

MEASURE · DETECT · PROTECT

# CodeMRI®

## AI Code

### Guardrails

*By the time AI debt is visible in production, it's already expensive.*

AI coding assistants are writing more of your codebase than ever. They're fast, but they optimize for the immediate prompt, not for architectural coherence, reusability, or long-term maintainability. The result is a new class of risk that traditional code reviews cannot catch.

*Silent architectural drift. Accumulated complexity. Regenerated rather than reused code. Dependencies appearing where no one intended them.*

This isn't a future problem to plan for; it's a problem today to measure, baseline and monitor. Without measurement, your AI tooling budget isn't an investment, it's a wager.

**CodeMRI is the guardrail.** Built on 20+ years of MIT & HBS research, CodeMRI gives engineering leaders continuous, evidence-based visibility into whether AI-generated code is improving or degrading your software's architectural health before that degradation compounds.

## AI CODE RISKS CODEMRI DETECTS

*Traditional code review sees individual PRs. CodeMRI sees cumulative patterns across your entire codebase — the architectural signals that only emerge over time.*

WHAT CODEMRI DETECTS	WHAT'S ACTUALLY HAPPENING IN YOUR CODEBASE	BUSINESS IMPACT
<b>Dependency hubs</b>	AI agents keep extending the same utility files across sessions, creating architectural hot-spots with the strongest published evidence for elevated defect density.	<b>More defects and operational risk</b>
<b>Rising complexity</b>	AI prefers nested conditional logic that inflates function-level complexity and silently increases structural complexity across the whole system as capabilities accumulate.	<b>Slower delivery and higher engineering costs</b>
<b>Duplication</b>	AI sessions have no memory of what your codebase already contains, so they regenerate instead of reuse. Industry data shows duplication rates rose from 8.3% to 12.3% during mainstream AI adoption.	<b>Increased maintenance effort and technical debt</b>
<b>Architectural drift</b>	New dependency edges appear where no one intended them. Modules grow more entangled than designed. The structure your team built gradually degrades into something no one planned.	<b>Reduced agility and more expensive future change</b>

## WHY THE BASELINE YOU BUILD TODAY IS YOUR MOST VALUABLE ASSET

### 1 BASELINE TODAY

Scan before your AI tooling accelerates further. Establish the architectural health benchmark that makes every future scan meaningful.

### 2 TRACK TRAJECTORY

The most powerful CodeMRI signal isn't a single scan. It's the change between scans. Watch your codebase trajectory as AI authorship rises, with visual evidence of whether quality is being preserved or eroded.

### 3 BENCHMARK CONTEXT

"Your duplication is at 12%" is just a number. "Your duplication is at 12% — the 87th percentile for codebases of your size and language" is a diagnosis you can act on.

## HOW IT WORKS

1

### Connect

Point CodeMRI at your repository with no code execution required and minimal, non-invasive setup.

2

### Baseline

Establish your architectural health benchmark across dependencies, complexity, and duplication.

3

### Detect

Risk patterns are classified and evaluated automatically across your full codebase.

4

### Track

Results feed the CodeMRI® platform for trajectory tracking, benchmark context, and governance.

## Is AI helping or hurting your codebase?

Get the evidence. Schedule a diagnostic scan and receive a full CodeMRI report with the ground truth your team needs.

[Schedule your scan](#)[silverthreadinc.com](https://silverthreadinc.com)

*Built on 20+ years of MIT-grounded research*