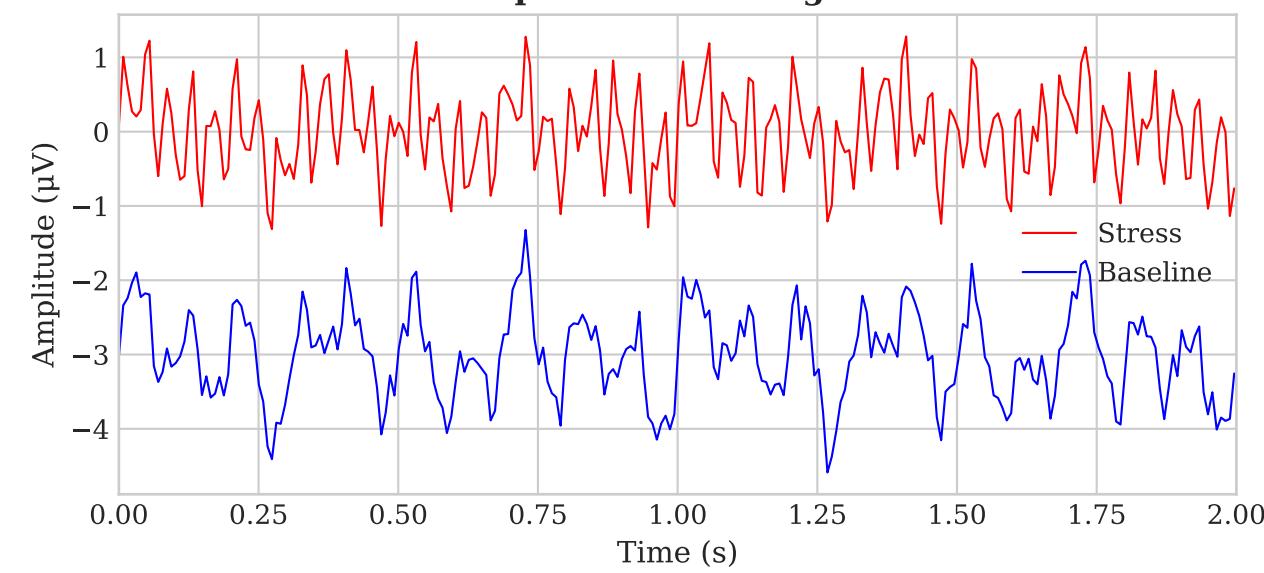
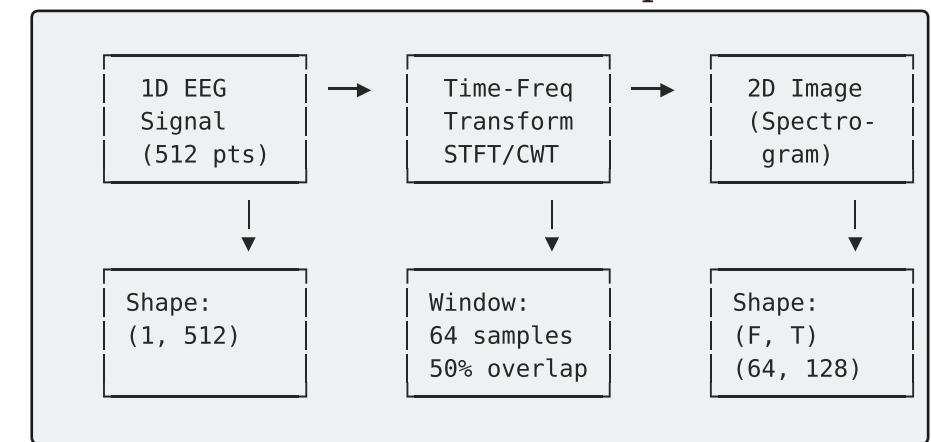


