HeartLink Health LLC – Algorithm v4.1-CL (ASE 1.3)

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# Software Design Specification (SDS)

## Architecture Overview

The ASE 1.3 engine consists of three primary modules:  
1. calculateScore\_v41CL.js – Core logic & weighting layers (L1–L7)  
2. emaUtils.js – Exponential moving average functions  
3. deEscalation.js – Orange→Green clamp smoothing.

## Data Flow

Inputs → Pre‑processing → Weighted symptom pressure → EMA → Noise/Clamp → SSI → Category.

## Interface Definitions

Each module exports pure functions with deterministic outputs. No global state or I/O operations.

## Error Handling

All numeric inputs clamped 0–3; NaNs default to baseline; exceptions prevented via guards.

## Configuration Control

Constants fixed in CFG\_V41CL; version identifier embedded; no runtime parameter mutation permitted.

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