

# The Sensory Regulation Framework

THE HOUSE OF LITTLE THOUGHTS / CALMING INDEX

## Purpose

A structural approach to evaluating and designing children's audiovisual media with attention to sensory demand, predictability, and recovery opportunities.

## Pipeline architecture

Ingest audiovisual content; extract visual, auditory, temporal, and cognitive features; normalize each feature to a common scale; evaluate sensory demand and regulatory capacity; report a transparent Calming Index and feature profile. The published repository currently documents OpenCV, FFmpeg, and Librosa-based processing. YAMNet and Whisper are proposed extensions for semantic audio and speech analysis, not implemented claims.

## Design criteria

Monitor frame-to-frame luminance variation and motion, scene-cut density, loudness and acoustic onset, speech cadence, moments of stillness and quiet, and visual palette stability. Production goals include smoother transitions, limited abrupt transients, four-count breathing cues, and recovery pauses. A 60–80 BPM reference is a creative pacing reference rather than a medical calibration or validated threshold.

## Important distinction

The repository's empirical feature bounds are model normalization parameters, not universal safety limits. See the repository for exact feature definitions and implementation status.

## Status

Working summary for discussion. This document is not a peer-reviewed publication.

## Scope

The framework is a computational data engineering and media architecture methodology. It does not make medical, diagnostic, psychiatric, or clinical claims regarding pediatric healthcare.

## Source and further detail

Open implementation and technical documentation: <https://github.com/pallavikaran/CalmingIndex>