EEG Signal to 2D Image Conversion for Deep Learning

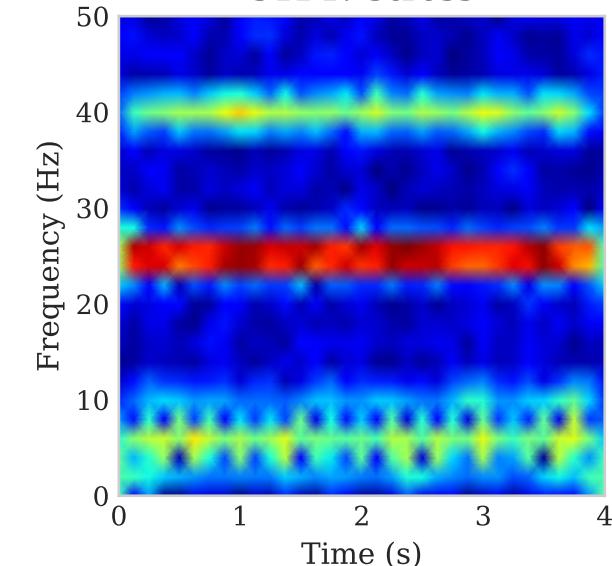
Step 1: Raw EEG Signals



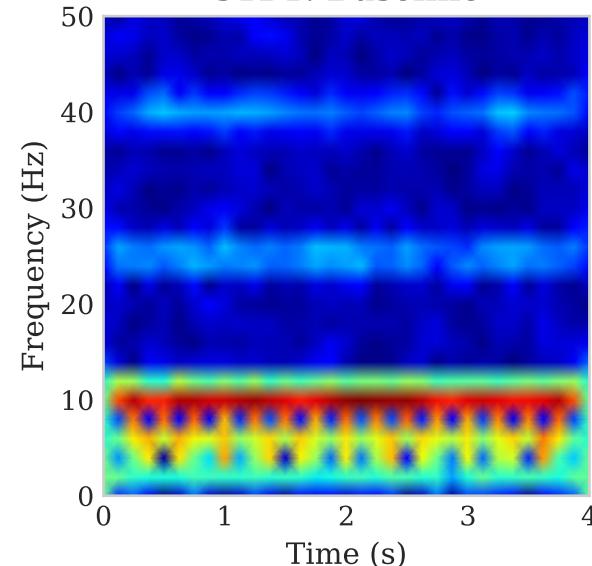
EEG → 2D Conversion Pipeline



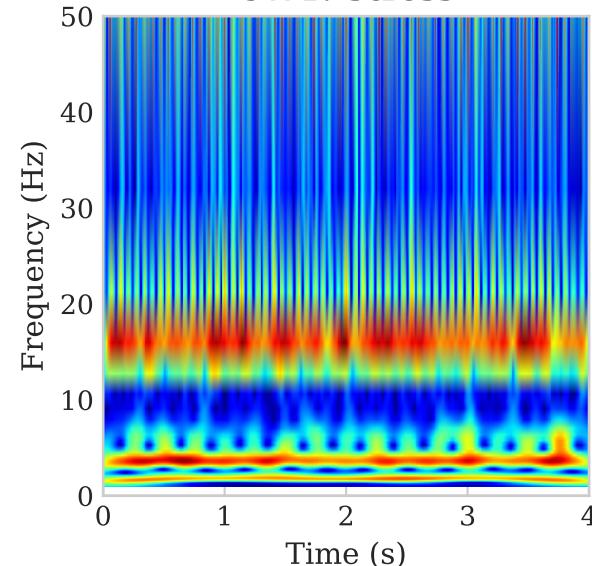
STFT: Stress



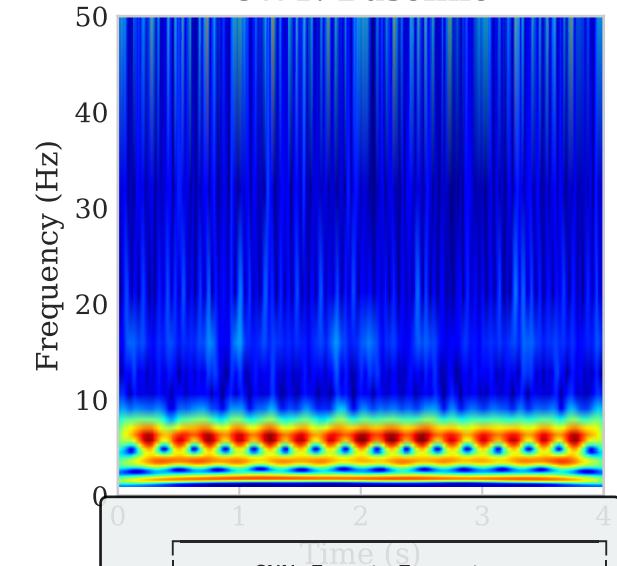
STFT: Baseline



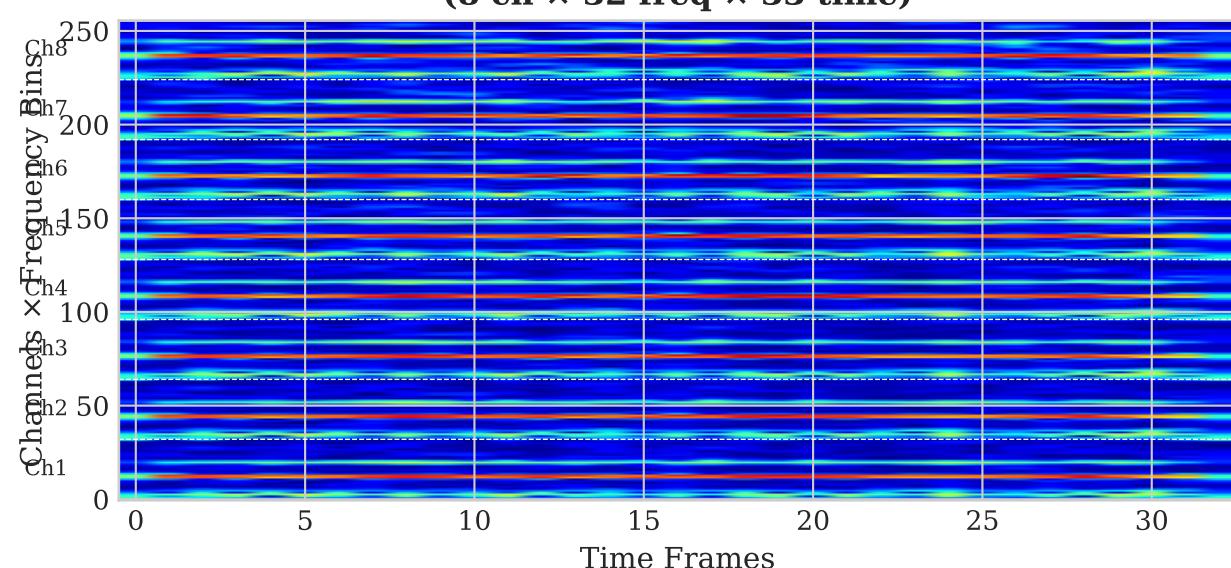
CWT: Stress



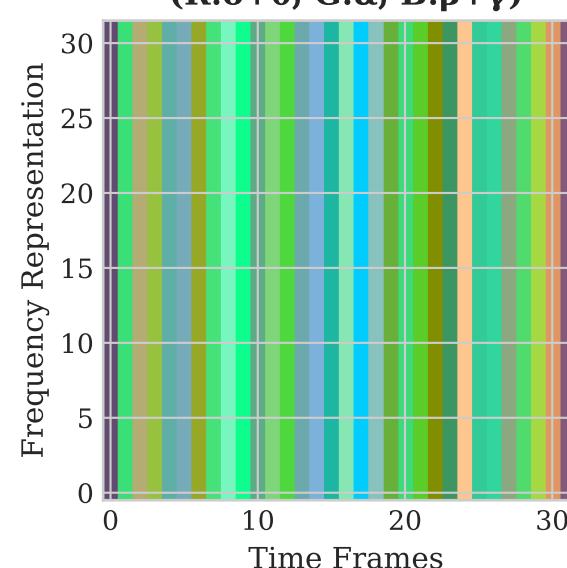
CWT: Baseline



**Step 3: Multi-Channel 2D Image
(8 ch × 32 freq × 33 time)**



**RGB Encoding
(R:δ+θ, G:α, B:β+γ)**



CNN Input Format

CNN Input Specification
Single channel: (1, 64, 128) → Grayscale
Multi-Channel: (C, 64, 128) → C channels
RGB Encoding: (3, 64, 128) → Freq bands
Batch: (B, C, H, W) (32, 3, 64, 128)
Benefits:
<ul style="list-style-type: none"> • Pretrained CNNs usable • 2D spatial features • Transfer learning